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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934**

for the fiscal year ended December 31, 2017;

or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934**

for the transition period from _____to _____

Commission File Number 001-38161

Calyxt, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**27-1967997**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
600 County Road D West, Suite 8	
New Brighton, MN	**55112**
(Address of principal executive offices)	**(Zip Code)**

Registrant's telephone number, including area code: (651) 683-2807

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	**Name of each exchange on which registered**
Common Stock ($0.0001 par value)	**The NASDAQ Global Market**

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☐ No ☒

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web Site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K ☐.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company", and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large Accelerated Filer	☐	Accelerated Filer	☐
Non-accelerated filer	☒	Smaller Reporting Company	☐
		Emerging Growth Company	☒

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes ☐ No ☒

Aggregate market value of the common stock held by non-affiliates of the registrant: As of June 30, 2017, the last business day of the registrant's most recently completed second fiscal quarter, the registrant's common stock was not listed on any exchange or over-the-counter market. The registrant's common stock began trading on The NASDAQ Global Market on July 20, 2017. As of September 29, 2017, the last business day of the first quarter completed following the registrant's initial public offering, the aggregate market value of shares of common stock held by non-affiliates of the registrant was $135,919,500.

The number of outstanding shares of the registrant's common stock on March 12, 2018 was 28,062,315 shares.

DOCUMENTS INCORPORATED BY REFERENCE

The information required by Part III of this Annual Report on Form 10-K, to the extent not set forth herein, is incorporated herein by reference from the registrant's definitive proxy statement relating to the registrant's Annual Meeting of Stockholders to be held in 2018, which definitive proxy statement shall be filed with the Securities and Exchange Commission not later than 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K.

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Terms

When we use the terms "we," "us," the "Company," or "our" in this report, unless the context otherwise requires, we are referring to Calyxt, Inc. When we use the term "Cellectis," we are referring to Cellectis S.A., our parent company.

The name and trademark, "Cellectis®" and "TALEN®", and other trademarks, trade names and service marks of Cellectis appearing in this Annual Report on Form 10-K are the property of Cellectis. We own the name and trademark, "Calyxt®", and own or license other trademarks, trade names and service marks of Calyxt appearing in this Annual Report on Form 10-K. This Annual Report on Form 10-K also contains additional trade names, trademarks and service marks belonging to other companies. We do not intend our use or display of other parties' trademarks, trade names or service marks to imply, and such use or display should not be construed to imply, a relationship with, or endorsement or sponsorship of us by, these other parties.

Cautionary Note Regarding Forward-Looking Statements

This Annual Report on Form 10-K contains "forward-looking statements" within the meaning of the federal securities laws, including Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act").

We have made these statements in reliance on the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. In some cases, you can identify these statements by forward-looking words such as "may," "might," "will," "should," "expects," "plans," "anticipates," "believes," "estimates," "predicts," "potential" or "continue," the negative of these terms and other comparable terminology. These forward-looking statements, which are subject to risks, uncertainties and assumptions about us, may include projections of our future financial performance, our anticipated growth strategies and anticipated trends in our business. These statements are only predictions based on our current expectations and projections about future events.

There are important factors that could cause our actual results, level of activity, performance or achievements to differ materially from the results, level of activity, performance or achievements expressed or implied by the forward-looking statements, including, without limitation, factors relating to:

- Our limited operating history;
- Our lack of commercial products and our inexperience with the commercialization of product candidates;
- Our incurrence of significant losses since our inception and likelihood that we will continue to incur significant losses for the foreseeable future;
- Our reliance on contractual counterparties;
- Significant competition from competitors with substantially greater resources than us;
- Public perceptions of genetically engineered products and ethical, legal, environment, health and social concerns;
- Uncertain and evolving regulatory requirements within and outside of the United States;
- Government policies and regulations affecting the agricultural sector and related industries;
- Commodity prices and other market risks facing the agricultural sector;
- Our product development efforts use complex integrated technology platforms and require substantial time and resources;
- Our success in obtaining or maintaining necessary rights to product components and processes for our development pipeline through acquisitions and in-licenses;

- Our reliance on gene-editing technologies that may become obsolete in the future;
- Our need to raise additional funding and the availability of additional capital or capital on acceptable terms;
- Our reliance on third parties in connection with our field trials and research services;
- The recognition of value in our products by farmers, and the ability of farmers and food processors to work effectively with our crops;
- Our ability to produce high-quality plants and seeds cost-effectively on a large scale;
- Our ability to accurately forecast demand for our products;
- The needs of food manufacturers and the recognition of shifting consumer preferences;
- Adverse natural conditions and the highly seasonal and weather-sensitive nature of our business;
- Our exposure to product liability claims;
- The geographic concentration of our business activities;
- Our ability to use net operating losses to offset future taxable income;
- The adequacy of our patents and patent applications;
- Our licensing of intellectual property from Cellectis and reliance on Cellectis to prosecute, maintain, defend or enforce such intellectual property;
- Uncertainty relating to our patent positions that involve complex scientific, legal and factual analysis;
- The limited lifespan of our patents and limitations in intellectual property protection in some countries outside the United States;
- Developments in patent and other intellectual property law;
- Our ability to identify relevant third party patents and to interpret the relevance, scope and expiration of third party patents;
- Potential assertions of infringement, misappropriation or other violations of intellectual property rights, including licensing agreements;
- Loss or damage to our germplasm libraries;
- Our ability to retain and attract senior management and key employees;
- Our relationship with Cellectis, our controlling stockholder, and its ability to control the direction of our business;
- Our being a “controlled company” and, as a result, qualifying for, and intending to rely on, exemptions from certain corporate governance requirements;
- Our status as an emerging growth company; and
- Those factors discussed in “Item 1A. Risk Factors” below.

While the list of factors presented here is considered representative, no such list should be considered to be a complete statement of all potential risks and uncertainties. Unlisted factors may present significant additional obstacles to the realization of forward-looking statements. Consequences of material differences in results as compared with those anticipated in the forward-looking statements could include, among other things, business disruption, operational problems, financial loss, legal liability to third parties and similar risks, any of which could have a material adverse effect on our financial condition, results of operations, credit rating or liquidity. Therefore, you should not rely on any of these forward-looking statements.

Any forward-looking statement made by us in this Annual Report on Form 10-K is based only on information currently available to us and speaks only as of the date of this report. We do not assume any obligation to publicly provide revisions or updates to any forward-looking statements after the date of this Annual Report on Form 10-K, whether as a result of new information, future developments or otherwise, should circumstances change, except as otherwise required by securities and other applicable laws.

Market Data

Unless otherwise indicated, information contained in this Annual Report on Form 10-K concerning our industry and the markets in which we operate is based on information from various sources, including independent industry publications. In presenting this information, we have also made assumptions based on such data and other similar sources, and on our knowledge of, and our experience to date in, the potential markets for our product. The industry in which we operate is subject to a high degree of uncertainty and risk due to a variety of factors, including those described in the section entitled “Risk Factors” in Section 1A below. These and other factors could cause results to differ materially from those expressed in the estimates made by the independent parties and by us.

Website Disclosure

We use our website (www.calyxt.com) and our corporate Twitter account (@Calyxt_Inc) as routine channels of distribution of company information, including press releases, analyst presentations, and supplemental financial information, as a means of disclosing material non-public information and for complying with our disclosure obligations under Regulation FD. Accordingly, investors should monitor our website and our corporate Twitter account in addition to following press releases, filings with the Securities and Exchange Commission, or the SEC, and public conference calls and webcasts. Additionally, we provide notifications of announcements as part of our website. Investors and others can receive notifications of new press releases posted on our website by signing up for email alerts.

None of the information provided on our website, in our press releases or public conference calls and webcasts or through social media is incorporated into, or deemed to be a part of, this Annual Report on Form 10-K or in any other report or document we file with the SEC, and any references to our website or our corporate Twitter account are intended to be inactive textual references only.

PART I

ITEM 1. BUSINESS.

Company Overview

We are a consumer-centric, food- and agriculture-focused company. By combining our leading gene-editing technology and technical expertise with our innovative commercial strategy, we are pioneering a paradigm shift to deliver healthier food ingredients for consumers and agriculturally advantageous traits for farmers. We are developing and creating specialty food ingredients, such as healthier oils and high fiber wheat, and food crops with desirable traits, such as herbicide tolerance. While the traits that enable these characteristics may occur naturally and randomly through evolution—or under a controlled environment through traditional agricultural technologies—those processes are imprecise and take many years, if not decades. Our technology enables us to precisely and specifically edit a plant genome to elicit the desired traits and characteristics, resulting in a final product that has no foreign DNA. We believe the precision, specificity, cost effectiveness and development speed of our gene-editing technologies will enable us to provide meaningful disruption to the food and agriculture industries.

Our first product candidate, which we expect to be commercialized by the end of 2018, is a high oleic soybean designed to produce a healthier oil that has increased heat stability with zero trans fats. Among our other product candidates are high fiber wheat and herbicide tolerant wheat. We are developing a high fiber wheat to create flour with up to three times more dietary fiber than standard white flour while maintaining the same flavor and convenience of use. Our high fiber wheat may provide benefits associated with a high fiber diet, including reduced risk of coronary heart disease. Our herbicide tolerant wheat is designed to provide farmers with better weed control options to increase yields. We believe each of these three product candidates addresses a multibillion dollar market opportunity.

As awareness of these diet-related health issues grows, consumers have emphasized a healthier lifestyle and a desire for nutritionally rich foods that are better tasting, less processed and more convenient. This trend is leading to an increase in the demand for higher valued, premium segments of the food industry, such as higher fiber, reduced gluten and reduced fat products. As a result of these trends, food companies are looking for specialty ingredients and solutions that can help them satisfy their customers' evolving needs and drive growth in market share and new value added products.

While food companies are focused on these trends, we believe the legacy agriculture companies have overlooked society's food-related issues and are not properly equipped with a business model to address health-driven consumer food trends. These legacy agriculture companies have historically focused on increasing yields and volume—to address population growth—while increasing profit margins and market share by reducing input costs. They have been burdened by high research and development costs and a high degree of commoditization in their deep, farmer-focused supply chains. Industry sources indicate it can take an average of approximately 13 years and costs more than $130 million to generate a desired trait through traditional trait-development methods. In contrast, the food industry has seen new entrants growing aggressively and taking market share through premium segment product offerings from existing players, who are facing stagnating growth and divestitures in their core businesses. These factors have resulted in a disconnect between the legacy agriculture industry players' current products and the consumer's food-related health demands.

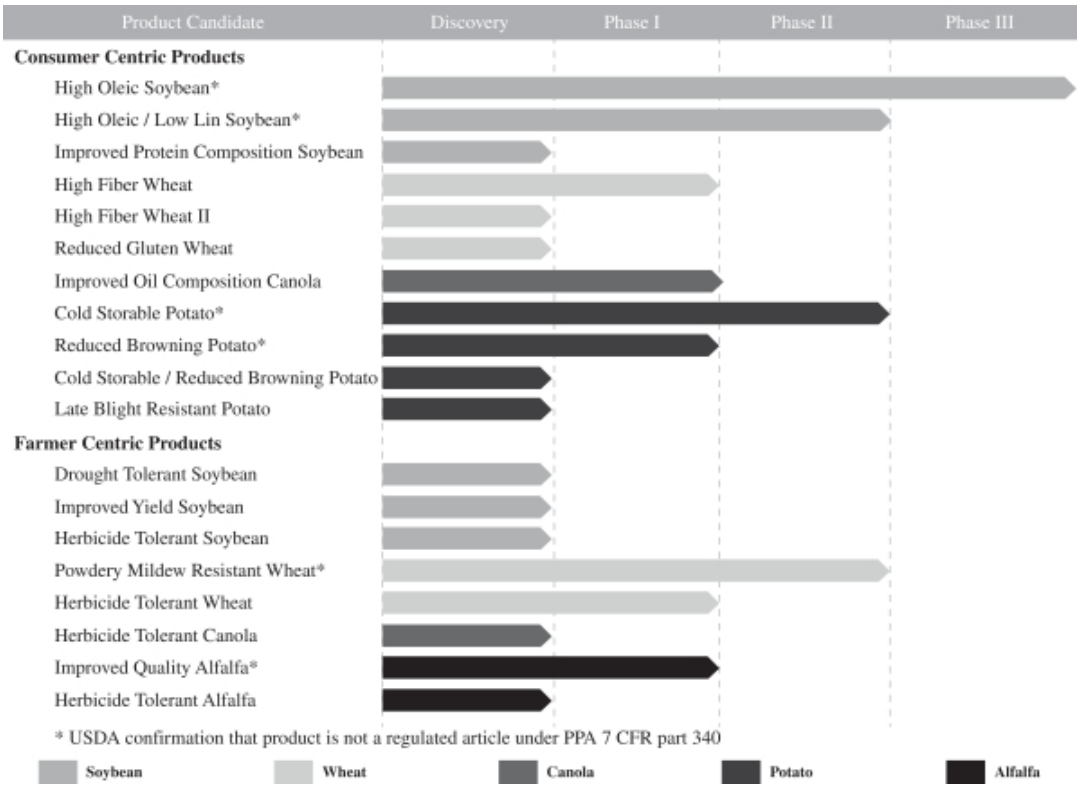
We believe that our proprietary gene-editing technologies and innovative commercial strategy will allow us to bridge the divide between evolving consumer preferences and the historical approach by the large legacy companies in the agriculture supply chain.

Using our proprietary technologies and expertise, we edit the genome of food crops by using our "molecular scissors" to precisely cut DNA in a single plant cell, use the plant's natural repair machinery to make our desired edit and finally regenerate the single cell into a full plant. We believe we are able to develop targeted traits—

some of which would be nearly impossible to develop using traditional trait-development methods—quicker, more efficiently and more cost effectively than traditional trait-development methods. Our technology positions us to assess the probability of success early on in the research and development process, potentially eliminating expensive late stage failures and allowing for a larger breadth of products to be developed. We have a strong track record with respect to our technologies and expertise as we have successfully edited more than 20 unique genes in 6 plant species since our inception in 2010.

Our commercial strategy is centered on two core elements: developing healthier specialty food ingredients to enable the food industry to address evolving consumer trends and developing agriculturally advantageous traits, such as herbicide tolerance, for farmers. This will involve developing and leveraging our supply chain to effectively bring our consumer- and farmer-centric products to the marketplace. For our consumer-centric products, we intend to repurpose and leverage existing supply chain capacity by contracting, tolling or partnering with players in the existing supply chain, such as seed production companies, farmers, crushers, refiners or millers, which we expect will allow us to apply our resources to maximizing innovation and product development while minimizing our capital expenditures and overhead. For our farmer-centric products, we intend to broadly out-license our products to the seed industry.

We believe that we are able to identify a consumer or farmer need and develop a product from “concept to fork” or “concept to field” in approximately three to six years by utilizing our proprietary technologies and expertise and leveraging our innovative supply chain. We have an extensive product pipeline, as set forth in the table below, that is intended to address the potential market opportunities we have identified to date.



We categorize our stages of pre-commercial development from Phase I to Phase III. Prior to entering Phase I, in Discovery, we identify genes of interest. In Phase I, we edit the identified genes of interest, target

edits we desire to make, and produce an initial seed that contains the desired edit. Phase II is trait validation, where we perform small-scale and large-scale tests to confirm phenotype and ingredient functionality. In this phase we also perform replicated, multi-location field testing, after confirming that the product is not a regulated article by the USDA. In Phase III, we develop the first commercial-scale pilot production, begin to build out the supply chain and inventory and perform customer testing prior to commercialization.

While we intend to initially deploy our commercial strategy in North America with respect to our current product candidates, we also see many avenues of potential future growth beyond North America. In particular, over time we may explore opportunities to apply our commercial strategy elsewhere around the world and leverage our North American products and footprint to target geographies where there are unmet consumer or farmer needs. We also intend to explore the ability to add value through our existing product candidates once they are commercialized by combining traits in the same crop, which may allow us to create products with additional benefits without adding significant cost. In the near term, we are planning an expansion of our campus to enhance our gene-editing automation processes and develop a high-throughput discovery platform to identify new growth opportunities. We believe this high-throughput platform will allow us to discover more products, make more complex edits and enable us to drive product innovation at a significantly faster rate. We believe our expanded campus will be the only “concept to fork” facility of its kind, containing gene-editing labs, greenhouses, fields and a commercial kitchen to develop, test and showcase products. We believe all of these steps will enable us to remain at the forefront of food and agriculture innovation.

As of December 31, 2017, we employed 35 employees, of whom approximately 65.7% are involved in research and development and 9 hold a Ph.D. degree. Our multidisciplinary team includes experts in biology, chemistry, plant genetics, agronomics and other related fields. Several members of our executive team previously worked at industry-leading technology and agricultural companies, such as Monsanto Company, Syngenta AG and Cargill, Inc. As pioneers in the field of gene editing for plant sciences, members of our management team have invented TALEN, one of the premier gene-editing tools.

Calyxt was founded in 2010 as a wholly owned subsidiary of Cellectis, a leading gene-editing company with a focus on the development of immuno-oncology therapeutics.

The Evolution of the Food and Agriculture Industries

The Food Industry is Struggling to Find Solutions to Address Many of Society’s Food-Related Issues

The United States is experiencing a dramatic increase in the prevalence of food-related health issues. In addition to being an underlying cause of some of the most prevalent diseases in western society, an unhealthy diet is a contributor to three of the ten leading causes of death: heart disease, diabetes and stroke.

As a result of the increase in food-related health issues, consumers have developed an increasingly heightened awareness of the role that dietary habits play in long-term wellness. This trend is especially prevalent in wealthier, developed nations where consumers have greater access to information that is helping to shift their consumption habits.

Regulatory agencies are playing a larger role in monitoring which food ingredients reach consumers. Beginning in 2018, the FDA will ban partially hydrogenated oils in foods, the primary artificial source of trans fat in processed foods. A recent study showed that New York State counties that implemented a ban on trans fats experienced an approximately 6% decline in hospitalizations for heart attacks and strokes as compared to New York State counties that did not. Additionally, following the passage of the Healthy, Hunger-Free Kids Act of 2010, the USDA gained significant oversight of the federal school lunch program and holds the authority to set new, healthier standards for food sold in U.S. schools. These healthier food mandates include minimum serving requirements for fiber, fruits and vegetables and maximum allowable content standards for fat, sugar and sodium.

With today’s consumers increasingly conscious and interested in the food they eat, buying habits have been creating dynamic shifts in the grocery aisle. The market has shifted from a focus on diet foods to a focus on

"real" food as a way to maintain health. Yet it is sometimes difficult for customers to find healthy alternatives without compromising taste or convenience. Consumers now view food—particularly food with health benefits—as the key to good health. More foods are being launched that go beyond basic nutrition to support health, digestive health, and higher energy levels. Locally sourced foods with a direct-to-consumer model are becoming more attractive, the demand for transparency in food sourcing, production and labeling is gaining traction, and consumers are discovering novel, foreign ingredients. We believe that as consumers continue the shift from a traditional production-driven food culture to a modern demand-driven food culture, they will continue to press companies and retailers for more information and accountability about how ingredients are sourced and processed, how "real" their food products are, and how responsive they are to consumers' desire for choice and customization.

As consumers seek healthier and more nutritious food options, the health and wellness food sector has benefitted. Healthier food options are capturing an increasing share of the consumer wallet. As conventional multi-outlet channels and food processors try to capitalize on the fact that a significant percentage of North American consumers are willing to pay a premium for healthy and nutritious foods, their ability to quickly adapt to changing consumer demands is hampered by commoditized business models and supply chains.

The impact of changing consumer preferences is increasingly evident as market share and sales shifts towards smaller consumer packaged goods companies. These changes in consumer preferences benefit small and medium-sized companies with above-average growth and slowing the growth of the largest food and beverages companies.

As a result of the consumer's rising demand for healthier food and the inability of traditional outlets and food processors to satisfy this demand, we believe that an opportunity exists for us to provide our innovative solutions for our customers and food industry.

The Agricultural Industry has Overlooked Society's Food-Related Issues

The agriculture industry has historically been burdened by high infrastructure costs in a market that has focused on price and market share resulting in commoditization. A highly segmented supply chain has also resulted in the legacy agriculture companies focusing on increasing margins and market share through increased yields and consolidation, and on passing along maximum value to the growers, thereby keeping pace with the growing demand for food globally. Over the past few decades the agriculture industry has seen a consolidation of over 200 seed companies, leaving the industry with only a handful of large, dominant players such as Bayer AG, Monsanto Co., DowDuPont Inc., AgReliant and Syngenta AG, which together accounted for approximately 78.1% of the U.S. seed sales for soybeans and 83.9% for corn in 2016–2017. In addition, development at these legacy agriculture companies has been significantly limited by time and cost constraints. According to industry estimates, genetic modification, a primary method of these companies to improve crops, requires an average of approximately 13 years and costs more than $130 million to progress a new crop from the discovery stage through commercialization. These innovations have primarily achieved increases in yields and food production volumes through the creation of herbicide tolerance and insect resistance, using genetically modified traits that in many cases contain bacterial DNA. We believe these industry dynamics explain the inability for the agricultural industry to evolve to a consumer- and farmer-focused approach, and thereby effectively meet their demands as societal trends shift and provide new market opportunities.

Traditional Trait-Development Techniques

In addition to these market dynamics, innovation within the industry has been slow given the limitations of traditional trait-development techniques. While plant breeders have been crossbreeding varieties and selecting advantageous traits for thousands of years, the modern agriculture industry has relied primarily on two methods of crop improvement:

- ***Genetic Modification***—this involves the use of genetic technologies to randomly insert foreign genetic material, such as bacterial derived genes, into a plant's genome for the development of seeds in which

the inserted genes express specific traits. Historically, genetic modification techniques have been focused on mitigating negative yield impacts related to biotic causes, such as insect protection and herbicide tolerance traits.

The development process for genetically modified seeds involves:

- identifying genes, many times outside the plant kingdom, that may include desirable traits;
- randomly inserting the extracted genetic material into seeds, and delivering transgenic products that contain foreign DNA;
- spending years testing, growing and confirming these random genetic modifications did not cause unintended consequences;
- working with global regulatory bodies to approve the above; and
- working with an agricultural supply chain to ensure broad adoption of the new trait in varieties across multiple countries, justifying the high development costs this process requires.

The use of genetically modified crops has continued to face challenges due to various factors, including:

- high development costs and a lengthy development process;
- a significant regulatory burden associated with obtaining marketing approval; and
- prevalence of durability issues such as weed resistance to chemistries used in herbicide tolerant crops and the evolution of insect resistance to toxins produced by genetically engineered crops with insecticidal traits.

- ***Chemical Mutagenesis***—this process involves the induction of mutagenesis in plants using agents and chemicals. Chemical mutagenesis creates non-specific mutations throughout the whole plant genome. As a result, mutagenesis techniques have proven to be slow, random and have not yielded disruptive agricultural improvements. The major limitations of mutagenesis include:
  - off-target effects that can induce unwanted mutations;
  - lengthy development process of up to ten years or longer necessary to identify the desired mutations, remove the unwanted mutations and breed the new mutations into commercial seeds; and
  - applicability is limited to certain types of mutations that do not require precision or complexity.

While these primary methods for addressing the agricultural challenges will continue to be applied, we believe these approaches can no longer effectively meet societal demands for innovative solutions demanded by the consumer and the farmer.

Calyxt's Solution: Bridging the Divide Between Evolving Consumer Preferences and the Agriculture Industry

We believe that our proprietary technologies and commercial strategy will allow us to bridge the divide between evolving consumer preferences and the historical approach by the legacy companies in the food and agriculture industries.

Our Technologies

Using our proprietary technologies and expertise, we edit the genome of food crops by using our "molecular scissors" to precisely cut DNA in a single plant cell, use the plant's natural repair machinery to make our desired

edit and finally regenerate the single cell into a full plant. We are able to develop targeted traits—some of which would be nearly impossible to develop using traditional trait-development methods—quicker, more efficiently and more cost effectively than would be possible using traditional trait-development methods. Our technology also puts us in a position to assess the probability of success early on in the research and development process, potentially eliminating excess cost associated with traditional trait-development methods and further reducing the risk of our product development process.

We believe we are disrupting the agriculture and food industry by utilizing our proprietary gene-editing expertise to prototype and develop traits at a fraction of the cost while simultaneously reducing the time to market. We believe our trait development process makes it possible to commercialize a product in three to six years, which would make it possible to effectively respond to evolving consumer preferences and farmer needs.

We are poised to become a leader in agriculture innovation through the use of gene editing. Our scientists have developed certain critical elements enabling us to make precise edits to DNA in living plant cells, including the use of reagents referred to as sequence-specific nucleases and the delivery methods of those reagents to plant cells. Our proprietary gene-editing platform relies on our capacity to custom design DNA-sequence specific cutting enzymes, or nucleases, for any chosen gene we need to edit and our capability to introduce such custom-made nucleases into the living plant cells we want to edit. Our platform relies on precisely chosen protein families that can specifically recognize unique DNA sequences and can be tailored to target such sequences in any chosen gene or genetic region.

Our proprietary technologies and intellectual property portfolio enable us to edit the plant genome by knocking out genes or creating precise gene edits. We take advantage of our knowledge about plant gene function to create novel genetic variation that results in traits of value. In all applications, a feature that distinguishes our products from those created through genetic modification is that our crop varieties lack foreign DNA. As such, for each of the six product candidates we have submitted to date, the USDA has confirmed that the products are not regulated articles, which represents regulatory cost savings for the development of these products.

We believe a vast number of favorable traits can be created by editing the genes of the plants or by inserting genes that occur within the same plant species. To date, we have not targeted the development of any products that would require foreign DNA in the final product, and we prefer to focus on finding natural traits existing within a plant species that can be elicited in our products. Where no naturally occurring trait exists within the plant species, we may not be able to create the desired trait without inserting foreign DNA. We believe there are a sufficient number of naturally occurring plant traits to allow us to continue to grow and expand our product pipeline for the foreseeable future.

Our Commercial Strategy

Our commercial strategy is centered on two core elements:

- *Developing healthier specialty food ingredients for the food industry to benefit consumers*—We intend to disrupt the food industry by continuing to identify market opportunities to help food manufacturers provide consumers with healthier and better tasting foods without sacrificing convenience or quality. Given trends in consumer preferences, we envision selling specialty ingredients such as healthier oils, high fiber flours and ingredients with reduced allergen and carcinogen content to the food industry.
- *Developing herbicide tolerance and other agriculturally advantageous traits for farmers*—We intend to disrupt the agriculture industry by developing agriculturally advantageous traits that have a broad appeal to farmers and the seed companies that sell to farmers. For example, we are developing a herbicide tolerant wheat product that is designed to be resistant to multiple herbicide chemistries currently in the market. Because these traits have broad applicability, we believe it is important to get these traits into as many seed varieties and acres as possible, similar to what has occurred in other

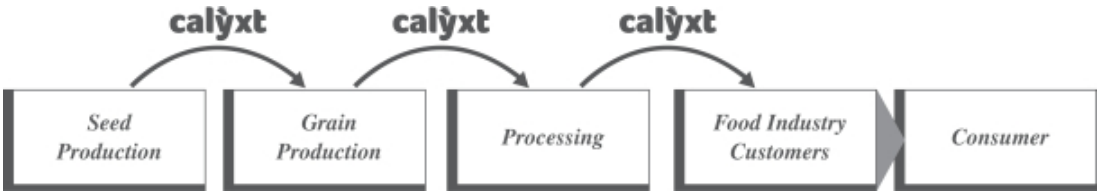
major row crops such as corn, soybean and cotton. Our strategy is to invent and develop these agriculturally advantageous traits for farmers and broadly out-license them to the seed industry, with the potential to collect license fees and royalties in return. We believe our two-pronged strategy will disrupt the traditional food and agriculture industries by aligning the needs of the consumer, farmer and the food and agriculture value chains. We intend to repurpose and leverage existing supply chain capacity by contracting, tolling or partnering with players in the existing supply chain, which will allow us to apply our resources to maximizing innovation and product development while minimizing our capital expenditures and overhead. As we continue to streamline our supply chain, we expect to enter into additional contracts and strategic partnerships within the various participants and members of the value chain, in an effort to maintain control of the process and help ensure product quality, manage cyclical demand changes and capture value.

We believe our product candidates will benefit from being grown, processed and stored utilizing the same existing third-party infrastructure and standard industry practices that are currently used in the non-GMO products in the industry. Our intent is to outsource to third parties, such as seed production companies, farmers under identity preservation contracts and soybean crushers or wheat millers, for the production and processing of our consumer-focused products. Given that our strategy is to outsource these processes, we do not anticipate using proceeds to build or purchase processing or farming assets. Once we establish a supply chain for our first consumer-focused product in soybeans and wheat, we anticipate that future products within the same crop will benefit from utilizing the same supply chain.

Farmers are an essential component of our business model as they produce and prepare crops for processing. Within the traditional agriculture industry supply chain, farmers sell to elevators or processors who operate a high volume/low margin business to store crops and convert them into consumer and industrial products. Our strategy is to partner with farmers to grow premium products and have them allocate some of their land to grow our crops and, in turn, we will then buy back the crops produced by the farmers. We can then contract with processors to create our specialty food ingredients, which we will market directly to food manufacturers. We can also take our product and negotiate prices with food manufacturers and capture the incremental value without substantial capital outlays using these “closed-loop” contracts. Due to our partnership-oriented, vertically-integrated supply chain, we believe we can create and retain more value for ourselves that we can share with our farmers and processers, creating a supply chain that is a favorable for all participants involved.

Soybean crushers that manage existing crushing and refining infrastructure in the United States have small margins and compete largely in commoditized low margin markets. We intend to sign tolling agreements, which are common in our industry, to hire the crusher and refiner to transform our grain into meal for animal feed and oil for human consumption. We believe this will enable us to focus our investment on building inventory and commercial activity while leveraging the existing third-party infrastructure and knowledge regarding processing and crushing in the soybean industry. We intend to replicate this model for our consumer-oriented wheat products.

The following chart shows our plans for commercializing our consumer-focused product candidates:



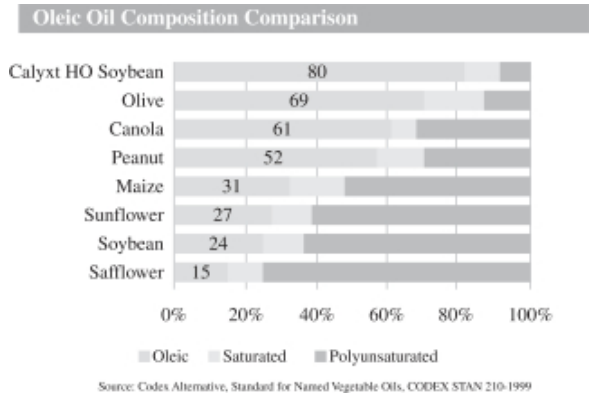
We have made substantial progress in our supply chain execution. We currently have established relationships with multiple seed production partners, crop farmers and crushers, in addition to our internal capabilities. We believe that we can extract meaningful value from each of our relevant supply chains in a similar manner and we expect to establish similar relationships across the value chain with our wheat and canola product candidates.

Our Product Pipeline and Commercial Opportunity

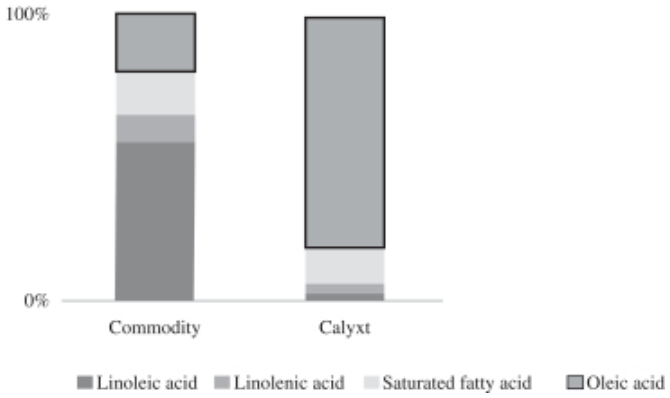
High Oleic Soybean (Consumer Trait)—a Premium Oil Market Commercial Opportunity

Soybean oil has historically been partially hydrogenated to enhance its oxidative stability in order to increase shelf life and improve frying characteristics. This process, however, creates trans-unsaturated fatty acids, or trans fats, which have been demonstrated to raise low-density lipoprotein (LDL) cholesterol levels and lower high-density lipoprotein (HDL), both of which contribute to cardiovascular disease. The discovery that dietary trans fats increase the risk of several health issues led the FDA to rule in 2003 that manufacturers be required to include trans fat content information on the "Nutrition Facts" label of foods. In 2015, the FDA took a further step and banned the use of partially hydrogenated oils, the primary dietary source of artificial trans fat in processed foods, by all food manufacturers beginning in 2018. After the FDA's 2003 ruling, commodity soybean oil—which leads to high trans fats in foods—lost significant market share to other vegetable oils, such as palm oil and canola oil.

Monounsaturated fats, such as oleic acid, have been linked to reducing LDL cholesterol and triglycerides and raising HDL cholesterols. Diets rich in monounsaturated acids are associated with lower fat mass and decreased blood pressure. High levels of oleic acids can be found in olive, canola, sunflower and safflower oils. The following chart shows the oil composition in our soybean oil compared to these and certain other oils:



We developed a soybean trait that has produced oils with a fatty acid profile that contains 80% oleic acid, 20% less saturated fatty acids compared to commodity soybean oil and zero transfats, as shown in the chart below.



Oil created from our high oleic soybean product candidate has multiple desirable characteristics as an ingredient for the food industry. The high level of oleic acid in our soybean oil enhances oxidative stability more than fivefold when compared to commodity oil. This eliminates the need for partial hydrogenation, and thus no trans fats are produced during oil production. Furthermore, our high oleic soybean oil offers additional potential benefits, including reduced saturated fats, a threefold increase in fry-life, and reduced polymerization upon frying at high temperatures. Soybean oil is also neutral in flavor, odorless and colorless, and is therefore highly desired as a food ingredient because it has limited impact on the sensory characteristics of the final food product.

Our high oleic soybean product candidate was created using our TALEN gene-editing technology. We designed TALEN to specifically target two fatty acid desaturase genes (designated *FAD2-1A* and *FAD2-1B*). These genes convert oleic acid (a mono-unsaturated fatty acid) to linoleic acid (a polyunsaturated fat). By specifically inactivating both the *FAD2-1A* and *FAD2-1B* genes by removing DNA with TALEN, oleic acid accumulates in the seed—increasing from about 20% to 80%. By key measures, including yield, our high oleic soybean variety performs comparably to its unedited counterpart. Further, our improved soybean variety does not contain any foreign DNA. Because our technology is so precise and we target genes with well known functions in the plant, we have not, to date, detected any other changes as a result of the gene-editing process or undesired effects in our product.

In mid-2015, we received a letter from the USDA indicating that our high oleic soybean variety is not a regulated article under the Plant Protection Act. This allowed us to test the performance of our soybean variety in the field. In November 2015, we announced the completion of the second year of multi-location field trials in Minnesota and South Dakota. The agronomic and yield performance of our high oleic soybeans is on par with the non-GMO variety used to create this product. In 2016, 45,000 bushels of soybean seeds were produced by our farmers and we established supply chain partnerships.

Our soybean product candidate is in Phase III of our development process, and we are making preparations to create the capacity to crush on a commercial scale, which will enable product testing by potential food company customers. During the third quarter of 2017, we completed the harvest of our high oleic soybean and produced more high-quality seeds than needed to meet our commercialization target date. We are currently completing our commercialization plan and anticipate commercialization by the end of 2018. The interim critical milestones to complete in 2018 to achieve that goal include the following:

- building up our commercial supply chain for seed, grain and oil;
- creating relationships with customers, and encouraging them to start testing oil created from our soybean product candidate;
- signing tolling agreements with one or more crushers; and
- building up the commercial grain inventory toward the end of the 2018 crop year in order to generate 2019 oil and meal sales.

In addition, our high oleic soybean product candidate can be stacked with other soybean traits. For example, we intend to combine our high oleic acid trait with a trait that reduces linoleic acid, which would further improve the quality of our oil for frying. We are also developing an improved protein composition trait, which is in the Discovery phase of our development process. We believe this trait will increase the value of the soybean meal. Soybean meal is an important source of dietary protein for animals, and our product may have a better balance of amino acids for animal nutrition. These output traits that affect oil and protein quality will be combined with traits of value to the farmer. Among these are herbicide and drought tolerance and traits that confer improved yield. Thus, we have established a pipeline in which additional traits can be stacked with our initial products to increase their commercial value over time.

In December 2017, we executed an agreement with FBN to expand the distribution and grower base of our identity-preserved high oleic soybeans. FBN will distribute our high oleic soybean seeds to growers in its

network and register farmers for our program which allows them to enter into contracts for growing our premium products. This relationship will help develop a dedicated, high-quality grower base and bolster our supply chain operations in the upper Midwest.

Premium Oil Market Opportunity

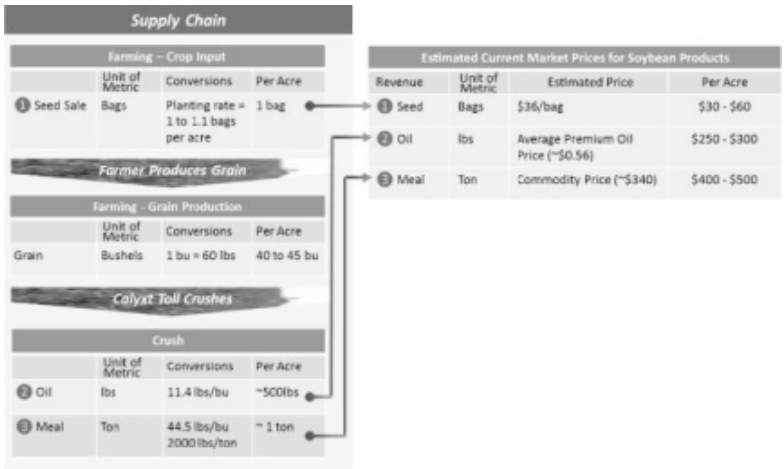
According to industry sources, the vegetable oil market in North America is estimated at 40.7 billion pounds per year. Certain premium priced oils such as canola, sunflower, corn, cotton and others represent approximately 34% of this market, or approximately 14 billion pounds per year. We believe this market has grown by a 6.7% compound annualized growth rate over the trailing fifteen years. Data from the USDA suggests that the average price of various premium oils over the 10-year period ended 2016 was approximately $0.56 per pound versus soybean oil that we estimate currently sells in a range of approximately $0.33-$0.39 per pound. Based on these estimates, the premium oil market segment could potentially generate approximately $8 billion in annual revenue. Assuming the market grows at a 5% CAGR, which assumes 2% growth for inflation and 3% population growth, we believe this market opportunity could grow to approximately $13 billion in the next ten years. In addition, in the United States, according to a report by Qualisoy, high oleic soybean acreage and oil production is expected to more than double year upon year, resulting in 9.3 billion pounds of available soybean oil within the next decade. Accordingly, we believe the oil generated from our soybean product candidate targets a potential multi-billion dollar market.

Vertically Integrated Soybean Franchise, Supply Chain and Business Model

We intend to pursue a vertically integrated business model for our soybean product candidate that we believe will provide three potential revenue opportunities:

- seed sales to farmers that are part of what is called the identity-preserved supply chain, which entails entering into a contract with the farmer, who, in return for a premium, produces and stores our soybeans while maintaining the quality and purity of our product;
- oil sales to food companies; and
- meal sales to animal feed companies.

The following chart shows a high level indicative approach to our business model within the supply chain:



Soybean Germplasm (Seeds)—Soybeans are a crop that is photoperiod sensitive, meaning the crop is sensitive to the length of the day. Plant breeders have developed soybean varieties that are adapted to distinct

latitudes and agroclimatic conditions—which are referred to as maturity groups. Different growing regions in the United States require different maturity groups. For example, the northern United States requires soybeans in the 1.5- 2.2 maturity group ranges, with farmers typically planting a few varieties within this range to diversify their risk.

We have in-licensed over thirty non-genetically modified soybean varieties with commercial rights. We intend to initially introduce our high oleic soybean product candidate in the northern United States on one variety within a particular maturity group range and over time expand to additional varieties to farmers in the same region to provide farmers with the ability to diversify their risk. We expect to continue this expansion over time by adding regions in other maturity groups and varieties. Over the next five to ten years we envision expanding our germplasm portfolio to early, middle and late maturity groups. We believe this strategy will enable us to expand our supply chain through additional crushing plants within target growing regions and at the same time lower potential premiums and production costs as we introduce into the supply chain additional varieties that meet the diversity of seed variety that farmers need to mitigate their risk.

Crusher operators are generally divided into two categories—crushers owned and operated by large companies in the industry and crushers that are independently operated. Each group generally follows a different business strategy. Large crushers typically focus on maximizing utilization and production, whereas the independently operated crushers typically focus on maximizing profitability by specialization and production focus. Within our target regions, we believe there are many independent crushers that process soybean and that are underutilized. We expect this to provide us with a meaningful opportunity to leverage their services in our business model.

Farmers

We plan to initially focus our supply chain strategy on contracting with farmers within a 50-100 mile area from certain predetermined crushing plants with which we are forming commercial tolling relationships. This will allow these farmers and growers to deliver their grain to these crushing plants in a cost-effective manner to avoid high transportation costs. Over time, we foresee supplying farmers with seeds in multiple states near multiple crushing plants with which we have contracted. We believe that we can generate a successful supply chain by contracting with fewer than 2,000 farmers.

There are a number of key metrics by which we will measure our success in the established supply chain, including the number of farmers using our seeds to grow high oleic soybeans, the number of acres planted with our seeds, the number of farmers that we need to contract with in order to add an incremental crushing plant to the supply chain and the retention rate of how many farmers choose to grow our soybeans year after year. We also anticipate farmers continuing to grow multiple varieties from multiple seed companies, which means we may initially represent a small percentage of a particular grower’s soybean acreage. Over time, we plan to seek to increase that percentage and, as our product offering expands, become one of the partners of choice for that farmer’s soybean seed needs.

Soybean Meal Sales to Animal Food Companies—Another potential opportunity for our high oleic soybean is for consumption in soybean meal. Approximately 97% of the soybean meal consumption is in the animal nutrition industry, with the industry experiencing increased demand for differentiated and non-GMO soybean meal. As a result, we believe the soybean meal industry provides us another competitive opportunity as we establish our commercial strategy.

Soybean Oil Customers—Given the characteristics of our soybean oil—neutral taste, heat stability and fatty acid profile similar to olive oil—we believe our oil presents a competitive alternative to existing premium oils in multiple food application categories.

Additional Soybean Growth Opportunities—We intend to initially focus commercialization of our soybean product candidate in North America. However, over time, we foresee a number of expansion opportunities given

the global nature of soybean uses, including extensive import and exports of soybean co-products such as meal and oils. Some of these expansion opportunities may include:

- Oil Exports: As global regulatory frameworks continue to evolve for gene-edited products, we believe we will have the opportunity to export our soybean oil to other markets, which in turn we expect will create the opportunity for additional market expansion and increased premiums.
- Global Launches of High Oleic Soybeans: Soybeans are grown in other countries such as Brazil and Argentina. We therefore believe that we have the potential to expand our supply chain and business relationships to other countries, providing additional global opportunities.
- Expand Product Offering in Existing Supply Chain: Once a supply chain is established, we believe we will have the potential to leverage the same acres, meal and oil sales to create additional value through increased quality, such as improved protein contents, or farmer-focused traits such as herbicide tolerance, improved yield and drought stress tolerance.
- Expansion of Seed Sales: We believe that once we establish a supply chain in soybeans through commercial relationships with farmers, we may be able to expand our product offerings to these farmers.

High Fiber Wheat (Consumer Trait)

Fiber is the indigestible portion of food that is essential for healthy digestion. Research has shown that fiber may play a large role in maintaining bowel health, lowering cholesterol, stabilizing blood glucose levels and controlling weight gain. A high fiber diet has the potential to lower the rate of glucose entry into circulation, thus decreasing the risk of food-related chronic diseases, such as coronary artery disease and diabetes. The average American adult consumes approximately 15-18 grams of fiber daily, only half of the amount recommended by the U.S. Department of Health's dietary guidelines based on the average caloric intake. In recent years, the awareness of the health benefits of high fiber diets has increased. This has translated to a strong growth in demand for high fiber food products, with 38% of grocery shoppers now seeking high fiber foods.

We are developing high fiber wheat traits that could be used to produce white flour with up to three times more dietary fiber than standard white flour. We anticipate that by altering the proportion of certain slower digested carbohydrates in the wheat grain, we will increase dietary fiber. This would allow consumers to reach their daily value of fiber without changing their existing food preferences. These high fiber wheat product candidates will not contain any foreign DNA.

We believe our high fiber wheat flour will be incorporated into many food products—from pasta to bread. Whereas a single serving of whole wheat flour can provide 49% of an individual's daily fiber needs, a single serving of our high fiber flour may provide up to 100% of the recommended daily requirement thereby allowing food manufacturers to make high fiber products sought after by many consumers.

This product candidate is currently in Phase I of our development process and may launch as early as 2020 – 2021. The gene-edited wheat line has been identified and grown and the fiber levels are under examination in grain derived from greenhouse grown plants.

In addition to our high fiber wheat product candidate, we are also developing other consumer traits in our wheat pipeline, including a reduced gluten product candidate.

High Fiber Wheat Market Opportunity

According to industry sources, the wheat market in North America was estimated at 108 million tons in 2017 with approximately 43% produced for human consumption in the United States. Humans consume approximately 650 million hundredweight, or cwt, of wheat flour in the United States, including an estimated 91 million cwt of premium wheat flour. Assuming an average price of approximately $15 per cwt we believe the premium wheat market could represent a potential multi-billion dollar market opportunity

High Fiber Wheat Germplasm (Seeds)

The wheat flour market in the United States consists of six classes, which are designated by color, hardness and growing season: hard red winter, hard red spring, soft red winter, soft white, hard white and durum.

The wheat classes grown by a particular farmer depend on geographic location and the germplasm offerings in the different classes of wheat. The classes pose different quality and functionality characteristics, and growing wheat of multiple classes diversifies harvest risk.

We plan to expand our product offerings into potentially all classes of wheat with an emphasis on those that provide superior functionality. We will then selectively in-license and acquire third-party genetics to build germplasm platform in potentially all classes of wheat. These additional product offerings will impact our regional expansion of production as well as market opportunities.

Flour

Miller operators fall into one of two categories—millers owned and operated by large companies in the industry and millers that are independently operated. Each group generally follows a different business strategy. Large millers typically focus on maximizing utilization, blending and economies of scale, whereas independently operated millers typically focus on maximizing profitability by specialization and production focus. We believe there are many independent millers that process flour that are underutilized and eager to work with specialty products. We expect this to provide us with a meaningful opportunity to leverage their services in our business model. We expect to commence commercialization of our wheat product, once developed, using two to four millers, and to expand that number as commercialization progresses.

High Fiber Wheat Customers

The market for wheat-based products is diverse and, in the United States, includes fresh bread and rolls, snack bars and granola bars, pastries and doughnuts, frozen pizza, bakery snacks and Mexican foods. As a result, we believe there are multiple opportunities to supply our high fiber wheat to food producers.

Additional High Fiber Wheat Opportunities

We intend to initially focus commercialization of our high fiber wheat product candidate in North America. However, over time, we foresee a number of expansion opportunities. Some of these expansion opportunities may include:

- Global expansion: We believe there would be potential in being able to export our high fiber wheat to other countries with conducive regulatory frameworks with respect to our products. We also believe that we will be able to grow high fiber wheat in other countries given the extensive amount of wheat grown outside of the North American market. We believe both of these opportunities create the potential for increased premiums and market penetration.
- Cross selling: Once we have established an initial relationship with a food industry customer, we believe there is potential opportunity to cross sell products to the customer. For example, the customer may also have a demand for our high oleic soybean or another product as the customer’s needs evolve.
- Trait stacking: Another potential opportunity for us is using trait stacking. For example, we may be able to add characteristics to our high fiber wheat, such as reduced gluten or a more favorable carbohydrate profile. Alternatively, we may be able to add herbicide tolerance to our high fiber wheat. In each case, we would expect the additional trait to enhance the value of our products on a per unit basis and further drive demand.

Herbicide Tolerant Wheat (Farmer Trait)

Weed control is one of the greatest challenges farmers face in producing crops. Weeds compete not only with crops for water, nutrients, sunlight and space, but also harbor insect and disease pests, clog irrigation and drainage systems, undermine crop quality, and deposit weed seeds into crop harvests. Poorly controlled weeds significantly increase farmers' cost while reducing crop yield and quality. With the constant need to increase yields, herbicides are an important component of commercial food production and account for 70% of all agricultural chemical use.

Herbicide tolerance is a plant's ability to withstand a particular chemical herbicide. Herbicide tolerance traits in crops can provide additional crop protection chemistry alternatives to control weeds and increase crop yields. Weed resistance is a growing problem in the United States and other countries in the world. As weeds develop resistance to herbicides they become more difficult to control which can reduce yields and the quality of crops. The use of different chemistries has been an important tool to control herbicide resistant weeds. For example, Glyphosate tolerant weeds are controlled with other herbicide chemistries effective in grasses. Certain crops—such as wheat and soybeans—may not be tolerant to such chemistries, rendering this option non-viable for over-the-top applications.

Herbicide tolerant traits may offer farmers a vital tool in managing weeds effectively during crop production. The deployment of herbicide tolerant traits in wheat significantly lags other major crops and wheat production is constantly faced with yield-robbing weeds that can result in lower yield and higher dockage costs at the elevator. In the United States, nearly 90% of major row crops, including corn and soybeans, contain at least one herbicide tolerant trait. In contrast, no broad acre GMO herbicide tolerant trait has been developed for wheat, largely due to the complexity of the wheat genome. Without effective control, weeds can lower winter wheat yield by up to 23% on average worldwide, and in turn significantly decreases profitability potential.

Wheat Herbicide Tolerant Trait Opportunities

We are pioneering the development of herbicide tolerant traits in wheat without the use of foreign DNA, built using our TALEN gene-editing technology. Herbicides act by inhibiting the activity of certain plant-encoded proteins that promote plant growth. We aim to achieve herbicide tolerance by specifically making a subtle repair to prevent herbicides from being able to recognize and block functions of these proteins, such that the edited plant survives the application of the herbicide. Our product candidate will contain no foreign DNA. We believe this solution, if successfully developed and commercialized, will have the potential to increase the farmer's yield and revenue. Accordingly, we believe our herbicide tolerant trait would have broad appeal and applicability into the 76 million acres of wheat that are grown in North America each year and potentially into the over 500 million acres grown worldwide. One industry source has suggested that there can be up to $71 per acre of loss for wheat due to weeds. Given the amount of wheat acreage in North America, products with herbicide tolerant traits represent a potential multi-billion dollar industry.

In September 2017, we successfully advanced our herbicide tolerant wheat program from the Discovery phase into Phase I development. In addition to herbicide tolerance, we are developing traits that are advantageous to the farmer including our variety of wheat that confers resistance to a fungal pathogen, namely powdery mildew. Powdery mildew resistant wheat advanced to Phase II in 2017 after successfully conducting the first field trial to assess agronomic and trait performance of the powdery mildew resistance trait line. We believe powdery mildew resistance may increase yield and reduce the need for the use of costly fungicides.

Building Up a Licensing Franchise and Supply Chain

We intend to develop our herbicide tolerant wheat technology and plan for initial commercialization in North America in the second half of the coming decade. Under this proposed model, we anticipate that we would establish licensing relationships with seed company customers (and public seed institutions) to enable conversion

of elite wheat lines from multiple classes. These seed institutions would then sell seed containing our herbicide tolerant technologies either directly to farmers or through seed distributors. We would seek to receive royalty payments from these seed institutions.

Additional Licensing Growth Opportunities

We believe herbicide tolerant wheat represents the first broad licensing opportunity for a large acre trait for us in a major row crop. Additional licensing opportunities may include:

- Herbicide tolerant wheat being developed by us that will enable the application of two different types of chemistries currently available in the market (off patent chemistries). We could pursue a strategy to collaborate with strategic partners, exclusively or on a non-exclusive basis to register the application of chemistries on its herbicide tolerant wheat and seek additional revenue opportunities from such chemistries.
- We could combine our herbicide tolerance technology in wheat with our high fiber wheat products under identity preservation, creating potential synergies between both products being sold on the same acreage.
- Over 500 million acres are cultivated globally, and we could replicate our business model and deploy herbicide tolerant technologies in wheat in other world regions beyond North America.
- Development and out-licensing of additional farmer traits in wheat such as disease resistance, additional herbicide tolerance products, improved yield products and other agronomic characteristics.
- Similar or alternative herbicide tolerant technologies could be developed by Calyxt in other crops such as soybeans and canola, expanding the herbicide tolerance franchise across multiple crops, first in North America and then globally.

Improved Oil Composition Canola (Consumer Trait)

Our improved oil composition canola is our first canola product candidate. The development of this first canola product expands our improved oils franchise, in line with our mission to create healthier specialty ingredients and become a preferred partner of the food industry. In September 2017, we successfully advanced our improved oil composition canola program from discovery stage into Phase I development.

Other Products in Our Development Pipeline

Our extensive product pipeline includes a variety of consumer- and farmer-centric traits for soybean, wheat, canola, alfalfa and potato. We will conduct further development programs to build upon our current pipeline, which currently includes improved oil composition canola, herbicide tolerant canola, improved quality alfalfa and herbicide tolerant alfalfa, late blight resistant potato, cold storable / reduced browning potato, improved protein composition soybean, drought tolerant soybean, herbicide tolerant soybean and improved yield soybean. In the future, we anticipate expanding our product pipeline to include other food crops. As of December 31, 2017, Calyxt had a total of nine product candidates in Phase I or higher across its five crops, which is reflective of our rapidly advancing product pipeline.

We plan to develop gene-editing automation processes that will enable us to implement a high throughput discovery platform to identify new growth opportunities. This high-throughput platform is intended to allow us to discover more gene traits and make more complex edits, enabling us to drive innovation at a significantly faster rate. We believe all of these steps will enable us to remain at the forefront of food and agriculture innovation.

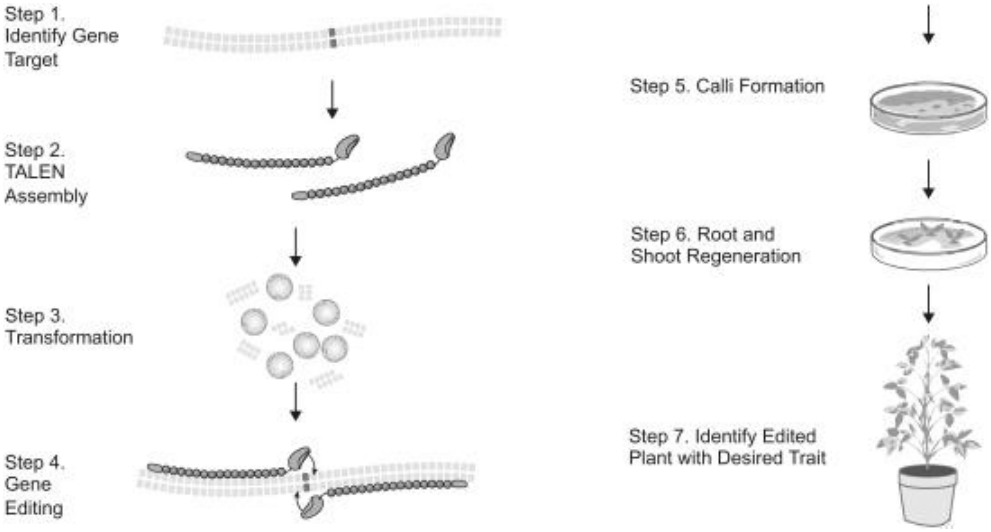
In addition, during the third quarter of 2017, the USDA designated our alfalfa product, developed in collaboration with S&W Seed Company, as a non-regulated article under “Am I Regulated?” Process by Biotechnology Regulatory Services of the Animal and Plant Health Inspection Service (APHIS), an agency of the USDA.

Technology and Process Overview

Calyxt is a Pioneer in Plant Gene Editing

Gene editing is a technological leapfrog that makes it possible to overcome many of the limitations of traditional trait-development techniques. Gene editing creates novel traits by making minor DNA sequence edits to plant genomes. These edits occur in a precise manner and at high efficiency, providing accelerated development and commercialization timelines and potentially lower regulatory hurdles.

The following chart depicts our development process:



Step 1: We begin by identifying the gene target and the edit we would like to introduce into the plant genome. We do not have an in-house gene discovery platform. Rather, we supplement our own scientific knowledge and expertise with the efforts of universities, non-profit organizations, government agencies and gene discovery biotech companies to identify genes, which when altered, express desired crop traits. Some of the information on gene targets is in the public domain, and in other instances, we may engage in intellectual property licensing agreements. We believe there are scientific teams around the world continually identifying new gene targets, providing new opportunities for us to expand our product pipeline. We are typically able to assess gene targets and the types of edits to be introduced in several weeks.

Step 2: We create TALEN (Transcription Activator-Like Effector Nucleases) to specifically recognize the DNA target we seek to edit in the plant genome. TALEN were invented by our scientists and are one of the most effective reagents for gene editing. Two TALEN are used to recognize a given target, each of which recognizes 15-20 bases of the genetic code. A 30 base DNA sequence target occurs, on average, once every quintillion bases. Thus it is relatively easy to design TALEN to recognize unique sites in complex genomes. We have unparalleled expertise in TALEN design, and we have an automated TALEN assembly pipeline that allows us to make thousands of TALEN per week—far more than what is needed for product development.

Step 3: We deliver our TALEN and other reagents as necessary to achieve the desired gene editing outcome to plant cells in a process known as transformation. We rely on three methods of transformation—agrobacterium, particle bombardment and protoplast—to deliver reagents to plant cells to achieve targeted edits at high efficiency.

Step 4: Gene editing typically occurs within a few hours after reagent delivery.

Step 5: We place the edited cells in culture and allow them to grow and divide. The cells form a mass of unorganized tissue called a calli. Calli are produced for most plants cells we edit, and the callus stage can last from several weeks to several months.

Step 6: Once calli are obtained, we induce them to differentiate leaf and root tissues through the application of plant hormones. Shoots regenerate first and then roots, ultimately resulting in a “plantlet.” Depending on the plant species, this step can take from a few to several months.

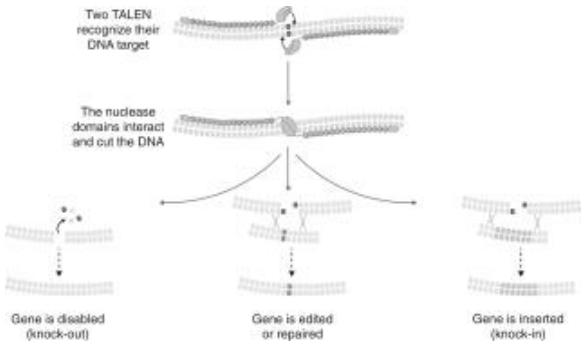
Step 7: We screen the resulting plantlets to identify those with the desired gene edit. We have an automated pipeline to prepare and analyze DNA from plantlets to identify those that have the desired editing outcome.

Once the steps in the chart above are completed, we continue on to Phase II our development process by moving plants with edited genes to soil and growing them in the greenhouse to test for the intended trait and to produce more seed. This step is often the most time-consuming, and is constrained by biology; that is, it takes time for a plant to mature, flower and produce seed. Once we validate the trait in the greenhouse, we advance the edited plants to field trials. We carry out the field trials at multiple locations over multiple growing seasons. In some instances, we carry out field trials in the Southern hemisphere to capture two growing seasons in a given calendar year.

Gene Editing with TALEN

TALEN enable genome editing through a simple two-step process—first by recognizing a specific DNA sequence, and then by precisely inducing a controlled DNA double-strand break. TALEN protein structure comprises a DNA-recognition domain and DNA-cleaving domain. DNA-recognition is achieved by individual repeat domains (depicted in the figure below as an array of spheres); each domain recognizes a specific nucleotide (depicted in the figure below as grey boxes). By rearranging central repeat domains, TALEN can be designed to target nearly any DNA sequence. DNA-cleavage is achieved by a nuclease that is fused to the DNA-recognition domain (depicted in the figure below as large half spheres). The nucleases must interact to cleave DNA, and cleavage occurs only after two TALEN precisely recognize a target DNA sequence. The requirement for two nucleases to interact minimizes cleavage at unintended sites due to binding of a single TALEN.

The following figure depicts the process of making gene edits using TALEN:



A precisely placed double-strand DNA break is the key to unlocking gene editing. This break can be the substrate for a wide range of outcomes, from single nucleotide deletions, to large DNA insertions. Left alone, a DNA break will result in removal of nucleotides (through a process called non-homologous end-joining). This removal of nucleotides, if placed appropriately, can result in gene inactivation or a gene knock-out. Our high oleic soybean variety, for example, was achieved by gene knock-out. By precisely removing DNA, we inactivated two *FAD2* genes, which resulted in the accumulation of oleic acid in the seed.

If a user-supplied DNA fragment with a similar sequence to the TALEN binding site is provided at the time of the DNA break, then novel information in the user-supplied DNA is copied into the plant genome (through a process called homologous recombination). The information that is incorporated can be a single base change that repairs or edits the target gene to improve its function. For example, we believe herbicide tolerance can be achieved in many plant species by specifically making a subtle repair to prevent herbicides from being able to recognize and block functions of certain plant-encoded proteins that promote plant growth. Alternatively, it is possible to incorporate or knock-in one or more transgenes to create a new trait. At present, we are focused on using gene knock-outs and gene repair to create new traits. Other major agricultural biotechnology companies, which commercialize GMOs, are interested in targeted knock-in approaches. Gene editing and gene insertion through homologous recombination are collectively referred to as gene targeting.

Tissue Transformation Systems

Key to achieving a gene-edited plant is the ability to deliver TALEN to plant cells (a process referred to as transformation). Our scientists have proficiency using the three main methods of transforming plant cells—agrobacterium, particle bombardment and protoplast transformation. Agrobacterium is a soil bacterium that naturally delivers DNA to plant cells. This method can be used to deliver our TALEN; it can also be used to deliver templates to copy information to the break site. Particle bombardment uses DNA-coated gold or tungsten particles to deliver DNA to plant cells. The particles are shot at plant tissue at high velocity, and the DNA is either transiently expressed or integrated into the host genome. Protoplasts are plant cells lacking a cell wall. Our TALEN reagents can be directly delivered to protoplasts at high efficiency (between 50% and 90% transformation frequencies). Further, we have shown that purified TALEN proteins can be delivered to plant protoplasts to achieve gene editing, thereby obviating the need to use nucleic acids. Over the past six years our scientists have developed the expertise and know-how to deploy these methods in a variety of plant species.

We believe that our ability to select the appropriate transformation method, our capabilities to use these technologies, as well as our innovative solutions to achieve increased efficiency, creates both a competitive advantage and a barrier to entry. Our technology enables us to precisely and specifically elicit the desired traits with the desired characteristics in a matter of months. For example, in order to develop our high-oleic soybean oil, we designed TALEN to specifically target two fatty acid desaturase genes (designated *FAD2-1A* and *FAD2-1B*). These genes convert oleic acid (a mono-unsaturated fatty acid) to linoleic acid (a polyunsaturated fat). By inactivating both the *FAD2-1A* and *FAD2-1B* genes with TALEN, oleic acid accumulates in the seed—increasing from about 20% to 80%, which improves its characteristics for frying and is healthier for the consumer.

The plant transformation and regeneration steps described above are inherently scalable, and we envision that through the use of robotics, it will be possible to generate thousands of plantlets with a desirable gene edit. By implementing a platform that creates multiple plantlets with the same gene edit, we believe we will be able to greatly accelerate product commercialization. For example, if we are interested in developing wheat flour with a healthier carbohydrate composition, we can harvest enough seed from our population of edited plantlets to produce enough flour to test for functionality and ensure it has the properties desired for our customers. This eliminates the time needed to amplify enough seed over multiple generations from one or a few edited plants.

Key Advantages of TALEN Over Other Gene-Editing Technologies

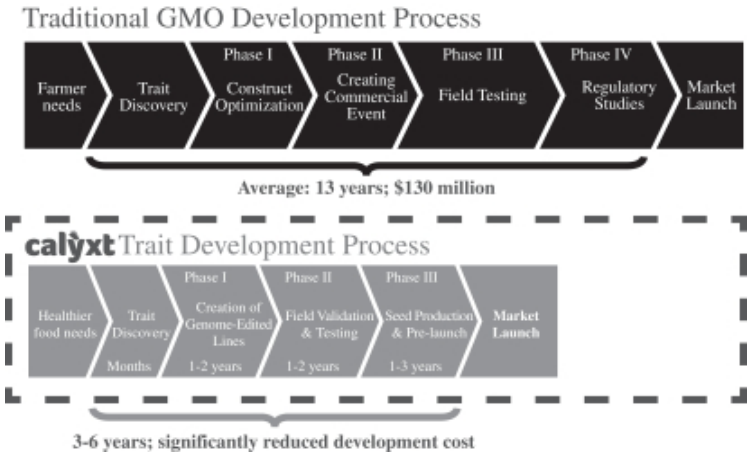
In addition to TALEN, we are aware of three other classes of nucleases that enable gene editing, including meganucleases, zinc finger nucleases and CRISPR/Cas9. Despite the availability of other gene-editing platforms, we currently rely on TALEN because of the following benefits:

- Intellectual property—We have a strong intellectual property position with respect to TALEN technology and its use to make our product candidates. We have actively sought to protect our proprietary technologies and product candidates through the licensing of a portfolio of approximately 89 issued patents and 178 pending patent applications, as of December 31, 2017.

- Specificity—TALEN may be designed to limit its DNA cleavage to the desired sequence and to avoid cutting elsewhere in the genome. This parameter is essential as plant genomes are highly complex; for example, the wheat genome comprises 17 billion bases.
- Precision—It is possible to design a TALEN that will cleave at any selected region in any gene. For example, there are four related FAD genes in the soybean genome. Our TALEN edited only the two genes that produce fatty acids in the seed; no edits were introduced into the other related genes.
- Efficiency—A large percentage of cells treated by TALEN bear the desired gene edit. Because of TALEN efficiency, only a handful of plants have to be regenerated to recover those with edits in our target gene. For example, three of 19 transgenic soybean lines expressing the FAD2 TALEN transmitted heritable edits to the next generation.
- Validation—We have a strong track record with respect to our technologies and expertise as we have successfully edited more than 20 unique genes in 6 plant species since our inception in 2010.
- Ease of use—We have extensive expertise in the design and assembly of TALEN and can generate thousands of TALEN per week.

A Comparison of Crop Development Processes—Traditional vs. Calyxt

Our solution for agriculture biotechnology can provide significant speed and cost advantages as compared to the traditional trait-development methods employed by the current agriculture industry companies. Through our accelerated development process, we believe we are capable of commercializing our product portfolio significantly quicker and at reduced cost.



Traditional Agricultural GMO Development Process:

We provide an overview of the development process involved in GMO trait commercialization, which is currently employed by the agricultural industry. This process typically requires an average of approximately 13 years and costs more than $130 million to develop a new trait:

- Discovery—The screening and identification of potential traits of interest using foreign DNA which many times is from outside the plant kingdom. This process requires the expertise in genetics, molecular biology and bioinformatics/genomics approaches to identify target genes.
- Phase I (Proof of Concept)—At this stage of development, tests are performed on a variety of constructs based on lead candidate genes. This is undertaken to achieve the optimal expression of gene in order to obtain the desired trait.

- Phase II (Early Development)—Plants with optimized genetic constructs are chosen and evaluated in greenhouse and field trials. This involves upwards of tens of thousands of plants being grown and evaluated.
- Phase III (Advanced Development)—Large scale field trials are conducted to measure trait expression and crop yield.
- Phase IV (Pre-Launch)—Build up seed inventory for commercial launch and regulatory studies to test the safety of the crop.

Calyxt's Accelerated Development Process:

We can assess the viability of a trait in less than two years and commercialize it in as short as six years with a significantly reduced development cost.

- Discovery (Several Months)—The preliminary screening and identification of genes with the potential to deliver a trait of interest. We do not spend significant resources on the screening and identification of genes in plants that will lead to beneficial traits. Rather, we supplement our own scientific knowledge and expertise with the efforts of universities, non-profit organizations, government agencies and gene discovery biotech companies to identify genes, which when altered, express desired crop traits.
- Phase I: Product Transformation & Event Selection (1-2 Years)—The process to make our product, in which we leverage our gene-editing platform and expertise to induce the expression of a desired trait. We have proficiency in three different tissue transformation systems—agrobacterium, particle bombardment, and direct DNA delivery to protoplasts—which allows us to edit the genome in nearly all major crops. Once a product is created we grow seed in our greenhouse to initiate testing. At the end of Phase I, we submit a petition to the USDA to confirm the product candidate is a non-regulated article.
- Phase II: Trait Validation (1-2 Years)—After obtaining USDA confirmation, trait validation is conducted in small and large scale field trials. Small scale trials take place in a limited number of locations, where we test our products in the field and increase seed production. Larger scale field trials occur across multiple field locations and years and help us ensure our field performance across multiple conditions. At this stage we also test the specialty food ingredients produced from these plants for unique healthier properties. At the end of Phase II, we expect to be able to assess the technical viability of a trait. We can then decide whether to further invest in the product and continue to develop the asset or dispose of the asset with minimal development costs, allowing us to continue to innovate at a rapid pace.
- Phase III: Pre-Commercial (1-3 Years)—This phase is the first commercial scale production and provides us the opportunity to build seed and product inventory prior to commercialization. During this period we also establish our grower supply chains and customer relationships in preparation for commercialization.
- Commercial—When a product is ready to be commercialized, we plan to utilize our innovative commercial strategy to leverage existing supply chains to ensure product quality, manage cyclical demand changes and capture value. Depending on what supply chain relationships may exist at the time when a product candidate is ready to be commercialized, we believe we may be able to leverage our existing supply chain relationships to lower commercialization costs and time to market. We plan to continue to build out our germplasm during commercialization to enhance our seed capability and regional footprint.

Additional Opportunities

We—through our license agreement with Cellectis—have access to intellectual property that broadly covers the use of engineered nucleases for plant gene editing. This intellectual property covers methods to edit plant

genes using “chimeric restriction endonucleases,” which include TALEN, CRISPR/Cas9, zinc finger nucleases, and some types of meganucleases. The granted claims cover methods of introducing chromosomal edits through non-homologous end-joining to create gene knock-outs, as well as methods of introducing chromosomal edits by homologous recombination to produce precise gene edits or gene knock-ins. We believe this umbrella intellectual property applies broadly across gene editing in plants and makes us a key player in the gene editing intellectual property space.

Making precise edits through gene targeting is technically challenging, as frequencies of gene editing or DNA insertion are significantly lower than frequencies of gene knock-outs. Under our license agreement with Cellectis, we have exclusive sublicense rights (subject to existing non-exclusive sublicenses to third parties) to intellectual property exclusively licensed to Cellectis from the University of Minnesota in the field of researching, developing and commercializing agricultural and food products, including traits, seeds, and feed and food ingredients (excluding any application in connection with animals or animal cells). These patent applications cover the use of DNA replicons for gene editing. The replicons carry DNA sequences encoding TALEN as well as a DNA template to copy precise edits into the plant genome. When introduced into plant cells by any of the tissue transformation systems described below, the replicons amplify to a high copy number. This allows us to achieve gene editing at frequencies up to 12-fold higher than the use of traditional methods. The replicon technology, combined with our transformation platforms, expand the versatility of the TALEN technology for generating products.

Intellectual Property

Our success depends in part on our ability to obtain and maintain intellectual property and proprietary protection for our product candidates and technology related to our business, defend and enforce our intellectual property rights, in particular, our patent rights, preserve the confidentiality of our trade secrets, and operate without infringing valid and enforceable intellectual property rights of others. We seek to protect our proprietary position by, among other things, licensing and filing United States and certain foreign patent applications related to our technology, products and product candidates, and improvements that are important to the development of our business, where patent protection is available. We also rely on trade secrets to develop and maintain our proprietary position and protect aspects of our business that are not amenable to, or that we do not consider appropriate for, patent protection. We seek to protect our proprietary technologies, in part, by confidentiality agreements with our employees, consultants, scientific advisors, and contractors.

Notwithstanding these efforts, we cannot be sure that patents will be granted with respect to any patent applications we have licensed or filed or may license or file in the future, and we cannot be sure that any patents we have licensed or patents that may be licensed or granted to us in the future will not be challenged, invalidated, or circumvented or that such patents will be commercially useful in protecting our product candidates and technology. Moreover, trade secrets can be difficult to protect. While we have confidence in the measures we take to protect and preserve our trade secrets, such measures can be breached, and we may not have adequate remedies for any such breach. In addition, our trade secrets may otherwise become known or be independently discovered by competitors. For more information regarding the risks related to our intellectual property, please see “Risk Factors—Risks Related to Intellectual Property.”

As of December 31, 2017, we have licensed approximately 18 U.S. patents, 44 U.S. patent applications, 71 foreign patents, and 134 foreign patent applications. Within this portfolio, approximately 192 patents and patent applications relate to the genetic editing of plants using TALEN technology, 131 patents and patent applications relate to the genetic editing of plants using meganuclease technology, 90 patents and patent applications relate to the genetic editing of plants using CRISPR technology, and 56 patents and patent applications relate to specific plant traits.

The issued patents in our portfolio consist of approximately 6 Cellectis-owned and 12 other in-licensed U.S. patents, 20 Cellectis-owned and 36 other in-licensed European patents, and 4 Cellectis-owned and 11 other

in-licensed patents in other jurisdictions, including Japan, China, Australia, Hong Kong, Singapore, Mexico, Israel and Canada. The pending patent applications in our portfolio consist of approximately 40 Cellectis-owned and 4 other in-licensed U.S. patent applications, 21 Cellectis-owned and 5 other in-licensed European patent applications, 82 Cellectis-owned and 26 other in-licensed patent applications in other jurisdictions, including Japan, China, Australia, India, Paraguay, Uruguay, Argentina, Brazil, Hong Kong, Singapore, Israel, Mexico, New Zealand and Canada, and 7 Cellectis-owned and 2 other in-licensed Patent Cooperation Treaty (PCT) applications.

Individual patent terms extend for varying periods of time, depending upon the date of filing of the patent application, the date of patent issuance, and the legal term of patents in the countries in which they are obtained. In most countries in which patent applications are filed, including the United States, the patent term is 20 years from the date of filing of the first non-provisional application to which priority is claimed. Under certain circumstances, a patent term can be extended. For example, in the United States, a patent's term may be lengthened by patent term adjustment, which compensates a patentee for administrative delays by the U.S. Patent and Trademark Office in reviewing and granting a patent, or may be shortened if a patent is terminally disclaimed over an earlier-filed patent. The issued patents that we have licensed will expire on dates ranging from 2020 to 2033. If patents are issued on the pending patent applications that we have licensed, the resulting patents are projected to expire on dates ranging from 2023 to 2037. However, the actual protection afforded by a patent varies on a product-by-product basis, from country-to-country, and depends upon many factors, including the type of patent, the scope of its coverage, the availability of legal remedies in a particular country, and the validity and enforceability of the patent.

License Agreement with Cellectis

We are party to a license agreement with Cellectis, pursuant to which we have been granted an exclusive, worldwide license (subject to existing licenses granted by Cellectis to third parties) to use, commercialize and exploit certain intellectual property in the field of researching, developing and commercializing agricultural and food products, including traits, seeds, and feed and food ingredients (excluding any application in connection with animals and animal cells), except that such license is non-exclusive in such field for any activities relating to researching, developing or commercializing certain modified or mutated I-CreI homing endonucleases. We have also been granted a non-exclusive license to use the TALEN® trademark in connection with our exploitation of licensed products under the agreement. Any improvements we make to the licensed intellectual property is owned by us but licensed back to Cellectis on an exclusive basis for any use outside of our exclusive agricultural field of use. The exclusivity of our license agreement with Cellectis is subject to existing non-exclusive licenses granted to third parties in the field of research.

In consideration for the license from Cellectis, we are required to pay to Cellectis, on a product-by-product and country-by-country basis, a royalty of 3% of net sales of any products that are covered by the patents licensed from Cellectis. In addition, we are required to pay Cellectis 30% of revenue we receive for sublicensing our rights under the agreement to third parties. Our payment obligations to Cellectis will expire upon the expiration of the last-to-expire valid claim of the patents licensed to us by Cellectis.

Under our license agreement with Cellectis, and as between the parties, Cellectis has the first right to control the prosecution, maintenance, defense and enforcement of the licensed intellectual property and we will have the right to step in and assume such control with respect to the patents owned by Cellectis and exclusively licensed to us under the agreement if Cellectis elects to not prosecute, maintain, defend or enforce such patents. In certain circumstances, if Cellectis elects to abandon any patents owned by Cellectis and exclusively licensed to us under the agreement, we have the right to assume ownership of such patents. In addition, some of the intellectual property that is licensed to us by Cellectis consists of a sublicense of intellectual property originally licensed to Cellectis by the University of Minnesota to exploit such intellectual property in our exclusive agricultural field of use. Therefore, as to such sublicensed intellectual property, our license from Cellectis is subject to the terms and conditions of the license agreement between the University of Minnesota and Cellectis, and to the extent our

activities under such sublicense violate any terms and conditions of the license agreement between Cellectis and the University of Minnesota, we are responsible for any damages that Cellectis may incur. In addition, we are required to reimburse Cellectis for any and all payments made by Cellectis to the University of Minnesota pursuant to the license agreement between the University of Minnesota and Cellectis to the extent that any such payments are required to be made as a result of our applicable activities. Under the license agreement between Cellectis and the University of Minnesota, the University of Minnesota has the first right to control the prosecution and maintenance of the licensed intellectual property.

Our license agreement with Cellectis is perpetual. However, it may be terminated at any time upon the mutual written agreement of both parties, either party's uncured material breach of the agreement, or upon certain bankruptcy and insolvency related events.

License Agreement from Regents of the University of Minnesota—TALEN

In January 2011, Cellectis entered into an exclusive license agreement with the University of Minnesota, which was amended in 2012, 2014 and 2015. Pursuant to the agreement, as amended, Cellectis and its affiliates were granted an exclusive, worldwide, royalty-bearing, sublicensable license, under certain patents and patent applications owned by the University of Minnesota, to make, use, sell, import and otherwise dispose of products covered by the licensed patents, in all fields of use. These licensed patents relate to TALEN molecules and their use in gene editing.

Pursuant to the agreement, with respect to the agricultural field, Cellectis is required to pay to the University of Minnesota a low six digit annual fee per year, as well as a low five digit commercialization fee for every seed variety containing new traits developed using the licensed technology. Cellectis is also required to pay the University of Minnesota, in the aggregate, up to a low seven digit amount of milestone payments based on the net sales of licensed products in the agricultural field. Cellectis must also pay the University of Minnesota certain patent-related expenses for prosecuting and maintaining the licensed patents.

The agreement will expire upon the expiration of the last to expire valid claim of the licensed patents. The University of Minnesota may terminate the agreement upon advance written notice in the event of the insolvency or bankruptcy of Cellectis, and immediately upon written notice in the event that Cellectis challenges the validity or enforceability of any licensed patent in a court or other applicable authority. Cellectis and the University of Minnesota may terminate the agreement by written notice in the event of the other party's breach that has not been cured within a specified number of days after receiving notice of such breach.

License Agreement from Regents of the University of Minnesota—CRISPR

In December 2014, we entered into an exclusive license with the University of Minnesota, pursuant to which we were granted an exclusive, worldwide, sublicensable license under a specified patent application and any patents that issue therefrom owned by the University of Minnesota relating to the use of the CRISPR-Cas9 technology to make use, and commercialize products covered by the licensed patents in any field of use. Pursuant to the terms of the agreement, we must use commercially reasonable efforts to commercialize the licensed technology and to manufacture, offer to sell, and sell licensed products as soon as practicable and to maximize sales. We must also achieve certain sales- and patent-related milestones.

Pursuant to the terms of the agreement, we paid the University of Minnesota an upfront license fee payment in the amount of $130,000 in connection with entering into the agreement. We are also required to pay the University of Minnesota a tiered annual fee that increases from $20,000 to $225,000 based on the occurrence of certain specified events, including the grant of a sublicense to a third party, as well as patent-related expenses incurred under the agreement in prosecuting and maintaining the licensed patents. We are also required to pay the University of Minnesota a certain percentage of all revenues received by us under sublicenses. If we undergo a change of control and wish to assign all of our rights and duties under the agreement, we must pay the University of Minnesota a specified transfer fee.

Unless earlier terminated, the agreement will continue in effect until no licensed patent is active and until no licensed patent application is pending. The University of Minnesota may terminate the agreement for our uncured breach of the agreement upon 90 days' prior written notice, or 60 days' prior written notice if the breach relates to our payment obligations under the agreement. The University of Minnesota may also terminate the agreement, upon 10 days' prior written notice, if we file for bankruptcy or become insolvent. The University of Minnesota may also immediately terminate the agreement if we or our agents or representatives commences or maintains an action in any court or before any governmental agency asserting or alleging the invalidity or unenforceability of the licensed patent rights. We may terminate the agreement for The University of Minnesota's uncured breach of the agreement upon 90 days' prior written notice. We may also terminate the agreement at any time upon 60 days' prior written notice.

License Agreement from Plant Bioscience Limited

In April 2015, we entered into an exclusive license agreement with Plant Bioscience Limited, or PBL, pursuant to which we were granted an exclusive, worldwide license to use and exploit certain gene-editing technologies related to wheat with endogenous resistance to powdery mildew, and to provide commercial development and technical services to third parties. The technology licensed to us was originally exclusively licensed to PBL by the Institute of Genetics and Developmental Biology, or IGDB, which holds certain rights to which our exclusive license from PBL is subject. Pursuant to the agreement, we are required to use commercially reasonable efforts to achieve certain milestones in a specified development and commercial program, and to exploit the license so as to maximize the sublicensing of the licensed technology and the development and commercial use of the licensed products.

The agreement will expire on the later of the tenth anniversary of the date that sales of the licensed products first occurred or the last expiration of a valid claim of a licensed patent. We may terminate the agreement at any time for any reason by giving PBL written notice. PBL may terminate the agreement upon our material breach of the agreement that has not been cured within a specified number of days after receiving notice of such breach. The agreement will also automatically terminate if we become insolvent or bankrupt.

Commercial License Agreement with Two Blades Foundation

In December 2014, we entered into a commercial license agreement with Two Blades Foundation relating to TAL nuclease technologies, which was amended in 2016. Pursuant to the agreement, we granted Two Blades Foundation a non-exclusive license to TALEN technology for not-for-profit uses within the field of plants genetically engineered by TAL nuclease, including use in Two Blades Foundation's humanitarian efforts to support subsistence farming, and for certain commercial applications related to Two Blades Foundation's plant disease resistance programs. The intellectual property licensed to Two Blades Foundation was originally licensed to Cellectis by the University of Minnesota. In addition, pursuant to the agreement and subject to certain restrictions, we received a non-exclusive license under Two Blades Foundation's TAL Code technology related to nucleases for commercial uses of TAL nucleases in certain specified crop plants.

The agreement will expire upon the expiration of the last to expire valid claim of the licensed patents under the agreement. Either party may terminate the agreement in the event of the insolvency or bankruptcy of the other party, or immediately upon written notice in the event that the other party, or its sublicensees or subcontractors challenges the validity or enforceability of any licensed patent in a court or other applicable authority. Either party may terminate the agreement by written notice in the event of the other party's breach that has not been cured within a specified number of days after receiving notice of such breach. In the event of termination of license agreement between the University of Minnesota and Cellectis with respect to the TALEN technology, our license from Two Blades Foundation will terminate.

Trademarks

As of December 31, 2017, we had two pending trademark applications in the United States.

Government Regulation and Product Approval

In the United States, the FDA and the USDA Food Safety Inspection Service, or FSIS, are primarily responsible for overseeing food regulation and safety, although as many as fifteen federal agencies also play a role in U.S. food regulation, including several other agencies within USDA.

USDA has regulatory jurisdiction over transgenic crops through the Animal and Plant Health Inspection Service, or APHIS. Under the Plant Protection Act, USDA requires anyone who wishes to import, transport interstate, or plant a "regulated article" to apply for a permit or notify APHIS that the introduction will be made. Regulated articles are defined as "any organism which has been altered or produced through genetic engineering … which USDA determines is a plant pest or has reason to believe is a plant pest." The petition process can be a multi-year process that varies based on a number of factors, including APHIS' familiarity with similar products, the type and scope of the environmental review conducted, and the number and types of public comments received. APHIS conducts a comprehensive science-based review of the petition to assess, among other things, plant pest risk, environmental considerations pursuant to the National Environmental Policy Act of 1969, or NEPA, and any potential impact on endangered species. If, upon the completion of the review, APHIS grants the petition, the product is no longer deemed a "regulated article" and the petitioner may commercialize the product, subject to any conditions set forth in the decision. If APHIS does not determine the product to be non-regulated, the product may be subject to extensive regulation, including permitting requirements for import, handling, interstate movement, and release into the environment, and inspections.

We have submitted petitions to APHIS for six of our product candidates to date: high oleic soybeans, high oleic/low linoleic soybeans, cold storable potatoes, reduced browning potatoes, powdery mildew resistant wheat, and improved quality alfalfa. We have received confirmation from APHIS for all six product candidates that APHIS does not consider such product candidate to be a "regulated article" under the Plant Protection Act. There can be no guarantee of the timing or success in obtaining nonregulated status from APHIS for our other crops or that the governing regulations will not change. Government regulations, regulatory systems, and the politics that influence them vary widely among jurisdictions and change often.

The FDA has jurisdiction to regulate more than 80 percent of the U.S. food supply. It derives its regulatory power from the FDCA, which has been amended over time by several subsequent laws. The FDA's oversight of food safety and security is primarily carried out by its Center for Food Safety and Applied Nutrition. To execute its responsibilities, the FDA employs a team of more than 900 investigators and 450 analysts in the foods program who conduct inspections and collect and analyze product samples. The FDA typically does not perform pre-market inspection for foods. The FDA also regulates ingredients, packaging, and labeling of foods, including nutrition and health claims and the nutrition facts panel. Foods are typically not subject to premarket review and approval requirements, with limited exceptions.

For its part, the FDA regulates foods made with GMOs under its 1992 "Statement of Policy: Foods Derived from New Plant Varieties." Under this policy, the FDA regulates foods derived from genetically modified plant varieties consistent with the framework for non-genetically modified foods. Under Section 409 of the FDCA, any substance that is reasonably expected to become a component of food is considered a "food additive" that is subject to premarket approval by the FDA, unless the substance is generally recognized as safe, or GRAS. Companies are responsible for making an initial determination of whether a food substance falls under an existing food additive regulation, requires a new food additive petition, or is GRAS. A company may market a new food ingredient based on its independent determination that the substance is GRAS; however, the FDA can disagree and take enforcement action. The FDA offers a voluntary consultation process to determine whether foods derived from genetically modified plant varieties will be subject to these more stringent regulatory requirements. In most cases, however, foods derived from genetically modified plant varieties are not subjected to premarket review and approval processes.

The FDA does not currently require manufacturers to label foods made with GMOs as such, but permits voluntary labeling pursuant to a 2001 guidance document. This policy has been the subject of pressure from consumer groups and there can be no guaranty that it will not change in the future.

Competition

The market for agricultural biotechnology products is highly competitive, and we face significant direct and indirect competition in several aspects of our business. Competition for improving plant genetics comes from conventional and advanced plant breeding techniques, as well as from the development of genetically modified traits. Other potentially competitive sources of improvement in crop yields include improvements in crop protection chemicals, fertilizer formulations, farm mechanization, other biotechnology, and information management. Programs to improve genetics and chemistry are generally concentrated within a relatively small number of large companies, while non-genetic approaches are underway with broader set of companies. Additionally, competition for providing more nutritious ingredients for food companies come from chemical-based ingredients, additives and substitutes, which are developed by various companies.

In general, we believe that our direct competitors generally fall into the following categories:

- **Large Agricultural Biotechnology, Seed, and Chemical Companies**—Only a limited number of companies have been actively involved in new trait discovery, development, and commercialization: BASF SE, Bayer AG, Monsanto Co., Syngenta AG, Takii & Company, LTD and DowDuPont Inc. Many of these companies have substantially larger budgets for gene discovery, research, development, and product commercialization than we do. Some of these companies also have substantial resources and experience managing the regulatory process for new genetically modified seed traits. Each of Monsanto, Syngenta, DowDuPont and Bayer also has significant chemical crop protection background and businesses. The trait pipelines of these companies are heavily weighted toward biotic stress traits, although they also have significant programs aimed at development of abiotic stress traits, and would compete with our farmer-centric agriculturally advantageous trait products. While these companies have internal programs that may compete with our own, they also seek new traits externally and, as such, some of them have been, and may in the future be, our partners.
- **Specialty Food Ingredient Companies**—Companies focused on providing solutions to the food industry through chemical, synthetic, or other methods. These companies include International Flavors & Fragrances Inc., Givaudan, Kerry Group plc, CSM N.V., FMC Corporation, CP Kelco, Novozymes, Ingredion Incorporated and Royal DSM N.V. These companies develop products that include chemical modification of food ingredients to achieve functional performance, such as chemical additives for food products. Such products currently do, and may in the future, compete with our consumer-centric food ingredient products. While these companies may produce products that directly compete with our own, some may in the future be our partners in developing healthier food ingredients for consumers.

We also believe that we may face indirect competition from trait research and development companies as well as agricultural research universities and institutions. Given the global importance of agriculture, there are a number of companies, research universities and institutions that specialize in research and development of agricultural yield and product quality traits. Companies such as Evogene Ltd., Ceres, Inc., and Keygene N.V., among others, are competitors in our field but typically focus on a limited number of traits, and do not generally have the product development, gene-editing technologies and regulatory infrastructure necessary to bring traits to market. Therefore, they typically outlicense trait technologies to large industry players with in-house development and regulatory capabilities at a relatively early stage of development. Most publicly funded research is focused on basic research programs that aim to understand basic biological processes and does not necessarily engage in further development and commercialization of discovered traits. While these programs are potentially competitive with us, we view them primarily as sources of innovation that fit with our business model.

Many of our current or potential competitors, either alone or with their R&D or collaboration partners, have significantly greater financial resources and expertise in research and development, manufacturing, testing and marketing approved products than we do. Mergers and acquisitions in the plant science, specialty food ingredient and agricultural biotechnology, seed and chemical industries may result in even more resources being concentrated among a smaller number of our competitors. Smaller or early-stage companies may also prove to be significant competitors, particularly through R&D and collaborative arrangements with large and established companies. These competitors also compete with us in recruiting and retaining qualified scientific and management personnel, as well as in acquiring technologies complementary to, or necessary for, our programs.

Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products faster, with lower research costs or with more desirable traits than we can.

Research and Development

As of December 31, 2017, we had 23 employees dedicated to research and development. Our research and development team has technical expertise in genome engineering, molecular biology, biochemistry, genetics and genetic engineering, plant physiology and plant breeding. Our research and development activities are conducted principally at our Minnesota facilities. We have made, and will continue to make, substantial investments in research and development. Our research and development expenses were $11.6 million, $5.6 million and $2.8 million for the years ended December 31, 2017, 2016 and 2015, respectively.

Information about Segment and Geographic Revenue

Information about segment and geographic revenue is set forth in Note 12 of the Notes to the Financial Statements included under Item 8 of this report.

Employees

As of December 31, 2017, we employed 35 employees, of whom approximately 65.7% are involved in research and development and 9 hold a Ph.D. degree. None of our employees are represented by a labor union or covered by a collective bargaining agreement. We consider our relationship with our employees to be good.

Corporate Information

We were incorporated in Delaware on January 8, 2010 and are a majority owned subsidiary of Cellectis S.A. (*société anonyme*). Our principal executive offices are located at 600 County Road D West, Suite 8, New Brighton, MN 55112, United States of America, and our telephone number is +1 (651) 683-2807. We also maintain a website at www.calyxt.com. The information contained in, or that can be accessed through, our website is not part of this report.

Available Information

Our website, located at www.calyxt.com provides additional information about us. On our website, you can obtain, free of charge, this Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and all of our other filings with the SEC. Our recent press releases are also available on our website. Our website also contains important information regarding our corporate governance practices. Information contained on our website is not incorporated into this Current Report on Form 8-K. You may also read and copy any materials that we file with the SEC at the SEC's Public Reference Room at 100 F Street, NE, Room 1580, Washington, D.C. 20549. You may obtain information on the Public Reference Room by calling the SEC at 1-800-SEC-0330. In addition, the SEC maintains a website that contains reports, proxy statements and other information that is filed electronically with the SEC. The website can be accessed at www.sec.gov.

ITEM 1A. RISK FACTORS.

This Annual Report on Form 10-K contains forward-looking information based on our current expectations. Because our business is subject to many risks and our actual results may differ materially from any forward-looking statements made by or on behalf of us, this section includes a discussion of important factors that could affect our business, operating results, financial condition and the trading price of our common stock. You should carefully consider these risk factors, together with all of the other information included in this Annual Report on Form 10-K as well as our other publicly available filings with the SEC.

Risks Related to Our Business and Industry

We have a limited operating history, which makes it difficult to evaluate our current business and future prospects and may increase the risk of investment.

We are an early-stage gene-editing company with a limited operating history that to date has been focused primarily on research and development, conducting field trials and building our management team. Investment in agricultural biotechnology product development is a highly speculative endeavor. It entails substantial upfront research and development investment and there is significant risk that we will not be able to edit the genes in a particular plant to express a desired trait, or, once edited, we will not be able to replicate that trait across entire crops in order to commercialize the product candidate. Moreover, the regulatory pathway for some of our product candidates can be uncertain and could add significant additional cost and time to development. We have not yet generated any revenue from sales of these products.

Our limited operating history may make it difficult to evaluate our current business and our future prospects. We have encountered, and will continue to encounter, risks and difficulties frequently experienced by growing companies in rapidly developing and changing industries, such as the agricultural biotechnology industry, including challenges in forecasting accuracy, determining appropriate investments of our limited resources, gaining market acceptance of the products created using our gene-editing platform, managing a complex regulatory landscape and developing new product candidates. We may also face challenges in scaling our supply chain in a cost-effective manner, as we will rely on contracting with seed production companies, farmers, crushers, refiners, logistics and transportation providers and/or millers, in order to get our various products to market. Our current operating model may require changes in order for us to scale our operations efficiently. We may not be able to fully implement or execute on our business strategy or realize, in whole or in part within our expected time frames, the anticipated benefits of our growth strategies. You should consider our business and prospects in light of the risks and difficulties we face as an early-stage company focused on developing products in the field of agricultural biotechnology.

We have incurred significant losses since our inception, have no commercial products and anticipate that we will continue to incur significant losses for the foreseeable future.

Our net loss for the years ended December 31, 2017, 2016 and 2015 was $26.0 million, $12.1 million and $5.9 million, respectively. As of December 31, 2017, we had an accumulated deficit of $54.5 million. The amount of our future net losses will depend, in part, on the pace and amount of our future expenditures and our ability to obtain funding through equity or debt financings, agreements with commercial partners, and on additional grants or tax credits. We currently have no commercial products and do not expect to have sales until the end of the 2018 at the earliest for our high oleic soybean product candidate, and we do not expect potential commercial launch of our high fiber wheat product candidate until the early 2020's. Even then, our sales will be limited to a single product. As a result, we expect to continue to incur significant expenses and operating losses for the foreseeable future. We anticipate that such expenses will increase substantially if and as we:

- establish a sales, marketing and distribution infrastructure, including relationships across our supply chain, to commercialize any products that have completed the development process;
- conduct additional field trials of our current and future product candidates;

- secure manufacturing arrangements for commercial production;
- continue to advance the research and development of our current and future product candidates;
- seek to identify and validate additional product candidates;
- acquire or in-license other product candidates, technologies, germplasm or other biological material;
- are required to seek regulatory and marketing approvals for our product candidates;
- make royalty and other payments under any in-license agreements;
- maintain, protect, expand and defend our intellectual property portfolio;
- seek to attract and retain new and existing skilled personnel; and
- experience any delays or encounter issues with any of the above.

The net losses we incur may fluctuate significantly from year-to-year and quarter-to-quarter, such that a period-to-period comparison of our results of operations may not be a good indication of our future performance. In any particular period or periods, our operating results could be below the expectations of securities analysts or investors, which could cause the price of our common stock to decline.

We have never commercialized a product candidate and we may lack the necessary expertise, personnel and resources to successfully commercialize any of our product candidates.

We have never commercialized a product candidate. Our products are still in development, and there is no established market for them. Completion of product development could be protracted, and, although we expect to commercialize our first plant product candidate by the end of 2018, there can be no assurance that we will be able to successfully commercialize this product candidate. Any products may not be ready for commercial launch for several years, if ever. If we are not able to commercialize our existing or future product candidates on a significant scale, then we may not be successful in building a sustainable or profitable business. Moreover, we expect to price our products based on our assessment of the value that we believe they will provide to food manufacturers or farmers, rather than on the cost of production. If food manufacturers or farmers attribute a lower value to our products than we do, they may not be willing to pay the premium prices that we expect to charge. Pricing levels may also be negatively affected if our products are unsuccessful in producing the yields or traits we expect. Food manufacturers or farmers may also be cautious in their adoption of new products and technologies, with conservative initial purchases and proof of product required prior to widespread deployment. It may take several growing seasons for food manufacturers or farmers to adopt our products on a large scale.

To achieve commercial success of our product candidates, we will have to develop our own sales, marketing and supply capabilities by outsourcing these activities to third parties. Factors that may affect our ability to commercialize our product candidates on our own include recruiting and retaining adequate numbers of effective sales and marketing personnel, obtaining access to or persuading adequate numbers of food manufacturers or farmers to purchase and use our product candidates and other unforeseen costs associated with creating an independent sales and marketing organization. Developing and maintaining a sales and marketing organization requires significant investment, is time-consuming and could delay the launch of our product candidates. We may not be able to build or maintain an effective sales and marketing organization in North America or other key global markets. If we are unable to find suitable partners for the commercialization of our product candidates, we may have difficulties generating revenue from them.

We will rely on contractual counterparties and they may fail to perform adequately.

Our commercial strategy depends on our ability to contract with counterparties that provide, and in the future may provide, a variety of seed production companies, farmers, crushers, refiners, millers, transportation and logistics companies and lab equipment service providers. We plan to rely on these third parties to provide

services along our supply chain and in our research and development functions. The failure of these counterparties to fulfill the terms of our agreements could cause disruptions in our supply chains, research efforts, commercialization efforts, and otherwise inhibit our ability to bring our products to market at the times and in the quantities as planned. For example, if our crushers and refiners fail to process our crops at the times and at the quantities as agreed, we may be unable to meet the demands of food manufacturers who we have contracted with to purchase our products, leading to lower sales and potential reputational damage and contractual liabilities. While we may have certain indemnification rights in our contracts with such counterparties, there is no assurance that such indemnification rights will be sufficient to cover any damage to us that would result from a failure of such a counterparty in their contractual arrangements with us.

We face significant competition and many of our competitors have substantially greater financial, technical and other resources than we do.

The market for agricultural biotechnology products is highly competitive, and we face significant direct and indirect competition in several aspects of our business. Competition for improving plant genetics comes from conventional and advanced plant breeding techniques, as well as from the development of advanced biotechnology traits. Other potentially competitive sources of improvement in crop yields include improvements in crop protection chemicals, fertilizer formulations, farm mechanization, other biotechnology, and information management. Programs to improve genetics and crop protection chemicals are generally concentrated within a relatively small number of large companies, while non-genetic approaches are underway with broader set of companies. Mergers and acquisitions in the plant science, specialty food ingredient and agricultural biotechnology, seed and chemical industries may result in even more resources being concentrated among a smaller number of our competitors. Additionally, competition for providing more nutritious ingredients for food companies come from chemical-based ingredients, additives and substitutes, which are developed by various companies. The majority of these competitors have substantially greater financial, technical, marketing, sales, distribution and other resources than we do, such as larger research and development staff, more experienced marketing and manufacturing organizations and more well-established sales forces. As a result, we may be unable to compete successfully against our current or future competitors, which may result in price reductions, reduced margins and the inability to achieve market acceptance for our products. We expect to continue to face significant competition in the markets in which we intend to commercialize our products.

Many of our competitors engage in ongoing research and development, and technological developments by our competitors could render our products less competitive, resulting in reduced sales compared to our expectations. Our ability to compete effectively and to achieve commercial success depends, in part, on our ability to: control manufacturing and marketing costs; effectively price and market our products; successfully develop an effective marketing program and an efficient supply chain; develop new products with properties attractive to food manufacturers or farmers; and commercialize our products quickly without incurring major regulatory costs. We may not be successful in achieving these factors and any such failure may adversely affect our business, results of operations and financial condition.

From time to time, certain seed and chemical companies that are potential competitors of ours may seek new traits or trait development technologies and may seek to license our technology. We have, in the past, entered into such licensing arrangements and may continue to enter into such arrangements in the future. Some of these companies may have significantly greater financial resources and may even compete with our business. In determining whether to license traits and/or trait development technologies to a potential competitor, we evaluate the potential financial benefits to us in addition to the focus of such companies' trait pipelines and the likelihood that their product candidate programs could compete with our own product candidate pipeline. Although we do not believe that any of our existing licenses poses a competitive threat to our business model or existing product candidate pipeline, in such circumstances, competitors could use our technologies to develop their own products that would compete with our product candidates.

We also anticipate increased competition in the future as new companies enter the market and new technologies become available, particularly in the area of gene editing. Our technology may be rendered obsolete or uneconomical by technological advances or entirely different approaches developed by one or more of our

competitors, which will prevent or limit our ability to generate revenue from the commercialization of our products. At the same time, the expiration of patents covering existing products reduces the barriers to entry for competitors.

The successful commercialization of our products may face challenges from public perceptions of genetically engineered products and ethical, legal, environmental, health and social concerns.

The successful commercialization of our product candidates depends, in part, on public acceptance of genetically engineered agricultural products. Any increase in negative perceptions of gene editing or more restrictive government regulations in response thereto, would have a negative effect on our business and may delay or impair the development and commercialization of our products.

The commercial success of our products may be adversely affected by claims that biotechnology plant products are unsafe for consumption or use, pose risks of damage to the environment, or create legal, social and ethical dilemmas.

If we are not able to overcome these concerns, our products may not achieve market acceptance. Any of the risks discussed below could result in expenses, delays or other impediments to our development programs or the market acceptance and commercialization of our products:

- public attitudes about the safety and environmental hazards of, and ethical concerns over, genetic research and biotechnology plant products, which could influence public acceptance of our technologies and products;
- public attitudes regarding, and potential changes to laws governing, ownership of genetic material, which could weaken our intellectual property rights with respect to our genetic material and discourage R&D partners from supporting, developing or commercializing our products and technologies; and
- failure to maintain or secure consumer confidence in, or to maintain or receive governmental approvals for, our products.

Any future labeling requirements could heighten these concerns and make consumers less likely to purchase food products containing gene-edited ingredients.

The regulatory environment in the United States for genetically engineered products is uncertain and evolving. Changes in the current application of these laws and regulations would have a significant adverse impact on our ability to develop and commercialize our products.

Changes in applicable regulatory requirements could result in a substantial increase in the time and costs associated with developing our products and negatively impact our operating results. In the United States, the United States Department of Agriculture, or USDA, regulates, among other things, the introduction (including the importation, interstate movement, or release into the environment such as field testing) of organisms and products altered or produced through genetic engineering that are plant pests or that there is reason to believe are plant pests. Such organisms and products are considered “regulated articles.” However, a petitioner may submit a request for a determination by the USDA of “nonregulated status” for a particular article. A petition for determination of nonregulated status must include detailed information, including relevant experimental data and publications, and a description of the genotypic differences between the regulated article and the nonmodified recipient organism, among other things. We previously submitted a request for a determination of “nonregulated status” to the USDA for our potato product candidates, our high oleic and low linolenic soybean product candidates, our improved quality alfalfa product candidate and our powdery mildew resistant wheat product candidate. The USDA confirmed in writing that each of these product candidates is not deemed to be a “regulated article” under the Plant Protection Act because it does not contain genetic material from plant pests. In the event any of our product candidates are found to contain inserted genetic material or otherwise differ from the descriptions we have provided to the USDA, the USDA could determine that such product candidates are regulated articles, which would require us to comply with the permit and notification requirements of the Plant Protection Act. While we believe that the USDA’s reasoning will continue to extend to our other product

candidates, we have not obtained a determination from the USDA that any of our other product candidates are not "regulated articles" under these regulations. USDA's regulations also require that companies obtain a permit or file a notification before engaging in the introduction (including the importation, interstate movement, or release into the environment such as field testing) of "regulated articles." We cannot predict whether advocacy groups will challenge existing regulations and USDA determinations or whether the USDA will alter the manner in which it interprets its own regulations or institutes new regulations, or otherwise modifies regulations in a way that will subject our products to more burdensome standards, thereby substantially increasing the time and costs associated with developing our product candidates. Moreover, we cannot assure you that the USDA will apply this same analysis to any of our other product candidates in development. Complying with USDA's plant pest regulations, including permitting requirements, is a costly, time-consuming process and could substantially delay or prevent the commercialization of our products.

Our products may also be subject to extensive FDA food product regulations. Under sections 201(s) and 409 of the Federal Food, Drug, and Cosmetic Act, or FDCA, any substance that is reasonably expected to become a component of food added to food is a food additive, and is therefore subject to FDA premarket review and approval, unless the substance is generally recognized, among qualified experts, as having been adequately shown to be safe under the conditions of its intended use (generally recognized as safe, or GRAS), or unless the use of the substance is otherwise excluded from the definition of a food additive, and any food that contains an unsafe food additive is considered adulterated under section 402(a)(2)(C) of the FDCA. The FDA may classify some or all of our product candidates as containing a food additive that is not GRAS or otherwise determine that our products contain significant compositional differences from existing plant products that require further review. Such classification would cause these product candidates to require pre-market approval, which could delay the commercialization of these products. In addition, the FDA is currently evaluating its approach to the regulation of gene-edited plants. For example, on January 18, 2017, the FDA announced a Request for Comments, or RFC, seeking public input to help inform its regulatory approach to human and animal foods derived from plants produced using gene editing. Among other things, the RFC asks for data and information in response to questions about the safety of foods from gene-edited plants, such as whether categories of gene-edited plants present food safety risks different from other plants produced through traditional plant breeding. If the FDA enacts new regulations or policies with respect to gene-edited plants, such policies could result in additional compliance costs and/or delay the commercialization of our product candidates, which could negatively affect our profitability. Any delay in the regulatory consultation process, or a determination that our products do not meet regulatory requirements, by the FDA could cause a delay in the commercialization of our products, which may lead to reduced acceptance by food manufacturers, farmers or the public and an increase in competitor products that may directly compete with ours.

The regulatory environment outside the United States varies greatly from region to region and is less developed than in the United States.

The regulatory environment around gene editing in plants for food ingredients is greatly uncertain outside of the United States and varies greatly from jurisdiction to jurisdiction. Each jurisdiction may have its own regulatory framework regarding genetically modified foods, which may include restrictions and regulations on planting and growing genetically modified plants and in the consumption and labeling of genetically modified foods, and which may encapsulate our products. The two leading jurisdictions, the United States and the European Union, or the EU, do, and may continue to in the future, have distinctly different regulatory regimes with different rules and requirements. We cannot predict how the global regulatory landscape regarding gene editing in plants for food ingredients will evolve and may incur increased regulatory costs as regulations in the jurisdictions in which we operate change.

In the EU, genetically modified foods can only be allowed on the market once they have been authorized subject to rigorous safety assessments. The procedures for evaluation and authorization of genetically modified foods are governed by Regulation (EC) 1829/2003 on genetically modified food and feed and Directive 2001/18/EC on the release of genetically modified organisms, or GMOs, into the environment. If the GMO is not to be used in food or feed, then an application must be made under Directive 2001/18/EC. If the GMO is to be used in food or feed (but it is not grown in the EU) then a single application for both food and feed purposes

under Regulation 1829/2003 should be made. If the GMO is used in feed or food and it is also grown in the EU, an application for both cultivation and food/feed purposes needs to be carried out under Regulation (EC) 1829/2003. A different EU regulation, Regulation (EC) 1830/2003, regulates the labeling of products that contain GMOs that are placed on the EU market. There are currently legislative proposals in the EU that would allow EU Member States to restrict or prohibit growing GMOs in their territory, on a range of environmental grounds, even if such crops were previously authorized at EU level. Should these proposals become law, growing GMOs may become more difficult in individual EU Member States.

We cannot predict whether or when any jurisdiction will change its regulations with respect to our products. Advocacy groups have engaged in publicity campaigns and filed lawsuits in various countries against companies and regulatory authorities, seeking to halt regulatory approval activities or influence public opinion against genetically engineered and/or gene-edited products. In addition, governmental reaction to negative publicity concerning our products could result in greater regulation of genetic research and derivative products or regulatory costs that render our products cost prohibitive.

The scale of the commodity food industry may make it difficult to monitor and control the distribution of our products. As a result, our products may be sold inadvertently within jurisdictions where they are not approved for distribution. Such sales may lead to regulatory challenges or lawsuits against us, which could result in significant expenses and management attention.

Government policies and regulations, particularly those affecting the agricultural sector and related industries, could adversely affect our operations and profitability.

Agricultural production and trade flows are subject to government policies and regulations. Governmental policies and approvals of technologies affecting the agricultural industry, such as taxes, tariffs, duties, subsidies, incentives and import and export restrictions on agricultural commodities and commodity products can influence the planting of certain crops, the location and size of crop production, and the volume and types of imports and exports. Future government policies in the United States or in other countries may discourage food manufacturers or farmers from using our products or encourage the use of products more advantageous to our competitors, which would put us at a commercial disadvantage and could negatively impact our future revenues and results of operations.

The overall agricultural industry is susceptible to commodity price changes and we, along with our food manufacturing customers and farmer customers, are exposed to market risks from changes in commodity prices.

Changes in the prices of certain commodity products could result in higher overall cost along the agricultural supply chain, which may negatively affect our ability to commercialize our products. We will be susceptible to changes in costs in the agricultural industry as a result of factors beyond our control, such as general economic conditions, seasonal fluctuations, weather conditions, demand, food safety concerns, product recalls and government regulations. As a result, we may not be able to anticipate or react to changing costs by adjusting our practices, which could cause our operating results to deteriorate. We do not engage in hedging or speculative financial transactions nor do we hold or issue financial instruments for trading purposes.

Our product development efforts use complex integrated technology platforms and require substantial time and resources; these efforts may not be successful, or the rate of product improvement may be slower than expected.

Development of successful agricultural products using complex technology platforms such as gene-editing technologies requires significant levels of investment in research and development, including laboratory, greenhouse and field testing, to demonstrate their effectiveness and can take several years or more. For the three years ended December 31, 2017, 2016 and 2015, we incurred $11.6 million, $5.6 million and $2.8 million, respectively, on research and development expenses. We intend to continue to invest in research and development, including additional and expanded field testing, to validate our product candidates in real world conditions. Our investment in research and development may not result in significant product revenue over the next several years, if ever. Moreover, the successful application of gene-editing technologies can be

unpredictable, and may prove to be unsuccessful when attempting to achieve desired traits in different crops and plants. For example, our gene-editing techniques may prove to be unsuccessful very early on during the discovery phase of new crop development based on technology limitations. Alternatively, even though we successfully implemented gene edits during the discovery phase, that trait may not ultimately appear in crops during field testing or crops may also exhibit other undesirable traits that adversely affect their commercial value.

Development of new or improved agricultural products involves risks of failure inherent in the development of products based on innovative and complex technologies. These risks include the possibility that:

- our products will fail to perform as expected in the field;
- our products will not receive necessary regulatory permits and governmental clearances in the markets in which we intend to sell them;
- our products may have adverse effects on consumers;
- consumer preferences, which are unpredictable and can vary greatly, may change quickly, making our products no longer desirable;
- our competitors develop new products that taste better or have other more appealing characteristics than our products;
- our products will be viewed as too expensive by food companies or farmers as compared to competitive products;
- our products will be difficult to produce on a large scale or will not be economical to grow;
- intellectual property and other proprietary rights of third parties will prevent us, our R&D partners, or our licensees from marketing and selling our products;
- we may be unable to patent or otherwise obtain intellectual property protection for our discoveries in the necessary jurisdictions;
- we or the food manufacturers that we sell our ingredients to may be unable to fully develop or commercialize products containing our products in a timely manner or at all; and
- third parties may develop superior or equivalent products.

Lastly, the field of gene editing, particularly in the area of plants, is still in its infancy, and no products using this technology have reached the market. Negative developments in the field of gene editing, including with respect to adverse side effects, could harm the reputation of the industry and negatively impact our business.

We rely on certain gene-editing technologies that may become obsolete in the future.

We currently rely on our proprietary TALEN technology in the development of our product candidates. There are several other gene-editing technologies currently available, including CRISPR/Cas9, meganucleases and zinc finger nucleases. If our competitors are able to refine existing gene-editing technologies—or develop new ones—that allow them to develop products faster, with lower research costs or with more desirable traits than we can, we may face a decline in the demand for our products. Our technologies may be rendered obsolete or uneconomical by technological advances or entirely different approaches developed by one or more of our competitors, which will prevent or limit our ability to generate revenues from the commercialization of our products.

We may need to raise additional funding, which may not be available on acceptable terms or at all. Failure to obtain this necessary capital when needed may force us to delay, limit or terminate our product development efforts or other operations.

The process of developing and commercializing product candidates is lengthy, risky and expensive. We expect our research and development expenses to increase substantially as we continue to develop our existing

product candidates and identify new product candidates for development. We are beginning to prepare for the commercialization of our first product candidate, high-oleic soybean oil, which we expect to occur by the end of 2018. As a result, our selling, general and administrative expense will also increase significantly.

As of December 31, 2017, we had cash and cash equivalents of approximately $56.7 million. We believe our cash and cash equivalents will be sufficient to fund our operations through at least mid-2019. However, in order to complete the development process, obtain regulatory approval for, if necessary, and commercialize our products, we may require additional funding. Also, our operating plan, including our product development plans, may change as a result of many factors currently unknown to us, and we may need to seek additional funds sooner than planned, through public or private equity or debt financings, government or other third-party funding, marketing and distribution arrangements and other strategic alliances and licensing arrangements, or a combination of these approaches. To commercialize our products, we will require significant working capital to operate our business and maintain our supply chain. To the extent that we raise additional capital through the sale of additional equity or convertible securities, current ownership interests may be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of a stockholder. Debt financing, if available, would result in increased fixed payment obligations and a portion of our operating cash flows, if any, being dedicated to the payment of principal and interest on such indebtedness. In addition, debt financing may involve agreements that include restrictive covenants that impose operating restrictions, such as restrictions on the incurrence of additional debt, the making of certain capital expenditures or the declaration of dividends. To the extent we raise additional funds through arrangements with R&D partners or otherwise, we may be required to relinquish some of our technologies, product candidates or revenue streams, license our technologies or product candidates on unfavorable terms, or otherwise agree to terms unfavorable to us. Any additional fundraising efforts may divert our management from their day-to-day activities, which may adversely affect our ability to develop and commercialize our product candidates. In addition, we cannot guarantee that future financing will be available in sufficient amounts or on terms acceptable to us, if at all. Even if we believe we have sufficient funds for our current or future operating plans, we may seek additional capital if market conditions are favorable or in light of specific strategic considerations. If we are unable to obtain funding on a timely basis, we may be required to significantly curtail, delay or discontinue one or more of our research or product candidate development programs or the commercialization of any product candidate or be unable to expand our operations or otherwise capitalize on our business opportunities, as desired, which could materially affect our business, operating results and prospects and cause the price of the common stock to decline.

We rely on third parties to conduct, monitor, support, and oversee field trials and other research services for product candidates in development, and any performance issues by third parties, or our inability to engage third parties on acceptable terms, may impact our ability to successfully commercialize such product candidates.

Prior to commercializing any product candidate we must conduct large scale field trials to validate the desired product trait. These field trials can take one to two years to complete. We currently conduct field trials, and plan to conduct further field trials, of our product candidates in various geographies. We currently rely on third parties to conduct, monitor, support and oversee these field trials. In some cases, these field trials are conducted outside of the United States, making it difficult for us to monitor the daily activity of the work being conducted by the third parties that we engage. Although we provide our third-party contractors with extensive protocols regarding the establishment, management, harvest, transportation and storage of our product candidates, we have limited control over the execution of field trials. Consequently, the success of these field trials depends upon the ability of these third parties to correctly follow our suggested protocols. However, there is no guarantee that third parties will devote adequate time and resources to our field trials or conduct the field trials in accordance with our protocols, including maintenance of all required field trial information. Any such failures may result in delays in the development of our product candidates or the incurrence of additional costs. Even if our third-party contractors adhere to our suggested protocols, field trials may fail to succeed for a variety of other reasons, including weather, disease or pests, improper timing of planting our seeds, or incorrect fertilizer use. Ultimately, we remain responsible for ensuring that each of our field trials is conducted in accordance with

the applicable protocol, legal, regulatory and scientific standards, and our reliance on third parties does not relieve us of our responsibilities.

Additionally, if we are unable to maintain or enter into agreements with third-party contractors on acceptable terms, or if any such engagement is terminated prematurely, we may be unable to conduct or complete our field trials in the manner we anticipate. If our relationship with any of these third-party contractors is terminated, we may be unable to enter into arrangements with alternative contractors on commercially reasonable terms, or at all. Switching or adding third-party contractors can involve substantial cost and require extensive management time and focus. In addition, there is a natural transition period when any new third party commences field trial work. As a result, delays may occur, which could materially impact our ability to meet our desired development timelines.

Our crops are new, and if farmers and food processors are unable to work effectively with our crops, our various relationships, our reputation and our results of operations will be harmed.

We plan to provide farmers with information and protocols regarding the establishment, management, harvest, transportation and storage of our crops. These crop management recommendations may include equipment selection, planting and harvest timing, application of crop protection chemicals or herbicides and storage systems and protocols. Our general or specific protocols may not apply in all circumstances, may be improperly implemented, may not be sufficient, or may be incorrect, leading to reduced yields, crop failures or other production problems or losses. If farmers that are producing crops for our food ingredients experience these failures, we may be unable to provide product ingredients to food manufacturers on a timely basis or at all. If we are unable to deliver products in a timely basis or at all, or if farmers that are purchasing our seed in an effort to meet their yields experience these failures, or if our food processors are unable to process our crops effectively and efficiently, we will experience damage to our relationships, reputation and ability to successfully market our products. Further, the use of our seeds may require a change in current planting, rotation or agronomic practices, which may be difficult to implement or may discourage the use of our products by agricultural producers.

There are various reasons why our crops, once available, may fail to succeed, including weather, disease or pests, improper timing of planting our seeds, or incorrect fertilizer use. In addition, cross contamination of our products can happen in any step of the supply chain. Statements by potential customers about negative experiences with our products could harm our reputation, and the decision by these parties not to proceed with large-scale seed purchases could harm our business, revenue and ability to achieve profitability.

The successful commercialization of our products depends on our ability to produce high-quality plants and seeds cost-effectively on a large scale and to accurately forecast demand for our products, and we may be unable to do so.

The production of commercial-scale quantities of seeds requires the multiplication of the plants or seeds through a succession of plantings and seed harvests. The cost-effective production of high-quality, high-volume quantities of any product candidates we successfully develop depends on our ability to scale our production processes to produce plants and seeds in sufficient quantity to meet demand. For example, food ingredients such as soybean oil and wheat flour will require optimized production and commercialization of the underlying plant and seed harvests. We cannot assure that our existing or future seed production techniques will enable us to meet our large-scale production goals cost-effectively for the products in our pipeline. Even if we are successful in developing ways to increase yields and enhance quality, we may not be able to do so cost-effectively or on a timely basis, which could adversely affect our ability to achieve profitability. If we are unable to maintain or enhance the quality of our plants and seeds as we increase our production capacity, including through the expected use of third parties, we may experience reductions in food manufacturer or farmer demand, higher costs and increased inventory write-offs.

In addition, because of the length of time it takes to produce commercial quantities of marketable plants and seeds, we will need to make seed production decisions well in advance of product sales. Our ability to accurately

forecast demand can be adversely affected by a number of factors outside of our control, including changes in market conditions, environmental factors, such as pests and diseases, and adverse weather conditions. A shortfall in the supply of our products may reduce product revenue, damage our reputation in the market and adversely affect relationships. Any surplus in the amount of products we have on hand may negatively impact cash flows, reduce the quality of our inventory and ultimately result in write-offs of inventory. Additionally, we will take financial risk in our inventory given that we will have to keep the inventory marked to market on our balance sheet. Fluctuations in the spot price our crops in inventory could have negative impacts on our financial statements. Any failure on our part to produce sufficient inventory, or overproduction of a particular product, could harm our business, results of operations and financial condition. In addition, food manufacturers or farmers may cancel orders or request a decrease in quantity at any time prior to delivery of the plants or seeds, which may lead to a surplus of our products.

In addition, while we estimate that the potential size of our target markets for our products is significant, that estimate has not been independently verified and is based on certain assumptions that may not prove to be accurate. As a result, these estimates could differ materially from actual market sizes, which could result in decreased demand for our products and therefore adversely impact our future business prospects, results of operation and financial condition.

The commercial success of our consumer-centric products is reliant on the needs of food manufacturers and the recognition of shifting consumer preferences.

The commercial success of our consumer-centric products will depend in part on the success of the food manufacturer's products that our products are included in. We will not control the marketing, distribution, labeling or any other aspects of the sale and commercialization of the food manufacturers' food products in which our products are an ingredient. Consumer preferences may be a significant driver in the success of our food manufacturer customers in their efforts to sell foods products including our products. While current trends indicate that consumer preferences may be moving towards "healthier" options, we cannot predict whether such trends will continue or which types of food products will be demanded by consumers in the future. Additionally, as health and nutritional science continues to progress, consumer perception of what foods, nutrients and ingredients are considered "healthy" may shift. We and our food manufacturer customers may not be dynamic enough in responding to consumer trends and creating products that will be demanded by consumers in the future. Failure by our food manufacturer customers to successfully recognize consumer trends and commercialize and sell their products which contain our ingredients could lower demand for our products and harm our business, results of operations and financial condition.

Farmers may not recognize the value in our farmer-centric products.

The commercial success of our farmer-centric products will rely on convincing farmers of the benefits to yield and natural resource usage. Farmers may not recognize the value of our farmer-centric products and may opt to use other seed products in the market with different varieties. The margins in the farmer-centric seed industry have historically been very narrow, so we may not be able to produce farmer-centric seed products at costs that would be competitive for our farmer customers, which may lead to a reduction in demand for our products.

Adverse weather conditions, natural disasters, crop disease, pests and other natural conditions can impose significant costs and losses on our business.

The ability to grow our products is vulnerable to adverse weather conditions, including windstorms, floods, drought and temperature extremes, which are quite common but difficult to predict, the effects of which may be influenced and intensified by ongoing global climate change. Unfavorable growing conditions can reduce both crop size and crop quality. This risk is particularly acute with respect to regions or countries in which we plan to source a significant percentage of our products. In extreme cases, entire harvests may be lost in some geographic

areas. Such adverse conditions can increase costs, decrease revenues and lead to additional charges to earnings, which may have a material adverse effect on our business, financial position and results of operations.

The ability to grow our products is also vulnerable to crop disease and to pests, which may vary in severity and effect, depending on the stage of production at the time of infection or infestation, the type of treatment applied, climatic conditions and the risks associated with ongoing global climate change. The costs to control disease and other infestations vary depending on the severity of the damage and the extent of the plantings affected. Moreover, there can be no assurance that available technologies to control such infestations will continue to be effective. These infestations can also increase costs, decrease revenues and lead to additional charges to earnings, which may have a material adverse effect on our business, financial position and results of operations.

We expect our business will be highly seasonal and subject to weather conditions and other factors beyond our control, which may cause our sales and operating results to fluctuate significantly.

The sale of plant products is dependent upon planting and growing seasons, which vary from year to year, and are expected to result in both highly seasonal patterns and substantial fluctuations in quarterly sales and profitability. As we have not yet made any sales of our products, we have not yet experienced the full nature or extent to which this business may be seasonal. Furthermore, significant fluctuations in market prices for agricultural inputs and crops could also have an adverse effect on the value of our products. Weather conditions and natural disasters, such as heavy rains, hurricanes, hail, floods, tornadoes, freezing conditions, drought or fire, also affect decisions by food manufacturers or farmers about the types and amounts of seeds to plant and the timing of harvesting and planting such seeds, as well as adversely impact the agricultural industry as a whole in various regions. Disruptions that cause delays by food manufacturers or farmers in harvesting or planting can result in the movement of orders to a future quarter. Disruptions that cause delays by our farmers in harvesting could create us to be delayed, or to fail entirely in delivering food ingredients to food manufacturers. Any of those delays or failures would negatively affect the quarter in which they occur and cause fluctuations in our operating results.

We may expend our limited resources to pursue a particular product candidate and fail to capitalize on product candidates that may be more profitable or for which there is a greater likelihood of success.

We have limited financial and managerial resources. As a result, we may forego or delay pursuit of opportunities with other product candidates that later prove to have greater commercial potential. Our resource allocation decisions may cause us to fail to capitalize on viable commercial products or profitable market opportunities. Our spending on current and future research and development programs and product candidates may not yield any commercially viable products.

If we are sued for defective products and if such lawsuits were determined adversely, we could be subject to substantial damages, for which insurance coverage is not available.

We may be held liable if any product we develop, or any product that uses or incorporates, any of our technologies, causes injury or is found otherwise unsuitable during marketing, sale or consumption. For example, the detection of unintended trait in a commercial seed variety or the crops and products produced may result in physical injury to consumers resulting in potential liability for us as the seed producer or technology provider. If this were to occur, we could be subject to claims by multiple parties based not only on the cost of our plant products but also on their lost profits and business opportunities, including but not limited to trade disruption. Courts could levy substantial damages against us in connection with claims for injuries allegedly caused by use of our products. We do not currently have insurance coverage for such claims. In addition, the detection of unintended traits in our seeds could result in governmental actions such as mandated crop destruction, product recalls or environmental cleanup or monitoring. Concerns about seed quality could also lead to additional regulations being imposed on our business, such as regulations related to testing procedures, mandatory

governmental reviews of biotechnology advances, or the integrity of the food supply chain from the farm to the finished product.

Our business activities are currently conducted at a limited number of locations, which makes us susceptible to damage or business disruptions caused by natural disasters or acts of vandalism.

Our current headquarters and certain research and development operations are located in New Brighton, Minnesota and our new headquarters and research facilities are located in Roseville, Minnesota. The greenhouse for the new headquarters is operational and the remainder of the new facility which includes an office, labs and demonstration kitchen are expected to be operational in the first half of 2018. Our seed production takes place primarily in the United States and Argentina. Warehousing for seed storage, which is conducted by a third-party contractor, is located primarily in Minnesota and Wisconsin. We may use a limited number of processing partners which may be located in concentrated areas. We take precautions to safeguard our facilities, including insurance, health and safety protocols, and off-site storage of critical research results and computer data. However, a natural disaster, such as a hurricane, drought, fire, flood, tornado, earthquake, or acts of vandalism, could cause substantial delays in our operations, damage or destroy our equipment, inventory or development projects, and cause us to incur additional expenses.

Recent U.S. tax legislation could adversely affect our business and financial condition

On December 22, 2017, U.S. tax reform legislation known as the Tax Cuts and Jobs Act (the "TCJA") was signed into law. The TCJA makes substantial changes to U.S. tax law, including a reduction in the corporate tax rate, a limitation on deductibility of interest expense, a limitation on the use of net operating losses to offset future taxable income (as further discussed below), the allowance of immediate expensing of capital expenditures, the modification or repeal of certain business deductions and credits, deemed repatriation of foreign earnings and significant changes to the taxation of foreign earnings going forward, and new rules designed to prevent erosion of the U.S. income tax base (such as a new minimum tax, called the Base Erosion and Anti-abuse Tax, applicable to certain U.S. corporations that make certain payments to related foreign persons). We expect the TCJA to have significant effects on us, some of which may be adverse. The extent of the impact remains uncertain at this time and is subject to other regulatory or administrative developments, including any regulations or other guidance promulgated by the U.S. Internal Revenue Service, or IRS. The TCJA contains numerous, complex provisions impacting U.S. companies, and we continue to review and assess the legislative language and its potential impact on us. We urge our stockholders to consult with their tax advisors with respect to the TCJA and the potential tax consequences of investing in our common stock.

In addition, our supply chain depends on farmers growing and delivering grain to us under contract. Generally, the TCJA allows farmers to claim a 20% deduction on payments received on sales made through certain cooperatives. Sales to independent companies like us are not eligible for this deduction. This deduction disadvantages companies such as Calyxt, which originate grain from farmers. It has been suggested that disadvantaging independent companies was an unintended outcome of the TCJA and that lawmakers are looking for solutions that level the playing field between cooperatives and independent companies. It is unknown whether lawmakers will be successful in amending the TCJA or whether we will benefit under any amendment. The impact of this provision on us is unknown at this time.

Our ability to use our net operating losses to offset future taxable income may be subject to certain limitations.

As of December 31, 2017, we had approximately $41.6 million of net operating losses, or NOLs, for federal and state income tax purposes, which may be available to offset income tax liabilities in the future. In addition, we may generate additional NOLs in future years. Under Section 382 of the Internal Revenue Code of 1986 (as amended, the "Code"), a corporation that undergoes an "ownership change" is subject to limitations on its ability to utilize its pre-change NOLs to offset future taxable income. For this purpose, an ownership change generally means a more than 50 percentage point change in the ownership of a corporation by one or more stockholders or

specified groups of stockholders, each of which owns 5% or more of the corporation (determined after the application of certain attribution and grouping rules) over a three-year period. Although we do not believe that any of our NOLs are currently subject to limitation under Section 382 of the Code, future changes in our stock ownership, some of which may be outside of our control, could result in an ownership change under Section 382 of the Code, which could limit our ability to use our existing or future NOLs to offset future taxable income. In addition, for an NOL that was generated in the 2017 taxable year or in an earlier taxable year, we are permitted to carry forward the NOL from the taxable year in which it arose only to the succeeding twenty taxable years, and, if we do not generate sufficient taxable income to utilize the NOL carryforward within this period, it may expire unused.

The TCJA contains significant changes to the rules regarding NOLs. These changes include limiting the deduction of NOLs to 80% of current year taxable income, prohibiting the carryback of NOLs, and allowing NOLs to be carried forward indefinitely. These changes apply to NOLs arising in taxable years beginning after December 31, 2017, and therefore our ability to use such NOLs to offset any future taxable income may be significantly limited. In addition, the reduction in the federal corporate tax rate under the TCJA potentially diminishes the value of our NOLs to us. Historically, we have established a full valuation allowance for deferred tax assets due to the uncertainty that enough taxable income will be generated in the taxing jurisdiction to utilize the assets. Therefore, we do not expect changes to the rules regarding NOLs under the TCJA to have a material impact on our financial statements for the year ending December 31, 2017, as all net deferred tax assets are fully reserved.

Risks Related to Intellectual Property

We license a significant portion of our intellectual property from Cellectis, our controlling stockholder, and principally rely upon it to prosecute and defend such intellectual property.

Our business relies heavily on the intellectual property we license from Cellectis. Our license from Cellectis is exclusive in the field of researching, developing and commercializing agricultural and food products, including traits, seeds, and feed and food ingredients (excluding any application in connection with animals and animal cells), except that such license is non-exclusive in such field for any activities relating to researching, developing or commercializing certain modified or mutated I-CreI homing endonucleases. In addition, Cellectis has previously granted other third parties non-exclusive rights to use the same intellectual property for research purposes and therefore our exclusive license is subject to such previously granted rights. Pursuant to our license agreement with Cellectis, we are required to pay Cellectis certain royalties and other consideration based upon our commercialization and exploitation of the licensed intellectual property. If we do not comply with our obligations under the license agreement, including the foregoing payment obligations, we may be subject to damages, which may be significant, and in some cases Cellectis may have the right to terminate the license agreement. Any termination of our license agreement with Cellectis would have a material adverse effect on our business and results of operations.

Under our license agreement with Cellectis, and as between the parties, Cellectis has the first right to control the prosecution, maintenance, defense and enforcement of the licensed intellectual property and we have the right to step in and assume such control with respect to the patents owned by Cellectis and exclusively licensed to us under the agreement if Cellectis elects to not prosecute, maintain, defend or enforce such patents. In addition, in certain circumstances, if Cellectis elects to abandon any patents owned by Cellectis and exclusively licensed to us under the agreement, we have the right to assume ownership of such patents. However, there can be no assurance that Cellectis will prosecute, maintain, defend and enforce such intellectual property, either in the best interests of our business or at all. Moreover, any enforcement of the licensed intellectual property could subject it to challenge by third parties and if any such challenge is successful, such intellectual property could be narrowed in scope or held to be invalid or unenforceable, which would materially impair any competitive advantage afforded to us by such intellectual property.

In addition, some of the intellectual property that is licensed to us by Cellectis consists of a sublicense of intellectual property originally licensed to Cellectis by the Regents of the University of Minnesota, which we refer to as the University of Minnesota, to exploit such intellectual property in our exclusive agricultural field of use. Therefore, as to such sublicensed intellectual property, our license from Cellectis is subject to the terms and conditions of the license agreement between the University of Minnesota and Cellectis, and to the extent our activities under such sublicense violate any terms and conditions of the license agreement between Cellectis and the University of Minnesota, we will be responsible for any damages that Cellectis may incur. In addition, under the license agreement between Cellectis and the University of Minnesota, the University of Minnesota has the first right to control the prosecution and maintenance of the licensed intellectual property. There can be no assurance that the University of Minnesota will prosecute and maintain such intellectual property in the best interests of our business or at all, and, if the University of Minnesota fails to properly prosecute and maintain such intellectual property, we could lose our rights to such intellectual property, which would materially impair any competitive advantage afforded to us by such intellectual property. For more information regarding our license agreement with Cellectis or the license agreement between Cellectis and the University of Minnesota, please see “Business—Intellectual Property.”

Our ability to compete may decline if we do not, or Cellectis does not, adequately protect our proprietary rights.

Our commercial success depends, in part, on obtaining and maintaining proprietary rights to our and our licensors’ intellectual property estate, including with respect to our product candidates, as well as successfully defending these rights against third-party challenges. Cellectis will only be able to protect our product candidates from unauthorized use by third parties to the extent that valid and enforceable patents, or effectively protected trade secrets, cover them. Our ability to obtain patent protection for our product candidates is uncertain due to a number of factors, including:

- we or our licensors may not have been the first to invent the technology covered by our or their pending patent applications or issued patents;
- we cannot be certain that we or our licensors were the first to file patent applications covering our product candidates, including their compositions or methods of use, as patent applications in the United States and most other countries are confidential for a period of time after filing;
- others may independently develop identical, similar or alternative products or compositions or methods of use thereof;
- the disclosures in our or our licensors’ patent applications may not be sufficient to meet the statutory requirements for patentability;
- any or all of our or our licensors’ pending patent applications may not result in issued patents;
- we or our licensors may not seek or obtain patent protection in countries or jurisdictions that may eventually provide us a significant business opportunity;
- any patents issued to us or our licensors may not provide a basis for commercially viable products, may not provide any competitive advantages, or may be successfully challenged by third parties, which may result in our or our licensors’ patent claims being narrowed, invalidated or held unenforceable;
- our compositions and methods may not be patentable;
- others may design around our or our licensors’ patent claims to produce competitive products that fall outside of the scope of our or our licensors’ patents; and
- others may identify prior art or other bases upon which to challenge and ultimately invalidate our or our licensors’ patents or otherwise render them unenforceable.

Even if we own, obtain or in-license patents covering our product candidates or compositions, we may still be barred from making, using and selling our product candidates or technologies because of the patent rights or

other intellectual property rights of others. Others may have filed, and in the future may file, patent applications covering compositions, products or methods that are similar or identical to ours, which could materially affect our ability to successfully develop and commercialize our product candidates. In addition, because patent applications can take many years to issue, there may be currently pending applications unknown to us that may later result in issued patents that our product candidates or compositions may infringe. These patent applications may have priority over patent applications filed by us or our licensors.

Obtaining and maintaining a patent portfolio entails significant expense of resources. Part of such expense includes periodic maintenance fees, renewal fees, annuity fees and various other governmental fees on patents and/or applications due over the course of several stages of prosecuting patent applications, and over the lifetime of maintaining and enforcing issued patents. We or our licensors may or may not choose to pursue or maintain protection for particular intellectual property in our or our licensors' portfolio. If we or our licensors choose to forgo patent protection or to allow a patent application or patent to lapse purposefully or inadvertently, our competitive position could suffer. In some cases, the prosecution and maintenance of our licensed patents is controlled by the applicable licensor. If such licensor fails to properly prosecute and maintain such patents, we could lose our rights to them which could materially impair any competitive advantage afforded by such patents. Furthermore, we and our licensors employ reputable law firms and other professionals to help comply with the various procedural, documentary, fee payment and other similar provisions we and they are subject to and, in many cases, an inadvertent lapse can be cured by payment of a late fee or by other means in accordance with the applicable rules. There are situations, however, in which failure to make certain payments or noncompliance with certain requirements in the patent prosecution and maintenance process can result in abandonment or lapse of a patent or patent application, resulting in a partial or complete loss of patent rights in the relevant jurisdiction. In such an event, our competitors might be able to enter the market, which would have a material adverse effect on our business.

Legal action that may be required to enforce our patent rights can be expensive and may involve the diversion of significant management time. In addition, these legal actions could be unsuccessful and could also result in the invalidation of our or our licensors' patents or a finding that they are unenforceable. We or our licensors may or may not choose to pursue litigation or other actions against those that have infringed on our or their patents, or have used them without authorization, due to the associated expense and time commitment of monitoring these activities. In some cases, the enforcement and defense of patents we in-license is controlled by the applicable licensor. If such licensor fails to actively enforce and defend such patents, any competitive advantage afforded by such patents could be materially impaired. In addition, some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we or our licensors can because of their greater financial resources and more mature and developed intellectual property portfolios. Accordingly, despite our efforts, we may not be able to prevent third parties from infringing upon or misappropriating or from successfully challenging our intellectual property rights. If we fail to protect or to enforce our intellectual property rights successfully, our competitive position could suffer, which could harm our results of operations.

In addition to patent protection, because we operate in the highly technical field of biosciences, we rely in part on trade secret protection in order to protect our proprietary technology and processes. However, trade secrets are difficult to protect. Monitoring unauthorized uses and disclosures is difficult, and we do not know whether the steps we have taken to protect our proprietary technologies will be effective. We cannot guarantee that our trade secrets and other proprietary and confidential information will not be disclosed or that competitors will not otherwise gain access to our trade secrets. Despite these efforts, any of these parties may breach the agreements and disclose our proprietary information, including our trade secrets, and we may not be able to obtain adequate remedies for such breaches. We enter into confidentiality and intellectual property assignment agreements with our employees, consultants, outside scientific collaborators, sponsored researchers, and other advisors. These agreements generally require that the other party keep confidential and not disclose to third parties all confidential information developed by the party or made known to the party by us during the course of the party's relationship with us. These agreements also generally provide that inventions conceived by the party

in the course of rendering services to us will be our exclusive property. However, these agreements may be breached or held unenforceable and may not effectively assign intellectual property rights to us.

In addition to contractual measures, we try to protect the confidential nature of our proprietary information using physical and technological security measures. Such measures may not provide adequate protection for our proprietary information. For example, our security measures may not prevent an employee or consultant with authorized access from misappropriating our trade secrets and providing them to a competitor, and the recourse we have available against such misconduct may not provide an adequate remedy to protect our interests fully. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret can be difficult, expensive and time consuming, and the outcome is unpredictable. In addition, courts outside the United States may be less willing to protect trade secrets. Furthermore, our proprietary information may be independently developed by others in a manner that could prevent legal recourse by us. If any of our confidential or proprietary information, including our trade secrets, were to be disclosed or misappropriated, or if any such information was independently developed by a competitor, our competitive position could be harmed and our business could be materially and adversely affected.

Patents and patent applications involve highly complex legal and factual questions, which, if determined adversely to us, could negatively impact our competitive position.

The patent positions of biotechnology companies and other actors in our fields of business can be highly uncertain and typically involve complex scientific, legal and factual analyses. In particular, the interpretation and breadth of claims allowed in some patents covering biological compositions may be uncertain and difficult to determine, and are often affected materially by the facts and circumstances that pertain to the patented compositions and the related patent claims. The standards of the United States Patent and Trademark Office, or USPTO, and foreign patent offices are sometimes uncertain and could change in the future. Consequently, the issuance and scope of patents cannot be predicted with certainty. Patents, if issued, may be challenged, invalidated, narrowed or circumvented. U.S. patents and patent applications may also be subject to interference proceedings, and U.S. patents may be subject to reexamination proceedings, post-grant review, inter partes review, or other administrative proceedings in the USPTO. Foreign patents as well may be subject to opposition or comparable proceedings in corresponding foreign patent offices. Challenges to our or our licensors' patents and patent applications, if successful, may result in the denial of our or our licensors' patent applications or the loss or reduction in their scope. In addition, such interference, reexamination, post-grant review, inter partes review, opposition proceedings and other administrative proceedings may be costly and involve the diversion of significant management time. Accordingly, rights under any of our or our licensors' patents may not provide us with sufficient protection against competitive products or processes and any loss, denial or reduction in scope of any of such patents and patent applications may have a material adverse effect on our business.

Furthermore, even if not challenged, our or our licensors' patents and patent applications may not adequately protect our product candidates or technology or prevent others from designing their products or technology to avoid being covered by our or our licensors' patent claims. If the breadth or strength of protection provided by the patents we own or license with respect to our product candidates is threatened, it could dissuade companies from partnering with us to develop, and could threaten our ability to successfully commercialize, our product candidates. Furthermore, for U.S. patent applications in which claims are entitled to a priority date before March 16, 2013, an interference proceeding can be provoked by a third party or instituted by the USPTO in order to determine who was the first to invent any of the subject matter covered by such patent claims.

In addition, changes in, or different interpretations of, patent laws in the United States and other countries may permit others to use our discoveries or to develop and commercialize our technology and products without providing any notice or compensation to us, or may limit the scope of patent protection that we or our licensors are able to obtain. The laws of some countries do not protect intellectual property rights to the same extent as U.S. laws and those countries may lack adequate rules and procedures for defending our intellectual property rights.

If we or our licensors fail to obtain and maintain patent protection and trade secret protection of our product candidates and technology, we could lose our competitive advantage and competition we face would increase, reducing any potential revenues and have a material adverse effect on our business.

The lives of our patents may not be sufficient to effectively protect our products and business.

Patents have a limited lifespan. In the United States, the natural expiration of a patent is generally 20 years after its first effective filing date. Although various extensions may be available, the life of a patent, and the protection it affords, is limited. Our or our licensors' issued patents will expire on dates ranging from 2020 to 2033, subject to any patent extensions that may be available for such patents. If patents are issued on our or our licensors' pending patent applications, the resulting patents are projected to expire on dates ranging from 2023 to 2037. In addition, although upon issuance in the United States a patent's life can be increased based on certain delays caused by the USPTO, this increase can be reduced or eliminated based on certain delays caused by the patent applicant during patent prosecution. If we or our licensors do not have sufficient patent life to protect our products, our business and results of operations will be adversely affected.

Developments in patent law could have a negative impact on our business.

From time to time, the United States Supreme Court, or the Supreme Court, other federal courts, the United States Congress, the USPTO and similar foreign authorities may change the standards of patentability and any such changes could have a negative impact on our business.

The Leahy-Smith America Invents Act, or the America Invents Act, which was signed into law in 2011, includes a number of significant changes to U.S. patent law. These changes include a transition from a "first-to-invent" system to a "first-to-file" system, changes to the way issued patents are challenged, and changes to the way patent applications are disputed during the examination process. As a result of these changes, the patent law in the United States may favor larger and more established companies that have greater resources to devote to patent application filing and prosecution. The USPTO has developed new and untested regulations and procedures to govern the full implementation of the America Invents Act, and many of the substantive changes to patent law associated with the America Invents Act, and, in particular, the first-to-file provisions became effective on March 16, 2013. Substantive changes to patent law associated with the America Invents Act may affect our ability to obtain patents, and if obtained, to enforce or defend them. Accordingly, it is not clear what, if any, impact the America Invents Act will have on the cost of prosecuting our or our licensors' patent applications and the ability for us and our licensors to obtain patents and enforce or defend any patents that may issue from such patent applications, all of which could have a material adverse effect on our business.

In addition, recent Supreme Court rulings have narrowed the scope of patent protection available in certain circumstances and weakened the rights of patent owners in certain situations. This combination of events has created uncertainty with respect to the validity and enforceability of patents, once obtained. Depending on future actions by the Supreme Court, the United States Congress, the federal courts, the USPTO and similar foreign authorities, the laws and regulations governing patents could change in unpredictable ways that could have a material adverse effect on our existing patent portfolio and our ability to protect and enforce our intellectual property in the future.

We will not seek to protect our intellectual property rights in all jurisdictions throughout the world and we may not be able to adequately enforce our intellectual property rights even in the jurisdictions where we seek protection.

Filing, prosecuting and defending patents on our product candidates in all countries and jurisdictions throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States could be less extensive than those in the United States, assuming that rights are obtained in the United States. In addition, the laws of some foreign countries do not protect intellectual property

rights to the same extent as federal and state laws in the United States. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions.

Competitors may use our technologies in jurisdictions where we or our licensors do not pursue and obtain patent protection to develop their own products and further, may export otherwise infringing products to territories where we or our licensors have patent protection, but where the ability to enforce our or our licensors' patent rights is not as strong as in the United States. These products may compete with our products and our intellectual property rights and such rights may not be effective or sufficient to prevent such competition.

The laws of some foreign countries do not protect intellectual property rights to the same extent as the laws of the United States. Patent protection must be sought on a country-by-country basis, which is an expensive and time-consuming process with uncertain outcomes. Accordingly, we and our licensors may choose not to seek patent protection in certain countries, and we will not have the benefit of patent protection in such countries. In addition, the legal systems of some countries, particularly developing countries, do not favor the enforcement of patents and other intellectual property protection, especially those relating to biotechnologies, and the requirements for patentability differ, in varying degrees, from country to country, and the laws of some foreign countries do not protect intellectual property rights, including trade secrets, to the same extent as federal and state laws of the United States. As a result, many companies have encountered significant problems in protecting and defending intellectual property rights in certain foreign jurisdictions. Such issues may make it difficult for us to stop the infringement, misappropriation or other violation of our intellectual property rights. For example, many foreign countries, including the EU countries, have compulsory licensing laws under which a patent owner must grant licenses to third parties. In addition, many countries limit the enforceability of patents against third parties, including government agencies or government contractors. In these countries, patents may provide limited or no benefit. In those countries, we and our licensors may have limited remedies if patents are infringed or if we or our licensors are compelled to grant a license to a third party, which could materially diminish the value of those patents. This could limit our potential revenue opportunities. Accordingly, our and our licensors' efforts to enforce intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we own or license. Similarly, if our trade secrets are disclosed in a foreign jurisdiction, competitors worldwide could have access to our proprietary information and we may be without satisfactory recourse. Such disclosure could have a material adverse effect on our business. Moreover, our ability to protect and enforce our intellectual property rights may be adversely affected by unforeseen changes in foreign intellectual property laws.

Furthermore, proceedings to enforce our licensors' and our patent rights and other intellectual property rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our or our licensors' patents at risk of being invalidated or interpreted narrowly, could put our or our licensors' patent applications at risk of not issuing and could provoke third parties to assert claims against us or our licensors. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded to us, if any, may not be commercially meaningful, while the damages and other remedies we may be ordered to pay such third parties may be significant. Accordingly, our licensors' and our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license.

Third parties may assert rights to inventions we develop or otherwise regard as our own.

Third parties may in the future make claims challenging the inventorship or ownership of our or our licensors' intellectual property. We have written agreements with R&D partners that provide for the ownership of intellectual property arising from our strategic alliances. These agreements provide that we must negotiate certain commercial rights with such partners with respect to joint inventions or inventions made by our partners that arise from the results of the strategic alliance. In some instances, there may not be adequate written provisions to address clearly the allocation of intellectual property rights that may arise from the respective alliance. If we

cannot successfully negotiate sufficient ownership and commercial rights to the inventions that result from our use of a third-party partner's materials when required, or if disputes otherwise arise with respect to the intellectual property developed through the use of a partner's samples, we may be limited in our ability to capitalize on the full market potential of these inventions. In addition, we may face claims by third parties that our agreements with employees, contractors, or consultants obligating them to assign intellectual property to us are ineffective, or are in conflict with prior or competing contractual obligations of assignment, which could result in ownership disputes regarding intellectual property we have developed or will develop and could interfere with our ability to capture the full commercial value of such inventions. Litigation may be necessary to resolve an ownership dispute, and if we are not successful, we may be precluded from using certain intellectual property and associated products and technology, or may lose our rights in that intellectual property. Either outcome could have a material adverse effect on our business.

In addition, the research resulting in certain of our in-licensed patent rights and technology was funded in part by the United States government. As a result, the United States government has certain rights to such patent rights and technology, which include march-in rights. When new technologies are developed with government funding, the government generally obtains certain rights in any resulting patents, including a non-exclusive license authorizing the government to use the invention or to have others use the invention on its behalf. The government can exercise its march-in rights if it determines that action is necessary because we fail to achieve practical application of the government-funded technology, or because action is necessary to alleviate health or safety needs, to meet requirements of federal regulations, or to give preference to the United States industry. Any exercise by the government of any of the foregoing rights could have a material adverse effect on our business.

We may not identify relevant third party patents or may incorrectly interpret the relevance, scope or expiration of a third party patent which might adversely affect our ability to develop and market our products.

We cannot guarantee that any of our patent searches or analyses, including but not limited to the identification of relevant patents, the scope of patent claims or the expiration of relevant patents, are complete or thorough, nor can we be certain that we have identified each and every third party patent and pending application in the United States and abroad that is relevant to or necessary for the commercialization of our product candidates in any jurisdiction.

The scope of a patent claim is determined by an interpretation of the law, the written disclosure in a patent and the patent's prosecution history. Our interpretation of the relevance or the scope of a patent or a pending application may be incorrect, which may negatively impact our ability to market our products. We may incorrectly determine that our products are not covered by a third party patent or may incorrectly predict whether a third party's pending application will issue with claims of relevant scope. Our determination of the expiration date of any patent in the United States or abroad that we consider relevant may be incorrect, which may negatively impact our ability to develop and market our product candidates. Our failure to identify and correctly interpret relevant patents may negatively impact our ability to develop and market our products.

Third parties may assert that our employees or consultants have wrongfully used or disclosed confidential information or misappropriated trade secrets.

We currently employ, and in the future may employ, individuals who were previously employed at universities or other biotechnology companies, including our competitors or potential competitors. Although we try to ensure that our employees and consultants do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that we or our employees, consultants or independent contractors have inadvertently or otherwise used or disclosed intellectual property, including trade secrets or other proprietary information, of a former employer or other third parties. Litigation may be necessary to defend against these claims. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees.

Any infringement, misappropriation or other violation by us of intellectual property rights of others may prevent or delay our product development efforts and may prevent or increase the costs of our successfully commercializing our product candidates, if approved.

Our success will depend in part on our ability to operate without infringing, misappropriating or otherwise violating the intellectual property and proprietary rights of third parties. We cannot assure you that our business operations, products, product candidates and methods and the business operations, products, product candidates and methods of our partners do not or will not infringe, misappropriate or otherwise violate the patents or other intellectual property rights of third parties.

The biotechnology industry is characterized by extensive litigation regarding patents and other intellectual property rights. Other parties may allege that our products, product candidates or the use of our technologies infringe, misappropriate or otherwise violate patent claims or other intellectual property rights held by them or that we are employing their proprietary technology without authorization. Patent and other types of intellectual property litigation can involve complex factual and legal questions, and their outcome is uncertain. Any claim relating to intellectual property infringement that is successfully asserted against us may require us to pay substantial damages, including treble damages and attorneys' fees if we or our partners are found to be willfully infringing another party's patents, for past use of the asserted intellectual property and royalties and other consideration going forward if we are forced to take a license. Such a license may not be available on commercially reasonable terms, or at all. Even if we were able to obtain a license, it could be non-exclusive, thereby giving our competitors access to the same intellectual property rights or technologies licensed to us. In addition, if any such claim were successfully asserted against us and we could not obtain a license, we or our partners may be forced to stop or delay developing, manufacturing, selling or otherwise commercializing our products, product candidates or other infringing technology, or those we develop with our R&D partners.

Even if we are successful in these proceedings, we may incur substantial costs and divert management time and attention pursuing these proceedings, which could have a material adverse effect on us. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments and if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock. Such litigation or proceedings could substantially increase our operating losses and reduce the resources available for development activities or any future sales, marketing or distribution activities. If we are unable to avoid infringing the patent rights of others, we may be required to seek a license, defend an infringement action or challenge the validity of the patents in court, or redesign our products. Patent litigation is costly and time consuming. We may not have sufficient resources to bring these actions to a successful conclusion. In addition, intellectual property litigation or claims could force us to do one or more of the following:

- cease developing, selling or otherwise commercializing our product candidates;
- pay substantial damages for past use of the asserted intellectual property;
- obtain a license from the holder of the asserted intellectual property, which license may not be available on reasonable terms, if at all; and
- in the case of trademark claims, redesign, or rename trademarks we may own, to avoid infringing the intellectual property rights of third parties, which may not be possible and, even if possible, could be costly and time-consuming.

Any of these risks coming to fruition could have a material adverse effect on our business, results of operations, financial condition and prospects.

We may be unsuccessful in licensing or acquiring intellectual property from third parties that may be required to develop and commercialize our product candidates.

Because our programs may involve additional product candidates that may require the use of intellectual property or proprietary rights held by third parties, the growth of our business will likely depend in part on our ability to acquire, in-license or use these intellectual property and proprietary rights. For example, if we determined to use a technology other than TALEN to perform our gene editing, such as CRISPR, we would likely need one or more licenses to use that technology. However, we may be unable to acquire or in-license any third party intellectual property or proprietary rights. Even if we are able to acquire or in-license such rights, we may be unable to do so on commercially reasonable terms. The licensing and acquisition of third party intellectual property and proprietary rights is a competitive area, and a number of more established companies are also pursuing strategies to license or acquire third party intellectual property and proprietary rights that we may consider attractive or necessary. These established companies may have a competitive advantage over us due to their size, capital resources and agricultural development and commercialization capabilities.

For example, we sometimes partner with academic institutions to accelerate our research or development under written agreements with these institutions. Typically, these institutions provide us with an option to negotiate a license to any of the institution's rights in technology resulting from the strategic alliance. Regardless of such option, we may be unable to negotiate a license within the specified time frame or under terms that are acceptable to us, and the institution may license such intellectual property rights to third parties, potentially blocking our ability to pursue our development and commercialization plans.

Further, our consulting agreement with Dr. Voytas generally obligates Dr. Voytas to assign to us any intellectual property solely or jointly conceived, developed or reduced to practice by him in the course of the performance of his services to us. However, we do not have any rights, including any assignment or right of first refusal rights, to intellectual property conceived, developed or reduced to practice by Dr. Voytas outside the course of the performance of his services to us, including in connection with his employment at the University of Minnesota.

In addition, companies that perceive us to be a competitor may be unwilling to assign or license intellectual property and proprietary rights to us. We also may be unable to license or acquire third party intellectual property and proprietary rights on terms that would allow us to make an appropriate return on our investment or at all. If we are unable to successfully acquire or in-license rights to required third party intellectual property and proprietary rights or maintain the existing intellectual property and proprietary rights we have, we may have to cease development of the relevant program, product or product candidate, which could have a material adverse effect on our business.

Loss of or damage to our germplasm libraries would significantly slow our product development efforts.

We have access to a comprehensive collection of germplasm for our product candidates, in part, through licensing agreements with leading institutions. Germplasm comprises genetic material covering the diversity of a crop, the attributes of which are inherited from generation to generation. Germplasm is a key strategic asset since it forms the basis of plant breeding programs. To the extent that we lose access to the germplasm because of the termination or breach of our licensing agreements or as a result of insufficient quantities of germplasm for testing, breeding and commercial use in relevant geographies, our product development capabilities could be negatively impacted. In addition, loss of or damage to our germplasm would significantly impair our research and development activities. Although we restrict access to our germplasm at our facilities to protect this valuable resource, we cannot guarantee that our efforts to protect our germplasm will be successful. The destruction or theft of a significant portion of our germplasm collection would adversely affect our business and results of operations.

If we fail to comply with our obligations in the agreements under which we license intellectual property rights from third parties or otherwise experience disruptions to our business relationships with our licensors, we could lose license rights that are important to our business.

We are a party to a number of intellectual property license agreements that are important to our business and expect to enter into additional license agreements in the future. Our existing license agreements impose, and we expect that future license agreements will impose, various diligence, royalty and other obligations on us. If we fail to comply with our obligations under these agreements, or we are subject to a bankruptcy, our licensors may have the right to terminate the license, in which event we would not be able to market products or product candidates covered by the license.

In addition, disputes may arise regarding the payment of the royalties or other consideration due to licensors in connection with our exploitation of the rights we license from them. Licensors may contest the basis of payments we retained and claim that we are obligated to make payments under a broader basis. In addition to the costs of any litigation we may face as a result, any legal action against us could increase our payment obligations under the respective agreement and require us to pay interest and potentially damages to such licensors.

In some cases, patent prosecution of our licensed technology is controlled solely by the licensor. If such licensor fails to obtain and maintain patent or other protection for the proprietary intellectual property we license from such licensor, we could lose our rights to such intellectual property or the exclusivity of such rights, and our competitors could market competing products using such intellectual property. In addition, these patents and applications may not be prosecuted and enforced in a manner consistent with the best interests of our business. In that event, we may be required to expend significant time and resources to develop or license replacement technology. If we are unable to do so, we may be unable to develop or commercialize the affected products and product candidates, which could harm our business significantly. In other cases, we control the prosecution of patents resulting from licensed technology. In the event we breach any of our obligations related to such prosecution, we may incur significant liability to our licensing partners. We may also require the cooperation of our licensors to enforce any licensed patent rights, and such cooperation may not be provided. Moreover, we have obligations under these license agreements, and any failure to satisfy those obligations could give our licensor the right to terminate the agreement. Termination of a necessary license agreement could have a material adverse impact on our business.

Licensing of intellectual property is of critical importance to our business and involves complex legal, business and scientific issues and is complicated by the rapid pace of scientific discovery in our industry. Disputes may arise regarding intellectual property subject to a licensing agreement (including the intellectual property licensed to us by Cellectis), including:

- the scope of rights granted under the license agreement and other interpretation-related issues;
- the basis of royalties and other consideration due to our licensors;
- the extent to which our products, product candidates, technology and processes infringe on intellectual property of the licensor that is not subject to the licensing agreement;
- the sublicensing of patent and other rights under our development relationships;
- our diligence obligations under the license agreement and what activities satisfy those diligence obligations;
- the ownership of inventions and know-how resulting from the joint creation or use of intellectual property by our licensors and us and our partners; and
- the priority of invention of patented technology.

If disputes over intellectual property that we have licensed from third parties prevent or impair our ability to maintain our current licensing arrangements on acceptable terms, we may be unable to successfully develop and commercialize the affected product candidates, which could have a material adverse effect on our business.

Any partnerships that we may enter into in the future may not be successful, which could adversely affect our ability to develop and commercialize our product candidates.

We may seek R&D partnerships or joint venture arrangements with third parties for the development or commercialization of our product candidates depending on the merits of retaining commercialization rights for ourselves as compared to entering into partnerships or joint venture arrangements. We will face, to the extent that we decide to enter into partnerships or joint venture agreements, significant competition in seeking appropriate partners. Moreover, partnerships or joint venture arrangements are complex and time-consuming to negotiate, document, implement and maintain. We may not be successful in our efforts to establish and implement partnerships, joint ventures, or other alternative arrangements should we so chose to enter into such arrangements. The terms of any partnerships, joint ventures, or other arrangements that we may establish may not be favorable to us.

Any future partnerships or joint ventures that we enter into may not be successful. The success of our R&D partnerships or joint venture arrangements will depend heavily on the efforts and activities of our partners. R&D partnerships and joint ventures are subject to numerous risks, which may include that:

- partners have significant discretion in determining the efforts and resources that they will apply to R&D partnerships or joint ventures;
- partners may not pursue development and commercialization of our product candidates or may elect not to continue or renew development or commercialization programs based on trial results, changes in their strategic focus due to the acquisition of competitive products, availability of funding or other external factors, such as a business combination that diverts resources or creates competing priorities;
- partners may delay trials, provide insufficient funding for a trial program, stop a trial, abandon a product candidate, repeat or conduct new trials or require a new formulation of a product candidate for testing;
- partners could independently develop, or develop with third parties, products that compete directly or indirectly with our products or product candidates;
- a partner with marketing, manufacturing and distribution rights to one or more products may not commit sufficient resources to or otherwise not perform satisfactorily in carrying out these activities;
- we could grant exclusive rights to our partners that would prevent us from collaborating with others;
- partners may not properly maintain or defend our intellectual property rights or may use our intellectual property or proprietary information in a way that gives rise to actual or threatened litigation that could jeopardize or invalidate our intellectual property or proprietary information or expose us to potential liability;
- disputes may arise between us and a partner that causes the delay or termination of the research, development or commercialization of our current or future products or that results in costly litigation or arbitration that diverts management attention and resources;
- partnerships may be terminated, and, if terminated, may result in a need for additional capital to pursue further development or commercialization of the applicable current or future products;
- partners may own or co-own intellectual property covering our products that results from our partnering with them, and in such cases, we would not have the exclusive right to develop or commercialize such intellectual property; and
- a partner’s sales and marketing activities or other operations may not be in compliance with applicable laws resulting in civil or criminal proceedings.

If our trademarks and trade names are not adequately protected, then we may not be able to build name recognition in our markets of interest and our business may be adversely affected.

Our trademarks or trade names may be challenged, infringed, circumvented or declared generic or determined to be infringing on other marks. We may not be able to protect our rights to these trademarks and trade names or may be forced to stop using these names and trademarks, which we need for name recognition by potential partners or food manufacturers or farmers in our markets of interest. If we are unable to establish name recognition based on our trademarks and trade names, we may not be able to compete effectively and our business may be adversely affected.

Risks Related to Our Organization, Structure and Operation

We will need to develop and expand our company, and we may encounter difficulties in managing this development and expansion, which could disrupt our operations.

As of December 31, 2017, we had 35 employees. We expect to increase our number of employees and the scope and location of our operations. To manage our anticipated development and expansion, including the development and the commercialization of our product candidates, we must continue to implement and improve our managerial, operational and financial systems, expand our facilities and continue to recruit and train additional qualified personnel. Members of our management team may need to divert a disproportionate amount of their attention away from their day-to-day activities and devote a substantial amount of time to managing these development activities. Due to our limited resources, we may not be able to effectively manage the expansion of our operations or recruit and train additional qualified personnel. This may result in weaknesses in our infrastructure, give rise to operational mistakes, loss of business opportunities, loss of employees and reduced productivity among remaining employees. The physical expansion of our operations may lead to significant costs and may divert financial resources from other projects, such as the development of our product candidates. If our management is unable to effectively manage our expected development and expansion, our expenses may increase more than expected, our ability to generate or increase our revenue could be reduced and we may not be able to implement our business strategy. Our future financial performance and our ability to commercialize our product candidates, if approved, and compete effectively will depend, in part, on our ability to effectively manage the future development and expansion of our company.

We depend on key management personnel and attracting and retaining other qualified personnel, and our business could be harmed if we lose key management personnel or cannot attract and retain other qualified personnel.

Our success depends to a significant degree upon the technical skills and continued service of certain members of our management team: Federico A. Tripodi, our CEO, and Daniel Voytas, Ph.D., our CSO. Dr. Voytas works for us as a consultant pursuant to a consulting agreement under which he is required to work 10 days per month with us. The loss of the services of one or both of these key executive officers could have a material adverse effect on us. We do not maintain “key man” insurance policies on the lives of any of our employees. Our success also will depend upon our ability to attract and retain additional qualified management, regulatory, technical, and sales and marketing executives and personnel. The failure to attract, integrate, motivate, and retain additional skilled and qualified personnel could have a material adverse effect on our business.

We compete for such personnel against numerous companies, including larger, more established companies with significantly greater financial resources than we possess. In addition, failure to succeed in our product candidates’ development may make it more challenging to recruit and retain qualified personnel. There can be no assurance that we will be successful in attracting or retaining such personnel and the failure to do so could have a material adverse effect on our business, financial condition, and results of operations.

We may not be able to fully enforce covenants not to compete with our key management personnel, and therefore we may be unable to prevent our competitors from benefiting from the expertise of such employees.

Our offer letters with key management personnel, which include executive officers, and our consulting agreement with Dr. Voytas, contain non-compete provisions. These provisions prohibit our key management personnel, if they cease working for us, from competing directly with us or working for our competitors for a period of time. Under applicable laws, we may be unable to enforce these provisions. If we cannot enforce the non-compete provisions with our key management personnel, we may be unable to prevent our competitors from benefiting from the expertise of such management personnel. Even if these provisions are enforceable, they may not adequately protect our interests. The defection of one or more of our management personnel to a competitor could materially adversely affect our business, results of operations and ability to capitalize on our proprietary information.

We must maintain effective internal control over financial reporting, and if we are unable to do so, the accuracy and timeliness of our financial reporting may be adversely affected, which could have a material adverse effect on our business, investor confidence and market price.

We must maintain effective internal control over financial reporting in order to accurately and timely report our results of operations and financial condition. As a public company, the Sarbanes-Oxley Act requires, among other things, that we assess the effectiveness of our controls over financial reporting at the end of each fiscal year. We anticipate being first required to issue management's annual report on internal control over financial reporting, pursuant to Section 404 of the Sarbanes-Oxley Act, in respect of our annual report for the fiscal year ended December 31, 2018.

The rules governing the standards that must be met for our management to assess our internal control over financial reporting pursuant to Section 404 of the Sarbanes-Oxley Act are complex and require significant documentation, testing and possible remediation. These stringent standards require that our audit and finance committee be advised and regularly updated on management's assessment of internal control over financial reporting. In addition, our independent registered public accounting firm will be required to attest to the effectiveness of our internal controls over financial reporting beginning with our annual report following the date on which we are no longer an "emerging growth company." If we fail to staff our accounting and finance function adequately or maintain internal control over financial reporting adequate to meet the requirements of the Sarbanes-Oxley Act, our business and reputation may be harmed.

We may use hazardous chemicals and biological materials in our business and are subject to numerous environmental, health and safety laws and regulations. Compliance with such laws and regulations and any claims relating to improper handling, storage or disposal of these materials could be time consuming and costly.

We are subject to numerous federal, state, local and foreign environmental, health and safety laws and regulations, including those governing laboratory procedures, the handling, use, storage, treatment, manufacture and disposal of hazardous materials and wastes, discharge of pollutants into the environment and human health and safety matters. Our research and development processes may involve the controlled use of hazardous materials, including chemicals and biological materials. We cannot eliminate the risk of contamination or discharge and any resultant injury from these materials. We may be sued for any injury or contamination that results from our use or the use by third parties of these materials, or may otherwise be required to remediate such contamination, and our liability may exceed any insurance coverage and our total assets. Compliance with environmental, health and safety laws and regulations may be expensive and may impair our research and development efforts. If we fail to comply with these requirements, we could incur substantial costs and liabilities, including civil or criminal fines and penalties, clean-up costs or capital expenditures for control equipment or operational changes necessary to achieve and maintain compliance. In addition, we cannot predict the impact on our business of new or amended environmental, health and safety laws or regulations or any changes in the way

existing and future laws and regulations are interpreted and enforced. These current or future laws and regulations may impair our research, development or production efforts.

Our internal computer systems, or those of our third-party contractors or consultants, may fail or suffer security breaches, which could result in a material disruption of our product development programs.

Despite the implementation of security measures, our internal computer systems and those of our third-party contractors and consultants are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. While we do not believe that we have experienced any such system failure, accident, or security breach to date, if such an event were to occur and cause interruptions in our operations, it could result in a material disruption of our programs. For example, the loss of field trial data for our product candidates could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. Additionally, there have been reported cases in the industry where product candidates have been stolen from the field during field trials. To the extent that any disruption or security breach results in a loss of or damage to our data or applications or other data or applications relating to our technology or product candidates, or inappropriate disclosure of confidential or proprietary information, we could incur liabilities and the further development of our product candidates could be delayed.

Our business and operations would suffer in the event of computer system failures, cyber-attacks or a deficiency in our cyber-security.

Despite the implementation of security measures, our internal computer systems, and those of third parties on which we rely, are vulnerable to damage from computer viruses, malware, natural disasters, terrorism, war, telecommunication and electrical failures, cyber-attacks or cyber-intrusions over the Internet, attachments to emails, persons inside our organization, or persons with access to systems inside our organization. The risk of a security breach or disruption, particularly through cyber-attacks or cyber-intrusion, including by computer hackers, foreign governments, and cyber terrorists, has generally increased as the number, intensity and sophistication of attempted attacks and intrusions from around the world have increased. If such an event were to occur and cause interruptions in our operations, it could result in a material disruption of our product development programs. For example, the loss of field trial data from completed or ongoing or planned field trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach was to result in a loss of or damage to our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur material legal claims and liability, damage to our reputation, and the further development of our product candidates could be delayed.

We may acquire businesses or products, or form strategic alliances, in the future, and we may not realize the benefits of such acquisitions.

We plan to selectively partner, in-license or acquired key enabling technologies and businesses across our value chain that we believe will keep us on the cutting edge of our industry. We may not be able to identify appropriate targets or make acquisitions under satisfactory conditions, in particular, satisfactory price conditions. In addition, we may be unable to obtain the financing for these acquisitions under favorable conditions, and could be led to finance these acquisitions using cash that could be allocated to other purposes in the context of existing operations. If we acquire businesses with promising markets or technologies, we may not be able to realize the benefit of acquiring such businesses if we are unable to successfully integrate them with our existing operations and company culture. We may encounter numerous difficulties in developing, manufacturing and marketing any new products resulting from a strategic alliance or acquisition that delay or prevent us from realizing their expected benefits or enhancing our business. We cannot assure you that, following any such acquisition, we will achieve the expected synergies to justify the transaction, which could have a material adverse effect on our business, financial conditions, earnings and prospects.

Risks Related to Our Relationship with Cellectis

Cellectis controls the direction of our business, and the concentrated ownership of our common stock and certain contractual rights Cellectis has will prevent you and other stockholders from influencing significant decisions.

As of December 31, 2017, Cellectis owned approximately 79.7% of our outstanding shares of common stock. Pursuant to our stockholders' agreement with Cellectis, Cellectis will have certain contractual rights for so long as it beneficially owns at least 50% of the then outstanding shares of our common stock, as described under "Certain Relationships and Related Party Transactions—Relationship with Cellectis—Stockholders Agreement," including:

- to approve any modification to our or any future subsidiary's share capital (e.g., share capital increase or decrease), the creation of any subsidiary, any grant of stock-based compensation, any distributions or public or private offering, merger, spin-off, liquidation, winding up or carve-out transactions;
- to approve the annual business plan and annual budget and any modification thereof;
- to approve any external growth transactions exceeding $500,000 and not included in the approved annual business plan and annual budget;
- to approve any investment and disposition decisions exceeding $500,000 and not included in the approved annual business plan and annual budget (it being understood that this clause excludes the purchase and sale of inventory as a part of the normal course of business);
- to approve any related-party agreement and any agreement or transaction between the executives or shareholders of Calyxt and Calyxt or any of its subsidiaries;
- to approve any decision pertaining to the recruitment, dismissal/removal, or increase of the compensation of executives and corporate officers;
- to approve any material decision relating to a material litigation;
- to approve any decision relating to the opening of a social or restructuring plan or pre-insolvency proceedings;
- to approve any buyback by us of our own shares;
- to approve any new borrowings or debts exceeding $500,000 and early repayment of loans, if any (it being understood that Cellectis will approve the entering into of contracts for revolving loans and other short-term loans and the repayment of such for financing general operating activities, such as revolving loans for inventory or factoring of receivables);
- to approve grants of any pledges on our securities;
- to approve the development of any new activities and businesses not described in the annual business plan and annual budget;
- to approve entry into any material agreement or partnership; and
- to approve any offshore and relocation activities.

In addition, Cellectis will have the following rights for so long as it beneficially owns at least 15% of the then outstanding shares of our common stock, as described under "Certain Relationships and Related Party Transactions—Relationship with Cellectis—Stockholders Agreement," including:

- to nominate the greater of three members of our Board of Directors or a majority of the directors;
- to designate the Chairman of our Board of Directors and one member to each of the audit committee of the Board of Directors, the compensation committee of the Board of Directors and the nominating and corporation governance committee of the Board of Directors;

- to approve any amendments to our amended and restated certificate of incorporation or our amended and restated by-laws that would change the name of our company, its jurisdiction of incorporation, the location of its principal executive offices, the purpose or purposes for which our company is incorporated or the Cellectis approval items set forth in the stockholders' agreement;
- to approve the payment of any regular or special dividends;
- to approve the commencement of any voluntary proceeding for the dissolution, winding up or bankruptcy of Calyxt or a material subsidiary;
- to approve any public or private offering, merger, amalgamation or consolidation of us or the spinoff of a business of ours or any sale, conveyance, transfer or other disposition of our assets; and
- to approve any appointment to our Board of Directors contrary to the stockholders' agreement or our certificate of incorporation or our by-laws.

As a result, Cellectis controls the direction of our business, and the concentrated ownership of our common stock and the contractual rights described above will prevent stockholders from influencing significant decisions.

If Cellectis sells a controlling interest in our company to a third party in a private transaction, stockholders may not realize any change-of-control premium on shares of our common stock and we may become subject to the control of a presently unknown third party.

Cellectis has the ability, should it choose to do so, to sell some or all of its shares of our common stock in a privately negotiated transaction, which, if sufficient in size, could result in a change of control of our company.

The ability of Cellectis to privately sell its shares of our common stock, with no requirement for a concurrent offer to be made to acquire all of the shares of our common stock that will be publicly traded hereafter, could prevent stockholders from realizing any change-of-control premium on shares of our common stock that may otherwise accrue to Cellectis on its private sale of our common stock. Additionally, if Cellectis privately sells its significant equity interest in our company, we may become subject to the control of a presently unknown third party. Such third party may have conflicts of interest with those of other stockholders. In addition, if Cellectis sells a controlling interest in our company to a third party, Cellectis may terminate the license agreement and other transitional arrangements, and our other commercial agreements and relationships could be impacted, all of which may adversely affect our ability to run our business as described herein and may have a material adverse effect on our operating results and financial condition.

We are a "controlled company" within the meaning of the rules of the NASDAQ and, as a result, rely on exemptions from certain corporate governance requirements. You do not have the same protections afforded to stockholders of companies that are subject to such requirements.

Because Cellectis controls a majority of the voting power of our outstanding common stock, we are a "controlled company" within the meaning of the corporate governance standards of the NASDAQ. Under these rules, a listed company of which more than 50% of the voting power is held by an individual, group or another company is a "controlled company" and may elect not to comply with certain corporate governance requirements, including:

- the requirement that a majority of the board of directors consist of independent directors;
- the requirement that our nominating and corporate governance committee be composed entirely of independent directors with a written charter addressing the committee's purpose and responsibilities;
- the requirement that our compensation committee be composed entirely of independent directors with a written charter addressing the committee's purpose and responsibilities; and
- the requirement for an annual performance evaluation of our corporate governance and compensation committees.

While Cellectis controls a majority of the voting power of our outstanding common stock, we may not have a majority of independent directors or corporate governance and compensation committees consisting entirely of independent directors and we will not be required to have written charters addressing these committees' purposes and responsibilities or have annual performance evaluations of these committees. Accordingly, you will not have the same protections afforded to stockholders of companies that are subject to all of the corporate governance requirements of the NASDAQ.

Cellectis may compete with us.

Cellectis is not restricted from competing with us in the plant sciences industry business, including as a result of acquiring a company that operates an agricultural biotechnology business. Due to the significant resources of Cellectis, including financial resources, name recognition and know-how resulting from the previous management of our business, Cellectis could have a significant competitive advantage over us should it decide to engage in the type of business we conduct, which may cause our operating results and financial condition to be materially adversely affected.

Certain of our directors may have actual or potential conflicts of interest because of their positions with Cellectis.

Dr. André Choulika, Mr. Alain Godard and Mr. Laurent Arthaud serve on our Board of Directors and also have senior positions as directors or officers of Cellectis. In addition, these directors may own Cellectis ordinary shares and options to purchase Cellectis ordinary shares and other Cellectis equity awards. These individuals' holdings of Cellectis ordinary shares, options to purchase ordinary shares of Cellectis and other equity awards may be significant for some of these persons compared to these persons' total assets. Their position at Cellectis and the ownership of any Cellectis equity or equity awards creates, or may create the appearance of, conflicts of interest when these directors are faced with decisions that could have different implications for Cellectis than the decisions have for us.

Cellectis and its directors and officers have limited liability to us or you for breach of fiduciary duty.

Our Certificate of Incorporation provides that, subject to any contractual provision to the contrary, Cellectis will have no obligation to refrain from:

- engaging in the same or similar business activities or lines of business as we do;
- doing business with any of our clients or consumers; or
- employing or otherwise engaging any of our officers or employees.

Under our Certificate of Incorporation, neither Cellectis nor any officer or director of Cellectis, except as provided in our Certificate of Incorporation, is liable to us or to our stockholders for breach of any fiduciary duty by reason of any of these activities.

Cellectis currently performs or supports many of our important corporate functions. We incur significant charges and incremental costs as a stand-alone public company.

Cellectis currently performs or supports many important corporate functions for our company. Our financial statements reflect charges for these services on an allocation basis. Many of these services are governed by our management services agreement with Cellectis. Under the management services agreement we are able to use these Cellectis services for one year terms, which are automatically renewed. However, either party has the right to terminate the agreement at the anniversary of the agreement by giving three months' prior notice. In addition, either party is able to terminate the agreement due to a material breach of the other party, upon prior written notice, subject to limited cure periods and certain change of control, sale and bankruptcy events. We pay

Cellectis mutually agreed-upon fees for these services, which are based on Cellectis' costs of providing the services. See "Certain Relationships and Related Party Transactions—Relationship with Cellectis—Management Services Agreement."

We may not be able to replace these services or enter into appropriate third-party agreements on terms and conditions, including cost, comparable to those that we will receive from Cellectis under our management services agreement. Additionally, after the agreement terminates, we may be unable to sustain the services at the same levels or obtain the same benefits as when we were receiving such services and benefits from Cellectis. We may need to replicate or replace certain functions, systems and infrastructures to which we would no longer have access. We may also need to make investments or hire additional employees to operate without the same access to Cellectis' operational and administrative infrastructure. When we begin to operate these functions separately, if we do not have our own adequate systems and business functions in place, or are unable to obtain them from other providers, we may not be able to operate our business effectively or at comparable costs, and our profitability may decline. In addition, we have historically received informal support from Cellectis, which may not be addressed in our management services agreement.

Risks Related to Ownership of Our Common Stock

The requirements of being a U.S. public company require significant resources and management attention and affect our ability to attract and retain executive management and qualified board members.

As a U.S. public company, we incur significant legal, accounting, and other expenses. We are subject to the Exchange Act, including the reporting requirements thereunder, the Sarbanes-Oxley Act, the Dodd-Frank Wall Street Reform and Consumer Protection Act, the NASDAQ listing requirements and other applicable securities rules and regulations. Compliance with these rules and regulations results in significant legal and financial compliance costs, makes some activities more difficult, time-consuming or costly and places substantial demand on our systems and resources. We expect the burdens of compliance obligations to increase after we cease to be an "emerging growth company."

Pursuant to Section 404 of the Sarbanes-Oxley Act of 2002, or Section 404, we will be required to furnish a report by our management on our internal control over financial reporting, including an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. However, while we remain an emerging growth company, we will not be required to include this attestation report on internal control over financial reporting issued by our independent registered public accounting firm. When our independent registered public accounting firm is required to undertake an assessment of our internal control over financial reporting, the cost of complying with Section 404 will significantly increase and management's attention may be diverted from other business concerns, which could adversely affect our business and results of operations. We may need to hire more employees in the future or engage outside consultants to comply with these requirements, which will further increase our cost and expense. If we fail to implement the requirements of Section 404 in the required timeframe, we may be subject to sanctions or investigations by regulatory authorities, including the SEC and the NASDAQ. Furthermore, if we are unable to conclude that our internal control over financial reporting is effective, we could lose investor confidence in the accuracy and completeness of our financial reports, the market price of shares of our common stock could decline, and we could be subject to sanctions or investigations by regulatory authorities. Failure to implement or maintain effective internal control systems required of public companies could also restrict our future access to the capital markets. In addition, enhanced legal and regulatory regimes and heightened standards relating to corporate governance and disclosure for public companies result in increased legal and financial compliance costs and make some activities more time consuming.

The market price of our common stock has experienced volatility since our initial public offering in July 2017.

Prior to our initial public offering, or IPO, there had been no public market for shares of our common stock. Since our initial public offering in July 2017, the market price of our common stock has experienced, and may

continue to experience, volatility in response to various factors. Some factors that may cause the market price of our common stock to fluctuate, in addition to the other risks mentioned in this section of this Annual Report on Form 10-K, are:

- actual or anticipated fluctuations in our financial condition and operating results;
- our failure to develop and commercialize our product candidates;
- actual or anticipated changes in our growth rate relative to our competitors;
- competition from existing products or new products that may emerge;
- announcements by us, Cellectis, our R&D partners or our competitors of or related to significant acquisitions, strategic partnerships, joint ventures, strategic alliances, or capital commitments;
- the imposition of regulatory requirements on any of our product candidates to be sold in North America;
- the inability to establish additional strategic alliances;
- unanticipated serious safety concerns related to the use of any of our products once commercialized;
- failure to meet or exceed financial estimates and projections of the investment community or that we provide to the public;
- issuance of new or updated research or reports by securities analysts;
- fluctuations in the valuation of companies perceived by investors to be comparable to us;
- common stock price and volume fluctuations attributable to inconsistent trading volume levels of our common stock;
- additions or departures of key management or scientific personnel;
- disputes or other developments related to proprietary rights, including patents, litigation matters, and our ability to obtain patent protection for our technologies;
- announcement or expectation of additional equity or debt financing efforts;
- sales of common stock by us, Cellectis, our insiders or our other stockholders;
- announcements or actions taken by Cellectis as our principal stockholder; and
- general economic and market conditions.

These and other market and industry factors may cause the market price and demand for our common stock to fluctuate substantially, regardless of our actual operating performance, which may limit or prevent investors from readily selling their common stock and may otherwise negatively affect the liquidity of our common stock. In addition, the stock market in general, and agricultural biotechnology companies in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of these companies.

Our historical financial information is not necessarily representative of the results we would have achieved as a stand-alone company and may not be a reliable indicator of our future results.

We are a majority-owned subsidiary of Cellectis. As a result, our historical financial information does not reflect the financial condition, results of operations or cash flows we would have achieved as a stand-alone company and not a subsidiary of Cellectis during the periods presented or those we will achieve in the future. This is primarily the result of the following factors:

- our historical financial information reflects expense allocations for certain support functions that are provided on a centralized basis within Cellectis, such as expenses for business technology, facilities,

legal, finance, human resources and business development that may be higher or lower than the comparable expenses we would have actually incurred, or will incur in the future, as a stand-alone company and not a subsidiary of Cellectis; and

- significant increases in our cost structure as a result of becoming a public company, including costs related to public company reporting, investor relations and compliance with the Sarbanes-Oxley Act, which expenses may increase at such time as we operate as a stand-alone company and not a subsidiary of Cellectis.

As a result of the separation, it may be difficult for investors to compare our future results to historical results or to evaluate our relative performance or trends in our business.

Future sales of common stock by Cellectis or others of our common stock, or the perception that such sales may occur, could depress the market price of our common stock.

As of December 31, 2017, Cellectis owned approximately 79.7% of our outstanding shares of common stock. Subject to the restrictions described in the paragraph below, future sales of these shares in the public market will be subject to the volume and other restrictions of Rule 144 under the Securities Act for so long as Cellectis is deemed to be our affiliate, unless the shares to be sold are registered with the SEC. We are unable to predict with certainty whether or when Cellectis will sell a substantial number of shares of our common stock. The sale by Cellectis of a substantial number of shares, or a perception that such sales could occur, could significantly reduce the market price of our common stock.

If securities or industry analysts do not publish research or publish inaccurate or unfavorable research about our business, the price of our common stock and trading volume could decline.

The trading market for our common stock depends in part on the research and reports that securities or industry analysts publish about us or our business. If few or no securities or industry analysts cover us, the trading price for our common stock would be negatively impacted. If one or more of the analysts who covers us downgrades our common stock or publishes incorrect or unfavorable research about our business, the price of our common stock would likely decline. If one or more of these analysts ceases coverage of our company or fails to publish reports on us regularly, or downgrades our common stock, demand for our common stock could decrease, which could cause the price of our common stock or trading volume to decline.

We do not intend to pay dividends on our common stock.

We do not intend to pay any dividends to holders of our common stock for the foreseeable future. We currently intend to invest our future earnings, if any, to fund our growth. Therefore, you are not likely to receive any dividends on common stock for the foreseeable future, and the success of an investment in our common stock will depend upon any future appreciation in its value. Consequently, investors may need to sell all or part of their holdings of our common stock after price appreciation, which may never occur, as the only way to realize any future gains on their investment. There is no guarantee that our common stock will appreciate in value or even maintain the price at which our stockholders have purchased our common stock. Investors seeking cash dividends should not purchase our common stock.

Provisions in our Certificate of Incorporation, By-laws and Delaware law may prevent or delay an acquisition of us, which could decrease the trading price of our common stock.

Our Certificate of Incorporation and By-laws contain provisions that are intended to deter coercive takeover practices and inadequate takeover bids and to encourage prospective acquirers to negotiate with our Board of Directors rather than to attempt a hostile takeover. These include the following provisions that become effective once Cellectis' no longer holds at least 50% of our outstanding shares of common stock:

- a Board of Directors that is divided into three classes with staggered terms;

- rules regarding how our stockholders may present proposals or nominate directors for election at stockholder meetings;
- the right of our Board of Directors to issue preferred stock without stockholder approval; and
- limitations on the right of stockholders to remove directors.

These provisions could make it more difficult for a third party to acquire us, even if the third party's offer may be considered beneficial by many stockholders. As a result, stockholders may be limited in their ability to obtain a premium for their shares. See "Description of Capital Stock" for a discussion of these provisions.

We are an "emerging growth company" and we cannot be certain if the reduced disclosure requirements applicable to emerging growth companies will make our common stock less attractive to investors.

We are an "emerging growth company," as defined in the JOBS Act, and take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not "emerging growth companies" including, but not limited to, not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, and reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements. We cannot predict if investors will find our common stock less attractive because of our reliance on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile.

ITEM 1B. UNRESOLVED STAFF COMMENTS.

None.

ITEM 2. PROPERTIES.

We lease a 17,485 square-foot facility in New Brighton, Minnesota, which commenced operations on October 15, 2012 and expires on May 31, 2018. In March 2016, we acquired a 10-acre parcel in Roseville, Minnesota where we built a 10,900 square-foot greenhouse facility that became operational in July 2016.

In September 2017, we consummated a sale-leaseback transaction including a Lease Agreement, dated September 6, 2017, with a third party with respect to our lease of certain real property and improvements located in Roseville, Minnesota for a term of twenty years, with four options to extend the term of the Lease Agreement for five years each (subject to there being no default (as defined in the Lease Agreement) beyond any cure period and this property being occupied at the time of such extension). Pursuant to the purchase agreement, we received approximately $7 million in connection with the sale of the property. The property will be our new corporate headquarters and lab facilities. We expect the facility to be composed of a nearly 40,000 square-foot office and lab building, with greenhouses and outdoor research plots. We will be deemed the owner for accounting purposes.

Under the Lease Agreement, during the construction period we will initially pay annual base rent of $490 thousand until the earlier of (i) the next day after issuance of a temporary certificate of occupancy or equivalent permit to occupy the property by the City of Roseville and (ii) the next day after the certification of substantial completion executed by the landlord's architect or contractor confirming that the work to be done on the property has been substantially completed (such date, the "Initial Term Commencement Date"). Occupancy is expected to be on or about May 1, 2018. We expect to incur, based on the expected occupancy date, minimum lease payments of $163 thousand. On the Initial Term Commencement Date, we will pay an annual base rent of 8% of the total project cost ("Annual Base Rent") with scheduled increases in rent of 7.5% on the sixth, eleventh and sixteenth anniversaries of the Initial Term Commencement Date as well as on the first day of each Renewal Term (as defined in the Lease Agreement). Based on the initial cost of the project we will pay an estimated annual base rent of approximately $1.4 million.

The Lease Agreement is a net lease and the costs and expenses associated with the property are to be paid for by us. Beginning on the date that is 18 months following the Initial Term Commencement Date, if landlord decides to sell the property during the term of the Lease Agreement and any extension thereof, we will have a right of first refusal to purchase the property on the same terms offered to any third party.

In consideration of, and as an inducement to, landlord's agreement to enter into the Lease Agreement, Cellectis entered into a Lease Guaranty with the landlord, whereby Cellectis has guaranteed all of our obligations under the Lease Agreement. Cellectis' guarantee of Calyxt's obligations under the sale-leaseback transaction will terminate at the end of the second consecutive calendar year in which Calyxt's tangible net worth exceeds $300 million, as determined in accordance with generally accepted accounting principles. On November 10, 2017, we agreed to indemnify Cellectis for any obligations incurred by Cellectis under the Lease Guaranty. This indemnification agreement will become effective at such time as Cellectis owns 50% or less of our outstanding common stock.

ITEM 3. LEGAL PROCEEDINGS.

In addition to the litigation described below, we are involved in various legal proceedings which are ordinary litigation incidental to our business, some of which are covered in whole or in part by insurance. While we believe the ultimate disposition of litigation will not have material adverse effect on our financial position, results of operations or liquidity, there exists the possibility that such litigation may have an impact on our results for a particular reporting period in which litigation effects become probable and reasonably estimable. Though we do not believe there is a reasonable likelihood that there will be a material change related to these matters, litigation is subject to inherent uncertainties and management's view of these matters may change in the future.

In December 2013, we entered into a Research and Commercial License Agreement (the "License Agreement") with a subsidiary of Bayer Aktiengesellschaft ("Bayer"), pursuant to which we granted Bayer a license to certain patents for the research and commercialization of certain products developed with our TALEN technology. We believe that Bayer, which has agreed to acquire Monsanto, Inc. and also to sell a significant portion of its seeds business to BASF SE, has breached the License Agreement by filing patent applications in violation of the License Agreement's provisions and by failing to make a payment due under the License Agreement. As described elsewhere in this Annual Report, our commercial success depends, in part, on obtaining and maintaining proprietary rights to intellectual property and defending these rights against third-party challenges. Accordingly, we have given notice to Bayer of our termination of the License Agreement, and on March 12, 2018, we filed a complaint in Delaware Chancery Court alleging that we properly terminated the License Agreement for Bayer's material breach. We have requested a declaration that the License Agreement has terminated and an order of specific performance requiring Bayer to comply with its post-termination obligations. We do not expect to incur any significant losses as a result of the proceedings. However, litigation is inherently uncertain, and there can be no assurances with respect to the outcome or consequences of this litigation. Bayer, as well as other potential competitors, may choose to develop products that may compete with the product candidates that we are developing or may seek to develop in the future, regardless of the outcome of this litigation. If we are unsuccessful in this litigation, Bayer, as well as its successors and assigns, could use the TALEN technology covered by the License Agreement to develop products that may compete with the product candidates that we are developing or may seek to develop in the future.

ITEM 4. MINE SAFETY DISCLOSURES.

Not Applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES.

Market Information

Our common stock commenced trading on The NASDAQ Global Market under the ticker symbol of "CLXT" in connection with our initial public offering on July 25, 2017. Prior to that time, there was no established public trading market for our common stock. The following table sets forth, for the periods indicated, the high and low reported closing sale prices of our common stock as reported on The NASDAQ Global Market:

	High	Low
Third Quarter 2017 (from July 20, 2017)	$28.31	$10.44
Fourth Quarter 2017	$31.48	$17.13

The last reported sale price of our common stock on The NASDAQ Global Market on March 12, 2018 was $19.10 per share.

Holders of Common Stock

As of March 12, 2018, there were 5 holders of record of 28,062,315 outstanding shares of our common stock. The number of holders of record of our common stock does not reflect the number of beneficial holders whose shares are held by depositaries, brokers or other nominees.

Dividends

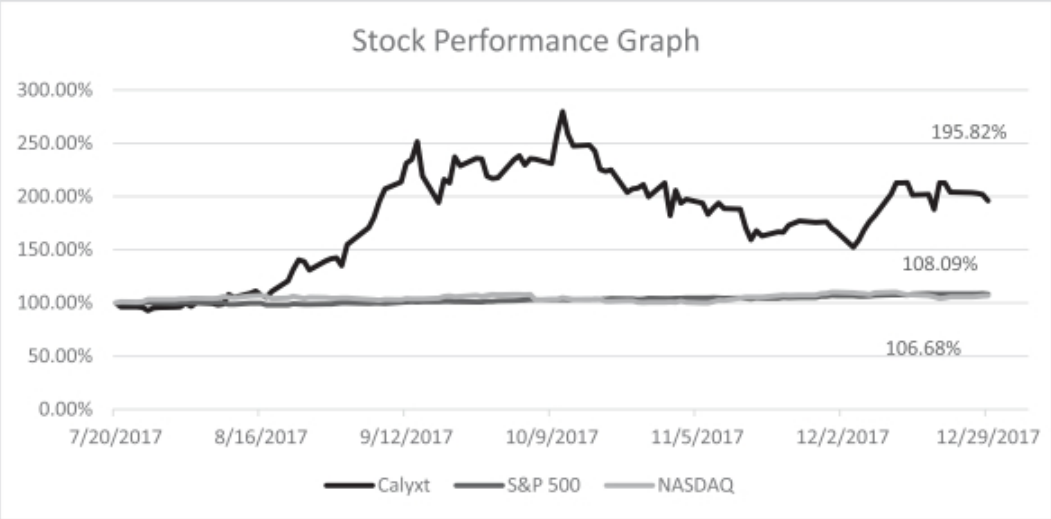
We have never declared or paid cash dividends on our capital stock. We do not expect to pay dividends on our common stock for the foreseeable future. Instead, we anticipate that all of our earnings, if any, will be used for the operation and growth of our business. Any future determination to declare cash dividends would be subject to the discretion of our board of directors and would depend upon various factors, including our results of operations, financial condition and capital requirements, restrictions that may be imposed by applicable law and our contracts and other factors deemed relevant by our board of directors.

Stock Performance Graph

This performance graph shall not be deemed "soliciting material" or to be "filed" with the SEC for purposes of Section 18 of the Exchange Act, or otherwise subject to the liabilities under that Section, and shall not be deemed to be incorporated by reference into any of our filings under the Securities Act or the Exchange Act.

The following graph shows a comparison from July 20, 2017 (the date our common stock commenced trading on The NASDAQ Global Market) through December 31, 2017 of the cumulative total return for our common stock, the Standard & Poor's 500 Stock Index ("S&P 500 Index") and the NASDAQ Composite Index ("NASDAQ Composite"). The Company's common stock began trading on the NASDAQ Global Market on July 20, 2017. The graph assumes that $100 was invested at the close of the market on July 20, 2017 in our common stock, the S&P 500 Index and the NASDAQ Composite, and data for the S&P 500 Index and the

NASDAQ Composite assumes reinvestments of dividends. The stock price performance of the following graph is not necessarily indicative of future stock price performance.



Use of Proceeds from Registered Securities

On July 25, 2017, we completed our initial public offering of our common stock, in which we sold an aggregate of 8,050,000 shares of our common stock at a price of $8.00 per share, including 1,050,000 shares of common stock pursuant to the exercise of the underwriters' option to purchase additional shares, for an aggregate offering price of $64.4 million. Citigroup Global Markets Inc, Jefferies LLC and Wells Fargo Securities, LLC acted as representatives of the underwriters.

We received net proceeds from the initial public offering of approximately $58.0 million, after deducting underwriting discounts and commissions of approximately $3.1 million and offering expenses of approximately $3.3 million. No offering expenses were paid directly or indirectly to any of our affiliates.

From the effective date of our Form S-1 for the initial public offering to December 31, 2017, we estimate that, consistent with the use of proceeds described in our Rule 424(b)(4) prospectus filed with the SEC on July 21, 2017, we have used approximately $4.5 million to fund research and for development costs, approximately $2.8 million to build out commercial capabilities and approximately $0.4 million for general corporate purposes.

ITEM 6. SELECTED FINANCIAL DATA.

The following selected financial data should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations," the financial statements and related notes and other financial information included in this Annual Report on Form 10-K.

We derived the selected financial data as of and for the years ended December 31, 2017, 2016 and 2015 from our audited financial statements, which are included elsewhere in this Annual Report on Form 10-K. Historical results are not necessarily indicative of the results to be expected in future periods.

Statement of Operations:

	Year Ended December 31,		
	2017	2016	2015
	(in thousands, except per share data)		
Revenue	$ 508	$ 399	$ 1,272
Operating expenses:			
Cost of revenue	—	200	751
Research and development	11,556	5,638	2,766
Selling, general and administrative	14,741	6,670	3,569
Total Operating expenses	**26,297**	**12,508**	**7,086**
Loss from operations	(25,789)	(12,109)	(5,814)
Interest expense, net	(1)	(5)	(261)
Foreign currency transaction (loss) gain	(190)	28	186
Loss before income taxes	**(25,980)**	**(12,086)**	**(5,889)**
Income tax expense	—	—	—
Net loss	**$ (25,980)**	**$ (12,086)**	**$ (5,889)**
Basic and diluted loss per share	**$ (1.12)**	**(0.62)**	**$ (0.88)**
Weighted average shares outstanding—basic and diluted	**23,153,661**	**19,600,000**	**6,725,740**

Balance Sheet Data:

	As of December 31,		
	2017	2016	2015
	(in thousands)		
Cash and cash equivalents	$ 56,664	$ 5,026	$ 24,687
Total assets	72,167	16,623	25,995
Accumulated deficit	(54,548)	(28,568)	(16,482)
Total stockholders' equity	57,476	13,119	24,257
Total liabilities and stockholder's equity	72,167	16,623	25,995

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS.

The following discussion and analysis of our financial condition and results of operations should be read together with our financial statements and related notes which are included elsewhere in this Annual Report on Form 10-K. Our actual results could differ materially from those anticipated in the forward-looking statements included in this discussion as a result of certain factors, including, but not limited to, those discussed in "Risk Factors" in Section 1A above.

Overview

We are a consumer-centric, food- and agriculture-focused company. By combining our leading gene-editing technology and technical expertise with our innovative commercial strategy, we are pioneering a paradigm shift to deliver healthier specialty food ingredients, such as healthier oils and high fiber wheat, for consumers and agriculturally advantageous crop traits, such as herbicide tolerance, to farmers. While the traits that enable these characteristics may occur naturally and randomly through evolution—or under a controlled environment through traditional agricultural technologies—those processes are imprecise and take many years, if not decades. Our

technology enables us to precisely and specifically edit a plant genome to elicit the desired traits and characteristics, resulting in a final product that has no foreign DNA. We believe the precision, specificity, cost effectiveness and development speed of our gene-editing technologies will enable us to provide meaningful disruption to the food and agriculture industries.

Food-related issues, including obesity and diabetes, are some of the most prevalent health issues today and continue to grow rapidly. As awareness of these diet-related health issues grows, consumers are emphasizing a healthier lifestyle and a desire for nutritionally rich foods that are better tasting, less processed and more convenient. This trend is leading to an increase in the demand for higher valued, premium segments of the food industry, such as higher fiber, reduced gluten and reduced fat products. As a result of these trends, food companies are looking for specialty ingredients and solutions that can help them satisfy their customers' evolving needs and drive growth in market share and new value-added products.

We have developed a robust product pipeline with our proprietary technology. Our first product candidate, which we expect to be commercialized by the end of 2018, is a high oleic soybean designed to produce a healthier oil that has zero trans fats and reduced saturated fats. We also are developing a high fiber wheat to create flour with up to three times more dietary fiber than standard white flour while maintaining the same flavor and convenience of use. Another product candidate we are developing is a herbicide tolerant wheat designed to provide farmers with better weed control options to increase yields and profitability. We believe each of these product candidates addresses a potential multi-billion dollar market opportunity.

We are an early-stage company and have incurred net losses since our inception. As of December 31, 2017, we had an accumulated deficit of $54.5 million. Our net losses for the years ended December 31, 2017, 2016 and 2015 were $26.0 million, $12.1 million and $5.9 million, respectively. Substantially all of our net losses resulted from costs incurred in connection with our research and development (R&D) programs and from selling, general and administrative expenses associated with our operations. As we continue to develop our product pipeline, we expect to continue to incur significant expenses and increasing operating losses for the foreseeable future and those expenses and losses may fluctuate significantly from quarter-to-quarter and year-to-year. We expect that our expenses will increase substantially as we:

- establish a sales, marketing and distribution infrastructure, including relationships across our supply chain, to commercialize any products that have completed the development process;
- conduct additional field trials of our current and future product candidates;
- secure manufacturing arrangements for commercial production;
- continue to advance the research and development of our current and future product candidates;
- seek to identify and validate additional product candidates;
- acquire or in-license other product candidates, technologies, germplasm or other biological material;
- are required to seek regulatory and marketing approvals for our product candidates;
- make royalty and other payments under any in-license agreements;
- maintain, protect, expand and defend our intellectual property portfolio;
- seek to attract and retain new and existing skilled personnel; and
- experience any delays or encounter issues with any of the above.

We do not expect to generate material revenue unless and until we successfully complete development of one or more of our product candidates, which may take a number of years and is subject to significant uncertainty. Until such time that we can generate substantial revenues from sales of our product candidates, if ever, we expect to finance our operating activities through a combination of equity offerings, debt financings,

government or other third-party funding, and licensing arrangements. However, we may be unable to raise additional funds or enter into such arrangements when needed on favorable terms, or at all, which would have a negative impact on our financial condition and could force us to delay, limit, reduce or terminate our development programs or commercialization efforts or grant to others rights to develop or market product candidates that we would otherwise prefer to develop and market ourselves. Failure to receive additional funding could cause us to cease operations, in part or in full. Taking into account our anticipated cash burn rate, we believe our cash and cash equivalents will be sufficient to fund our operations through at least mid-2019.

Initial Public Offering

On July 25, 2017, we completed an initial public offering of our common stock, in which we sold an aggregate of 8,050,000 shares of our common stock at a price of $8.00 per share, including 1,050,000 shares of common stock pursuant to the exercise of the underwriters' option to purchase additional shares. In the aggregate, we received net proceeds from the initial public offering of approximately $58.0 million, after deducting underwriting discounts and commissions and offering expenses. As part of the initial public offering, Cellectis purchased 2,500,000 shares of our common stock at the public offering price.

Comparability of Our Results and Our Relationship with Cellectis

We are a majority-owned subsidiary of Cellectis. As a result, our historical financial information does not reflect the financial condition, results of operations or cash flows we would have achieved as a stand-alone company and not a subsidiary of Cellectis during the periods presented or those we will achieve in the future. This is primarily the result of the following factors:

- our historical financial information reflects expense allocations for certain support functions that are provided on a centralized basis within Cellectis, such as expenses for business technology, facilities, legal, finance, human resources and business development that may be higher or lower than the comparable expenses we would have actually incurred, or will incur in the future, as a stand-alone company and not a subsidiary of Cellectis; and
- significant increases in our cost structure as a result of becoming a public company, including costs related to public company reporting, investor relations and compliance with the Sarbanes-Oxley Act, which expenses may increase at such time as we operate as a stand-alone company and not a subsidiary of Cellectis.

In the future, we expect to incur internal costs to implement certain new systems, including infrastructure and an enterprise resource planning system. See "Certain Relationships and Related Party Transactions—Relationship with Cellectis" for a description of certain agreements that we have entered into with Cellectis that provide a framework for our ongoing relationship following our initial public offering in July 2017.

Financial Operations Overview

Revenue

We recognized approximately $0.5 million, $0.4 million and $1.3 million of revenue for the years ended December 31, 2017, 2016 and 2015, respectively, from payments we received pursuant to our R&D agreements under which we conduct research activities for a number of companies. Our R&D agreements provide for non-refundable upfront payments that we receive upon execution of the relevant agreement; milestone payments upon the achievement of certain scientific, regulatory or commercial milestones; license payments from licenses that we grant to third parties; and R&D cost reimbursements that are recognized over the period of these services and royalty payments. Our reliance on revenue from our R&D agreements has been systematically diminishing as we purposely reduce the number of R&D contracts we enter into with other companies and focus on in-house product development.

To date, we have not generated any product revenue. Our ability to generate future product revenue depends upon our R&D partners' ability to assist us in successfully developing and commercializing our products. If we fail to complete the development of our product candidates in a timely manner or fail to obtain their regulatory approval if necessary, our ability to generate future revenue would be compromised.

Research and Development Expenses

R&D expenses consist of expenses incurred while performing R&D activities to discover and develop potential product candidates. We recognize R&D expenses as they are incurred.

Our R&D expenses consist primarily of:

- personnel costs, including salaries and related benefits, for our employees engaged in scientific R&D functions;
- cost of third-party contractors, such as contract research organizations, or CROs, and third-party contractors who support our product candidate development;
- seed increases (small-scale and large-scale testing) for trait validation;
- purchases and manufacturing of biological materials, real-estate leasing costs, as well as conferences and travel costs;
- certain other expenses, such as expenses for use of laboratories and facilities for our R&D activities; and
- costs of in-licensing or acquiring technology from third parties.

Our R&D efforts are focused on our existing product candidates and in broadening our pipeline with new product candidates. We use our employee and infrastructure resources across multiple R&D programs directed toward identifying and developing product candidates. We manage certain activities such as field trials and the manufacture of product candidates through third-party vendors. Due to the number of ongoing projects and our ability to use resources across several projects, we do not record or maintain information regarding the costs incurred for our R&D programs on a program-specific basis.

Our R&D efforts are central to our business and account for a significant portion of our operating expenses. We expect that our R&D expenses will increase for the foreseeable future as we expand our R&D and process development efforts, access and develop additional technologies and hire additional personnel to support our R&D efforts. Product candidates in later stages of product development generally have higher development costs than those in earlier stages of development, primarily due to the increased size of field trials and commercial scale product testing.

Cellectis provides us R&D services, which include use of database software we use for recording and tracking our research. We have a management agreement in which Cellectis charges us in euros at cost plus a markup ranging from 0% to 10%.

R&D expenses, including licensing fees, are expensed as incurred, due to the uncertainty of future commercial value. At this time, we cannot reasonably estimate or know the nature, timing and estimated costs of the efforts that will be necessary to complete the development of our current product candidates or any new product candidates we may identify and develop.

Selling, General and Administrative Expenses

Selling, general and administrative expenses consist primarily of employee-related expenses for executive, business development, intellectual property, finance and human resource functions. Other selling, general and

administrative expenses include facility-related costs not otherwise allocated to R&D expense, professional fees for auditing, tax and legal services, expenses associated with obtaining and maintaining patents, consulting costs, management fees and costs of our information systems.

Cellectis provides us services, which include general sales and administration functions, accounting and finance functions, legal advice, human resources, and information technology. We have a management agreement in which Cellectis charges us in euros at cost plus a markup ranging from 0% to 10%. Amounts due to Cellectis pursuant to intercompany transactions bear interest at a rate of 12-month Euribor plus 5% per annum.

We expect that our selling, general and administrative expense will increase as we continue to operate as a public reporting company and continue to develop and commercialize our product candidates. We also expect to incur increased costs in order to comply with auditing requirements, corporate governance, internal controls, investor relations, disclosure and similar requirements applicable to public reporting companies.

Results of Operations

Year Ended December 31, 2017 Compared to Year Ended December 31, 2016

The following table summarizes key components of our results of operations for the periods indicated:

	2017	2016	Variance	%Variance
		(in thousands)		
Revenue	$ 508	$ 399	$ 109	27.3%
Operating expenses:				
Cost of revenue	—	200	(200)	(100.0%)
Research and development	11,556	5,638	5,918	105.0%
Selling, general and administrative	14,741	6,670	8,071	121.0%
Total Operating expenses	**26,297**	**12,508**	**13,789**	**110.2%**
Loss from operations	(25,789)	(12,109)	(13,680)	113.0%
Interest expense, net	(1)	(5)	4	(80.0%)
Foreign currency transaction (loss) gain	(190)	28	(218)	(778.6%)
Loss before income taxes	**(25,980)**	**(12,086)**	**(13,894)**	**115.0%**
Income tax expense	—	—	—	—
Net loss	**$(25,980)**	**$(12,086)**	**$(13,894)**	**115.0%**

Revenue

Revenue increased $0.1 million or 27.3%, from $0.4 million for the year ended December 31, 2016 to $0.5 million for the year ended December 31, 2017. The increase was primarily attributable to R&D agreements that terminated before the original term of the agreement was fulfilled; therefore, all remaining deferred revenue was recognized at the date of termination. We made a strategic decision to focus on in-house development of product candidates and to reduce the amount of R&D we were performing for third parties.

Cost of Revenue

Cost of revenue decreased $0.2 million, or 100.0%, from $0.2 million for the year ended December 31, 2016 to $0 for the year ended December 31, 2017. The decrease was a result of not having contractual obligations to fulfill in 2017 for our R&D contracts.

Research and development expenses

R&D expenses increased $5.9 million, or 105.0%, from $5.6 million for the year ended December 31, 2016 to $11.6 million for the year ended December 31, 2017. The increase was primarily attributable to non-cash stock

compensation expense of $6.1 million and an increase in sub-contracted R&D, such as third-party germplasm breeding, third-party germplasm trials and meal and oil product testing.

Selling, general, and administrative expenses

Selling, general, and administrative expenses increased $8.1 million, or 121.0%, from $6.7 million for the year ended December 31, 2016 to $14.7 million for the year ended December 31, 2017. The increase was primarily attributable to non-cash stock compensation expense of $6.0 million, increased personnel expenses and increased legal and professional fees, partially offset by reduced management fees.

Interest expense, net

Interest expense decreased $4 thousand, or 80.0%, from $5 thousand for the year ended December 31, 2016 to $1 thousand for the year ended December 31, 2017. The decrease in expense was attributable to the interest earned on the investment of IPO proceeds, partially offset by interest expense on the finance lease obligation and a decrease in our accounts payable balance owed to Cellectis.

Foreign currency transaction (loss) gain

Foreign currency transaction (loss) gain decreased $218 thousand compared to the prior year from a gain of $28 thousand to a loss of $190 thousand. The decrease was primarily attributable to changes in accounts payable balances owed to Cellectis and foreign exchange rates.

Year Ended December 31, 2016 Compared to Year Ended December 31, 2015

The following table summarizes key components of our results of operations for the periods indicated:

	2016	2015	Variance	% Variance
	(in thousands)			
Revenue	$ 399	$ 1,272	$ (873)	(68.6%)
Operating expenses:				
Cost of revenue	200	751	(551)	(73.4%)
Research and development	5,638	2,766	2,872	103.8%
Selling, general and administrative	6,670	3,569	3,101	86.9%
Total Operating expenses	**12,508**	**7,086**	**5,422**	**76.5%**
Loss from operations	(12,109)	(5,814)	(6,295)	108.3%
Interest expense, net	(5)	(261)	256	(98.1%)
Foreign currency transaction (loss) gain	28	186	(158)	(84.9%)
Loss before income taxes	**(12,086)**	**(5,889)**	**(6,197)**	**105.2%**
Income tax expense	—	—	—	—
Net loss	**$(12,086)**	**$(5,889)**	**$(6,197)**	**105.2%**

Revenue

Revenue decreased $0.9 million, or 68.6%, from $1.3 million for the year ended December 31, 2015 to $0.4 million for the year ended December 31, 2016. The decrease was primarily attributable to a strategic decision to focus on in-house development of product candidates and to reduce the amount of R&D we were performing for third parties.

Cost of Revenue

Cost of revenue decreased $0.6 million or 73.4%, from $0.8 million for the year ended December 31, 2015 to $0.2 million for the year ended December 31, 2016. The decrease was a result of lower R&D expense associated with fulfilling the contractual obligations of our R&D contracts.

Research and development expenses

R&D expenses increased by $2.9 million, or 103.8%, from $2.8 million for the year ended December 31, 2015 to $5.6 million for the year ended December 31, 2016. The increase was primarily attributable to an increase in purchased and external expenses due to increased costs for outsourcing of breeding and product development. We also experienced an increase in personnel expense due to an increase in headcount to support product development activities.

Selling, general, and administrative expenses

Selling, general, and administrative expenses increased $3.1 million, or 86.9%, from $3.6 million for the year ended December 31, 2015 to $6.7 million for the year ended December 31, 2016, primarily due to an increase in purchase and external expenses resulting from increased support from Cellectis and increased costs of professional services firms, in each case to support our growth, and an increase in personnel expenses as we expanded our executive management team.

Interest expense, net

Interest expense decreased $0.3 million, or 98.1%, from $0.3 million for the year ended December 31, 2015 to $0 for the year ended December 31, 2016, due to a reduction in our accounts payable balance owed to Cellectis throughout the year.

Foreign currency transaction gains

Foreign currency transaction gains decreased $0.2 million, or 84.9%, from $0.2 million for the year ended December 31, 2015 to $0 for the year ended December 31, 2016, due to the reduction in our accounts payable balance owed to Cellectis and exchange rate fluctuations throughout the year.

Liquidity and Capital Resources

As of December 31, 2017, we had cash and cash equivalents of $56.7 million.

Sources of Liquidity

Until the completion of our IPO, we funded our operations primarily through cash infusions provided by Cellectis. On July 25, 2017, we completed our initial public offering of common stock. In the aggregate, we received net proceeds from the IPO and exercise of the underwriters' option to purchase additional shares of approximately $58.0 million, after deducting underwriting discounts and commissions of $3.1 million and offering expenses totaling approximately $3.3 million.

During the years ended December 31, 2017, 2016 and 2015, we incurred losses from operations of $26.0 million, $12.1 million and $5.9 million, respectively, and net cash used in operating activities of $9.7 million, $9.2 million and $6.7 million, respectively. As of December 31, 2017, we had an accumulated deficit of $54.5 million and we expect to incur losses for the foreseeable future. Although we believe that we will be able to successfully fund our operations with our cash and cash equivalents as of December 31, 2017 through at least mid-2019, there can be no assurance we will be able to do so or that we will ever operate profitably.

Taking into account our anticipated cash burn rate, we believe our cash and cash equivalents will be sufficient to fund our operations through at least mid-2019. Cellectis has guaranteed funding for our operations through August 2018, which guarantee was not released, modified or otherwise affected by the timing of, or amount raised in, our initial public offering.

Historical Changes in Cash Flows

Year ended December 31, 2017 Compared to Year Ended December 31, 2016

The table below summarizes our sources and uses of cash for the year ended December 31, 2017 and 2016:

	2017	2016
	(in thousands)	
Net cash used in operating activities	$(12,785)	$ (9,237)
Net cash used in investing activities	(779)	(10,424)
Net cash provided by financing activities	65,202	—
Total	$ 51,638	$(19,661)

Net cash used in operating activities was $12.8 million and $9.2 million in the years ended December 31, 2017 and 2016, respectively. The increase was due to expenses related to head count increase and legal professional costs for becoming a publicly traded company partially offset by a reduction in management fees. The net loss was $26.0 million and $12.1 million in the years ended December 31, 2017 and 2016, respectively. The majority of non-cash offsetting the 2017 loss was stock-based compensation of $12.1 million, an increase of $11.1 million from 2016.

Net cash used in investing activities was $0.8 million and $10.4 million in the years ended December 31, 2017 and 2016, respectively. The majority of cash used in investing activities in the year ended December 31, 2017 was related to site improvements and architect fees for the design of our headquarters in Roseville, Minnesota, and equipment purchases. The majority of the cash used in investing in the year ended December 31, 2016 was related to a land purchase and construction of a greenhouse in Roseville, Minnesota.

Net cash provided by financing activities was $65.2 million and $0 in the years ended December 31, 2017 and 2016, respectively, the majority of which was related to net cash proceeds from the IPO and the proceeds from land sale as part of the sale-leaseback transaction.

Year Ended December 31, 2016 Compared to Year Ended December 31, 2015

The table below summarizes our sources and uses of cash for the years ended December 31, 2016 and 2015:

	2016	2015
	(in thousands)	
Net cash used in operating activities	$ (9,237)	$ (6,691)
Net cash used in investing activities	(10,424)	(665)
Net cash provided by financing activities	—	31,740
Total	$(19,661)	$(24,384)

Net cash used in operating activities was $9.2 million and $6.7 million in the years ended December 31, 2016 and 2015, respectively. The net cash used in each of these periods primarily reflects the net loss for those periods, offset in part by depreciation, stock-based compensation and the effects of changes in operating assets and liabilities.

Net cash used in investing activities was $10.4 million and $0.7 million in the years ended December 31, 2016 and 2015, respectively. The majority of cash used in investing activities in 2016 was related to the purchase

of the land for our headquarters and the construction of our R&D greenhouses. The majority of the cash used in investing in 2015 was for office furniture and equipment associated with our current R&D laboratories and office space.

Net cash provided by financing activities was $0 and $31.7 million in the years ended December 31, 2016 and 2015, respectively. Net cash provided by financing activities in 2015 was attributable to a capital contribution from Cellectis.

Contractual Obligations, Commitments and Contingencies

The following table discloses aggregate information about material contractual obligations and periods in which payments were due as of December 31, 2017. Future events could cause actual payments to differ from these estimates.

As of December 31, 2017	Less than 1 year	1 - 3 years	3 - 5 years	More than 5 years	Total
	(expressed in thousands)				
Finance lease obligations	$ 1,054	$2,672	$2,672	$ 23,644	$30,042
Operating lease obligations	76	2	2	—	80
Total contractual obligations	**$ 1,130**	**$2,674**	**$2,674**	**$ 23,644**	**$30,122**

The commitment amounts in the table above are associated with contracts that are enforceable and legally binding and that specify all significant terms, including fixed or minimum services to be used, fixed, minimum or variable price provisions, and the approximate timing of the actions under the contracts. Purchase contracts consist of purchase commitments with growers to purchase seed and grain at a future date.

The table does not include obligations under agreements that we can cancel without a significant penalty. We have R&D agreements whereby we are obligated to pay royalties and other payments based on future events that are uncertain and therefore, they are not included in the table above.

The above table also includes the obligations in connection with the sale-leaseback transaction consummated in September 2017. For more information on this transaction see “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Sale-Leaseback” below.

Sale-Leaseback

In September 2017 we consummated a sale-leaseback transaction including a Lease Agreement, dated September 6, 2017, with a third party with respect to our lease of the certain real property and improvements located in Roseville, Minnesota for a term of twenty years, with four options to extend the term of the Lease Agreement for five years each (subject to there being no default (as defined in the Lease Agreement) beyond any cure period and this property being occupied at the time of such extension).

Pursuant to the purchase agreement, we received approximately $7 million in connection with the sale of the property. The property will be our new corporate headquarters and lab facilities. We expect the facility to be composed of a nearly 40,000 square-foot office and lab building, with greenhouses and outdoor research plots. We will be deemed the owner for accounting purposes.

Under the Lease Agreement, during the construction period we will initially pay annual base rent of $490 thousand until the earlier of (i) the next day after issuance of a temporary certificate of occupancy or equivalent permit to occupy the property by the City of Roseville and (ii) the next day after the certification of substantial completion executed by the landlord’s architect or contractor confirming that the work to be done on the property has been substantially completed (such date, the “Initial Term Commencement Date”). Occupancy is expected to be on or about May 1, 2018. We expect to incur, based on the expected occupancy date, minimum lease payments of $163 thousand.

On the Initial Term Commencement Date, we will pay an annual base rent of 8% of the total project cost ("Annual Base Rent") with scheduled increases in rent of 7.5% on the sixth, eleventh and sixteenth anniversaries of the Initial Term Commencement Date as well as on the first day of each Renewal Term (as defined in the Lease Agreement). Based on the initial cost of the project we will pay an estimated annual base rent of approximately $1.4 million.

The Lease Agreement is a net lease and the costs and expenses associated with the property are to be paid for by us. Beginning on the date that is 18 months following the Initial Term Commencement Date, if landlord decides to sell the property during the term of the Lease Agreement and any extension thereof, we will have a right of first refusal to purchase the property on the same terms offered to any third party.

In consideration of, and as an inducement to, landlord's agreement to enter into the Lease Agreement, Cellectis entered into a Lease Guaranty with the landlord, whereby Cellectis has guaranteed all of our obligations under the Lease Agreement. Cellectis' guarantee of Calyxt's obligations under the sale-leaseback transaction will terminate at the end of the second consecutive calendar year in which Calyxt's tangible net worth exceeds $300 million, as determined in accordance with generally accepted accounting principles.

On November 10, 2017, we agreed to indemnify Cellectis for any obligations incurred by Cellectis under the Lease Guaranty. This indemnification agreement will become effective at such time as Cellectis owns 50% or less of our outstanding common stock.

Operating capital requirements

To date, we have not generated any revenues from product sales. We do not know when, or if, we will generate any revenue from product sales. We do not expect to generate significant revenue from product sales unless and until we obtain regulatory approval of and commercialize one of our current or future product candidates. We anticipate that we will continue to generate losses for the foreseeable future, and we expect the losses to increase as we continue the development of our product candidates and begin to commercialize our product candidates that complete the development process. We are subject to all risks incident in the development of new agricultural products, and we may encounter unforeseen expenses, difficulties, complications, delays and other unknown factors that may adversely affect our business. Sales of plant products depend upon planting and growing seasons, which vary from year to year, which is expected to result in both highly seasonal patterns and substantial fluctuations in quarterly sales and profitability. As we have not yet made any sales of our products, we have not experienced the full nature or extent to which this business may be seasonal. In addition, as a newly public company, we also anticipate we will continue to incur substantial expenses related to audit, legal, regulatory and tax-related services associated with our public company obligations in the United States and our compliance with applicable U.S. exchange listing and SEC requirements. We anticipate that we will need additional funding in connection with our continuing operations, including for the further development of our existing product candidates and to pursue other development activities related to additional product candidates.

During the years ended December 31, 2017, 2016 and 2015, we incurred losses from operations and net cash outflows from operating activities as disclosed in the statements of operations and cash flows, respectively. As of December 31, 2017, we had an accumulated deficit of $54.5 million and we expect to incur losses for the immediate future. Cellectis has guaranteed funding for our operations through August 2018.

We believe our cash and cash equivalents on hand and our cash flow from operations will be sufficient to fund our operations through at least mid-2019.

Until we can generate a sufficient amount of revenue from our products, if ever, we expect to finance a portion of future cash needs through public or private equity or debt financings. Additional capital may not be available on reasonable terms, if at all. If we are unable to raise additional capital in sufficient amounts or on

terms acceptable to us, we may have to significantly delay, scale back or discontinue the development or commercialization of one or more of our product candidates. If we raise additional funds through the issuance of additional debt or equity securities, it could result in dilution to our existing stockholders and increased fixed payment obligations, and these securities may have rights senior to those of our common shares. Any of these events could significantly harm our business, financial condition and prospects.

The period of time through which our financial resources will be adequate to support our operations is a forward-looking statement and involves risks and uncertainties, and actual results could vary as a result of a number of factors. We have based this estimate on assumptions that may prove to be wrong, and we could use our available capital resources sooner than we currently expect. Our future funding requirements, both near and long-term, will depend on many factors, including, but not limited to:

- the initiation, progress, timing, costs and results of field trials for our product candidates;
- the outcome, timing and cost of regulatory approvals by U.S. and non-U.S. regulatory authorities, including the possibility that regulatory authorities will require that we perform studies;
- the ability of our product candidates to progress through late stage development successfully, including through field trials;
- the cost of filing, prosecuting, defending and enforcing any patent claims and other intellectual property rights;
- our need to expand our research and development activities;
- our need and ability to hire additional personnel;
- our need to implement additional infrastructure and internal systems;
- the effect of competing technological and market developments; and
- the cost of establishing sales, marketing and distribution capabilities for any products we commercialize.

If we cannot expand our operations or otherwise capitalize on our business opportunities because we lack sufficient capital, our business, financial condition and results of operations could be materially adversely affected.

Off Balance Sheet Obligations

We enter into seed and grain production agreements with settlement value based on commodity market future pricing. We do not have any other off-balance sheet arrangements.

Critical Accounting Policies and Estimates

Some of the accounting methods and policies used in preparing our financial statements under U.S. GAAP are based on complex and subjective assessments by our management or on estimates based on past experience and assumptions deemed realistic and reasonable based on the circumstances concerned. The actual value of our assets, liabilities and shareholders' equity and of our losses could differ from the value derived from these estimates if conditions changed and these changes had an impact on the assumptions adopted. We believe that the most significant management judgments and assumptions in the preparation of our financial statements and the notes thereto are named below. For further details, see our financial statements and the notes thereto, included elsewhere in this Annual Report on Form 10-K.

Revenue Recognition

We enter into R&D agreements that may consist of nonrefundable up-front payments, milestone payments, royalties, and R&D services. In addition, we may license our technology to third parties, which may be part of the R&D agreements.

For agreements that contain multiple elements, each element within a multiple-element arrangement is accounted for as a separate unit of accounting provided the following criteria are met: the delivered products or services have value to the customer on a stand-alone basis and, for an arrangement that includes a general right of return relative to the delivered products or services, delivery, or performance of the undelivered product or service is considered probable and is substantially controlled by us. We consider a deliverable to have stand-alone value if the product or service is sold separately by us or another vendor or could be resold by the customer. Further, our revenue arrangements do not include a general right of return relative to the delivered products.

Nonrefundable up-front payments are deferred and recognized as revenue over the period of the R&D agreement. If an R&D agreement is terminated before the original term of the agreement is fulfilled, all the remaining deferred revenue is recognized at the date of termination.

Milestone payments represent amounts received from our R&D partners, the receipt of which is dependent upon the achievement of certain scientific, regulatory or commercial milestones. We recognize milestone payments when the triggering event has occurred, there are no further contingencies or services to be provided with respect to that event, and the counterparty has no right to refund of the payment. The triggering event may be scientific results achieved by us or another party to the arrangement, regulatory approvals, or the marketing of products developed under the arrangement.

Royalty revenue arises from our contractual entitlement to receive a percentage of product sales revenues achieved by counterparties. Royalty revenue is recognized on an accrual basis in accordance with the terms of the agreement when sales can be determined reliably and there is reasonable assurance that the receivables from outstanding royalties will be collected.

License revenue from licenses that we grant to third parties is recognized ratably over the period of the license agreements. Revenue from R&D services is recognized over the duration of the service period.

Research and Development

R&D expenses represent costs incurred for the development of various products using licensed gene editing technology. R&D expenses consist primarily of salaries and related costs of our scientists, in-licensing of technology, consumables, property and equipment depreciation, and fees paid to third-party consultants. All R&D costs are expensed as incurred.

In the normal course of business, we enter into R&D contracts with third parties whereby we perform R&D of certain gene traits for the third parties. We have entered into various multiyear arrangements under which we perform the R&D of the gene technology and the third parties generally have primary responsibility for any commercialization of the technology. These arrangements are performed with no guarantee of either technological or commercial success.

We in-license certain technology from third-parties that is a component of ongoing research and product development. We expense up-front license fees upon contracting due to the uncertainty of future commercial value, as well as expensing any ongoing annual fees when incurred.

Forward Purchase Contracts and Derivatives

We enter into supply agreements for grain and seed production with settlement values based on commodity market futures pricing. We account for these derivative financial instruments utilizing the authoritative guidance in ASC Topic 815, *Derivatives and Hedging*. We recognize the realized gains and losses from derivative contracts and record them as a component of R&D expenses as a result of breeding contract activity. We also recognize the unrealized derivative asset and unrealized derivative liability in other current assets and other current liabilities, respectively.

Stock-Based Compensation

Calyxt, Inc. Equity Incentive Plans

We adopted the Calyxt, Inc. Equity Incentive Plan, or the Existing Plan, which allows for the grant of stock options to attract and retain highly qualified employees. In June 2017, we also adopted an omnibus incentive plan, or the Omnibus Plan, under which we have granted stock options and restricted stock units to certain of our employees, nonemployees, and certain employees and nonemployees of Cellectis.

The options granted under the Existing Plan and the Omnibus Plan were only exercisable upon a triggering event or initial public offering as defined by the plan. Accordingly, with the completion of the initial public offering on July 25, 2017, we recognized compensation expense for stock options granted under the plans. For the year ended December 31, 2017, we recognized compensation expense of $11.7 million. The stock options issued under the plans had an exercise price equal to the estimated fair value of the stock at the grant date for the Omnibus Plan and the grant date for the Existing Plan.

In June 2017, we granted stock options and restricted stock units to certain of our employees, and nonemployees, and certain employees and nonemployees of Cellectis under the Omnibus Plan. We treat stock-based compensation awards granted to employees of Cellectis as dividends, which we record quarterly. We recorded $3.6 million in a deemed dividend to Cellectis in the year ended December 31, 2017 for restricted stock units and stock options granted to employees of Cellectis. As of December 31, 2017, we had 3,883,432 stock options outstanding, of which 1,244,968 were fully vested, resulting in total unrecognized stock-based compensation expense estimated to be $5.0 million as of that date, which we expect to recognize over a weighted-average period of 4.2 years.

As of December 31, 2017, we had 1,815,918 shares of common stock issuable upon the exercise of outstanding stock options under the Existing Plan, 2,067,517 shares of common stock issuable upon the exercise of stock options under the Omnibus Plan and restricted stock units with respect to 1,373,933 shares of common stock outstanding under the Omnibus Plan. Of that total, 1,244,968 stock options and restricted stock units were fully vested as of December 31, 2017 or will vest within 60 days of year end. The stock-based compensation expense related to these awards has been recorded as $11.7 million in the audited financial statements.

Equity instruments issued to non-employees include RSUs and options to purchase shares of our common stock. These RSUs and options vest over a certain period during which services are provided. We expense the fair market value of the awards over the period in which the related services are received. Unvested awards are remeasured to fair value until they vest.

In June 2017, we granted 1,452,333 restricted stock units of which 39,200 are vested as of December 31, 2017. As of December 31, 2017, we had 1,373,933 restricted stock units outstanding and unvested. As of December 31, 2017, we had approximately $7.0 million of unrecognized stock-based compensation expense related to restricted stock units that we expect to recognize over a weighted-average period of 4.9 years.

We had 1,159,914 stock options outstanding that vested upon completion of the initial public offering. As discussed above, the stock-based compensation expense related to these awards was $5.6 million, which was recorded upon completion of the initial public offering. The fair value of each stock option is estimated using the Black-Scholes option pricing model at each measurement date. The fair value of stock options under the Black-Scholes model requires management to make assumptions regarding projected employee stock option exercise behaviors, risk-free interest rates, volatility of the stock price, and expected dividends. The awards currently outstanding were granted with vesting terms between two and six years. Certain awards contained a 25% acceleration vesting clause upon a triggering event or initial public offering as defined in the Existing Plan and for 100% accelerated vesting in the event of (a) the termination of employment without cause or (b) the resignation of the employee for good reason within twelve months following a triggering event as defined in the Existing Plan.

We have not historically paid cash dividends to our stockholders, and we currently do not anticipate paying any cash dividends in the foreseeable future. As a result, we assumed a dividend yield of 0%. The risk-free interest rate is based upon the rates of U.S. Treasury bills with a term that approximates the expected life of the option. We use the simplified method or the lattice method when appropriate, to reasonably estimate the expected life of our option awards. Expected volatility is based upon the volatility of comparable public companies.

Cellectis Awards

Cellectis has granted stock options to our employees. Compensation costs related to the grant of the Cellectis awards to our employees have been recognized in our statements of operations with a corresponding credit to stockholder's equity, representing Cellectis' capital contribution. The fair value of each stock option is estimated at the grant date using the Black-Scholes option pricing model. The fair value of stock options under the Black-Scholes model requires management to make assumptions regarding projected employee stock option exercise behaviors, risk-free interest rates, volatility of the stock price, and expected dividends.

Cellectis granted certain of our consultants warrants to purchase Cellectis stock in exchange for services provided to us. We recorded the fair value of the warrants as a dividend paid to Cellectis in exchange for the warrants issued to the consultants.

We recognized share-based compensation expense related to Cellectis' grants of stock options and warrants to our employees and consultants of $371 thousand, $948 thousand and $692 thousand for the years ended December 31, 2017, 2016 and 2015, respectively.

Recent Accounting Pronouncements

In May 2014, the FASB issued ASU 2014-09, "Revenue from Contracts with Customers," which creates Accounting Standards Codification ("ASC") 606 "Revenue from Contracts with Customers" and supersedes the revenue recognition requirements in ASC 605 "Revenue Recognition." The guidance in ASU 2014-09 and subsequently issued amendments ASU 2016-08, "Revenue from Contracts with Customers: Principal versus Agent Considerations (Reporting Revenue Gross versus Net)," ASU 2016-10, "Revenue from Contracts with Customers: Identifying Performance Obligations and Licensing," and ASU 2016-12, "Revenue from Contracts with Customers: Narrow-Scope Improvements and Practical Expedients" outlines a comprehensive model for all entities to use in accounting for revenue arising from contracts with customers as well as required disclosures. Entities have the option of using either a full retrospective or modified approach to adopt the new guidance. For public entities, certain not-for-profit entities, and certain employee benefit plans, the new revenue standard is effective for annual periods beginning after December 15, 2017, including interim periods within that reporting period. For all other entities, the new revenue standard is effective for annual periods beginning after December 15, 2018, and interim periods within annual periods beginning after December 15, 2019. Early adoption is permitted. The adoption of this standard is not expected to have a material effect on us.

In November 2015, the FASB issued ASU 2015-17, "*Income Taxes (Topic 740): Balance Sheet Classification of Deferred Taxes*." The amendment simplifies the presentation of deferred income taxes. Instead of separating deferred income tax liabilities and assets into current and noncurrent amounts in a classified statement of financial position, the amendments in this update require that deferred tax liabilities and assets be classified as noncurrent in a classified statement of financial position. For public entities, ASU 2015-17 is effective for annual periods beginning after December 15, 2016, and interim periods within those annual periods. For nonpublic entities, ASU 2015-17 is effective for annual periods beginning after December 15, 2017, and interim periods within annual periods beginning after December 15, 2018. Early adoption is permitted. Adoption of this standard did not have a material impact on our financial statements as all net deferred tax assets are fully reserved.

In February 2016, the FASB issued ASU 2016-02, "*Leases (Topic 842)*." The guidance requires that lessees will be required to recognize assets and liabilities on the balance sheet for the rights and obligations created by

all leases with terms of more than 12 months. The amendment also will require disclosures designed to give financial statement users information on the amount, timing, and uncertainty of cash flows arising from leases. These disclosures include qualitative and quantitative information. For public entities, not-for-profit entities, or employee benefit plans, ASU 2016-02 is effective for annual periods beginning after December 15, 2018, and interim periods within those annual periods. For all other entities, ASU 2016-02 is effective for annual periods beginning after December 15, 2019, and interim periods within annual periods beginning after December 15, 2020. Entities are required to use a modified retrospective approach for leases that exist or are entered into after the beginning of the earliest comparative period in the financial statements. Early adoption is permitted. We are evaluating the impact of adopting this pronouncement.

In March 2016, the FASB issued ASU No. 2016-09, "*Compensation—Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting.*" This ASU eliminates the APIC pool concept and requires that excess tax benefits and tax deficiencies be recorded in the statement of operations when awards are settled. The ASU also addresses simplifications related to statement of cash flows classification, accounting for forfeitures, and minimum statutory tax withholding requirements. For public entities, ASU 2016-09 is effective for annual periods beginning after December 15, 2016, and interim periods within those annual periods. For all other entities, ASU 2016-09 is effective for annual periods beginning after December 15, 2017, and interim periods within annual periods beginning after December 15, 2018. Early adoption is permitted. We adopted this standard in the second quarter of 2017, and its adoption did not have a material impact on our financial statements.

In May 2017, the FASB issued ASU 2017-09, "Compensation—Stock Compensation (Topic 718): Scope of Modification Accounting", which clarifies when to account for a change to the terms or conditions of a share-based payment award as a modification. Under the new guidance, modification accounting is required only if the fair value, the vesting conditions, or the classification of the award (as equity or liability) changes as a result of the change in terms or conditions. The guidance is effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2017. Early adoption is permitted. We are currently evaluating the impact of adopting this standard on the financial statements and disclosures, but do not expect it to have a significant impact.

JOBS Act

We are an emerging growth company under the JOBS Act. The JOBS Act provides that an emerging growth company can delay adopting new or revised accounting standards until such time as those standards apply to private companies. We have elected to take advantage of this extended transition period for complying with new or revised accounting standards. As an emerging growth company, we have also elected to take advantage of certain reduced disclosure and other requirements that are otherwise generally applicable to public companies. In particular, subject to certain conditions set forth in the JOBS Act, we may not be required to, among other things, (i) provide an auditor's attestation report on our system of internal controls over financial reporting pursuant to Section 404, (ii) provide all of the compensation disclosure that may be required of non-emerging growth public companies under the Dodd-Frank Wall Street Reform and Consumer Protection Act, (iii) comply with any requirement that may be adopted by the PCAOB regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements (auditor discussion and analysis), and (iv) disclose certain executive compensation related items, such as, the correlation between executive compensation and performance and comparisons of the CEO's compensation to median employee compensation. These exemptions will apply beginning December 31, 2022 or until we are no longer an emerging growth company, whichever is earlier.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.

We are exposed to a limited amount of foreign currency exchange risk, principally in euros, primarily as a result of certain services and infrastructure costs charged to us by Cellectis.

We are exposed to market risk related to changes in interest rates. Our primary exposure to market risk is interest rate sensitivity, which is affected by changes in the general level of U.S. interest rates, particularly because our investments, including cash equivalents, are in the form of money market funds and are invested in U.S. Treasury obligations. However, because of the short-term nature of the duration of our portfolio and the low-risk profile of our investments, we believe an immediate 10% change in market interest rates would not have a material impact on the fair market value of our investments portfolio or on our financial condition or results of operations.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA.

The financial statements and related financial statement schedules required to be filed are listed in the Index to Financial Statements on page F-1 hereto and are incorporated herein.

The following tables set forth our unaudited quarterly statements of income data in dollars and as a percentage of total revenue for each of the quarterly results of operations for the years ended December 31, 2017 and 2016. We have prepared the quarterly statements of income data on a basis consistent with the audited financial statements included in Part II, “Financial Statements and Supplementary Data” in this Annual Report on Form 10-K. In the opinion of management, the financial information reflects all adjustments, consisting only of normal recurring adjustments, which we consider necessary for a fair presentation of this data. This information should be read in conjunction with the audited financial statements and related notes included in Part II, “Financial Statements and Supplementary Data” in this Annual Report on Form 10-K. The results of historical periods are not necessarily indicative of the results of operations for any future period.

Quarterly Data (Unaudited)

	Three Months Ended			
	December 31,	**September 30,**	**June 30,**	**March 31,**
(In thousands except per share data)				
2017				
Revenue	**$ 186**	**$ 44**	**$ 223**	**$ 55**
Loss from operations	**(6,813)**	**(12,947)**	**(3,240)**	**(2,789)**
Net loss	**(6,849)**	**(12,904)**	**(3,395)**	**(2,832)**
Basic and diluted loss per share	**$ (0.30)**	**$ (0.51)**	**$ (0.17)**	**$ (0.14)**
2016				
Revenue	$ 72	$ 105	$ 116	$ 106
Loss from operations	(4,571)	(2,485)	(2,492)	(2,561)
Net loss	(4,553)	(2,507)	(2,457)	(2,569)
Basic and diluted loss per share	$ (0.23)	$ (0.13)	$ (0.13)	$ (0.13)

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE.

None.

ITEM 9A. CONTROLS AND PROCEDURES.

Management’s Evaluation of Disclosure Controls and Procedures

Based on an evaluation under the supervision and with the participation of our management, our principal executive officer and principal financial officer have concluded that our disclosure controls and procedures as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act were effective as of December 31, 2017 to

provide reasonable assurance that information required to be disclosed by us in reports that we file or submit under the Exchange Act is (i) recorded, processed, summarized and reported within the time periods specified in the SEC rules and forms and (ii) accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosure.

Remediation Efforts of Previously Identified Material Weakness

In preparing our financial statements for the year ended December 31, 2016, a material weakness in our internal control over financial reporting was identified, as defined by the SEC guidelines for public companies. The material weakness related to our lack of a control in place to review forward purchase derivative contracts entered into by us. The derivative contracts were to produce high oleic soybean seed and grain and the purchase price was indexed to the soybean commodity price.

Management has taken steps to remediate this material weakness, including:

- standardizing our production contracts,
- engaging a third party accounting firm to review the derivative accounting,
- developing a database to track production contracts, and
- implementing written policies for the accounting treatment of the production contracts.

We believe that such efforts were sufficient to remediate the material weakness in internal control over financial reporting. We, and our independent registered public accounting firm, were not required to perform an evaluation of our internal control over financial reporting in accordance with the provisions of the Sarbanes-Oxley Act.

Changes in Internal Control over Financial Reporting

Except as otherwise disclosed under “Remediation Efforts of Previously Identified Material Weakness”, there were no changes in our internal control over financial reporting identified in connection with the evaluation required by Rule 13a-13(d) and 15d-15(d) of the Exchange Act that occurred during the quarter ended December 31, 2017 that have materially affected, or that are reasonably likely to materially affect, our internal control over financial reporting.

Management’s Annual Report on Internal Control Over Financial Reporting

This Annual Report on Form 10-K does not include a report of management’s assessment regarding internal control over financial reporting or an attestation report of the company’s registered public accounting firm due to a transition period established by rules of the SEC for newly public companies.

ITEM 9B. OTHER INFORMATION.

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by this Item is set forth in our 2018 Proxy Statement to be filed with the SEC within 120 days of December 31, 2017, and is incorporated by reference into this Annual Report on Form 10-K by reference.

Our Board of Directors has adopted a Code of Business Conduct and Ethics applicable to all officers, directors and employees. Our Code of Business Conduct and Ethics, Corporate Governance Guidelines and the charters of our Audit Committee, Compensation Committee and Nominating and Corporate Governance Committee are available on our website (www.calyxt.com) under "Corporate Governance" in the "Investors" section. We will provide a copy of these documents to any person, without charge, upon request. We intend to make all required disclosures concerning any amendments to, or waivers from, the Code of Business Conduct and Ethics on our website.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this Item is set forth in our 2018 Proxy Statement to be filed with the SEC within 120 days of December 31, 2017, and is incorporated by reference into this Annual Report on Form 10-K by reference.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by this Item is set forth in our 2018 Proxy Statement to be filed with the SEC within 120 days of December 31, 2017, and is incorporated by reference into this Annual Report on Form 10-K by reference.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this Item is set forth in our 2018 Proxy Statement to be filed with the SEC within 120 days of December 31, 2017, and is incorporated by reference into this Annual Report on Form 10-K by reference.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information required by this Item is set forth in our 2018 Proxy Statement to be filed with the SEC within 120 days of December 31, 2017, and is incorporated by reference into this Annual Report on Form 10-K by reference.

PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

(a)(1) *Financial Statements*

For a list of the financial statements included in Part II, Item 8 of this Annual Report on Form 10-K, see "Index to the Financial Statements" on page F-1 of this Annual Report on Form 10-K, which is incorporated into this Item by reference.

(a)(2) *Financial Statements*

Schedules not filed with this Annual Report on Form 10-K are omitted because of the absence of conditions under which they are required or because the information called for is shown in the financial statements or related notes.

(a)(3) Exhibits

Exhibit Number	Description
3.1	Amended and Restated Certificate of Incorporation
3.2	Amended and Restated Bylaws
10.1*	Management Services Agreement between Cellectis S.A., Cellectis, Inc. and Calyxt, Inc., dated as of January 1, 2016
10.2	Management Services Agreement Amendment dated July 25, 2017 between Cellectis S.A. and Calyxt, Inc.
10.3	Separation Agreement dated July 25, 2017 between Cellectis S.A. and Calyxt, Inc.
10.4	Stockholders Agreement dated July 25, 2017 between Cellectis S.A. and Calyxt, Inc.
10.5	License Agreement dated July 25, 2017 between Cellectis S.A. and Calyxt, Inc.
10.6**#	Exclusive Patent License Agreement between Regents of the University of Minnesota and Calyxt Inc. (f.k.a. Cellectis Plant Sciences, Inc.), dated December 15, 2014
10.7**#	Commercial License Agreement between Two Blades Foundation and Calyxt, Inc. (f.k.a. Cellectis Plant Sciences, Inc.), dated December 9, 2014
10.8**#	First Amendment to the Commercial License Agreement between Two Blades Foundation and Calyxt, Inc. (f.k.a. Cellectis Plant Sciences, Inc.), dated December 1, 2016
10.9**#	Letter Agreement between Two Blades Foundation and Calyxt, Inc. (f.k.a. Cellectis Plant Sciences, Inc.), dated December 31, 2015
10.10**#	Exclusive License Agreement between Plant Bioscience Limited and Calyxt, Inc. (f.k.a. Cellectis Plant Sciences, Inc.), dated April 25, 2015
10.11*†	Calyxt, Inc. Equity Incentive Plan
10.12*†	Form of Stock Option Agreement pursuant to the Calyxt, Inc. Equity Incentive Plan
10.13*†	Offer Letter between Calyxt, Inc. and Federico A. Tripodi, dated May 6, 2016
10.14†	Offer Letter between Calyxt, Inc. and Manoj Sahoo, dated February 3, 2017
10.15*†	Consulting Agreement between Calyxt, Inc. (f.k.a. Cellectis Plant Sciences, Inc.) and Daniel Voytas, dated January 1, 2010
10.16*†	Amendment 1 to Consulting Agreement between Calyxt, Inc. (f.k.a. Cellectis Plant Sciences, Inc.) and Daniel Voytas, dated December 21, 2012
10.17**†	Calyxt, Inc. 2017 Omnibus Incentive Plan
10.18**†	Calyxt, Inc. 2017 Stock Option Sub-Plan for French Employees and Directors
10.19**†	Form of Stock Option Agreement pursuant to the Calyxt, Inc. 2017 Omnibus Incentive Plan
10.20**†	Form of Restrictive Stock Unit Agreement pursuant to the Calyxt, Inc. 2017 Omnibus Incentive Plan
10.21**†	Form of Resolution with regard to the Grant of Warrants to purchase shares of Cellectis S.A.
10.22**†	Calyxt, Inc. 2017 Restricted Stock Unit Sub-Plan for French Employees and Directors
10.23***	Lease Agreement between Calyxt, Inc., as Tenant, and NLD Mount Ridge LLC, as Landlord, dated September 6, 2017

Exhibit Number	Description
10.24	Form of Indemnification Agreement
23.1	Consent of Independent Registered Public Accounting Firm
24.1	Power of Attorney (included on signature page to this Form 10-K)
31.1	Certification of the Chief Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) of the Securities Exchange Act
31.2	Certification of the Chief Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) of the Securities Exchange Act
32&	Certification of the Chief Executive Officer and Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

* Previously filed as an exhibit to the Registration Statement on Form S-1 filed by the Company on June 23, 2017
** Previously filed as an exhibit to the Registration Statement on Form S-1 filed by the Company on July 3, 2017
*** Previously filed as an exhibit to the Current Report on Form 8-K filed by the Company on September 7, 2017
# Confidential treatment has been granted for certain information contained in this exhibit. These portions have been omitted and filed separately with the United States Securities and Exchange Commission.
† Indicates management contract or compensatory plan.
& The certifications attached as Exhibit 32 that accompany this Annual Report on Form 10-K are not deemed filed with the SEC and are not to be incorporated by reference into any filing of the registrant under the Securities Act or the Exchange Act, whether made before or after the date of this Form 10-K, irrespective of any general incorporation language contained in such filing.

ITEM 16. FORM 10-K SUMMARY

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

CALYXT, INC.

Date: March 13, 2018

By: /s/ Federico A. Tripodi
Name: Federico A. Tripodi
Title: Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Federico A. Tripodi and Bryan W. J. Corkal each of them, his or her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Annual Report on Form 10-K and any and all amendments thereto, and to file the same, with all exhibits thereto, and all other documents in connection therewith, with the Securities and Exchange Commission, granting unto each said attorney-in-fact and agents full power and authority to do and perform each and every act in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or either of them or their or his or her substitute or substitutes may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Federico A. Tripodi Federico A. Tripodi	Chief Executive Officer (principal executive officer)	March 13, 2018
/s/ Bryan W.J. Corkal Bryan W. J. Corkal	Chief Financial Officer (principal financial and accounting officer)	March 13, 2018
/s/ André Choulika André Choulika	Chairman	March 13, 2018
/s/ Philippe Dumont Philippe Dumont	Director	March 13, 2018
/s/ Alain Godard Alain Godard	Director	March 13, 2018
/s/ Anna Ewa Kozicz-Stankiewicz Anna Ewa Kozicz-Stankiewicz	Director	March 13, 2018
/s/ Laurent Arthaud Laurent Arthaud	Director	March 13, 2018

Calyxt, Inc.
Index to Financial Statements

Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of Calyxt, Inc.

Opinion on the Financial Statements

We have audited the accompanying balance sheets of Calyxt, Inc. (the Company) as of December 31, 2017 and 2016, the related statements of operations, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2017, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2017 and 2016, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2017, in conformity with U.S. generally accepted accounting principles.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2015.

Minneapolis, Minnesota
March 13, 2018

Calyxt, Inc.
Balance Sheets
(expressed in thousands, except share data and per share data)

	December 31, 2017	December 31, 2016
Assets		
Current assets:		
Cash and cash equivalents	$ 56,664	$ 5,026
Trade accounts receivable	—	110
Due from related parties	167	47
Prepaid expenses and other current assets	626	282
Total current assets	57,457	5,465
Property and equipment, net	14,353	10,994
Other long-term assets	357	164
Total assets	$ 72,167	$ 16,623
Liabilities and stockholders' equity		
Current liabilities:		
Due to related parties	$ 1,350	$ 1,712
Accounts payable	1,023	357
Accrued salaries, wages, and other compensation	945	332
Accrued liabilities	893	363
Deferred revenue	43	101
Total current liabilities	4,254	2,865
Non-current deferred revenue	289	639
Financing lease obligation	10,148	—
Total liabilities	14,691	3,504
Stockholders' equity:		
Common stock, $0.0001 par value; 275,000,000 shares authorized, 27,718,780 and 19,600,000 shares issued and outstanding as of December 31, 2017 and 2016, respectively	3	2
Preferred stock, $0.0001 par value; 50,000,000 shares authorized, no shares issued or outstanding as of December 31, 2017 and 2016, respectively	—	—
Additional paid-in capital	112,021	41,685
Accumulated deficit	(54,548)	(28,568)
Total stockholders' equity	57,476	13,119
Total liabilities and stockholders' equity	$ 72,167	$ 16,623

See accompanying notes to the Financial Statements.

Calyxt, Inc.
Statements of Operations
(expressed in thousands except shares outstanding and per share amounts)

	Year Ended December 31,		
	2017	**2016**	**2015**
Revenue	$ 508	$ 399	$ 1,272
Operating expenses:			
Cost of revenue	—	200	751
Research and development	11,556	5,638	2,766
Selling, general and administrative	14,741	6,670	3,569
Total Operating expenses	**26,297**	**12,508**	**7,086**
Loss from operations	(25,789)	(12,109)	(5,814)
Interest expense	(1)	(5)	(261)
Foreign currency transaction (loss) gain	(190)	28	186
Loss before income taxes	**(25,980)**	**(12,086)**	**(5,889)**
Income tax expense	—	—	—
Net loss	**$ (25,980)**	**$ (12,086)**	**$ (5,889)**
Basic and diluted loss per share	**$ (1.12)**	**$ (0.62)**	**$ (0.88)**
Weighted average shares outstanding—basic and diluted	**23,153,661**	**19,600,000**	**6,725,740**

See accompanying notes to the Financial Statements.

Calyxt, Inc.
Statements of Stockholders' Equity
(expressed in thousands except shares outstanding)

	Shares Outstanding	Common Stock	Additional Paid-In Capital	Accumulated Deficit	Total Stockholders' Equity (Deficit)
Balances at January 1, 2015	2,450,000	$ —	$ 47	$ (10,483)	$ (10,436)
Issuance of common stock	—	—	—	—	—
Capital contributed to Parent	17,150,000	2	39,998	—	40,000
Dividend to parent	—	—	—	(110)	(110)
Stock options exercised	—	—	—	—	—
Stock-based compensation	—	—	692	—	692
Net loss	—	—	—	(5,889)	(5,889)
Balances at December 31, 2015	19,600,000	$ 2	$ 40,737	$ (16,482)	$ 24,257
Issuance of common stock	—	—	—	—	—
Stock options exercised	—	—	—	—	—
Stock-based compensation	—	—	948	—	948
Net loss	—	—	—	(12,086)	(12,086)
Balances at December 31, 2016	19,600,000	$ 2	$ 41,685	$ (28,568)	$ 13,119
Issuance of common stock	8,050,000	1	57,979	—	57,980
Stock options exercised	68,780	—	265	—	265
Stock-based compensation	—	—	12,092	—	12,092
Net loss	—	—	—	(25,980)	(25,980)
Balances at December 31, 2017	27,718,780	$ 3	$112,021	$ (54,548)	$ 57,476

See accompanying notes to the Financial Statements.

Calyxt, Inc.
Statements of Cash Flows
(expressed in thousands)

	Year Ended December 31,		
	2017	2016	2015
Operating activities			
Net loss	(25,980)	(12,086)	(5,889)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation	551	345	147
Stock-based compensation	12,092	948	692
Changes in operating assets and liabilities:			
Trade accounts receivable	110	107	25
Due to/from related parties	(482)	1,702	(1,265)
Prepaid expenses and other assets	(537)	(387)	59
Accounts payable	665	53	(28)
Accrued salaries, wages and other compensation	613	88	93
Accrued liabilities	591	137	40
Deferred revenue	(408)	(144)	(565)
Net cash used in operating activities	**$(12,785)**	**$ (9,237)**	**$ (6,691)**
Investing activities			
Purchases of property and equipment	(779)	(10,424)	(665)
Net cash used in investing activities	**$ (779)**	**$(10,424)**	**$ (665)**
Financing activities			
Proceeds from common stock issuance	61,292	—	—
Costs incurred related to the issuance of stock	(3,312)	—	—
Capital contribution from Parent	—	—	30,000
Advances from Parent	3,000	—	2,050
Repayment of advances from Parent	(3,000)	—	(200)
Dividend to Parent	—	—	(110)
Proceeds from the exercise of stock option	265	—	—
Cash received for land and other improvements as a part of the financing lease obligation	6,957	—	—
Net cash provided by financing activities	**$ 65,202**	**$ —**	**$31,740**
Net increase (decrease) increase in cash and cash equivalents	51,638	(19,661)	24,384
Cash and cash equivalents—beginning of period	5,026	24,687	303
Cash and cash equivalents—end of period	$ 56,664	$ 5,026	$24,687
Supplemental cash flow information			
Interest paid	$ 200	$ 5	$ 261
Supplemental non-cash investing and financing transactions			
Property and equipment included in financing lease obligation	$ 3,130	$ —	$ —

Calyxt, Inc.
Notes to Financial Statements

1. Nature of Business

Calyxt, Inc., formerly known as Cellectis Plant Sciences, Inc. (the Company or Calyxt), was founded in 2010 and incorporated in Delaware. The Company is headquartered in New Brighton, Minnesota. Calyxt is a consumer-centric, food- and agriculture-focused company. The Company changed its name from Cellectis Plant Sciences, Inc. to Calyxt, Inc. on May 4, 2015. Prior to the Company's initial public offering (IPO) on July 25, 2017, Calyxt was a wholly owned subsidiary of Cellectis S.A. ("Cellectis" or "Parent"). As of December 31, 2017, Cellectis owned approximately 79.7% of the Company's outstanding common stock. Calyxt's common stock is listed on the Nasdaq market under the ticker symbol "CLXT".

Initial Public Offering

On July 25, 2017, the Company completed an IPO of its common stock, in which it sold an aggregate of 8,050,000 shares of its common stock at a price of $8.00 per share, including 1,050,000 shares of common stock pursuant to the exercise of the underwriters' option to purchase additional shares. In the aggregate, the Company received net proceeds from the IPO and exercise of the overallotment of approximately $58.0 million, after deducting underwriting discounts and commissions of $3.1 million and offering expenses totaling approximately $3.3 million. As part of the IPO, Cellectis purchased 2,500,000 shares of the Company's common stock for a value of $20.0 million, which is included in the net proceeds of approximately $58.0 million. The Company used $5.7 million of the proceeds from Cellectis to pay a portion of the outstanding obligations owed to Cellectis.

Stock Splits

On June 14, 2017, pursuant to the authorization provided in a written consent in lieu of a special meeting of the Company, the Company effected a stock split of the Company's common stock at a ratio of 100-for-1 and increased the number of shares of common stock authorized for issuance to 30,000,000 by filing a Certificate of Amendment with the Secretary of State of the State of Delaware.

On July 25, 2017, the Company amended its Amended and Restated Certificate of Incorporation to increase the authorized capital stock of the Company to 325,000,000 shares of which 275,000,000 shares are designated common stock, par value $0.0001, and 50,000,000 shares are designated preferred stock, par value $0.0001.

On July 25, 2017, concurrently with the closing of the IPO, the Company effected a stock split of the Company's common stock at a ratio of 2.45-for-1. As a result of the stock split, each share of issued and outstanding common stock was converted into 2.45 shares of issued and outstanding common stock without changing the par value per share.

Since the par value of the common stock remained at $0.0001 per share subsequent to each stock split, the value of common stock recorded to the Company's balance sheets has been retroactively increased to reflect the par value of the increased number of outstanding shares, with a corresponding decrease to additional paid-in capital. All share and per share data for periods occurring prior to the stock split that are included in the financial statements and related notes have been retroactively restated to reflect the stock splits.

2. Summary of Significant Accounting Policies

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of

assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. On an ongoing basis, the Company evaluates its estimates, including those related to stock-based compensation and the valuation allowance for deferred tax assets and derivatives. The Company bases its estimates on historical experience and on various other market-specific and relevant assumptions that it believes to be reasonable under the circumstances. Actual results could differ from those estimates.

Cash and Cash Equivalents

Cash and cash equivalents consist of cash and term deposits with original maturities of three months or less. The carrying value of these instruments approximate fair value. The balances, at times, may exceed federally insured limits. The Company has not experienced any losses on its cash and cash equivalents.

Trade Accounts Receivable

Accounts receivable are unsecured, are recorded at net realizable value, and do not bear interest. The Company makes judgments as to its ability to collect outstanding receivables based upon patterns of collectability, historical experience, and management's evaluation of specific accounts and will provide an allowance for credit losses when collection becomes doubtful. The Company performs credit evaluations of its customers' financial condition on an as-needed basis. Payment is generally due 30 days from the invoice date, and accounts past 30 days are individually analyzed for collectability. When all collection efforts have been exhausted, the account is written off against the related allowance.

As of December 31, 2017, the Company had no trade accounts receivables.

Prepaid Expenses and Other Current Assets

Other current assets represent prepayments, R&D tax credits receivable and deposits made by the Company.

Property and Equipment

Property and equipment is stated at cost less accumulated depreciation. Depreciation is computed based upon the estimated useful lives of the respective assets. Leasehold improvements are amortized using the straight-line method over the shorter of the lease term or the estimated useful life of the assets. Repairs and maintenance costs are expensed as incurred. The cost and accumulated depreciation of property and equipment retired, or otherwise disposed of, are removed from the related accounts, and any residual values are charged to expense. Depreciation expense has been calculated using the following estimated useful lives:

Buildings and other improvements	10–20 years
Leasehold improvements	Remaining lease period
Office furniture and equipment	5–7 years
Computer equipment and software	3–5 years

Leases

Leases are classified as either finance or operating, with classification affecting the pattern of expense recognition in the income statement. In September 2017, the Company entered into a financing lease. Refer to Note 11 for more detail.

Long-Lived Assets

The Company reviews its long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset or asset group may not be recoverable. If the impairment tests indicate that

the carrying value of the asset, or asset group is greater than the expected undiscounted cash flows to be generated by such asset or asset group, further analysis is performed to determine the fair value of the asset or asset group. To the extent the fair value of the asset or asset group is less than its carrying value, an impairment loss is recognized equal to the amount the carrying value exceeds the fair value of the asset or asset group. Assets to be disposed of are carried at the lower of their carrying value or fair value less costs to sell.

There have been no impairment losses recognized for the years ended December 31, 2017, 2016 or 2015.

Fair Value of Financial Instruments

Pursuant to the requirements of Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) Topic 820, *Fair Value Measurement*, the Company's financial assets and liabilities measured at fair value on a recurring basis are classified and disclosed in one of the following three categories:

Level 1—Financial instruments with unadjusted quoted prices listed on active market exchanges.

Level 2—Financial instruments lacking unadjusted, quoted prices from active market exchanges, including over-the-counter traded financial instruments. The prices for the financial instruments are determined using prices for recently traded financial instruments with similar underlying terms, as well as directly or indirectly observable inputs, such as interest rates and yield curves that are observable at commonly quoted intervals.

Level 3—Financial instruments that are not actively traded on a market exchange. This category includes situations in which there is little, if any, market activity for the financial instrument. The prices are determined using significant unobservable inputs or valuation techniques.

The Company has derivative instruments that are classified as Level 2. The Company does not have any financial instruments classified as Level 3, and there were no movements between these categories during the years ended December 31, 2017, 2016 or 2015.

	Fair Value Measurements at December 31, 2017 (expressed in thousands)			
	Level 1	Level 2	Level 3	Net Balance
Asset at Fair Value:				
Forward purchase contracts	—	$ 3	—	$ 3
Total Assets at Fair Value	—	$ 3	—	$ 3
Liabilities at Fair Value				
Forward purchase contracts	—	$ 4	—	$ 4
Total Liabilities at Fair Value	—	$ 4	—	$ 4

	Fair Value Measurements at December 31, 2016, (expressed in thousands)			
	Level 1	Level 2	Level 3	Net Balance
Asset at Fair Value:				
Forward purchase contracts	—	$ 9	—	$ 9
Total Assets at Fair Value	—	$ 9	—	$ 9
Liabilities at Fair Value				
Forward purchase contracts	—	$ 19	—	$ 19
Total Liabilities at Fair Value	—	$ 19	—	$ 19

Forward Purchase Contracts and Derivatives

The Company enters into supply agreements for grain and seed production with settlement values based on commodity market futures pricing. The Company accounts for these derivative financial instruments utilizing the authoritative guidance in ASC Topic 815, *Derivatives and Hedging*. Realized gains and losses from derivative contracts are recorded as research and development expenses as a result of breeding contract activity. The fair value for forward purchase contracts is estimated based on exchange-quoted prices.

Unrealized gains and losses on all derivative contracts are recorded in other current assets or other current liabilities on the balance sheet at fair value. The gains and losses recorded by the Company are not significant for the years ended December 31, 2017, 2016 or 2015.

The table below summarizes the carrying value of derivative instruments as of December 31, 2017, 2016 and 2015.

Derivatives not designated as hedging instruments under ASC Topic 815	Asset Derivatives			Liability Derivatives		
	Balance Sheet Location	Fair Value		Balance Sheet Location	Fair Value	
		December 31, 2017	December 31, 2016		December 31, 2017	December 31, 2016
		(expressed in thousands)			(expressed in thousands)	
Forward purchase contracts	Prepaid expenses & other current assets	$ 3	$ 9	Accrued liabilities —current	$ 4	$ 19
Total derivatives		$ 3	$ 9		$ 4	$ 19

Patents

The Company expenses patent costs, including related legal costs, as incurred. Costs to write, maintain, in-license, and defend patents are recorded as selling, general and administrative expenses in the statements of operations. Costs to support the research for filing patents are recorded as research and development expenses in the statements of operations.

Revenue Recognition

The Company enters into R&D agreements that may consist of nonrefundable up-front payments, milestone payments, royalties, and R&D Services. In addition, the Company may license its technology to third parties, which may be part of the R&D agreements.

For agreements that contain multiple elements, each element within a multiple-element arrangement is accounted for as a separate unit of accounting provided the following criteria are met: the delivered products or services have value to the customer on a stand-alone basis and, for an arrangement that includes a general right of return relative to the delivered products or services, delivery, or performance of the undelivered product or service is considered probable and is substantially controlled by the Company. The Company considers a deliverable to have stand-alone value if the product or service is sold separately by the Company or another vendor or could be resold by the customer. Further, the Company's revenue arrangements do not include a general right of return relative to the delivered products.

Nonrefundable up-front payments are deferred and recognized as revenue over the period of the R&D agreement. If an R&D agreement is terminated before the original term of the agreement is fulfilled, all the remaining deferred revenue is recognized at the date of termination.

Milestone payments represent amounts received from the Company's R&D partners, the receipt of which is dependent upon the achievement of certain scientific, regulatory, or commercial milestones. The Company recognizes milestone payments when the triggering event has occurred, there are no further contingencies or

services to be provided with respect to that event, and the counterparty has no right to refund of the payment. The triggering event may be scientific results achieved by the Company or another party to the arrangement, regulatory approvals, or the marketing of products developed under the arrangement.

Royalty revenue arises from the Company's contractual entitlement to receive a percentage of product sales revenues achieved by counterparties. Royalty revenue is recognized on an accrual basis in accordance with the terms of the agreement when sales can be determined reliably and there is reasonable assurance that the receivables from outstanding royalties will be collected.

License revenue from licenses that were granted to third parties is recognized ratably over the period of the license agreements. Revenue from R&D services is recognized over the period the R&D services are performed. No new revenue arrangements were entered in the year.

Cost of Revenue

Cost of revenue relates to the performance of services or contract research and consists of direct external expenses relating to projects and internal costs, including overhead allocated on a full-time equivalent basis.

Research and Development

R&D expenses represent costs incurred for the development of various products using licensed gene editing technology, including expenses allocated to the Company by Cellectis. R&D expenses consist primarily of salaries, stock compensation and related costs of the Company's scientists, in-licensing of technology, consumables, property and equipment depreciation, and fees paid to third-party consultants. All research and development costs are expensed as incurred, totaling $11.6 million, $5.6 million and $2.8 million for the years ended December 31, 2017, 2016 and 2015, respectively.

The Company in-licenses certain technology from third-parties that is a component of ongoing research and product development. The Company expenses up-front license fees upon contracting due to the uncertainty of future commercial value, as well as expensing any ongoing annual fees when incurred. Related-party in-licensing expense was $93 thousand, $44 thousand and $86 thousand for the year ended December 31, 2017, 2016 and 2015, respectively. Third-party in-licensing expenses were $447 thousand, $539 thousand and $165 thousand for the year ended December 31, 2017, 2016 and 2015, respectively.

Stock Based Compensation

The Company measures employee and nonemployee stock-based awards at grant-date fair value and records compensation expense using the accelerated attribution method over the vesting period of the award. Stock-based awards issued to nonemployees are remeasured until the award vests. The Company uses the Black-Scholes option pricing model to value its stock option awards. Estimating the fair value of stock option awards requires management to apply judgment and make estimates, including the volatility of the Company's common stock, the expected term of the Company's stock options, the expected dividend yield and the fair value of the Company's common stock on the measurement date. The Company accounts for forfeitures as they occur, rather than estimating expected forfeitures.

The expected term of stock options is estimated using the "simplified method" for employee options as the Company has no historical information to develop reasonable expectations about future exercise patterns and post-vesting employment termination behavior for its stock option grants. The simplified method is based on the average of the vesting tranches and the contractual life of each grant. For options granted to nonemployees, the Company uses the remaining contractual life. For stock price volatility, the Company uses comparable public companies as a basis for its expected volatility to calculate the fair value of option grants. The Company assumes

no dividend yield because dividends are not expected to be paid in the near future, which is consistent with the Company's history of not paying dividends. The risk-free interest rate is based on U.S. Treasury notes with a term approximating the expected life of the option.

Foreign Currency Transactions

Transactions in foreign currencies are remeasured into the Company's functional currency, U.S. dollars, at the exchange rates effective at the transaction dates. Assets and liabilities denominated in foreign currencies at the reporting date are remeasured into the functional currency using the exchange rate effective at that date. The resulting exchange gains or losses are recorded in the statements of operations under selling, general, and administrative expenses.

Income Taxes

Current income taxes are recorded based on statutory obligations for the current operating period for the jurisdictions in which the Company has operations.

Deferred taxes are provided on an asset and liability method, whereby deferred tax assets are recognized for deductible temporary differences and deferred tax liabilities are recognized for taxable temporary differences. Temporary differences are the differences between the reported amounts of assets and liabilities and their tax basis. Deferred tax assets are reduced by a valuation allowance when the Company believes it is more likely than not that some portion or all of the deferred tax assets will not be realized. Deferred tax assets and liabilities are adjusted for the effects of changes in tax laws and rates on the date of enactment.

The tax effects from an uncertain tax position can be recognized in the financial statements only if the position is more likely than not to be sustained on audit, based on the technical merits of the position. The Company recognizes the financial statement benefit of a tax position only after determining that the relevant tax authority would more likely than not sustain the position following an audit. For tax positions meeting the more-likely than-not threshold, the amount recognized in the financial statements is the largest benefit that has a greater than 50% likelihood of being realized upon settlement with the relevant tax authority. The Company is subject to income taxes in U.S. federal and state jurisdictions. With few exceptions, the Company is no longer subject to U.S. federal and state income tax examinations by tax authorities for years ending prior to 2013. In the event of any future tax assessments, the Company's accounting policy is to record the income taxes and any related interest or penalties as current income tax expense on the statements of operations.

Recently Adopted Accounting Pronouncements

In November 2015, the FASB issued Accounting Standards Update (ASU) 2015-17, *Income Taxes (Topic 740): Balance Sheet Classification of Deferred Taxes*. The amendment simplifies the presentation of deferred income taxes. Instead of separating deferred income tax liabilities and assets into current and non-current amounts in a classified statement of financial position, the amendments in this update require that deferred tax liabilities and assets be classified as non-current in a classified statement of financial position. For public entities, ASU 2015-17 is effective for annual periods beginning after December 15, 2016, and interim periods within those annual periods. For non-public entities, ASU 2015-17 is effective for annual periods beginning after December 15, 2017, and interim periods within annual periods beginning after December 15, 2018. Adoption of this standard did not have a material impact on the Company's financial statements as all net deferred tax assets are fully reserved.

In March 2016, the FASB issued ASU 2016-09, *Compensation—Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting*. This ASU eliminates the additional paid-in capital (APIC) pool concept and requires that excess tax benefits and tax deficiencies be recorded in the statement of operations when awards are settled. The ASU also addresses simplifications related to statement of cash flows classification,

accounting for forfeitures, and minimum statutory tax withholding requirements. For public entities, ASU 2016-09 is effective for annual periods beginning after December 15, 2016, and interim periods within those annual periods. For all other entities, ASU 2016-09 is effective for annual periods beginning after December 15, 2017, and interim periods within annual periods beginning after December 15, 2018. Early adoption is permitted. The Company adopted this standard in the second quarter of 2017, as a result of adoption, the Company recognized an $813 thousand tax benefit as a reduction of income tax expense, however, due to full valuation allowance, the net impact is zero.

Recently Issued Accounting Pronouncements

In May 2014, the FASB issued ASU 2014-09, *Revenue from Contracts with Customers*, which creates ASC Topic 606, *Revenue from Contracts with Customers*, and supersedes the revenue recognition requirements in ASC Topic 605, *Revenue Recognition.* The guidance in ASU 2014-09 and subsequently issued amendments ASU 2016-08, *Revenue from Contracts with Customers: Principal versus Agent Considerations (Reporting Revenue Gross versus Net)*; ASU 2016-10, *Revenue from Contracts with Customers: Identifying Performance Obligations and Licensing;* and ASU 2016-12, *Revenue from Contracts with Customers: Narrow-Scope Improvements and Practical Expedients*, outlines a comprehensive model for all entities to use in accounting for revenue arising from contracts with customers, as well as required disclosures. Entities have the option of using either a full retrospective or modified approach to adopt the new guidance. For public entities, certain not-for-profit entities, and certain employee benefit plans, the new revenue standard is effective for annual periods beginning after December 15, 2017, including interim periods within that reporting period. For all other entities, the new revenue standard is effective for annual periods beginning after December 15, 2018, and interim periods within annual periods beginning after December 15, 2019. Early adoption is permitted. The adoption of this standard is not expected to have a material effect on the Company.

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842).* The guidance requires that lessees recognize assets and liabilities on the balance sheet for the rights and obligations created by all leases with terms of more than 12 months. The amendment also requires disclosures designed to give financial statement users information on the amount, timing, and uncertainty of cash flows arising from leases. These disclosures include qualitative and quantitative information. For public entities, not-for-profit entities, or employee benefit plans, ASU 2016-02 is effective for annual periods beginning after December 15, 2018, and interim periods within those annual periods. For all other entities, ASU 2016-02 is effective for annual periods beginning after December 15, 2019, and interim periods within annual periods beginning after December 15, 2020. Entities are required to use a modified retrospective approach for leases that exist or are entered into after the beginning of the earliest comparative period in the financial statements. Early adoption is permitted. The Company is evaluating the impact of adopting this pronouncement.

In May 2017, the FASB issued ASU 2017-09, “Compensation—Stock Compensation (Topic 718): Scope of Modification Accounting”, which clarifies when to account for a change to the terms or conditions of a share-based payment award as a modification. Under the new guidance, modification accounting is required only if the fair value, the vesting conditions, or the classification of the award (as equity or liability) changes as a result of the change in terms or conditions. The guidance is effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2017. Early adoption is permitted. The Company is currently evaluating the impact of adopting this standard on the financial statements and disclosures, but does not expect it to have a significant impact.

3. Concentrations of Credit Risk

Financial instruments that potentially subject the Company to concentrations of credit risk consist principally of cash and cash equivalents, and trade accounts receivable. The Company also has concentrations of revenue with certain customers.

Cash and cash equivalents concentration—The Company holds cash balances at financial institutions that, at times, may exceed federally insured limits. The Company evaluates the creditworthiness of these financial

institutions in determining the risk associated with these deposits. The Company has not experienced any losses on such accounts.

Trade accounts receivable concentration—As of December 31, 2017, the Company had no trade accounts receivable. As of December 31, 2016, one customer accounted for 100% of trade accounts receivable. As of December 31, 2015, two customers accounted for 50% each of the trade accounts receivable.

Revenue concentration—For the year ended December 31, 2017, three customers accounted individually for 51.0%, 40.6% and 6.7% of revenue, respectively. In 2016, four customers accounted individually for 33%, 28%, 19% and 16% of revenue, respectively. In 2015, three customers accounted individually for 38%, 26% and 20% of revenue, respectively.

4. Property and Equipment

Property and equipment for the years ended December 31, 2017 and 2016 consists of the following:

(Amounts in thousands)	2017	2016
Land	$ 5,690	$ 5,690
Buildings and other improvements	4,414	4,304
Leasehold improvements	169	169
Office furniture and equipment	1,672	1,506
Computer equipment and software	20	20
Assets under construction	3,671	37
	15,636	11,726
Less accumulated depreciation	(1,283)	(732)
Property and equipment, net	**$14,353**	**$10,994**

As of December 31, 2017, the Company recorded $3,671 thousand in assets under construction which consists of the phase two construction costs (related to the sale-leaseback transaction, site improvements and architect fees) and lab equipment for our new headquarters facility. At the completion of construction, the completed asset will be capitalized and depreciated over the term of the lease.

Depreciation expense was $551 thousand, $345 thousand and $147 thousand for the year ended December 31, 2017, 2016 and 2015, respectively.

5. Related-Party Transactions

Due from related parties consists of receivables due from another subsidiary of the Parent related to payroll services provided by the Company to the other subsidiary.

Due to related parties consists of cash advances, license fees, amounts owed under the intercompany management agreement, and interest charged on outstanding amounts. Amounts due to the Parent that are included in due to related parties on the balance sheet bear interest at a rate of the European Interbank Offered Rate for 12 months (EURIBOR 12) plus 5% per annum.

The Company has a management agreement with the Parent, in which the Company pays the Parent a monthly fee for certain services provided by the Parent, which include general sales and administration functions, accounting functions, research and development, legal advice, human resources, and information technology. The Company recorded expenses associated with the management agreement of $1,968 thousand, $3,150 thousand and $1,884 thousand for the year ended December 31, 2017, 2016 and 2015, respectively. For the year ended December 31, 2017, 2016 and 2015, the Company classified $1,811 thousand, $2,969 thousand and

$1,704 thousand, respectively, as a component of sales, general and administrative expenses, while $157 thousand, $181 thousand and $180 thousand, respectively, were classified as a component of R&D expenses.

As of December 31, 2017, the Company had short-term Parent obligations of $1.4 million consisting of amounts owed under the intercompany management agreement for services provided by Cellectis and costs incurred by Cellectis on behalf of the Company.

In consideration of, and as an inducement to, landlord's agreement to enter into the Lease Agreement, defined in Note 11 Commitments and Contingencies, Cellectis entered into a Lease Guaranty with the landlord, whereby Cellectis has guaranteed all of the Company's obligations under the Lease Agreement. Cellectis' guarantee of the Company's obligations under the sale-leaseback transaction will terminate at the end of the second consecutive calendar year in which the Company tangible net worth exceeds $300 million, as determined in accordance with generally accepted accounting principles. On November 10, 2017, the Company agreed to indemnify Cellectis for any obligations incurred by Cellectis under the Lease Guaranty. This indemnification agreement will become effective at such time as Cellectis owns 50% or less of the Company's outstanding common stock.

TALEN technology was invented by researchers at the University of Minnesota and Iowa State University and exclusively licensed to Cellectis. The Company obtained from Cellectis an exclusive license to the technology for commercial use in plants. TALEN technology is the primary gene-editing technology used by the Company today. The Company will be required to pay a royalty to Cellectis on future sales for the licensing of the technology.

6. Accrued Liabilities

As of December 31, 2017 and 2016, respectively, the Company had accrued liabilities of $893 thousand and $363 thousand, which consist of non-IPO legal expense, unrecognized income related to construction tax incentive and miscellaneous operating expenses.

7. Equity Transactions

On August 1, 2015, the Parent made a $40 million capital contribution to the Company in the form of $30 million cash and conversion of a $10 million net payable due to the Parent to equity. On October 1, 2015, the Company entered into an amended and restated contribution agreement with Cellectis and in exchange for the capital contribution, Calyxt issued its parent 17,150,000 shares of Common Stock.

8. Net Loss per Share

Basic loss per share is computed based on the net loss allocable to common stockholders for each period, divided by the weighted average number of common shares outstanding. All outstanding stock options and restricted stock units are excluded from the calculation since they are anti-dilutive. Due to the existence of net losses for the year ended December 31, 2017, 2016 and 2015, basic and diluted loss per share were the same.

9. Stock-Based Compensation

Calyxt, Inc. Equity Incentive Plan and Omnibus Plan

The Company adopted the Calyxt, Inc. Equity Incentive Plan, or the Existing Plan, which allows for the grant of stock options to attract and retain highly qualified employees. In June 2017, the Company also adopted an omnibus incentive plan, or the Omnibus Plan, under which the Company granted stock options and restricted stock units to certain of our employees, nonemployees, and certain employees and nonemployees of the Parent.

The options granted under the Existing Plan and the Omnibus Plan were only exercisable upon a triggering event or initial public offering as defined by the plan. Accordingly, with the completion of the IPO on July 25, 2017, the Company recognized compensation expense of $5.6 million for stock options granted under the plans. The stock options issued under the plans had an exercise price equal to the estimated fair value of the stock at the grant date for the Omnibus Plan and the grant date for the Existing Plan.

The following table presents stock-based compensation expense for the years ended December 31, 2017, 2016 and 2015 included in the Company's statements of operations (in thousands):

	2017	2016	2015
Stock-based compensation expense for:			
Employee stock options	$ 4,761	$—	$—
Employee restricted stock units	1,775	—	—
Nonemployee stock options	4,530	—	—
Nonemployee restricted stock units	654	—	—
	$11,720	**$—**	**$—**

	2017	2016	2015
Stock-based compensation expense in operating expense:			
Selling, general and administrative	$ 5,988	$—	$—
Research and development	5,732	—	—
	$11,720	**$—**	$—

The Company treats stock-based compensation awards granted to employees of the Parent as dividends, which are recorded quarterly. The Company recorded $3.6 million, $0 and $0, respectively, in a deemed dividend to the Parent in the year ended December 31, 2017, 2016 and 2015 for restricted stock units and stock options granted to employees of the Parent.

Equity instruments issued to non-employees include RSUs and options to purchase shares of the Company's common stock. These RSUs and options vest over a certain period during which services are provided. The Company expenses the fair market value of the awards over the period in which the related services are received. Unvested awards are remeasured to fair value until they vest.

Stock Options

The following table summarizes stock option activity for the year ended December 31, 2017:

	Number of Shares	Weighted-Average Exercise Price Per Share	Aggregate Intrinsic Value (in thousands)	Weighted-Average Remaining Contractual Life (in years)
Outstanding at December 31, 2016	1,930,600	$ 4.45		9.1
Granted	2,120,347	$ 13.29		
Exercised	(68,780)	$ 3.95		
Cancelled	(98,735)	$ 1.23		
Outstanding at December 31, 2017	**3,883,432**	**$ 9.16**	**$ 49,965**	**8.8**
Exercisable at December 31, 2017	**1,244,968**	**$ 5.20**	**$ 20,949**	**8.1**

The weighted average grant date fair value for stock options granted during the years ended December 31, 2017, 2016 and 2015 was $2.42, $5.03 and $1.02, respectively. The total fair value of stock options vested during the years ended December 31, 2017, 2016 and 2015 was $6.7 million, $0 and $0, respectively. The aggregate intrinsic value of stock options exercised during the years ended December 31, 2017, 2016 and 2015 was $1.3 million, $0 million and $0 million, respectively. As of December 31, 2017, the total unrecognized stock-based compensation expense related to non-vested stock options is approximately $5.0 million, which is expected to be recognized over a weighted-average period of 4.2 years.

The Company had 1,159,914 stock options that vested upon the completion of the IPO. The stock-based compensation expense related to these awards was $5.6 million, which was recorded upon the completion of the IPO.

In December 2017, stock options held by an employee were modified in connection with the employee's termination to provide for continued vesting of tranches through the end of 2018. Stock options to purchase an aggregate of 51,622 shares of common stock were modified, and the Company recognized stock-based compensation expense of $0.7 million related to this modification.

The fair value of each stock option is estimated using the Black-Scholes option pricing model at each measurement date. The fair value of stock options under the Black-Scholes model requires management to make assumptions regarding projected employee stock option exercise behaviors, risk-free interest rates, volatility of the stock price, and expected dividends. The awards currently outstanding were granted with vesting terms between two and six years. Certain awards contained a 25% acceleration vesting clause upon a triggering event or initial public offering as defined in the Existing Plan and Omnibus Plan and for 100% accelerated vesting in the event of (a) the termination of employment without cause or (b) the resignation of the employee for good reason within twelve months following a triggering event as defined in the Existing Plan and Omnibus Plan.

The Company has not historically paid cash dividends to its stockholders and currently does not anticipate paying any cash dividends in the foreseeable future. As a result, the Company has assumed a dividend yield of 0%. The risk-free interest rate is based upon the rates of U.S. Treasury bills with a term that approximates the expected life of the option. The Company uses the simplified method, or the lattice method when appropriate, to reasonably estimate the expected life of its option awards. Expected volatility is based upon the volatility of comparable public companies.

The following table provides the assumptions used in the Black-Scholes model for the stock option awards for the years ended December 31, 2017, 2016 and 2015:

	2017	2016	2015
Expected dividend yield	0%	0%	0%
Risk-free interest rate	1.25% - 2.39%	0.64%	1.65%
Expected volatility	27.4% - 45.1%	30%	54.3%
Expected life (in years)	1.22 - 10.00	5.75 - 6.25	5.53

Restricted Stock Units

The following table summarizes the activity of restricted stock units for the year ended December 31, 2017:

	Number of Restricted Stock Units Outstanding	Weighted-Average Grant Date Fair Value
Unvested balance at December 31, 2016		
Granted	1,452,333	$ 8.00
Vested	(39,200)	
Cancelled	(39,200)	
Unvested balance at December 31, 2017	**1,373,933**	**$ 8.00**

The weighted average grant date fair value for RSUs granted during the year ended December 31, 2017 was $8.00. No RSUs were granted during the years ended December 31, 2016 or 2015. The total fair value of RSUs vested during the year ended December 31, 2017 was $314 thousand. As of December 31, 2017, the Company had approximately $7.0 million of unrecognized stock-based compensation expense related to restricted stock units that is expected to be recognized over a weighted-average period of 4.9 years.

Parent Equity Incentive Plan

The weighted average grant date fair value for stock options granted during the years ended December 31, 2017, 2016 and 2015 was $17.16, $0 and $16.45, respectively. The total fair value of stock options vested during the years ended December 31, 2017, 2016 and 2015 was $401 thousand, $900 thousand and $678 thousand, respectively. The aggregate intrinsic value of stock options exercised during the years ended December 31, 2017, 2016 and 2015 was $0 million, $0 million and $0 million, respectively.

The Company's Parent granted stock options to employees of the Company. Compensation costs related to the grant of the Parent company awards to the Company's employees has been recognized in the statements of operations with a corresponding credit to stockholders' equity, representing the Parent's capital contribution to the Company. The fair value of each stock option is estimated at the grant date using the Black-Scholes option pricing model. The fair value of stock options under the Black-Scholes model requires management to make assumptions regarding projected employee stock option exercise behaviors, risk-free interest rates, volatility of the Company's stock price, and expected dividends.

The following table provides the range of assumptions used in the Black-Scholes model for the Parent awards for years ended December 31, 2017, 2016 and 2015:

	2017	2016	2015
Expected dividend yield	0%	0%	0%
Risk-free interest rate	0.03% - 0.94%	0.16% - 0.94%	0.16% - 0.94%
Expected volatility	59.09% - 65.64%	59.09% - 60.49%	59.09% - 60.49%
Expected life (in years)	6.00 - 6.12	6.00 - 6.11	6.00 - 6.11

In 2015 the Company's Parent granted to certain consultants of the Company warrants to purchase Cellectis stock in exchange for services provided to the Company. The Company recorded the fair value of the warrants as a dividend paid to the Parent in exchange for the warrants issued to consultants.

The Company recognized stock-based compensation expense related to its Parent's grants of stock options and warrants to the Company employees and consultants of $371 thousand, $948 thousand and $692 thousand for the year ended December 31, 2017, 2016 and 2015, respectively. The following table summarizes the stock-based compensation expense for Parent awards (in thousands), which was recognized in the Company's statements of operations:

	2017	2016	2015
Stock-based compensation expense in operating expenses:			
Selling, general and administrative	$ 17	$ 20	$ 16
Research and development	354	928	676
	$371	**$948**	**$692**

10. Income Taxes

Deferred income tax assets and liabilities are recognized for the differences between the financial statement and income tax reporting basis of assets and liabilities based on currently enacted rates and laws.

A reconciliation of statutory tax expense to actual tax expense is as follows:

(Amounts in Thousands)	Year Ended December 31, 2017	2016	2015
Federal benefit at statutory rate of 34%	($8,833)	($4,109)	($2,002)
State Taxes (Net of Fed. Benefit)	3	—	—
Nondeductible expenses	(154)	325	237
Recognized R&D tax credits	—	(418)	—
Other credits generated	—	(58)	—
Deferred rate change	3,346	—	—
Change in valuation allowance	5,638	4,260	1,765
Total income tax	$ —	$ —	$ —

The total valuation allowance increased by $5.6 million, $4.3 million and 1.8 million for 2017, 2016 and 2015, respectively.

Deferred assets consist of the following:

(Amounts in Thousands)	Year Ended December 31, 2017	2016
Net operating loss	9,252	8,974
Stock-based compensation	2,691	—
Financing lease obligation	2,131	—
Credits	735	592
Accrued expenses	576	574
Other	8	81
Total deferred tax assets	15,393	10,221
Property and equipment	(2,600)	(53)
Deferred revenue	(1)	9
Total deferred tax liabilities	(2,601)	(44)
Less valuation allowance	(12,792)	(10,177)
Total	$ —	$ —

The cumulative net operating loss (NOLs) available to offset future income for federal and state reporting purposes was $41.6 million, $24.7 million and $14.9 million at December 31, 2017, 2016 and 2015, respectively. Federal and state net operating loss and credit carryforwards will begin to expire in 2032. Due to potential ownership changes that may have occurred or would occur in the future, IRC Section 382 may place additional limitations on the Company's ability to utilize the net operating loss carryforward.

The net deferred tax assets have a valuation allowance to reserve against those deferred tax assets that the Company believes are more likely than not to not be realized. In the event that the Company determines that a valuation allowance is no longer required, any benefits realized from the use of the NOLs and credits acquired will reduce its deferred income tax expense. In assessing the recoverability of the deferred tax assets, management considers whether it is more likely than not that a portion or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income in the periods in which those temporary differences become deductible. Management considers the scheduled reversals of future deferred tax liabilities, projected future taxable income, and tax planning strategies in making this assessment. As such, the Company has recorded a valuation allowance to offset all of its deferred tax assets due to the uncertainty that enough taxable income will be generated in the taxing jurisdiction to utilize the assets. Therefore, the Company has not reflected any benefit of such deferred tax assets in the accompanying financial statements.

The Company has recognized no material uncertain tax positions as of December 31, 2017. The Company files income tax returns in the U.S federal jurisdiction and various state jurisdictions. With few exceptions, the Company is no longer subject to U.S federal or state and local income tax examinations by tax authorities for years before 2013. It is difficult to predict the final timing and resolution of any particular uncertain tax position. Based on the Company's assessment of many factors, including past experience and complex judgements about future events, the Company does not currently anticipate significant changes in its uncertain tax positions over the next 12 months.

On December 22, 2017, the President of the United States signed into law the Tax Cuts and Jobs Act tax reform legislation. This legislation makes significant change in U.S. tax law including a reduction in the corporate tax rates, changes to net operating loss carryforwards and carrybacks, and a repeal of the corporate alternative minimum tax. The legislation reduced the U.S. corporate tax rate from the current rate of 35% to 21%. As a result of the enacted law, the Company was required to revalue deferred tax assets and liability at the enacted rate, which the Company has concluded provisionally had a net reduction in its net deferred tax assets of $3.4 million. This revaluation didn't have any income tax expense impact due to the full valuation allowance. The other provisions of the Tax Cuts and Jobs Act did not have a material impact on the 2017 financial statements.

In March 2016, the FASB issued guidance within ASU 2016-09, Improvements to Employee Share-Based Payment Accounting. The amendments in ASU 2016-09 to Topic 718, Compensation—Stock Compensation, require recognition of all excess tax benefits and tax deficiencies through income tax expense or benefit in the income statement. The amendments in this Update are effective for annual periods beginning after December 15, 2016. Effective January 1, 2017, the Company has adopted the ASU 2016-09, Improvements to Employee Share-Based Payment Accounting. As a result of adoption, the Company recognized an $813 thousand tax benefit as a reduction of income tax expense, however, due to full valuation allowance, the net impact is zero.

As of December 31, 2017, there were no material changes to what the Company disclosed regarding tax uncertainties or penalties as of December 31, 2016.

11. Commitments and Contingencies

Litigation and Claims

Various legal actions, proceedings, and claims (generally, "matters") are pending or may be instituted or asserted against the Company. The Company accrues for matters when losses are deemed probable and reasonably estimable. Any resulting adjustments, which could be material, are recorded in the period the adjustments are identified. The Company has not identified any legal matters needing to be recorded or disclosed as of December 31, 2017.

Leases

The Company leases the existing office space under an amended non-cancelable operating lease that expires in May 2018. Rent expense is recognized using the straight-line method over the term of the lease. In addition to minimum lease payments, the office lease requires payment of a proportionate share of real estate taxes and building operating expenses. Total rent expense was $270 thousand, $271 thousand and $272 thousand for the year ended December 31, 2017, 2016 and 2015, respectively.

Future minimum lease commitments as of December 31, 2017 are as follows (in thousands):

As of December 31, 2017	Total	1 year	2 years	3 years	4 years	5 years	After 5 years
Financing lease obligations	$30,042	$1,054	$1,336	$1,336	$1,336	$1,336	$ 23,644
Operating lease obligations	80	76	1	1	1	1	—
Total contractual obligations	**$30,122**	**$1,130**	**$1,337**	**$1,337**	**$1,337**	**$1,337**	**$ 23,644**

Financing Lease

The Company entered into a sale-lease back transaction (also called the financing lease) on September 6, 2017 with respect to certain real property and improvements located in Roseville, MN, whereby the Company sold the land and other improvements to a third party in exchange for approximately $7 million in cash and the Company committed to an initial lease term of twenty years, with four options to extend the term of the Lease Agreement for five years each. The transaction also included a construction contract for the Company's new nearly 40,000 square-foot corporate headquarters which when complete will include office, research laboratory space and outdoor growing plots.

During the construction period, the Company will initially pay annual base rent of $490 thousand until the property has been substantially completed, at which time, the lease will commence and the Company will pay annual base rent at the rate of 8% of the total cost which based on the project plan would approximate an annual base rent of $1.4 million. The Lease Agreement is a net lease, whereby the Company is responsible for the other costs and expenses associated with the use of the property. Cellectis entered into a Lease Guaranty with the landlord, whereby Cellectis has guaranteed the Company's obligations under the Lease Agreement. Cellectis' guarantee of the Company obligations under the sale-leaseback transaction will terminate at the end of the second consecutive calendar year in which the Company's tangible net worth exceeds $300 million, as determined in accordance with generally accepted accounting principles. On November 10, 2017, the Company agreed to indemnify Cellectis for any obligations incurred by Cellectis under the Lease Guaranty. The indemnification agreement will become effective at such time as Cellectis owns 50% or less of the Company outstanding common stock.

The Company is responsible for construction cost overruns. As a result of this involvement, the Company is deemed the "owner" for accounting purposes during the construction period and is required to capitalize the construction costs on the balance sheet. The sale of the land and structures also does not qualify for sale-leaseback accounting under ASC 840 as a result of "continuing involvement" and the guarantee of the transaction by Cellectis. Under ASC 840, the "continuing involvement" precludes the Company from derecognizing the assets from the balance sheet. When the assets under construction have been substantially completed the assets associated with the project will be capitalized and depreciated over the term of the lease.

The Company has recorded assets under construction related to the financing lease transaction of $3.1 million and a financing lease obligation of $10.1 million as of December 31, 2017. The Company recognized $0.2 million of interest expense related to this arrangement for the year end December 31, 2017.

Forward Purchase Commitments

The Company has forward purchase commitments with growers to purchase seed and grain at future dates in the amount of approximately $1.6 million that are estimated based on anticipated yield and expected price. This amount is not recorded in the financial statements because the Company has not taken delivery of the seed and grain.

12. Employee Benefit Plan

The Company provides a 401(k) defined contribution plan (the Plan) for participation by all regular fulltime employees who have completed three months of service. The Plan provides for a matching contribution equal to 100% of the amount of the employee's salary deduction up to 3% of the salary per employee and an additional 50% match from 3% to 5% of salary. Employees' rights to the Company's matching contributions vest immediately. The Company contributions to the Plan totaled $93 thousand, $66 thousand and $47 thousand for the year ended December 31, 2017, 2016 and 2015, respectively.

13. Segment and Geographic Information

The Company has one operating and reportable segment, R&D of plant gene editing. The Company derives substantially all of its revenue from R&D contracts related to plant gene editing located in the US.

14. Subsequent Events

In December 2013, the Company entered into a Research and Commercial License Agreement (the "License Agreement") with a subsidiary of Bayer Aktiengesellschaft ("Bayer"), pursuant to which we granted Bayer a license to certain patents for the research and commercialization of certain products developed with our TALEN technology. The Company believes that Bayer, which has agreed to acquire Monsanto, Inc. and also to sell a significant portion of its seeds business to BASF SE, has breached the License Agreement by filing patent applications in violation of the License Agreement's provisions and by failing to make a payment due under the License Agreement. As described elsewhere in this Annual Report, the Company's commercial success depends, in part, on obtaining and maintaining proprietary rights to intellectual property and defending these rights against third-party challenges. Accordingly, the Company gave notice to Bayer of its termination of the License Agreement, and on March 12, 2018, the Company filed a complaint in Delaware Chancery Court alleging that it properly terminated the License Agreement for Bayer's material breach. The Company has requested a declaration that the License Agreement has terminated and an order of specific performance requiring Bayer to comply with its post-termination obligations. The Company does not expect to incur any significant losses as a result of the proceedings. However, litigation is inherently uncertain, and there can be no assurances with respect to the outcome or consequences of this litigation.

Exhibit 3.1

AMENDED AND RESTATED

CERTIFICATE OF INCORPORATION

OF

CALYXT, INC.

Calyxt, Inc. (the "**Corporation**") is a corporation organized and existing under the laws of the State of Delaware. The original certificate of incorporation of the Corporation (the "**Certificate of Incorporation**") was filed with the Secretary of State of the State of Delaware on January 8, 2010 under the name Cellectis Plant Sciences, Inc. Certificates of Amendment were filed on December 19, 2014, May 4, 2015 and June 14, 2017, and a Certificate of Amendment was attached as Exhibit A to a Certificate of Validation on April 11, 2017. This amended and restated certificate of incorporation, which restates, integrates and further amends the provisions of the Certificate of Incorporation (as the same was amended from time to time) in its entirety, was duly adopted by the board of directors of the Corporation (the "**Board of Directors**") and the stockholders of the Corporation in accordance with the provisions of Sections 228, 242 and 245 of the General Corporation Law of the State of Delaware.

The certificate of incorporation of the corporation is hereby amended and restated to read in its entirety as follows:

ARTICLE 1
NAME

The name of the corporation is Calyxt, Inc.

ARTICLE 2
REGISTERED OFFICE AND AGENT

The address of its registered office in the State of Delaware is 251 Little Falls Drive, Wilmington, Delaware 19808. The name of its registered agent at such address is Corporation Service Company.

ARTICLE 3
PURPOSE

The purpose of the Corporation is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law of the State of Delaware as the same exists or may hereafter be amended ("**Delaware Law**").

ARTICLE 4
CAPITAL STOCK

Section 1. The total number of shares of stock which the Corporation shall have authority to issue is 325,000,000, consisting of 275,000,000 shares of common stock, par value $0.0001 per share (the "**Common Stock**"), and 50,000,000 shares of preferred stock, par value $0.0001 per share (the "**Preferred Stock**").

Section 2. The shares of Preferred Stock may be issued from time to time in one or more series. The Board of Directors is hereby empowered to authorize by resolution or resolutions from time to time the issuance of one or more series of Preferred Stock and, by filing a certificate pursuant to Delaware Law (a "**Preferred Stock Designation**"), to establish from time to time the number of shares to be included in each such series, and to fix the designations, powers, preferences and relative, participating, optional or other rights, if any, and the qualifications, limitations or restrictions thereof, if any, with respect to each such series of Preferred Stock and the number of shares constituting each such series, and to increase or decrease the number of shares of any such series to the extent permitted by Delaware Law. The authority of the Board of Directors with respect to each series shall include, but not be limited to, determination of the following:

(a) the designation of the series, which may be by distinguishing number, letter or title;

(b) the number of shares of the series, which number the Board of Directors may thereafter (except where otherwise provided in the Preferred Stock Designation) increase or decrease (but not below the number of shares thereof then outstanding);

(c) the amounts payable on, and the preferences, if any, of shares of the series in respect of dividends, and whether such dividends, if any, shall be cumulative or noncumulative;

(d) dates on which dividends, if any, shall be payable in respect of shares of the series;

(e) the redemption rights and price or prices, if any, for shares of the series;

(f) the terms and amount of any sinking fund provided for the purchase or redemption of shares of the series;

(g) whether the shares of the series shall be convertible into or exchangeable for shares of any other class or series, or any other security, of the Corporation or any other corporation, and, if so, the specification of such other class or series of such other security, the conversion or exchange price or prices or rate or rates, any adjustments thereof, the date or dates at which such shares shall be convertible or exchangeable and all other terms and conditions upon which such conversion or exchange may be made;

(h) the rights of the holders of the shares of such series upon the dissolution of, or upon the subsequent distribution of assets of, the Corporation;

(i) restrictions on the issuance of shares of the same series or of any other class or series;

(j) the voting powers, full or limited, or no voting powers, of the holders of shares of the series; and

(k) the manner in which any facts ascertainable outside of this Restated Certificate or the resolution or resolutions providing for the issuance of such series shall operate upon the voting powers, designations, preferences, rights, and qualifications, limitations, or restrictions of such series.

Section 3. The shares of Common Stock shall be subject to the express terms of the shares of Preferred Stock and any series thereof. Except as may otherwise be provided in this certificate of incorporation or in a Preferred Stock Designation, the holders of shares of Common Stock shall be entitled to one vote for each such share upon all questions presented to the stockholders.

Section 4. Except as may otherwise be provided by law, in this certificate of incorporation or in a Preferred Stock Designation, the holders of shares of Common Stock shall have the exclusive right to vote for the election of directors and for all other purposes, and holders of shares of Preferred Stock and any series thereof shall not be entitled to receive notice of any meeting of stockholders at which they are not entitled to vote.

Section 5. The Corporation shall be entitled to treat the person in whose name any share of its stock is registered as the owner thereof for all purposes and shall not be bound to recognize any equitable or other claim to, or interest in, such share on the part of any other person, whether or not the Corporation shall have notice thereof, except as expressly provided by applicable law.

ARTICLE 5
BOARD OF DIRECTORS

Section 1. The business and affairs of the Corporation shall be managed by or under the direction of the Board of Directors.

Section 2. Subject to the terms of any series of Preferred Stock entitled to separately elect directors, the Board of Directors shall consist of not less than five nor more than 11 directors, with the exact number of directors to be determined from time to time solely by resolution adopted by the affirmative vote of a majority of the entire Board of Directors.

Section 3. (a) Until the Effective Date, all of the directors will be elected annually at the annual meeting of stockholders.

(b) From and after the Effective Date, except as otherwise provided in the terms of any series of Preferred Stock entitled to separately elect directors, the directors shall be divided into three classes, designated Class I, Class II and Class III. Each class shall consist, as nearly as may be possible, of one-third of the total number of directors constituting the entire Board of Directors. Each director shall serve for a term ending on the date of the third annual meeting of stockholders next following the annual meeting at which such director was elected; *provided* that directors initially designated as Class I directors shall serve for a term ending on the date of the first annual meeting following the Effective Date, directors initially designated as Class II directors shall serve for a term ending on the second annual meeting following the Effective Date, and directors initially designated as Class III directors shall serve for a term ending on the date of the third annual meeting following the Effective Date. Immediately following the Effective Date, the Board of Directors is authorized to designate the members of the Board of Directors then in office as Class I directors, Class II directors or Class III directors. In the event of any change in the number of directors, the Board of Directors shall apportion any newly created directorships among, or reduce the number of directorships in, such class or classes as shall equalize, as nearly as possible, the number of directors in each class. In no event will a decrease in the number of directors shorten the term of any incumbent director.

(c) Each director shall hold office until such director's successor shall have been duly elected and qualified or until such director's earlier death, resignation or removal and for a term that shall coincide with the term of the class to which such director shall have been elected.

(d) There shall be no cumulative voting in the election of directors.

Section 4. Vacancies on the Board of Directors resulting from death, resignation, removal or otherwise and newly created directorships resulting from any increase in the number of directors shall, except as otherwise required by law, be filled solely by a majority of the directors then in office (although less than a quorum) or by the sole remaining director, and each director so elected shall hold office for a term that shall coincide with the term of the class to which such director shall have been elected.

Section 5. (a) Until the Effective Date, any director or the entire Board of Directors may be removed from office, with or without cause, by the affirmative vote of the holders of not less than a majority of the shares then entitled to vote generally in the election of directors, voting together as a single class.

(b) From and after the Effective Date, no director may be removed from office by the stockholders except for cause with the affirmative vote of the holders of not less than a majority of the shares then entitled to vote generally in the election of directors, voting together as a single class.

(c) Notwithstanding the foregoing, whenever the holders of one or more series of Preferred Stock shall have the right, voting separately as a series, to elect directors, the election, term of office, filling of vacancies, removal and other features of such

directorships shall be governed by the terms of the resolution or resolutions adopted by the Board of Directors pursuant to Article 4 applicable thereto, and such directors so elected shall not be subject to the provisions of this Article 5 unless otherwise provided therein.

ARTICLE 6
STOCKHOLDERS

Section 1. (a) Until the Effective Date, any action required or permitted to be taken at any annual or special meeting of stockholders may be taken (i) by a vote of stockholders at a meeting of stockholders duly noticed and called in accordance with Delaware Law or (ii) without a meeting, without prior notice and without a vote, if a consent or consents in writing, setting forth the action so taken, shall be signed by the holders of outstanding capital stock of the Corporation having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote thereon were present and voted.

(b) From and after the Effective Date, any action required or permitted to be taken at any annual or special meeting of stockholders may only be taken upon a vote of stockholders at an annual or special meeting of stockholders duly noticed and called in accordance with the Corporation's bylaws and Delaware Law and may not be taken by written consent of stockholders without a meeting.

Section 2. Special meetings of stockholders may be called only by the affirmative vote of a majority of the entire Board of Directors; *provided* that, until the Effective Date, special meetings of stockholders shall be called by the Secretary of the Corporation at the request of the holders of a majority of the then outstanding shares of Common Stock.

ARTICLE 7
LIMITATIONS ON LIABILITY AND INDEMNIFICATION

Section 1. A director of the Corporation shall not be liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director to the fullest extent permitted by Delaware Law.

Section 2. (a) Each person (and the heirs, executors or administrators of such person) who was or is a party or is threatened to be made a party to, or is otherwise involved in, any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that such person is or was a director or principal officer (as defined in the Corporation's bylaws) of the Corporation shall be indemnified and held harmless by the Corporation to the fullest extent permitted by Delaware Law; *provided* that the Corporation shall not be obligated to indemnify (or advance) expenses to such a director or principal officer with respect to a proceeding (or part thereof) initiated by such director or principal officer (other than a proceeding to enforce the rights granted under this Article 7) unless the Board of Directors approved the initiation of such proceeding (or part thereof). The right to

indemnification conferred in this Article 7 shall also include the right to be paid by the Corporation the expenses (including attorneys' fees) incurred in connection with any such proceeding in advance of its final disposition to the fullest extent authorized by Delaware Law. The right to indemnification conferred in this Article 7 shall be a contract right.

(b) The Corporation may, by action of its Board of Directors, provide rights to indemnification and to advancement of expenses to such other officers, employees and agents of the Corporation to such extent and to such effect as the Board of Directors shall determine to be appropriate and authorized by Delaware Law.

Section 3. The Corporation shall have power to purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the Corporation, or is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any liability asserted against such person and incurred by such person in any such capacity or arising out of such person's status as such, whether or not the Corporation would have the power to indemnify such person against such liability under Delaware Law.

Section 4. The rights and authority conferred in this Article 7 shall not be exclusive of any other right which any person may otherwise have or hereafter acquire.

Section 5. Neither the amendment nor repeal of this Article 7, nor the adoption of any provision of this certificate of incorporation or the bylaws of the Corporation, nor, to the fullest extent permitted by Delaware Law, any modification of law, shall adversely affect any right or protection of any person granted pursuant hereto existing at, or arising out of or related to any event, act or omission that occurred prior to, the time of such amendment, repeal, adoption or modification (regardless of when any proceeding (or part thereof) relating to such event, act or omission arises or is first threatened, commenced or completed).

ARTICLE 8
CORPORATE OPPORTUNITIES

To the fullest extent permitted by applicable law, the Corporation, on behalf of itself and any future subsidiaries, renounces any interest or expectancy of the Corporation and any future subsidiaries in, or in being offered an opportunity to participate in, business opportunities that are from time to time presented to the Parent or any of its officers, directors, agents, shareholders, members, partners, subsidiaries (other than the Corporation and any future subsidiaries) and affiliates (including, without limitation, their respective officers, directors, agents, shareholders, members, partners, subsidiaries and affiliates) (each, a "**Specified Party**"), even if the opportunity is one that the Corporation or any future subsidiaries might reasonably be deemed to have pursued or had the ability or desire to pursue if granted the opportunity to do so and each such Specified Party shall have no duty to communicate or offer such business opportunity to the Corporation and, to the fullest extent permitted by applicable law, shall not be liable to the Corporation or

any future subsidiaries for breach of any fiduciary or other duty, as a director or officer or otherwise, by reason of the fact that such Specified Party pursues or acquires such business opportunity, directs such business opportunity to another person or fails to present such business opportunity, or information regarding such business opportunity, to the Corporation or any future subsidiaries. Notwithstanding the foregoing, a Specified Party who is a director or officer of the Corporation and who is offered a business opportunity in his or her capacity as a director or officer of the Corporation (a "**Directed Opportunity**") shall be obligated to communicate such Directed Opportunity to the Corporation; *provided*, *however*, that all of the protections of this Article 8 shall otherwise apply to the Specified Parties with respect to such Directed Opportunity, including, without limitation, the ability of the Specified Parties to pursue or acquire such Directed Opportunity or to direct such Directed Opportunity to another person. In addition, to the fullest extent permitted by applicable law, none of the Parent or any of its affiliates or any director who is not employed by the Corporation or his or her affiliates will have any duty to refrain from (i) engaging in a corporate opportunity in the same or similar lines of business in which the Corporation or any future subsidiaries now engage or propose to engage or (ii) otherwise compete with the Corporation or any future subsidiaries. To the fullest extent permitted by applicable law, no business opportunity will be deemed to be a potential corporate opportunity for the Corporation unless the Corporation would be permitted to undertake the opportunity under this certificate of incorporation, the Corporation has sufficient financial resources to undertake the opportunity and the opportunity is in line with the business of the Corporation.

Neither the amendment nor repeal of this Article 8, nor the adoption of any provision of this certificate of incorporation or the bylaws of the Corporation, nor, to the fullest extent permitted by Delaware Law, any modification of law, shall adversely affect any right or protection of any person granted pursuant hereto existing at, or arising out of or related to any event, act or omission that occurred prior to, the time of such amendment, repeal, adoption or modification (regardless of when any proceeding (or part thereof) relating to such event, act or omission arises or is first threatened, commenced or completed).

If any provision or provisions of this Article 8 shall be held to be invalid, illegal or unenforceable as applied to any circumstance for any reason whatsoever: (a) the validity, legality and enforceability of such provisions in any other circumstance and of the remaining provisions of this Article 8 (including, without limitation, each portion of any paragraph of this Article 8 containing any such provision held to be invalid, illegal or unenforceable that is not itself held to be invalid, illegal or unenforceable) shall not in any way be affected or impaired thereby and (b) to the fullest extent possible, the provisions of this Article 8 (including, without limitation, each such portion of any paragraph of this Article 8 containing any such provision held to be invalid, illegal or unenforceable) shall be construed so as to permit the Corporation to protect its directors, officers, employees and agents from personal liability in respect of their good faith service to or for the benefit of the Corporation to the fullest extent permitted by law.

This Article 8 shall not limit any protections or defenses available to, or indemnification rights of, any director or officer of the Corporation under this certificate of incorporation or applicable law.

Any person or entity purchasing or otherwise acquiring any interest in any securities of the Corporation shall be deemed to have notice of and to have consented to the provisions of this Article 8.

ARTICLE 9
EXCLUSIVE JURISDICTION

Unless the Corporation consents in writing to the selection of an alternative forum, the Chancery Court of the State of Delaware (the "**Court of Chancery**") shall, to the fullest extent permitted by law, be the sole and exclusive forum for (a) any derivative action or proceeding brought on behalf of the Corporation, (b) any action asserting a claim of breach of a fiduciary duty owed by any director, officer, employee or agent of the Corporation to the Corporation or the Corporation's stockholders, (c) any action asserting a claim arising pursuant to any provision of the DGCL or of this certificate of incorporation or the bylaws, or (d) any action asserting a claim against the Corporation or any director or officer of the Corporation governed by the internal affairs doctrine, in each such case subject to such Court of Chancery having personal jurisdiction over the indispensable parties named as defendants therein. Any person or entity purchasing or otherwise acquiring any interest in shares of capital stock of the Corporation shall be deemed to have notice of and, to the fullest extent permitted by law, to have consented to the provisions of this Article 9.

ARTICLE 10
MISCELLANEOUS

The following provisions are inserted for the management of the business and the conduct of the affairs of the Corporation and for the further definition of the powers of the Corporation and of its directors and stockholders:

(a) The directors shall have the concurrent power with the stockholders to adopt, amend or repeal the bylaws of the Corporation.

(b) Elections of directors need not be by written ballot unless the bylaws of the Corporation so provide.

(c) The Corporation elects not to be governed by Section 203 of the Delaware Law, and the restrictions contained in Section 203 shall not apply to the Corporation, until the Effective Date. From and after the Effective Date, the Corporation shall be governed by Section 203 so long as Section 203 by its terms would apply to the Corporation.

For so long as that certain Stockholders Agreement, dated as of July 25, 2017, between the Corporation and the Parent (as amended from time to time, the "**Stockholders**

Agreement"), is in effect, the provisions of the Stockholders Agreement shall be incorporated by reference into the relevant provisions hereof, and such provisions shall be interpreted and applied in a manner consistent with the terms of the Stockholders Agreement.

As used herein, the following terms shall have the following meanings:

"**Effective Date**" shall mean the first date on which the Parent and its affiliates no longer beneficially own more than 50% of the outstanding shares of Common Stock of the Corporation.

"**Initial Public Offering Date**" means July 19, 2017.

"**Parent**" means Cellectis S.A.

ARTICLE 11
AMENDMENT OF CERTIFICATE OF INCORPORATION

The Corporation reserves the right from time to time to amend this certificate of incorporation in any manner permitted by Delaware Law, and all rights and powers conferred upon stockholders, directors and officers herein are granted subject to this reservation. Notwithstanding the foregoing, from and after the Effective Date, the provisions set forth in Articles 5, 6, 7, 8, 9 and 10 and this Article 11 may not be repealed or amended in any respect, and no other provision may be adopted, amended or repealed which would have the effect of modifying or permitting the circumvention of the provisions set forth in any of Articles 5, 6, 7, 8, 9 and 10 and this Article 11, unless such action is approved by the affirmative vote of the holders of not less than 66 2/3% of the total voting power of all outstanding securities of the Corporation generally entitled to vote in the election of directors, voting together as a single class.

IN WITNESS WHEREOF, the undersigned has executed this Amended and Restated Certificate of Incorporation this 25th day of July, 2017.

CALYXT, INC.

By: /s/ Federico A. Tripodi
Name: Federico A. Tripodi
Title: Chief Executive Officer

Exhibit 3.2

AMENDED AND RESTATED BYLAWS

OF

CALYXT, INC.

ARTICLE 1
OFFICES

Section 1.01. *Registered Office*. The registered office of the Corporation shall be in the City of Wilmington, County of New Castle, State of Delaware.

Section 1.02. *Other Offices*. The Corporation may also have offices at such other places both within and without the State of Delaware as the board of directors may from time to time determine or the business of the Corporation may require.

Section 1.03. *Books*. The books of the Corporation may be kept within or without the State of Delaware as the board of directors may from time to time determine or the business of the Corporation may require.

ARTICLE 2
MEETINGS OF STOCKHOLDERS

Section 2.01. *Time and Place of Meetings*. All meetings of stockholders shall be held at such place, either within or without the State of Delaware, on such date and at such time as may be determined from time to time by the board of directors (or the chairman in the absence of a designation by the board of directors).

Section 2.02. *Annual Meetings*. Unless directors are elected by written consent in lieu of an annual meeting as permitted by the General Corporation Law of the State of Delaware, as the same exists or may hereafter be amended ("**Delaware Law**"), and the certificate of incorporation, an annual meeting of stockholders, commencing with the fiscal year 2018, shall be held for the election of directors and to transact such other business as may properly be brought before the meeting.

Section 2.03. *Special Meetings*. (a) Except as otherwise provided in the certificate of incorporation, special meetings of stockholders (i) may be called at any time by the affirmative vote of a majority of the entire board of directors and (ii) until the Effective Date (as such term is defined in the certificate of incorporation), shall be called by the secretary of the Corporation at the request of the holders of a majority of the then outstanding shares of the Corporation's common stock (the "**Common Stock**"). Such request shall state the purpose or purposes of the proposed meeting.

(b) A special meeting shall be held at such date, time and place as may be fixed by the board of directors in accordance with these bylaws.

(c) Business conducted at a special meeting shall be limited to the matters described in the applicable request for such special meeting and any other matters as the board of directors shall determine.

Section 2.04. *Notice of Meetings and Adjourned Meetings; Waivers of Notice*. (a) Whenever stockholders are required or permitted to take any action at a meeting, a written notice of the meeting shall be given which shall state the place, if any, date and hour of the meeting, the means of remote communications, if any, by which stockholders and proxy holders may be deemed to be present in person and vote at such meeting, the record date for determining stockholders entitled to vote at such meeting, if such record date is different from the record date for determining stockholders entitled to notice of the meeting, and, in the case of a special meeting, the purpose or purposes for which the meeting is called. Unless otherwise provided by Delaware Law, such notice shall be given not less than 10 nor more than 60 days before the date of the meeting to each stockholder of record entitled to notice of such meeting. Unless these bylaws otherwise require, when a meeting is adjourned to another time or place (whether or not a quorum is present), notice need not be given of the adjourned meeting if the time, place, if any, and the means of remote communications, if any, by which stockholders and proxy holders may be deemed to be present in person and vote at such meeting, are announced at the meeting at which the adjournment is taken. At the adjourned meeting, the Corporation may transact any business which might have been transacted at the original meeting. If the adjournment is for more than 30 days, or after the adjournment a new record date is fixed for the adjourned meeting, a notice of the adjourned meeting shall be given to each stockholder of record entitled to notice of such adjourned meeting.

(b) Whenever notice is required to be given under any provision of Delaware Law or the certificate of incorporation or these bylaws, a written waiver signed by the person entitled thereto, or a waiver by electronic transmission by the person entitled to notice, whether before or after the time stated therein, shall be deemed equivalent to notice. Neither the business to be transacted at, nor the purpose of, any regular or special meetings of stockholders need be specified in any written waiver of notice or any waiver by electronic transmission unless so required by the certificate of incorporation or these bylaws. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends the meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Business transacted at any special meeting of stockholders shall be limited to the purposes stated in the notice.

Section 2.05. *Notice of Nominations and Stockholder Business*.

(a) *Annual Meetings of Stockholders*.

(i) Nominations of persons for election to the board of directors of the Corporation or the proposal of other business to be transacted by the stockholders may be made at an annual meeting of stockholders only (A) pursuant to the Corporation's notice of meeting (or any supplement thereto), (B) by or at the direction of the board of directors or (C) by any stockholder of the Corporation

who is a stockholder of record at the time of giving of notice provided for in this Section 2.05(a), who shall be entitled to vote at the meeting and who complies with the notice procedures set forth in this Section 2.05(a).

(ii) For nominations or other business to be properly brought before an annual meeting of stockholders by a stockholder pursuant to clause (C) of paragraph (a)(i) of this Section 2.05, the stockholder must have given timely notice thereof in writing to the secretary of the Corporation and any such proposed business (other than the nominations of persons for election to the board of directors) must constitute a proper matter for stockholder action. To be timely, a stockholder's notice shall be delivered to or mailed and received by the secretary of the Corporation at the principal executive offices of the Corporation not less than 90 days nor more than 120 days prior to the first anniversary of the preceding year's annual meeting of stockholders; *provided*, *however*, that in the event that the date of the annual meeting is advanced more than 30 days prior to such anniversary date or delayed more than 30 days after such anniversary date then to be timely such notice must be received by the Corporation no earlier than 120 days prior to such annual meeting and no later than the later of 70 days prior to the date of the meeting or the 10th day following the day on which public announcement of the date of the meeting was first made by the Corporation. In no event shall the public announcement of an adjournment or postponement of an annual meeting commence a new time period (or extend any time period) for the giving of a stockholder's notice as described above. For purposes of Sections 2.05(a)(ii) and 2.05(b) of these bylaws, "public announcement" shall mean disclosure in a press release reported by the Dow Jones News Service, the Associated Press or any comparable national news service or in a document publicly filed by the Corporation with the Securities and Exchange Commission pursuant to Section 13, 14 or 15(d) of the Securities Exchange Act of 1934, as amended (including the rules and regulations promulgated thereunder, the "**Exchange Act**").

(iii) A stockholder's notice to the secretary shall set forth (A) as to each person whom the stockholder proposes to nominate for election or reelection as a director all information relating to such person that is required to be disclosed in solicitations of proxies for election of directors, or is otherwise required, in each case pursuant to Regulation 14A under the Exchange Act (including such person's written consent to being named in the proxy statement as a nominee and to serving as a director if elected), (B) as to any other business that the stockholder proposes to bring before the meeting, a brief description of the business desired to be brought before the meeting, the text of the proposal or business (including the text of any resolutions proposed for consideration and in the event that such business includes a proposal to amend these bylaws, the text of the proposed amendment), the reasons for conducting such business at the meeting and any material interest in such business of such stockholder and the beneficial owner, if any, on whose behalf the proposal is made and (C) as to the stockholder giving the notice and the beneficial owner, if any, on whose behalf the proposal is made:

(1) the name and address of such stockholder (as they appear on the Corporation's books) and any such beneficial owner;

(2) the class or series and number of shares of capital stock of the Corporation which are held of record or are beneficially owned by such stockholder and by any such beneficial owner;

(3) a description of any agreement, arrangement or understanding between or among such stockholder and any such beneficial owner, any of their respective affiliates or associates, and any other person or persons (including their names) in connection with the proposal of such nomination or other business;

(4) a description of any agreement, arrangement or understanding (including, regardless of the form of settlement, any derivative, long or short positions, profit interests, forwards, futures, swaps, options, warrants, convertible securities, stock appreciation or similar rights, hedging transactions and borrowed or loaned shares) that has been entered into by or on behalf of, or any other agreement, arrangement or understanding that has been made, the effect or intent of which is to create or mitigate loss to, manage risk or benefit of share price changes for, or increase or decrease the voting power of, such stockholder or any such beneficial owner or any such nominee with respect to the Corporation's securities (a "**Derivative Instrument**");

(5) to the extent not disclosed pursuant to clause (4) above, the principal amount of any indebtedness of the Corporation or any of its subsidiaries beneficially owned by such stockholder or by any such beneficial owner, together with the title of the instrument under which such indebtedness was issued and a description of any Derivative Instrument entered into by or on behalf of such stockholder or such beneficial owner relating to the value or payment of any indebtedness of the Corporation or any such subsidiary;

(6) a representation that the stockholder is a holder of record of stock of the Corporation entitled to vote at such meeting and intends to appear in person or by proxy at the meeting to bring such nomination or other business before the meeting; and

(7) a representation as to whether such stockholder or any such beneficial owner intends or is part of a group that

intends to (i) deliver a proxy statement and/or form of proxy to holders of at least the percentage of the voting power of the Corporation's outstanding capital stock required to approve or adopt the proposal or to elect each such nominee and/or (ii) otherwise to solicit proxies from stockholders in support of such proposal or nomination.

If requested by the Corporation, the information required under clauses (C)(2), (3), (4) and (5) of the preceding sentence of this Section 2.05 shall be supplemented by such stockholder and any such beneficial owner not later than 10 days after the record date for notice of the meeting to disclose such information as of such record date.

Notwithstanding anything to the contrary, the notice requirements set forth herein with respect to the proposal of any business pursuant to this Section 2.05 other than a nomination shall be deemed satisfied by a stockholder if such stockholder has submitted a proposal to the Corporation in compliance with Rule 14a-8 promulgated under the Exchange Act and such stockholder's proposal has been included in a proxy statement that has been prepared by the Corporation to solicit proxies for the meeting of stockholders.

(b) *Special Meetings of Stockholders*. Only such business shall be conducted at a special meeting of stockholders as shall have been brought before the meeting pursuant to the Corporation's notice of meeting pursuant to Section 2.04. Nominations of persons for election to the board of directors of the Corporation at a special meeting of stockholders may be made by stockholders only if the election of directors is included as business to be brought before a special meeting in the Corporation's notice of meeting and then only by any stockholder of the Corporation who is a stockholder of record at the time of giving of notice provided for in this Section 2.05(b), who shall be entitled to vote at the meeting and who complies with the notice procedures set forth in this Section 2.05(b). For nominations to be properly brought before a special meeting of stockholders by a stockholder pursuant to this Section 2.05(b), the stockholder must have given timely notice thereof in writing to the secretary of the Corporation. To be timely, a stockholder's notice shall be delivered to or mailed and received by the secretary of the Corporation at the principal executive offices of the Corporation (A) not earlier than 120 days prior to the date of the special meeting nor (B) later than the later of 90 days prior to the date of the special meeting or the 10th day following the day on which public announcement of the date of the special meeting was first made. A stockholder's notice to the secretary shall comply with the notice requirements of Section 2.05(a)(iii).

(c) *General*.

(i) At the request of the board of directors, any person nominated by the board of directors for election as a director shall furnish to the secretary of the Corporation the information that is required to be set forth in a stockholder's notice of nomination that pertains to the nominee. Subject to the provisions of the Stockholders Agreement (as defined herein), no person shall be eligible to be nominated by a stockholder to serve as a director of the Corporation unless

nominated in accordance with the procedures set forth in this Section 2.05. No business shall be conducted at a stockholder meeting except in accordance with the procedures set forth in Section 2.03 and this Section 2.05. The chairman of the meeting shall, if the facts warrant, determine and declare to the meeting that a nomination was not made in accordance with the procedures prescribed by these bylaws or that business was not properly brought before the meeting, and if he should so determine and declare, the defective nomination shall be disregarded or such business shall not be transacted, as the case may be. Notwithstanding the foregoing provisions of this Section 2.05, unless otherwise required by law, if the stockholder (or a qualified representative of the stockholder) does not appear at the annual or special meeting of stockholders of the Corporation to present a nomination or other proposed business, such nomination shall be disregarded or such proposed business shall not be transacted, as the case may be, notwithstanding that proxies in respect of such vote may have been received by the Corporation. For purposes of this Section 2.05, to be considered a qualified representative of the stockholder, a person must be a duly authorized officer, manager or partner of such stockholder or must be authorized by a writing executed by such stockholder or an electronic transmission delivered by such stockholder to act for such stockholder as proxy at the meeting of stockholders and such person must produce such writing or electronic transmission, or a reliable reproduction of the writing or electronic transmission, at the meeting of stockholders.

(ii) Without limiting the foregoing provisions of this Section 2.05, a stockholder shall also comply with all applicable requirements of the Exchange Act with respect to the matters set forth in this Section 2.05; *provided*, *however*, that any references in these bylaws to the Exchange Act are not intended to and shall not limit any requirements applicable to nominations or proposals as to any other business to be considered pursuant to this Section 2.05, and compliance with Section 2.05(a) or (b) shall be the exclusive means for a stockholder to make nominations or submit other business (other than as provided in the last paragraph of Section 2.05(a)).

Section 2.06. *Quorum*. Unless otherwise provided in the certificate of incorporation or these bylaws and subject to Delaware Law, the presence, in person or by proxy, of the holders of a majority of the then outstanding capital stock of the Corporation entitled to vote at a meeting of stockholders shall constitute a quorum for the transaction of business. If, however, such quorum shall not be present at any meeting of the stockholders, either the chairman of the meeting or a majority of the stockholders present in person or represented by proxy shall adjourn the meeting, without notice other than announcement at the meeting, until a quorum shall be present. At such adjourned meeting at which a quorum shall be present any business may be transacted which might have been transacted at the meeting as originally notified.

Section 2.07. *Voting*. (a) Unless otherwise provided in the certificate of incorporation and subject to Delaware Law, each stockholder shall be entitled to one vote for each outstanding share of capital stock of the Corporation held by such stockholder.

Any share of capital stock of the Corporation held by the Corporation shall have no voting rights. Unless otherwise provided in the certificate of incorporation or these bylaws and subject to Delaware Law, in all matters other than the election of directors, the affirmative vote of the majority of the votes cast affirmatively or negatively at the meeting at which a quorum is present and entitled to vote on the subject matter shall be the act of the stockholders. Subject to the rights of the holders of any series of preferred stock to elect additional directors under specific circumstances, directors shall be elected by a plurality of the votes of the shares of capital stock of the Corporation present in person or represented by proxy at the meeting and entitled to vote on the election of directors.

(b) Each stockholder entitled to vote at a meeting of stockholders or to express consent or dissent to a corporate action in writing without a meeting may authorize another person or persons to act for such stockholder by proxy, appointed by an instrument in writing, subscribed by such stockholder or by his attorney thereunto authorized, or by proxy sent by cable, telegram or by any means of electronic communication permitted by law, which results in a writing from such stockholder or by his attorney, and delivered to the secretary of the meeting. No proxy shall be voted after three (3) years from its date, unless said proxy provides for a longer period.

(c) Votes may be cast by any stockholder entitled to vote in person or by his proxy. In determining the number of votes cast for or against a proposal or nominee, shares abstaining from voting on a matter (including elections) will not be treated as a vote cast.

Section 2.08. *Action by Consent*. (a) Until the Effective Date and unless otherwise provided in the certificate of incorporation, any action required to be taken at any annual or special meeting of stockholders, or any action which may be taken at any annual or special meeting of stockholders, may be taken without a meeting, without prior notice and without a vote, if a consent or consents in writing, setting forth the action so taken, shall be signed by the holders of outstanding capital stock having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote thereon were present and voted and shall be delivered to the Corporation by delivery to its registered office in Delaware, its principal place of business or an officer or agent of the Corporation having custody of the book in which proceedings of meetings of stockholders are recorded. Delivery made to the Corporation's registered office shall be by hand or by certified or registered mail, return receipt requested. Prompt notice of the taking of the corporate action without a meeting by less than unanimous written consent shall be given to those stockholders who have not consented in writing and who, if the action had been taken at a meeting, would have been entitled to notice of the meeting if the record date for such meeting had been the date that written consents signed by a sufficient number of stockholders to take the action were delivered to the Corporation as provided in Section 2.08(b).

(b) Every written consent shall bear the date of signature of each stockholder who signs the consent, and no written consent shall be effective to take the corporate action referred to therein unless, within 60 days of the earliest dated consent delivered in

the manner required by this section and Delaware Law to the Corporation, written consents signed by a sufficient number of holders to take action are delivered to the Corporation in the manner required by this Section 2.08 and Delaware Law.

Section 2.09. *Organization*. At each meeting of stockholders, the chairman of the board of directors, if one shall have been elected, or in the chairman's absence or if one shall not have been elected, the director or officer designated by the vote of the majority of the directors present at such meeting, shall act as chairman of the meeting. The secretary (or in the secretary's absence or inability to act, the person whom the chairman of the meeting shall appoint secretary of the meeting) shall act as secretary of the meeting and keep the minutes thereof.

Section 2.10. *Order of Business*. The order of business at all meetings of stockholders shall be as determined by the chairman of the meeting.

ARTICLE 3
BOARD OF DIRECTORS

Section 3.01. *General Powers*. Except as otherwise provided in Delaware Law or the certificate of incorporation, the business and affairs of the Corporation shall be managed by or under the direction of the board of directors.

Section 3.02. *Number, Election, Classes, Term of Office*. (a) Subject to the terms of any series of Preferred Stock entitled to separately elect directors, the board of directors shall consist of not less than five nor more than 11 directors, with the exact number of directors to be determined from time to time solely by resolution adopted by the affirmative vote of a majority of the entire board of directors.

(b) Until the Effective Date, all of the directors will be elected annually at the annual meeting of stockholders.

(c) From and after the Effective Date, except as otherwise provided in the terms of any series of Preferred Stock entitled to separately elect directors, the directors shall be divided into three classes, designated Class I, Class II and Class III. Each class shall consist, as nearly as may be possible, of one-third of the total number of directors constituting the entire board of directors. The Board of Directors is hereby authorized to assign members of the Board of Directors in office at the Effective Date to such classes. Except as otherwise provided in the certificate of incorporation, each director shall serve for a term ending on the date of the third annual meeting of stockholders next following the annual meeting at which such director was elected.

(d) Each director shall hold office until such director's successor shall have been duly elected and qualified or until such director's earlier death, resignation or removal and for a term that shall coincide with the term of the class to which such director shall have been elected. Directors need not be stockholders.

(e) There shall be no cumulative voting in the election of directors.

Section 3.03. *Quorum and Manner of Acting*. Unless the certificate of incorporation or these bylaws require a greater number, a majority of the total number of directors shall constitute a quorum for the transaction of business, and the affirmative vote of a majority of the directors present at a meeting at which a quorum is present shall be the act of the board of directors. When a meeting is adjourned to another time or place (whether or not a quorum is present), notice need not be given of the adjourned meeting if the time and place thereof are announced at the meeting at which the adjournment is taken. At the adjourned meeting, the board of directors may transact any business which might have been transacted at the original meeting. If a quorum shall not be present at any meeting of the board of directors, the directors present thereat shall adjourn the meeting, from time to time, without notice other than announcement at the meeting, until a quorum shall be present.

Section 3.04. *Time and Place of Meetings*. The board of directors shall hold its meetings at such place, either within or without the State of Delaware, and at such time as may be determined from time to time by the board of directors (or the chairman in the absence of a determination by the board of directors).

Section 3.05. *Annual Meeting*. The board of directors shall meet for the purpose of organization, the election of officers and the transaction of other business, as soon as practicable after each annual meeting of stockholders. Notice of such meeting need not be given. In the event such annual meeting is not held on the same day and at the same place as the annual meeting of stockholders, the annual meeting of the board of directors may be held at such place either within or without the State of Delaware, on such date and at such time as shall be specified in a notice thereof given as hereinafter provided in Section 3.07 or in a waiver of notice thereof signed by any director who chooses to waive the requirement of notice.

Section 3.06. *Regular Meetings*. After the place and time of regular meetings of the board of directors shall have been determined and notice thereof shall have been once given to each member of the board of directors, regular meetings may be held without further notice being given.

Section 3.07. *Special Meetings*. Special meetings of the board of directors may be called by the chairman of the board of directors or the chief executive officer and shall be called by the secretary on the written request of at least two directors. Notice of special meetings of the board of directors shall be given to each director at least 24 hours before the date of the meeting in such manner as is determined by the board of directors.

Section 3.08. *Committees*. (a) The board of directors may designate one or more committees, each committee to consist of one or more of the directors of the Corporation. The board of directors may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee. In the absence or disqualification of a member of a committee, the member or members present at any meeting and not disqualified from voting, whether or not such member or members constitute a quorum, may unanimously appoint another member of the board of directors to act at the meeting in the place of any such absent or disqualified

member. Any such committee, to the extent provided in the resolution of the board of directors, shall have and may exercise all the powers and authority of the board of directors in the management of the business and affairs of the Corporation, and may authorize the seal of the Corporation to be affixed to all papers which may require it; but no such committee shall have the power or authority in reference to the following matters: (i) approving or adopting, or recommending to the stockholders, any action or matter expressly required by Delaware Law to be submitted to the stockholders for approval or (ii) adopting, amending or repealing any bylaw of the Corporation. Each committee shall keep regular minutes of its meetings and report the same to the board of directors when required.

(b) Unless otherwise provided in the certificate of incorporation, these bylaws or the resolution of the board of directors designating the committee, a committee may create one or more subcommittees consisting of one or more members of such committee and delegate to such subcommittee any or all of the powers and authority of the committee.

(c) Unless the board of directors otherwise provides, each committee designated by the board of directors may make, alter and repeal rules for the conduct of its business. In the absence of such rules, each committee shall conduct its business in the same manner as the board of directors conducts its business pursuant to this Article 3.

Section 3.09. *Action by Consent*. Unless otherwise restricted by the certificate of incorporation or these bylaws, any action required or permitted to be taken at any meeting of the board of directors or of any committee thereof may be taken without a meeting, if all members of the board or committee, as the case may be, consent thereto in writing or by electronic transmission, and the writing or writings or electronic transmission or transmissions, are filed with the minutes of proceedings of the board or committee. Such filing shall be in paper form if the minutes are maintained in paper form and shall be in electronic form if the minutes are maintained in electronic form.

Section 3.10. *Telephonic Meetings*. Unless otherwise restricted by the certificate of incorporation or these bylaws, members of the board of directors, or any committee designated by the board of directors, may participate in a meeting of the board of directors, or such committee, as the case may be, by means of conference telephone or other communications equipment by means of which all persons participating in the meeting can hear each other, and such participation in a meeting shall constitute presence in person at the meeting.

Section 3.11. *Resignation*. Any director may resign at any time by giving notice in writing or by electronic transmission to the board of directors or to the secretary of the Corporation. The resignation of any director shall take effect upon receipt of notice thereof or at such later time as shall be specified in such notice; and unless otherwise specified therein, the acceptance of such resignation shall not be necessary to make it effective.

Section 3.12. *Vacancies*. Prior to the Effective Date, vacancies on the board of directors resulting from death, resignation, removal or otherwise and newly created directorships resulting from any increase in the number of directors may be filled with the affirmative vote of the holders of not less than a majority of the shares then entitled to vote generally in the election of directors, voting together as a single class. From and after the Effective Date, vacancies on the board of directors resulting from death, resignation, removal or otherwise and newly created directorships resulting from any increase in the number of directors shall, except as otherwise required by law, be filled solely by a majority of the directors then in office (although less than a quorum) or by the sole remaining director, and each director so elected shall hold office for a term that shall coincide with the term of the class to which such director shall have been elected. Subject to the terms of any series of preferred stock entitled to separately elect directors, whenever the holders of any class or classes of stock or series thereof are entitled to elect one or more directors by the certificate of incorporation, vacancies and newly created directorships of such class or classes or series may be filled by a majority of directors elected by such class or classes or series thereof then in office, or by a sole remaining director so elected. If there are no directors in office, then an election of directors may be held in accordance with Delaware Law.

Section 3.13. *Removal*. Directors may only be removed from office in the manner set forth in the certificate of incorporation. Any vacancies created by any such removal may be filled in accordance with Section 3.12 herein.

Section 3.14. *Compensation*. Unless otherwise restricted by the certificate of incorporation or these bylaws, the board of directors shall have authority to fix the compensation of directors, including fees and reimbursement of expenses.

ARTICLE 4
OFFICERS

Section 4.01. *Principal Officers*. The principal officers of the Corporation shall be a chief executive officer, a chief financial officer, one or more executive vice presidents and a secretary who shall have the duty, among other things, to record the proceedings of the meetings of stockholders and directors in a book kept for that purpose. Subject to Section 3.01, the chief executive officer shall conduct and direct generally all the day-to-day business and affairs of the Corporation. The Corporation may also have such other principal officers as the board of directors may in its discretion appoint. One person may hold the offices and perform the duties of any two or more of said offices, except that no one person shall hold the offices and perform the duties of chief executive officer and secretary.

Section 4.02. *Election, Term of Office and Remuneration*. The principal officers of the Corporation shall be elected annually by the board of directors at the annual meeting thereof. Each such officer shall hold office until his or her successor is elected and qualified, or until his or her earlier death, resignation or removal. The remuneration of all principal officers of the Corporation shall be fixed by the board of directors. Any vacancy in any office shall be filled in such manner as the board of directors shall determine.

Section 4.03. *Subordinate Officers*. In addition to the principal officers enumerated in Section 4.01, the Corporation may have one or more assistant secretaries and such other subordinate officers, agents and employees as the board of directors may deem necessary, each of whom shall hold office for such period as the board of directors may from time to time determine. The board of directors may delegate to any principal officer the power to appoint, fix the compensation of and remove any such subordinate officers, agents or employees.

Section 4.04. *Removal*. In addition to the authority granted pursuant to Section 4.03 with respect to subordinate officers, any officer may be removed, with or without cause, at any time, by resolution adopted by the board of directors.

Section 4.05. *Resignations*. Any officer may resign at any time by giving written notice to the board of directors (or to a principal officer if the board of directors has delegated to such principal officer the power to appoint and remove such officer). The resignation of any officer shall take effect upon receipt of notice thereof or at such later time as shall be specified in such notice; and unless otherwise specified therein, the acceptance of such resignation shall not be necessary to make it effective.

Section 4.06. *Powers and Duties*. The officers of the Corporation shall have such powers and perform such duties incident to each of their respective offices and such other duties as may from time to time be conferred upon or assigned to them by the board of directors.

ARTICLE 5
CAPITAL STOCK

Section 5.01. *Certificates For Stock; Uncertificated Shares*. The shares of the Corporation shall be represented by uncertificated shares, *provided* that the board of directors of the Corporation may provide by resolution or resolutions that some or all of any or all classes or series of its stock shall be certificated shares. Except as otherwise provided by law, the rights and obligations of the holders of uncertificated shares and the rights and obligations of the holders of shares represented by certificates of the same class and series shall be identical. Every holder of stock represented by certificates shall be entitled to have a certificate signed by or in the name of the Corporation by the chairman or vice chairman of the board of directors, or any vice president, and by the treasurer, an assistant treasurer, the secretary or an assistant secretary of such Corporation, representing the number of shares registered in certificate form. Any or all of the signatures on the certificate may be a facsimile. In case any officer, transfer agent or registrar who has signed or whose facsimile signature has been placed upon a certificate shall have ceased to be such officer, transfer agent or registrar before such certificate is issued, it may be issued by the Corporation with the same effect as if such person were such officer, transfer agent or registrar at the date of issue. The Corporation shall not have power to issue a certificate in bearer form.

Section 5.02. *Transfer Of Shares*. Shares of the stock of the Corporation may be transferred on the record of stockholders of the Corporation by the holder thereof or by such holder's duly authorized attorney upon surrender of a certificate therefor properly endorsed or upon receipt of proper transfer instructions from the registered holder of uncertificated shares or by such holder's duly authorized attorney and upon compliance with appropriate procedures for transferring shares in uncertificated form, unless waived by the Corporation.

Section 5.03. *Authority for Additional Rules Regarding Transfer*. The board of directors shall have the power and authority to make all such rules and regulations, not inconsistent with these bylaws, as they may deem expedient concerning the issue, transfer and registration of certificated or uncertificated shares of the stock of the Corporation, as well as for the issuance of new certificates in lieu of those which may be lost or destroyed, and may require of any stockholder requesting replacement of lost or destroyed certificates, bond in such amount and in such form as they may deem expedient to indemnify the Corporation and the transfer agents and registrars of its stock against any claims arising in connection therewith.

ARTICLE 6
GENERAL PROVISIONS

Section 6.01. *Fixing the Record Date*. (a) In order that the Corporation may determine the stockholders entitled to notice of any meeting of stockholders or any adjournment thereof, the board of directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the board of directors, and which record date shall not be more than 60 nor less than 10 days before the date of such meeting. If the board of directors so fixes a record date for notice of any meeting of stockholders, such date shall also be the record date for determining the stockholders entitled to vote at such meeting unless the board of directors determines, at the time it fixes such record date, that a later date on or before the date of the meeting shall be the date for making such determination. If no record date is fixed by the board of directors, the record date for determining stockholders entitled to notice of and to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held. A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; *provided* that the board of directors may fix a new record date for determination of stockholders entitled to vote at the adjourned meeting and in such case shall also fix as the record date for determining stockholders entitled to notice of such meeting the same or an earlier date as that fixed for determination of stockholders entitled to vote at such adjourned meeting in accordance with the foregoing provisions of this Section 6.01(a).

(b) In order that the Corporation may determine the stockholders entitled to consent to corporate action in writing without a meeting, the board of directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the board of directors and shall not be more than 10 days

after the date upon which the resolution fixing the record date is adopted by the board of directors. If no record date has been fixed by the board of directors pursuant to this Section 6.01(b), the record date for determining stockholders entitled to consent to corporate action in writing without a meeting, when no prior action by the board of directors is required by Delaware Law, shall be the first date on which a signed written consent setting forth the action taken or proposed to be taken is delivered to the Corporation by delivery to its registered office in the State of Delaware, its principal place of business or any officer or agent of the Corporation having custody of the book in which proceedings of meetings of stockholders are recorded. Delivery made to the Corporation's registered office shall be by hand or by certified or registered mail, return receipt requested. If no record date has been fixed by the board of directors and prior action by the board of directors is required by Delaware Law, the record date for determining stockholders entitled to consent to corporate action in writing without a meeting shall be at the close of business on the day on which the board of directors adopts the resolution taking such prior action.

(c) In order that the Corporation may determine the stockholders entitled to receive payment of any dividend or other distribution or allotment of any rights or the stockholders entitled to exercise any rights in respect of any change, conversion or exchange of stock, or for the purpose of any other lawful action, the board of directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted, and which record date shall be not more than 60 days prior to such action. If no record date is fixed, the record date for determining stockholders for any such purpose shall be at the close of business on the day on which the board of directors adopts the resolution relating thereto.

Section 6.02. *Dividends*. Subject to limitations contained in Delaware Law and the certificate of incorporation, if any, the board of directors may declare and pay dividends upon the shares of capital stock of the Corporation, which dividends may be paid either in cash, in property or in shares of the capital stock of the Corporation.

Section 6.03. *Year*. The fiscal year of the Corporation shall be fixed by resolution of the board of directors.

Section 6.04. *Corporate Seal*. The corporate seal shall have inscribed thereon the name of the Corporation, the year of its organization and the words "Corporate Seal, Delaware". The seal may be used by causing it or a facsimile thereof to be impressed, affixed or otherwise reproduced.

Section 6.05. *Voting of Stock Owned by the Corporation*. The board of directors may authorize any person, on behalf of the Corporation, to attend, vote at and grant proxies to be used at any meeting of stockholders of any corporation (except this Corporation) in which the Corporation may hold stock.

Section 6.06. *Amendments*. These bylaws or any of them, may be altered, amended or repealed, or new bylaws may be made, by the stockholders entitled to vote thereon at any annual or special meeting thereof or by the board of directors. Unless a

higher percentage is required by the certificate of incorporation as to any matter that is the subject of these bylaws, all such amendments must be approved by (i) the board of directors or (ii) the affirmative vote of the holders of not less than (x) a majority of the then outstanding capital stock of the Corporation entitled to vote at a meeting of stockholders, in the case of any such amendment prior to the Effective Date, and (y) 66 2/3% of the then outstanding capital stock of the Corporation entitled to vote at a meeting of stockholders, in the case of any such amendment on or after the Effective Date.

Section 6.07. *Stockholders Agreement*. For so long as that certain Stockholders Agreement, dated as of July 25, 2017, by and among the Corporation and the Parent (as such term is defined in the certificate of incorporation) (as amended from time to time, the "**Stockholders Agreement**"), is in effect, the provisions of the Stockholders Agreement shall be incorporated by reference into the relevant provisions hereof, and such provisions shall be interpreted and applied in a manner consistent with the terms of the Stockholders Agreement.

Section 6.08. *Indemnification and Advancement of Expenses*. The Corporation hereby acknowledges that certain current and past directors, each of whom is affiliated with the Parent (each, a "**Cellectis Director**"), have certain rights to indemnification and advancement of expenses pursuant to Indemnification Agreements between the Corporation and such Cellectis Director (the "**Indemnification Agreements**") and Article 7 of the certificate of incorporation and to insurance provided by the Corporation and that the Cellectis Directors may have certain rights to indemnification, advancement of expenses and insurance from the Parent and certain of its affiliates. The Corporation hereby agrees (i) that it is the indemnitor of first resort (i.e., its obligations to such person are primary and any obligation of the Parent and its affiliates to advance expenses or to provide indemnification for the same expenses or liabilities incurred by such person are secondary) with respect to any actions, costs, charges, losses, damages or expenses incurred or sustained in connection with the execution by such person of his or her duties as a director of the Corporation, (ii) that it shall be required to advance the full amount of such expenses incurred by such person and shall be liable for the full amount of all such expenses, judgments, penalties, fines and amounts paid in settlement to the extent legally permitted and as required by the certificate of incorporation and the Indemnification Agreements, without regard to any rights such person may have, or may be pursuing, against the Parent and its affiliates, and (iii) that it irrevocably waives, relinquishes and releases the Parent and its affiliates from any and all claims against the Parent and its affiliates for contribution, subrogation or any other recovery of any kind in respect thereof. The Corporation further agrees that no advancement or payment by the Parent and its affiliates on behalf of a Cellectis Director with respect to any claim for which such Cellectis Director is entitled to indemnification or advancement of expenses from the Corporation shall affect the foregoing and the Parent and its affiliates shall be subrogated to the extent of such advancement or payment to all of the rights of recovery of such Cellectis Director against the Corporation. The Corporation and the Cellectis Directors agree that the Parent and its affiliates are express third-party beneficiaries of this Section 6.08.

Exhibit 10.2

FIRST AMENDMENT TO THE
MANAGEMENT SERVICES AGREEMENT

This FIRST AMENDMENT TO THE MANAGEMENT SERVICES AGREEMENT (the "**Amendment**") is entered into and made effective as of July 25, 2017 by and among Cellectis S.A. ("**CLS**"), Cellectis, Inc. ("**CLI**") and Calyxt, Inc. ("**CLX**"), each a Party and together the Parties.

WHEREAS, CLS, CLI and CLX entered into that certain Management Services Agreement (the "**Management Services Agreement**"), dated January 1, 2016; and

WHEREAS, the Parties have agreed to amend the Management Services Agreement to revise the termination provision.

NOW, THEREFORE, in consideration of the agreements and obligations set forth herein and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree that the Management Services Agreement is hereby amended as follows:

1. Section 2.1 is hereby amended to include the following at the end of the section:

Further, Provider shall not unilaterally increase the amount of Services provided to Beneficiary from the previous year without the Beneficiary's prior written consent. If the Provider decides to decrease the amount of Services, it shall notify such decision to the Beneficiary at least ninety (90) days before such change and the Provider and the Beneficiary shall act with its best business efforts to allow for the smooth transition of Services to Beneficiary without disruption of the Beneficiary's business and operations. Notwithstanding the foregoing, and subject to the prior written approval of Provider, Beneficiary may determine certain of the Services identified in Section 2.1((i)-(ix)) provided by Provider may become duplicative of those undertaken independently by Beneficiary and Beneficiary shall not be charged for any such Services that are deemed duplicative and identified as such in the Annual Budget as set forth in Section 4.2 below.

2. Section 4 **RENUMERATION** shall be amended as follows:

4.1 **Management Fees**. Shall remain as stated.

4.2 shall be replaced with the following new provision:

4.2. Annual Budget. Prior to December 15 of each calendar year, Provider will mutually agree on the Services to be provided to the Beneficiary in the next following calendar year ("Annual Budget"); provided, however, that Provider will not be able to unilaterally increase the amount of services provided on the previous year without Beneficiary's written consent. Provider will prepare an estimated budget of the Management Fees, Costs and Expenses, direct costs and mark-up provided and broken down by time and hourly cost by position and by month. The types of Services, Management Fees, Costs and Expenses, direct costs and mark-up provided or charged by Provider to Beneficiary in the Annual Budget shall be incorporated by December 15th annually into an amended Exhibit 1 to be attached hereto.

4.3 shall be replaced with the following new provision:

4.3. **Variances to Annual Budget**. The Parties acknowledge that from time-to-time additional services or purchases not contemplated in the Annual Budget and forecast may be required (including but not limited to: special projects, trait vetting, strategic analysis, additional support services, consulting and professional services, etc.) In the event that additional Services are requested or to be provided in excess of $50,000 that are not included in the then current Annual Budget, the CEO of the Provider and the CEO of the Beneficiary shall discuss the nature of the additional Services and the additional costs before any additional services are commenced. If approved, the costs of the additional Services shall be added to the Annual Budget and amend Exhibit 1 to include such additional services and be signed by both Parties.

4.4 shall be replaced with the following new provision new provision 4.4: [existing **4.4 Audit Rights** to remain unchanged but renumbered as **4.7**]

4.4 Semi-annual forecast. By June 15th of each calendar year, if the actual Services provided during the first half of the current year are materially different from the Services provided in the Annual Budget, Provider shall provide to Beneficiary a forecast of the Costs and Expenses of Management Services and direct costs for the remaining 6 months of the then current calendar year.

4.5 shall be replaced with the following new provision new provision 4.5: [existing **4.5 Taxes** to remain unchanged but renumbered as **4.8**]

4.5 Estimated quarterly payments. Non-final invoices and payments of the Management Fees, Costs and Expenses, direct costs and mark-up, performed by the Provider for the Beneficiary and as set forth on the quarterly estimates made by the Provider and provided to the Beneficiary per current Exhibit 1, shall be submitted and paid by the Beneficiary to Provider within five business days before the end of each calendar quarter.

New provision 4.6 shall be added to Section 4:

4.6 Quarterly reporting. By the fifteenth business day after the end of each calendar quarter, Provider will provide to Beneficiary

(i) a statement of actual Costs and Expenses incurred in providing the Management Services during the past quarter, setting forth the basis for calculation in such detail as reasonable required (the "Final Quarterly Costs and Expenses"),

(ii) a statement of direct costs incurred during the past quarter,

(iii) the documents supporting such statements, and

(iv) an invoice or a credit (as appropriate) corresponding to the difference between actual costs declared by the Provider as per Section 4.6(i), and the estimated costs initially paid as per section 4.5. Such invoice or credit shall be paid within 30 days after receipt.

4.7 Audit Rights to remain unchanged but renumbered from 4.4 of the Agreement.

4.8 Taxes to remain unchanged but renumbered from 4.5 of the Agreement.

3. Section 5.4 is deleted in its entirety and replacing it with the following:

"**5.4** This Agreement may be terminated:

(a) by CLS, with respect to CLI or CLX, as applicable, effective upon written notice of termination to CLI or CLX, as applicable, if:

(i) CLI or CLX, as applicable, defaults in the performance or observance of any material term, condition or agreement contained in this Agreement and such default continues for a period of 30 days after written notice thereof specifying such default and requesting that the same be remedied in such 30-day period; provided, however, that if the fact, circumstance or condition that is the subject of such obligation cannot reasonably be remedied within such 30-day period and if, within such period, CLI or CLX, as applicable, provides reasonable evidence to CLS that it has commenced, and thereafter proceeds with all due diligence, to remedy the fact, circumstance or condition that is the subject of such obligation, such period shall be extended for a reasonable period satisfactory to CLS, acting reasonably, for CLI or CLX, as applicable, to remedy the same;

(ii) CLI or CLX, as applicable, engages in any act of gross negligence, fraud or willful misconduct in performance of its obligations under this Agreement;

(iii) CLI or CLX, as applicable, makes a general assignment for the benefit of its creditors, institutes proceedings to be adjudicated voluntarily bankrupt, consents to the filing of a petition of bankruptcy against it, is adjudicated by a court of competent jurisdiction as being bankrupt or insolvent, seeks reorganization

under any bankruptcy law or consents to the filing of a petition seeking such reorganization or has a decree entered against it by a court of competent jurisdiction appointing a receiver liquidator, trustee or assignee in bankruptcy or in insolvency; or

(iv) CLI or CLX, as applicable, or substantially all of their respective assets, is acquired by an unrelated third party.

(b) by CLI, with respect to CLS or CLX, as applicable, effective upon written notice of termination to CLS or CLX, as applicable, if:

(i) CLS or CLX, as applicable, defaults in the performance or observance of any material term, condition or agreement contained in this Agreement and such default continues for a period of 30 days after written notice thereof specifying such default and requesting that the same be remedied in such 30-day period; provided, however, that if the fact, circumstance or condition that is the subject of such obligation cannot reasonably be remedied within such 30-day period and if, within such period, CLS or CLX, as applicable, provides reasonable evidence to CLI that it has commenced, and thereafter proceeds with all due diligence, to remedy the fact, circumstance or condition that is the subject of such obligation, such period shall be extended for a reasonable period satisfactory to CLI, acting reasonably, CLS or CLX, as applicable, to remedy the same;

(ii) CLS or CLX, as applicable, engages in any act of gross negligence, fraud or willful misconduct in performance of its obligations under this Agreement;

(iii) CLS or CLX, as applicable, makes a general assignment for the benefit of its creditors, institutes proceedings to be adjudicated voluntarily bankrupt, consents to the filing of a petition of bankruptcy against it, is adjudicated by a court of competent jurisdiction as being bankrupt or insolvent, seeks reorganization under any bankruptcy law or consents to the filing of a petition seeking such reorganization or has a decree entered against it by a court of competent jurisdiction appointing a receiver liquidator, trustee or assignee in bankruptcy or in insolvency; or

(iv) CLS or CLX, as applicable, or substantially all of their respective assets, is acquired by an unrelated third party.

(c) by CLX, with respect to CLS or CLI, as applicable, effective upon written notice of termination to CLS or CLI, as applicable, if:

(i) CLS or CLI, as applicable, defaults in the performance or observance of any material term, condition or agreement contained

in this Agreement and such default continues for a period of 30 days after written notice thereof specifying such default and requesting that the same be remedied in such 30-day period; provided, however, that if the fact, circumstance or condition that is the subject of such obligation cannot reasonably be remedied within such 30-day period and if, within such period, CLS or CLI, as applicable, provides reasonable evidence to CLX that it has commenced, and thereafter proceeds with all due diligence, to remedy the fact, circumstance or condition that is the subject of such obligation, such period shall be extended for a reasonable period satisfactory to CLX, acting reasonably, CLS or CLI, as applicable, to remedy the same;

(ii) CLS or CLI, as applicable, engages in any act of gross negligence, fraud or willful misconduct in performance of its obligations under this Agreement;

(iii) CLS or CLI, as applicable, makes a general assignment for the benefit of its creditors, institutes proceedings to be adjudicated voluntarily bankrupt, consents to the filing of a petition of bankruptcy against it, is adjudicated by a court of competent jurisdiction as being bankrupt or insolvent, seeks reorganization under any bankruptcy law or consents to the filing of a petition seeking such reorganization or has a decree entered against it by a court of competent jurisdiction appointing a receiver liquidator, trustee or assignee in bankruptcy or in insolvency; or

(iv) CLS or CLI, as applicable, or substantially all of their respective assets, is acquired by an unrelated third party."

4. Section 5.5 shall be amended and replaced with the following:

Upon termination of this Agreement pursuant to sections 5.3 and 5.4 above, the Beneficiary shall surrender to the Provider all books, records, documents, information and other property that is solely that of the Provider, and not subject to any other license or agreement between the parties at the time of termination, except if such books, records, documents, information and other property are necessary for the Beneficiary to operate its current activities or to comply with applicable laws and regulations. For sake of clarity, Section 6 of the Agreement (Confidentiality) shall apply to such books, records, documents, information and other property.

5. All other provisions of the Management Services Agreement not amended above shall remain in full force and effect.

[*Signature Page Follows*]

IN WITNESS WHEREOF, the Parties have caused this Amendment to be duly executed by their respective authorized officers as of the day and year first written above.

CELLECTIS S.A.

By: /s/ David Sourdive
Name: David Sourdive
Title: Deputy Chief Executive Officer

CELLECTIS, INC.

By: /s/ André Choulika
Name: André Choulika
Title: Chief Executive Officer

CALYXT, INC.

By: /s/ Federico Tripodi
Name: Federico Tripodi
Title: Chief Executive Officer

SEPARATION AGREEMENT

THIS SEPARATION AGREEMENT, dated as of July 25, 2017, is by and between CELLECTIS S.A., a French *société anonyme* ("**Cellectis**") and CALYXT, INC., a Delaware corporation (the "**Company**" and each of Cellectis and the Company, a "**Party**" and, together, the "**Parties**"). Capitalized terms used herein shall have the respective meanings assigned to them in Article 1 hereof.

R E C I T A L S

WHEREAS, Cellectis is the owner of all of the issued and outstanding Common Stock of the Company prior to the proposed initial public offering by the Company; and

WHEREAS, the Parties wish to set forth certain agreements that will govern certain matters between them following the Effective Date.

NOW, THEREFORE, in consideration of the mutual agreements, provisions and covenants contained in this Agreement, the Parties, intending to be legally bound, hereby agree as follows:

ARTICLE 1
DEFINITIONS

Section 1.01. *Certain Definitions*. For the purpose of this Agreement the following terms shall have the following meanings:

"**Action**" means any demand, action, suit, countersuit, arbitration, inquiry, proceeding or investigation by or before any Governmental Authority or any federal, state, local, foreign or international arbitration or mediation tribunal.

"**Affiliate**" of any Person means a Person that, directly or indirectly, controls, is controlled by, or is under common control with such Person *provided*, *however*, that, for purposes of this Agreement, the Company shall not be considered an Affiliate of any of Cellectis and its Subsidiaries other than the Company, and each of Cellectis and its Subsidiaries other than the Company shall not be considered an Affiliate of the Company. As used herein, "**control**" means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of such entity, whether through ownership of voting securities or other interests, by contract or otherwise. For purposes of this definition, "**controlling**," "**controlled by**," and "**under common control with**" have correlative meanings.

"**Agreement**" means this Separation Agreement, including all of the schedules hereto.

"**Ancillary Agreements**" means, collectively, the Shareholders Agreement, the Management Services Agreement, the License Agreement and other agreements related thereto.

"**Annual Financial Statements**" has the meaning set forth in Section 7.01(e).

"**Applicable Period**" has the meaning set forth in Section 7.02.

"**Business Day**" means any day other than a Saturday, Sunday or a day on which banking institutions are authorized or obligated by Law to be closed in New York, New York or Paris, France.

"**Cellectis**" has the meaning set forth in the preamble hereto.

"**Cellectis Accounts**" has the meaning set forth in Section 3.02(a).

"**Cellectis Annual Statements**" has the meaning set forth in Section 7.01(e).

"**Cellectis Auditors**" has the meaning set forth in Section 7.02(b).

"**Cellectis Books and Records**" means originals or true and complete copies thereof, including electronic copies (if available) of (a) minute books, corporate charters and bylaws or comparable constitutive documents, records of share issuances and related corporate records, of the Cellectis Group and (b) all books and records relating to (i) Cellectis employees, (ii) the purchase of materials, supplies and services for the Cellectis Business and (ii) dealings with customers of the Cellectis Business.

"**Cellectis Business**" means any business or operations of the Cellectis Group (whether conducted independently or in association with one or more third parties through a partnership, joint venture or other contractual arrangement or mutual enterprise) other than the Company Business.

"**Cellectis Group**" means Cellectis and each other Person that either (x) is controlled directly or indirectly by Cellectis immediately after the Effective Date or (y) becomes directly or indirectly controlled by Cellectis following the Effective Date; *provided*, however, that neither the Company nor any other member of the Company Group shall be members of the Cellectis Group.

"**Cellectis Indemnitees**" has the meaning set forth in Section 4.03.

"**Cellectis Public Filings**" has the meaning set forth in Section 7.01(l).

"**Commission**" means the U.S. Securities and Exchange Commission.

"**Common Stock**" means the common stock of the Company.

"**Company**" has the meaning set forth in the preamble hereto.

"**Company Accounts**" has the meaning set forth in Section 3.02(a).

"**Company Auditors**" has the meaning set forth in Section 7.02(a).

"**Company Books and Records**" means originals or true and complete copies thereof, including electronic copies (if available), of (a) all minute books, corporate charters and bylaws or comparable constitutive documents, records of share issuances and related corporate records of each member of the Company Group and (b) all books and records exclusively relating to (i) Company employees, (ii) the purchase of materials, supplies and services for the Company Business and (iii) dealings with customers of the Company Business.

"**Company Business**" means any business or operations of the Company Group (whether conducted independently or in association with one or more third party through a partnership, joint venture or other contractual arrangement or mutual enterprise), *provided* that the Company Business shall not include any Cellectis Business.

"**Company Group**" means the Company and each other Person that either (x) is controlled directly or indirectly by the Company immediately as of the Effective Date or (y) becomes directly or indirectly controlled by the Company following the Effective Date.

"**Company Indemnitees**" has the meaning set forth in Section 4.04.

"**Company Public Documents**" has the meaning set forth in Section 7.01(h).

"**Consents**" means any consents, waivers or approvals from, or notification requirements to, any third parties.

"**Contract**" means any written or oral commitment, contract, subcontract, agreement, lease, sublease, license, understanding, sales order, purchase order, instrument, indenture, note or other commitment that is binding on any Person or any part of its property under applicable Law.

"**Coverage End Date**" has the meaning set forth in Section 3.05(a).

"**Covered Claims**" has the meaning set forth in Section 3.05(b).

"**Disclosing Party**" has the meaning set forth in Section 6.06(a).

"**Disclosure Documents**" means (i) any form, statement, schedule or other material filed with or furnished to the Commission, any other Governmental Authority or any securities exchange by or on behalf of any Party or any of its Affiliates, including the IPO Registration Statement, and (ii) any information statement, prospectus, offering memorandum, offering circular or similar disclosure document, free writing prospectus, roadshow, testing-the-waters materials and any schedule thereto or amendment thereof or document incorporated by reference therein, whether or not filed with or furnished to the Commission, any other Governmental Authority or any securities exchange by or on behalf of any Party or any of its Affiliates.

"**Effective Date**" means the date of the closing of the IPO.

"**Escalation Notice**" has the meaning set forth in Section 8.02(a).

"**Exchange Act**" means the Securities Exchange Act of 1934, as amended, together with the rules and regulations promulgated thereunder.

"**Financial Statements**" means the Annual Financial Statements and Quarterly Financial Statements collectively.

"**Governmental Authority**" means any nation or government, any state, municipality or other political subdivision thereof, and any entity, body, agency, commission, department, board, bureau, court, tribunal or other instrumentality, whether federal, state, local, domestic, foreign or multinational, exercising executive, legislative, judicial, regulatory, administrative or other similar functions of, or pertaining to, government and any executive official thereof.

"**Group**" means either the Company Group or the Cellectis Group, as the context requires.

"**Guarantee**" has the meaning set forth in Section 3.04(a).

"**IFRS**" means the International Financial Reporting Standards issued by the International Accounting Standards Board and interpretations issued by the IFRS Interpretation Committee of the IASB and adopted by the Cellectis Group.

"**Indemnifying Party**" has the meaning set forth in Section 4.05(a).

"**Indemnitee**" has the meaning set forth in Section 4.05(a).

"**Indemnity Payment**" has the meaning set forth in Section 4.05(a).

"**Information**" means information in written, oral, electronic or other tangible or intangible forms, stored in any medium, including without limitation studies, reports, records, books, Contracts, instruments, surveys, discoveries, ideas, concepts, know-how, techniques, designs, specifications, drawings, blueprints, diagrams, models, prototypes, samples, flow charts, data, computer data, disks, diskettes, tapes, computer programs or other software, marketing plans, customer names, communications by or to attorneys (including, subject to the limitations contemplated by this Agreement, attorney-client privileged communications), memoranda and other materials prepared by attorneys or under their direction (including, subject to the limitations contemplated by this Agreement, attorney work product), and other technical, financial, employee or business information or data.

"**Insurance Policies**" or "**Insurance Policy**" means insurance policies and insurance contracts of any kind, including primary, excess and umbrella, comprehensive general liability, directors and officers, automobile, products, workers' compensation, employee dishonesty, property and crime insurance policies and self-insurance and captive insurance company arrangements, together with the rights, benefits and privileges thereunder.

"**Insurance Proceeds**" means those monies:

(a) received by an insured from a third party insurance carrier;

(b) paid by a third party insurance carrier on behalf of the insured; or

(c) received (including by way of setoff) from any third party in the nature of insurance, contribution or indemnification in respect of any Liability;

in each such case net of any applicable premium adjustments (including reserves and retrospectively rated premium adjustments) and net of any costs or expenses incurred in the collection thereof and excluding, for the avoidance of doubt, proceeds from any self-insurance, captive insurance or similar program.

"**Intercompany Accounts**" has the meaning set forth in Section 3.01(a).

"**IPO**" means the initial public offering of shares of Common Stock pursuant to the IPO Registration Statement.

"**IPO Registration Statement**" means the registration statement on Form S-l (File No. 333-218924) filed under the Securities Act, pursuant to which issuances of the Common Stock in the IPO will be registered, together with all amendments thereto (including post-effective amendments and registration statements filed pursuant to Rule 462(b) under the Securities Act).

"**Law**" means any United States or non-United States federal, national, supranational, state, provincial, local or similar law (including common law), statute, ordinance, regulation, rule, code, order, treaty, license, permit, authorization, registration, approval, consent, decree, injunction, judgment, notice of liability, request for information, binding judicial or administrative interpretation or other requirement, in each case, enacted, promulgated, issued, entered or otherwise put into effect by a Governmental Authority.

"**Liabilities**" means any and all indebtedness, claims, debts, taxes, liabilities, demands, causes of action, and obligations, whether accrued, fixed or contingent, mature or inchoate, known or unknown, reflected on a balance sheet or otherwise, including, without limitation, those arising under any Law, Action or any judgment of any court of any kind or any award of any arbitrator of any kind, and those arising under any Contract, commitment or undertaking.

"**License Agreement**" means that certain license agreement by and between Cellectis and the Company, dated as of the Effective Date.

"**Losses**" means any and all damages, losses, deficiencies, taxes, obligations, penalties, judgments, settlements, claims, payments, fines, charges, interest, costs and expenses, whether or not resulting from third party claims, including the costs and expenses of any and all Actions and demands, assessments, judgments, settlements and compromises relating thereto and the costs and expenses of attorneys', accountants', consultants' and other professionals' fees and expenses incurred in the investigation or defense thereof or the enforcement of rights hereunder.

"**Management Services Agreement**" means that certain Management Services Agreement, dated January 1, 2016, as amended from time to time, including pursuant to Amendment No. 1 thereto dated as of the Effective Date.

"**Party**" or "**Parties**" have the meanings set forth in the preamble hereto.

"**Person**" means an individual, a general or limited partnership, a corporation, a trust, a joint venture, an unincorporated organization, a limited liability entity, any other entity and any Governmental Authority.

"**Prime Rate**" means the Wall Street Journal Published Prime (if published in a range, the lowest number in the range will be used) in effect on the fourth (4th) Tuesday of the month prior to the beginning of each calendar quarter.

"**Privilege**" has the meaning set forth in Section 6.08(a).

"**Quarterly Financial Statements**" has the meaning set forth in Section 7.01(d).

"**Receiving Party**" has the meaning set forth in Section 6.06(a).

"**Securities Act**" means the Securities Act of 1933, as amended, together with the rules and regulations promulgated thereunder.

"**Shared Insurance Policies**" means Insurance Policies in existence prior to the Coverage End Date where both the Company Business and the Cellectis Business are eligible for coverage and/or where the employees, directors or agents of both the Company Business and the Cellectis Business are eligible for coverage.

"**Subsidiary**" means, when used with respect to any Person, (a) a corporation in which such Person or one or more Subsidiaries of such Person, directly or indirectly, owns capital stock having a majority of the total voting power in the election of directors of all outstanding shares of all classes and series of capital stock of such corporation entitled generally to vote in such election; and (b) any other Person (other than a corporation) in which such Person or one or more Subsidiaries of such Person, directly or indirectly, has (i) a majority ownership interest or (ii) the power to elect or direct the election of a majority of the members of the governing body of such first-named Person.

"**Surviving Contract**" has the meaning set forth in Section 3.01(b).

"**Third Party Claim**" has the meaning set forth in Section 4.06(a).

"**U.S. GAAP**" means accounting principles generally accepted in the United States of America, applied on a consistent basis.

ARTICLE 2

THE IPO AND ACTIONS PENDING THE IPO; OTHER TRANSACTIONS

Section 2.01. *The IPO*. The Company shall cooperate with, and take all actions reasonably requested by, Cellectis in connection with the IPO. In furtherance thereof, to the extent not undertaken and completed prior to the execution of this Agreement:

(a) The Company shall file such amendments or supplements to the IPO Registration Statement as may be necessary in order to cause the same to remain effective as required by the underwriting agreement for the IPO. The Company shall also prepare, file with the Commission and cause to become effective any registration statements or amendments thereof that are required to reflect the establishment of, or amendments to, any employee benefit and other plans necessary or appropriate in connection with the IPO or the other transactions contemplated by this Agreement or the Ancillary Agreements.

(b) The Company shall use its best efforts to take all such action as may be necessary or appropriate under state securities and blue sky laws of the United States (and any comparable Laws under any foreign jurisdictions) in connection with the IPO; *provided that* the Company shall not be required to qualify as a foreign corporation in any state or jurisdiction or consent to service of process in any state or jurisdiction other than with respect to claims arising out of the IPO.

Section 2.02. *Termination of the IPO Process*. Notwithstanding anything to the contrary contained herein, prior to the Effective Date, as between the Company and Cellectis, Cellectis may in its sole discretion terminate or abandon the IPO or any aspect of the IPO and the other transactions contemplated hereby or by any Ancillary Agreement in connection with the IPO and the Company shall, subject to compliance with its obligations under the underwriting agreement for the IPO, take all actions directed by Cellectis in that regard.

ARTICLE 3

THE SEPARATION

Section 3.01. *Termination of Agreements*. (a) Except as set forth in Section 3.01(b), in furtherance of the releases and other provisions of Section 4.01 hereof, the Company and each Person in the Company Group, on the one hand, and Cellectis and each Person in the Cellectis Group, on the other hand, hereby terminate any and all agreements, arrangements, commitments or understandings (including all intercompany accounts payable or accounts receivable between a member of the Cellectis Group, on the one hand, and a member of the Company Group, on the other hand ("**Intercompany Accounts**") accrued as of the Effective Date), whether or not in writing, between or among the Company and any Person in the Company Group, on the one hand, and Cellectis and any Person in the Cellectis Group, on the other hand, effective as of the Effective Date. No such terminated agreement, arrangement, commitment, understanding or Intercompany Account (including any provision thereof which purports to survive termination) shall be of any further force or effect after the Effective Date. Each Party shall, at the reasonable request of any other Party, take, or cause to be taken, such other actions as may be necessary to effect the foregoing.

(b) The provisions of Section 3.01(a) shall not apply to any of the following agreements, arrangements, commitments, understandings or Intercompany Accounts (or to any of the provisions thereof): (i) this Agreement; (ii) the Ancillary Agreements (and each other agreement or instrument expressly contemplated by this Agreement, or any Ancillary Agreement to be entered into by any of the Parties or any Person in their respective Groups); (iii) any agreements, arrangements, commitments or understandings set forth or described on Schedule 3.01(b)(iii); (iv) any agreements, arrangements, commitments or understandings to which any Person other than solely the Parties and their respective Affiliates is a party; and (v) any other agreements, arrangements, commitments, understandings or Intercompany Accounts that this Agreement or any Ancillary Agreement expressly contemplates will survive the Effective Date (collectively, the "**Surviving Contracts**").

(c) Notwithstanding anything in this Agreement to the contrary, in the event the Parties agree in writing that an agreement, arrangement, commitment or understanding terminated pursuant to Section 3.01(a) should have remained in force or effect after the Effective Date, such agreement, arrangement, commitment or understanding shall pursuant to this Section 3.01(c) be deemed a Surviving Contract and each Party shall, at the reasonable request of any other Party, take, or cause to be taken, such other actions as may be necessary to effect the foregoing.

Section 3.02. *Bank Accounts; Cash Balances*. (a) Other than in respect of Surviving Contracts, to the extent not completed prior to the Effective Date, each of Cellectis and the Company agree to take, or cause the respective members of their respective Groups to take, as soon as practicable after the Effective Date, all actions necessary to amend all Contracts governing each bank and brokerage account owned by the Company or any other member of the Company Group (collectively, the "**Company Accounts**") so that such Company Accounts, if linked (whether by automatic withdrawal, automatic deposit or any other authorization to transfer funds from or to, hereinafter "**linked**") to any bank or brokerage account owned by Cellectis or any other member of the Cellectis Group (collectively, the "**Cellectis Accounts**") are de-linked from the Cellectis Accounts. The Company hereby agrees to repay promptly following the IPO all amounts outstanding in respect of the current account agreement signed between the Company and Cellectis on March 7, 2011.

(b) It is intended that, following consummation of the actions contemplated by Section 3.02(a), the Company and Cellectis will maintain separate bank accounts and separate cash management processes.

(c) With respect to any outstanding checks issued by Cellectis, the Company, or any of their respective Subsidiaries prior to the Effective Date, such outstanding checks shall be honored following the Effective Date by the Person or Group owning the account on which the check is drawn.

(d) Other than in connection with the Surviving Contracts, as between Cellectis and the Company (and the members of their respective Groups), all payments made and reimbursements received after the Effective Date by either Party (or member of its Group) that relate to a business, asset or Liability of the other Party (or member of its Group), shall be held by such Party in trust for the use and benefit of the Party entitled thereto and, promptly upon receipt by such Party of any such payment or reimbursement, such Party shall pay over, or shall cause the applicable member of its Group to pay over to the other Party the amount of such payment or reimbursement without right of set-off.

Section 3.03. *Other Ancillary Agreements*. Each of Cellectis and the Company will execute and deliver, and cause each of their applicable Subsidiaries to execute and deliver, as applicable, all Ancillary Agreements to which it is a party, in each case to be effective as of the Effective Date.

Section 3.04. *Guarantees*. (a) Other than in respect of the agreement(s) listed in Schedule 3.04 hereto, Cellectis and the Company shall each use their commercially reasonable efforts to cause a member of the Company Group to be substituted in all respects for all members of the Cellectis Group, as applicable, and for the members of the Cellectis Group, as applicable, to be otherwise removed or released, effective as of the Effective Date, in respect of all obligations of any member of the Company Group under each guarantee, indemnity, surety bond, letter of credit and letter of comfort (each, a "**Guarantee**"), given or obtained by any member of the Cellectis Group for the benefit of any member of the Company Group or the Company Business. If Cellectis and the Company have been unable to effect any such substitution, removal, release and termination with respect to any such Guarantee as of the Effective Date then, following the Effective Date, the Company shall effect such substitution, removal, release and termination as soon as reasonably practicable after the Effective Date; provided that from and after the Effective Date, the Company shall indemnify against, hold harmless and promptly reimburse the members of the Cellectis Group for any payments made by members of the Cellectis Group and for any and all Liabilities of the members of the Cellectis Group arising out of, or in performing, in whole or in part, any performance obligation in accordance with the underlying obligation under any such Guarantee (except to the extent the performance obligation under any such Guarantee shall have been triggered solely by an act or failure to act of the applicable guarantor (rather than the underlying obligor)).

(b) Cellectis and the Company shall each use their commercially reasonable efforts to cause a member of the Cellectis Group to be substituted in all respects for all members of the Company Group, as applicable, and for the members of the Company Group, as applicable, to be otherwise removed or released, effective as of the Effective Date, in respect of all obligations of any member of the Cellectis Group under each Guarantee, given or obtained by any member of the Company Group for the benefit of any member of the Cellectis Group or the Cellectis Business. If Cellectis and the Company have been unable to effect any such substitution, removal, release and termination with respect to any such Guarantee as of the Effective Date then, following the Effective Date, Cellectis shall effect such substitution, removal, release and termination as soon as reasonably practicable after the Effective Date; provided that from

and after the Effective Date, Cellectis shall indemnify against, hold harmless and promptly reimburse the members of the Company Group for any payments made by members of the Company Group and for any and all Liabilities of the members of the Company Group arising out of, or in performing, in whole or in part, any performance obligation in accordance with the underlying obligation under any such Guarantee (except to the extent the performance obligation under any such Guarantee shall have been triggered solely by an act or failure to act of the applicable guarantor (rather than the underlying obligor)).

Section 3.05. *Insurance Policies*

(a) As of the date at which Cellectis and its Affiliates cease to hold in excess of 50% of the outstanding shares of Common Stock, or at any time before Cellectis and its Affiliates cease to hold in excess of 50% of the outstanding shares of Common Stock, at Cellectis' request (the "**Coverage End Date**"), the coverage under all Shared Insurance Policies shall continue in force only for the benefit of Cellectis and other members of the Cellectis Group and not for the benefit of the Company or any other member of the Company Group. Effective from and after the Coverage End Date, the Company shall arrange for its own Insurance Policies with respect to the Company Business covering all periods (whether prior to or following the Coverage End Date) and agrees not to seek, through any means, benefit from any of Cellectis' or its Affiliates' Insurance Policies that may provide coverage for claims relating in any way to the Company Business following the Coverage End Date.

(b) Where Shared Insurance Policies with an unaffiliated third party insurer (and excluding, for the avoidance of doubt, any self-insurance, captive insurance or similar program) cover Company Liabilities reported after the Coverage End Date but are with respect to an occurrence prior to the Coverage End Date, under an occurrence-based Shared Insurance Policy (collectively, "**Covered Claims**"), then the members of the Company Group may notify Cellectis of such claim and Cellectis shall seek coverage for such Covered Claims under such Shared Insurance Policies, control the prosecution and defense of such Covered Claims and forward any insurance recoverables with respect thereto, without any prejudice or limitation to Cellectis seeking insurance under the Shared Insurance Policies for its own claims. After the Coverage End Date, Cellectis shall procure and administer the Shared Insurance Policies, provided that such administration shall in no way limit, inhibit or preclude the right of the members of the Company Group to insurance coverage thereunder in accordance with this Section 3.05(b), in each case, with respect to Covered Claims. The Company shall promptly notify Cellectis of any Covered Claims, and Cellectis agrees to reasonably cooperate with the Company concerning the pursuit by the Company of any such Covered Claim, in each case at the expense of the Company (to the extent such expenses are not covered by the applicable Shared Insurance Policies).

(c) The Company shall be responsible for complying with terms of the Shared Insurance Policies to obtain coverage for such Covered Claims, including if the Shared Insurance Policy requires any payments to be made in connection therewith (including self-insured retentions or deductibles), and the Company shall make any such required

payments and maintain any required or appropriate accruals or reserves for such Covered Claims. Any proceeds received by Cellectis from any insurance carrier that relate to Covered Claims shall be paid promptly to the Company. In the event that Covered Claims relate to the same occurrence for which Cellectis is seeking coverage under such Shared Insurance Policies and for which the Parties have a shared defense, the Company and Cellectis shall jointly defend any such claim and waive any conflict of interest necessary to conduct a joint defense, and shall bear any expenses in connection therewith on a pro rata basis in proportion to the assessed value of the claim or claims against such Party (to the extent such expenses are not covered by the applicable Shared Insurance Policies), including self-insured retentions or deductibles. In the event that policy limits under an applicable Shared Insurance Policy are not sufficient to fund all claims of Cellectis and members of the Cellectis Group and the Company and members of the Company Group, any amounts simultaneously due shall be paid to the respective entities in proportion to the assessed value of each respective entity's claim or claims.

Section 3.06. *Coverage End Date Determination*. Cellectis shall use commercially reasonable efforts to provide written confirmation informing the Company that the Coverage End Date has occurred. Cellectis shall use commercially reasonable efforts to provide such written confirmation promptly, but in any case within five Business Days after the Coverage End Date.

ARTICLE 4
MUTUAL RELEASES; INDEMNIFICATION; COOPERATION

Section 4.01. *Release of Pre-Effective Date Claims*. (a) Except as provided in Section 4.01(c) and Section 4.04, effective as of the Effective Date, the Company does hereby, for itself and for each Person in the Company Group as of the Effective Date and their respective successors and assigns and all Persons who at any time prior to the Effective Date, have been directors, officers, agents or employees of any Person in the Company Group (in each case, in their respective capacities as such), remise, release and forever discharge Cellectis and each Person in the Cellectis Group, and all Persons who at any time prior to the Effective Date have been stockholders, directors, officers, managers, members, agents or employees of any Person in the Cellectis Group (in each case, in their respective capacities as such), and their respective heirs, executors, administrators, successors and assigns, from any and all Liabilities whatsoever between or among the Company or any Person in the Company Group, on the one hand, and Cellectis or any Person in the Cellectis Group, on the other hand, whether at law or in equity (including any rights of contribution or recovery), whether arising under any Contract, by operation of Law or otherwise, existing or arising from any acts or events occurring or failing to occur or alleged to have occurred or to have failed to occur or any conditions existing or alleged to have existed in each case on or before the Effective Date.

(b) Except as provided in Section 4.01(c) and Section 4.03, effective as of the Effective Date, Cellectis does hereby, for itself and for each Person in the Cellectis Group as of the Effective Date and their respective successors and assigns and all Persons who at any time prior to the Effective Date, have been directors, officers, agents or employees

of any Person in the Cellectis Group (in each case, in their respective capacities as such), remise, release and forever discharge the Company and each Person in the Company Group, and all Persons who at any time prior to the Effective Date have been stockholders, directors, officers, managers, members, agents or employees of any Person in the Company Group (in each case, in their respective capacities as such), and their respective heirs, executors, administrators successors and assigns, from any and all Liabilities whatsoever between or among the Company or any Person in the Company Group, on the one hand, and Cellectis or any Person in the Cellectis Group, on the other hand, whether at law or in equity (including any rights of contribution or recovery), whether arising under any Contract, by operation of Law or otherwise, existing or arising from any acts or events occurring or failing to occur or alleged to have occurred or to have failed to occur or any conditions existing or alleged to have existed in each case on or before the Effective Date.

(c) Nothing contained in Section 4.01(a) or (b) shall (x) impair any right of any Person to enforce any Surviving Contract in accordance with its terms or (y) release any Person from:

(i) any Liability provided in or resulting from any Surviving Contract;

(ii) any Liability assumed or retained by, or transferred, assigned or allocated to the Group of which such Person is a member in accordance with, or any other Liability of any Person in any Group under, this Agreement or any Ancillary Agreement;

(iii) any Liability provided in or resulting from any Contract or understanding that is entered into after the Effective Date between a member of the Cellectis Group, on the one hand, and a member of the Company Group, on the other hand;

(iv) any Liability that the Parties may have with respect to claim for indemnification, recovery or contribution brought pursuant to this Agreement or any Ancillary Agreement, which Liability shall be governed by the provisions of this Article 4 or, if applicable, the appropriate provisions of the Ancillary Agreements; or

(v) any Liability the release of which would result in the release of any Person other than a Person released pursuant to this Section 4.01.

In addition, nothing contained in Section 4.01(a) shall release Cellectis from indemnifying any director, officer or employee of the Company who was a director, officer or employee of Cellectis or any of its Affiliates on or prior to the Effective Date, to the extent such director, officer or employee is or becomes a named defendant in any Action with respect to which he or she was entitled to such indemnification pursuant to obligations existing prior to the Effective Date, it being understood that if the underlying obligation giving rise to such Action is a Liability of the Company, the Company shall indemnify Cellectis for such Liability (including Cellectis' costs to indemnify the director, officer or employee) in accordance with the provisions set forth in this Article 4.

(d) The Company shall not make, and shall not permit any Person in the Company Group to make, any claim or demand, or commence any Action asserting any claim or demand, including any claim of contribution, recovery or any indemnification, against Cellectis or any Person in the Cellectis Group, or any other Person released pursuant to Section 4.01(a), with respect to any Liabilities released pursuant to Section 4.01(a). Cellectis shall not make, and shall not permit any Person in the Cellectis Group to make, any claim or demand, or commence any Action asserting any claim or demand, including any claim of contribution, recovery or any indemnification against the Company or any Person in the Company Group, or any other Person released pursuant to Section 4.01(b), with respect to any Liabilities released pursuant to Section 4.01(b).

(e) It is the intent of each of Cellectis and the Company, by virtue of the provisions of this Section 4.01, to provide for a full and complete release and discharge of all Liabilities existing or arising from all acts and events occurring or failing to occur or alleged to have occurred or to have failed to occur and all conditions existing or alleged to have existed in each case on or before the Effective Date, between or among the Company or any Person in the Company Group, on the one hand, and Cellectis or any Person in the Cellectis Group, on the other hand (including any contractual agreements or arrangements existing or alleged to exist between or among any such Persons on or before the Effective Date), except as expressly set forth in Section 4.01(c). At any time, at the request of the other Party, each Party shall cause each Person in its respective Group and to the extent practicable each other Person to execute and deliver releases reflecting the provisions hereof.

(f) If any Person associated with either Cellectis or the Company (including any of their respective directors, officers, agents or employees) initiates an Action with respect to claims released by this Section 4.01, the Party with which such Person is associated shall indemnify the other Party against such Action in accordance with the provisions set forth in this Article 4.

Section 4.02. *Pending, Threatened and Unasserted Claims*. The Company shall assume liability for all claims, including pending, threatened and unasserted claims, relating to actions or omissions relating to the Company Business and Cellectis shall assume liability for all pending, threatened and unasserted claims relating to actions or omissions relating to the Cellectis Business. In the event of any third-party claims that name both Parties as defendants, each Party will cooperate with the other Party to defend against such claims.

Section 4.03. *Indemnification by the Company*. Except as provided in Section 4.05, the Company shall indemnify, defend and hold harmless each member of the Cellectis Group and each of their Affiliates and each member of the Cellectis Group's and their respective Affiliates' directors, officers, employees and agents, and each of the heirs, executors, successors and assigns of any of the foregoing (collectively, the "**Cellectis Indemnitees**"), from and against any and all Losses of the Cellectis Indemnitees relating to, arising out of or resulting from (without duplication and including any such Losses arising by way of setoff, counterclaim or defense or enforcement of any lien):

(a) (x) any untrue statement or alleged untrue statement of a material fact contained in any Disclosure Document of any member of the Company Group or any omission or alleged omission to state a material fact in any such Disclosure Document required to be stated therein or necessary to make the statements therein not misleading, except insofar as any such Losses are caused by any untrue statement or alleged untrue statement of a material fact in such Disclosure Document or any omission or alleged omission to state a material fact in such Disclosure Document required to be stated therein or necessary to make the statements therein not misleading based upon information relating to Cellectis furnished to the Company in writing by Cellectis expressly for use therein, and (y) any untrue statement or alleged untrue statement of a material fact contained in any Disclosure Document of any member of the Cellectis Group or any omission or alleged omission to state a material fact in any such Disclosure Document required to be stated therein or necessary to make the statements therein not misleading that is based upon information relating to the Company furnished to Cellectis in writing by the Company expressly for use in such Disclosure Document;

(b) the Company Business, including the failure of the Company or any other member of the Company Group to pay, perform or otherwise promptly discharge any Liability relating to, arising out of or resulting from the Company Business in accordance with its terms, whether prior to or after the Effective Date or the date hereof; and

(c) any breach by the Company or any Person in the Company Group of this Agreement or any Ancillary Agreement, unless such Ancillary Agreement expressly provides for separate indemnification therein, in which case, any such indemnification claims with respect to a breach thereunder shall be made thereunder.

Section 4.04. *Indemnification by Cellectis*. Except as provided in Section 4.05, Cellectis shall indemnify, defend and hold harmless each member of the Company Group and each of their Affiliates and each member of the Company Group's and their respective Affiliates' directors, officers, employees and agents, and each of the heirs, executors, successors and assigns of any of the foregoing (collectively, the "**Company Indemnitees**"), from and against any and all Losses of the Company Indemnitees relating to, arising out of or resulting from (without duplication and including any such Losses arising by way of setoff, counterclaim or defense or enforcement of any lien):

(a) any untrue statement or alleged untrue statement of a material fact contained in any Disclosure Document of any member of the Company Group or any omission or alleged omission to state a material fact in any such Disclosure Document required to be stated therein or necessary to make the statements therein not misleading that is based upon information relating to Cellectis furnished to the Company in writing by Cellectis expressly for use in such Disclosure Document;

(b) the Cellectis Business, including the failure of Cellectis or any other member of the Cellectis Group to pay, perform or otherwise promptly discharge any Liability relating to, arising out of or resulting from the Cellectis Business in accordance with its terms, whether prior to or after the Effective Date or the date hereof; and

(c) any breach by Cellectis or any Person in the Cellectis Group of this Agreement or any Ancillary Agreement, unless such Ancillary Agreement expressly provides for separate indemnification therein, in which case, any such indemnification claims with respect to a breach thereunder shall be made thereunder.

Section 4.05. *Indemnification Obligations Net of Insurance Proceeds and Other Amounts*. (a) The Parties intend that any Loss subject to indemnification or reimbursement pursuant to this Article 4 will be net of Insurance Proceeds that actually reduce the amount of the Loss. Accordingly, the amount which any Party (an "**Indemnifying Party**") is required to pay to any Person entitled to indemnification hereunder (an "**Indemnitee**") will be reduced by any Insurance Proceeds theretofore actually recovered by or on behalf of the Indemnitee in respect of the related Loss. If an Indemnitee receives a payment (an "**Indemnity Payment**") required by this Agreement from an Indemnifying Party in respect of any Loss and subsequently receives Insurance Proceeds, then the Indemnitee will pay to the Indemnifying Party an amount equal to the excess of the Indemnity Payment received over the amount of the Indemnity Payment that would have been due if the Insurance Proceeds had been received, realized or recovered before the Indemnity Payment was made.

(b) An insurer that would otherwise be obligated to pay any claim shall not be relieved of the responsibility with respect thereto or, solely by virtue of the indemnification provisions hereof, have any subrogation rights with respect thereto, it being expressly understood and agreed that no insurer or any other third party shall be entitled to a "wind-fall" (i.e., a benefit such insurer or other third party would not be entitled to receive in the absence of the indemnification provisions) by virtue of the indemnification provisions hereof. Nothing contained in this Agreement or any Ancillary Agreement shall obligate any Person in any Group to seek to collect or recover any Insurance Proceeds.

(c) Any Indemnity Payment made by the Company shall be (i) increased as necessary so that after making all payments in respect to taxes imposed on or attributable to such Indemnity Payment, each Cellectis Indemnitee receives a net amount equal to the sum it would have received had no such taxes been imposed and (ii) reduced to take account of any net tax benefit actually realized by an Cellectis Indemnitee arising from the incurrence or payment of the Loss to which the Indemnity Payment relates. Any Indemnity Payment made by Cellectis shall be (i) increased as necessary so that after making all payments in respect to taxes imposed on or attributable to such Indemnity Payment, each Company Indemnitee receives a net amount equal to the sum it would have received had no such taxes been imposed and (ii) reduced to take account of any net tax benefit actually realized by a Company Indemnitee arising from the incurrence or payment of the Loss to which the Indemnity Payment relates.

(d) If an indemnification claim is covered by the indemnification provisions of an Ancillary Agreement, the claim shall be made under the Ancillary Agreement to the extent applicable and the provisions thereof shall govern such claim. In no event shall any Party be entitled to double recovery from the indemnification provisions of this Agreement and any Ancillary Agreement.

Section 4.06. *Procedures for Indemnification of Third Party Claims*. (a) If an Indemnitee shall receive notice or otherwise learn of the assertion by a Person (including any Governmental Authority) who is not a Person in the Cellectis Group or the Company Group of any claim or of the commencement by any such Person of any Action with respect to which an Indemnifying Party may be obligated to provide indemnification to such Indemnitee pursuant to Section 4.03 or Section 4.04, or any other Section of this Agreement (collectively, a "**Third Party Claim**"), such Indemnitee shall give such Indemnifying Party written notice thereof as promptly as practicable (and in any event within 45 days) after becoming aware of such Third Party Claim. Any such notice shall describe the Third Party Claim in reasonable detail. Notwithstanding the foregoing, the failure of any Indemnitee or other Person to give notice as provided in this Section 4.06(a) shall not relieve the related Indemnifying Party of its obligations under this Article 4, except to the extent, and only to the extent, that such Indemnifying Party is materially prejudiced by such failure to give notice.

(b) An Indemnifying Party may elect (but shall not be required) to defend, at such Indemnifying Party's own expense and by such Indemnifying Party's own counsel (which counsel shall be reasonably satisfactory to the Indemnitee), any Third Party Claim; provided that the Indemnifying Party shall not be entitled to defend and shall pay the reasonable fees and expenses of one separate counsel for all Indemnitees if the claim for indemnification relates to or arises in connection with any criminal action, indictment or allegation. Within 45 days after the receipt of notice from an Indemnitee in accordance with Section 4.06(a) (or sooner, if the nature of such Third Party Claim so requires), the Indemnifying Party shall notify the Indemnitee of its election whether the Indemnifying Party will assume responsibility for defending such Third Party Claim, which election shall specify any reservations or exceptions to its defense. After notice from an Indemnifying Party to an Indemnitee of its election to assume the defense of a Third Party Claim, such Indemnitee shall have the right to employ separate counsel and to participate in (but not control) the defense, compromise, or settlement thereof, but the fees and expenses of such counsel shall be the expense of such Indemnitee; provided, however, in the event that (i) the Indemnifying Party has elected to assume the defense of the Third Party Claim but has specified, and continues to assert, any reservations or exceptions in such notice or (ii) the Third Party Claim involves injunctive or equitable relief, then, in any such case, the reasonable fees and expenses of one separate counsel for all Indemnitees shall be borne by the Indemnifying Party.

(c) If an Indemnifying Party elects not to assume responsibility for defending a Third Party Claim, or fails to notify an Indemnitee of its election as provided in Section 4.06(b), such Indemnitee may defend such Third Party Claim at the cost and expense of the Indemnifying Party. Any legal fees and expenses actually incurred by the Indemnitee in connection with defending such claim shall be paid by the Indemnifying Party.

(d) Unless the Indemnifying Party has failed to assume the defense of the Third Party Claim in accordance with the terms of this Agreement, no Indemnitee may settle or compromise any Third Party Claim without the consent of the Indemnifying Party. If an Indemnifying Party has failed to assume the defense of the Third Party Claim within the time period specified in clause (b) above, it shall not be a defense to any obligation to pay any amount in respect of such Third Party Claim that the Indemnifying Party was not consulted in the defense thereof, that such Indemnifying Party's views or opinions as to the conduct of such defense were not accepted or adopted, that such Indemnifying Party does not approve of the quality or manner of the defense thereof or that such Third Party Claim was incurred by reason of a settlement rather than by a judgment or other determination of liability.

(e) In the case of a Third Party Claim, no Indemnifying Party shall consent to entry of any judgment or enter into any settlement of the Third Party Claim without the consent of the Indemnitee if the effect thereof is (i) to permit any injunction, declaratory judgment, other order or other non-monetary relief to be entered, directly or indirectly, against any Indemnitee or (ii) to ascribe any fault on any Indemnitee in connection with such defense.

(f) Notwithstanding the foregoing, the Indemnifying Party shall not, without the prior written consent of the Indemnitee, settle or compromise any Third Party Claim or consent to the entry of any judgment which does not include as an unconditional term thereof the delivery by the claimant or plaintiff to the Indemnitee of a written release from all Liability in respect of such Third Party Claim.

Section 4.07. *Additional Matters*. (a) Any claim on account of a Loss which does not result from a Third Party Claim shall be asserted by written notice given by the Indemnitee to the related Indemnifying Party. Such Indemnifying Party shall have a period of 30 days after the receipt of such notice within which to respond thereto. If such Indemnifying Party does not respond within such 30-day period, such Indemnifying Party shall be deemed to have refused to accept responsibility to make payment. If such Indemnifying Party does not respond within such 30-day period or rejects such claim in whole or in part, such Indemnitee shall be free to pursue such remedies as may be available to such Indemnitee as contemplated by this Agreement and the Ancillary Agreements.

(b) In the event of payment by or on behalf of any Indemnifying Party to any Indemnitee in connection with any Third Party Claim, such Indemnifying Party shall be subrogated to and shall stand in the place of such Indemnitee as to any events or circumstances in respect of which such Indemnitee may have any right, defense or claim relating to such Third Party Claim against any claimant or plaintiff asserting such Third Party Claim or against any other Person. Such Indemnitee shall cooperate with such Indemnifying Party in a reasonable manner, and at the cost and expense of such Indemnifying Party, in prosecuting any subrogated right, defense or claim.

(c) In the event of an Action in which the Indemnifying Party is not a named defendant, if either the Indemnitee or Indemnifying Party shall so request, the Parties shall endeavor to substitute the Indemnifying Party for the named defendant or otherwise hold the Indemnifying Party as party thereto, if at all practicable. If such substitution or addition cannot be achieved for any reason or is not requested, the named defendant shall allow the Indemnifying Party to manage the Action as set forth in this Section, and the Indemnifying Party shall fully indemnify the named defendant against all costs of defending the Action (including court costs, sanctions imposed by a court, attorneys' fees, experts fees and all other external expenses), the costs of any judgment or settlement, and the cost of any interest or penalties relating to any judgment or settlement with respect to such Third Party Claim.

Section 4.08. *Remedies Cumulative*. The remedies provided in this Article 4 shall be cumulative and, subject to the provisions of Article 6, shall not preclude assertion by any Indemnitee of any other rights or the seeking of any and all other remedies against any Indemnifying Party.

Section 4.09. *Survival of Indemnities*. The indemnity agreements contained in this Article 4 shall remain operative and in full force and effect, regardless of (i) any investigation made by or on behalf of any Indemnitee; and (ii) the knowledge by the Indemnitee of Liabilities for which it might be entitled to indemnification hereunder. The rights and obligations of each of Cellectis and the Company and their respective Indemnitees under this Article 4 shall survive the merger or consolidation of any Party, the sale or other transfer by any Party of any assets or businesses or the assignment by it of any Liabilities, or the change of form or change of control or corporate reorganization of any Party.

Section 4.10. *Special Damages*. NOTWITHSTANDING ANY OTHER PROVISION OF THIS AGREEMENT OR ANY ANCILLARY AGREEMENT TO THE CONTRARY, IN NO EVENT WILL EITHER PARTY OR ANY OF ITS GROUP MEMBERS BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT, COLLATERAL, CONSEQUENTIAL OR PUNITIVE DAMAGES OR LOST PROFITS SUFFERED BY AN INDEMNITEE, HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, IN CONNECTION WITH ANY DAMAGES ARISING HEREUNDER OR THEREUNDER (INCLUDING IN RESPECT OF ANY LOSS IN THE VALUE OF COMMON STOCK); PROVIDED, HOWEVER, THAT TO THE EXTENT AN INDEMNIFIED PARTY IS REQUIRED TO PAY ANY SPECIAL, INCIDENTAL, INDIRECT, COLLATERAL, CONSEQUENTIAL OR PUNITIVE DAMAGES OR LOST PROFITS TO A PERSON WHO IS NOT A MEMBER OF EITHER GROUP IN CONNECTION WITH A THIRD PARTY CLAIM, SUCH DAMAGES WILL CONSTITUTE DIRECT DAMAGES AND NOT BE SUBJECT TO THE LIMITATION SET FORTH IN THIS SECTION 4.10.

ARTICLE 5
CERTAIN BUSINESS MATTERS

Section 5.01. *No Restriction on Competition*. It is the explicit intent of each of the Parties hereto that the provisions of this Agreement shall not include any non-competition or other similar restrictive arrangements with respect to the range of business

activities which may be conducted by the Parties. Accordingly, each of the Parties acknowledges and agrees that nothing set forth in this Agreement shall be construed to create any explicit or implied restriction or other limitation on (i) the ability of any Party to engage in any business or other activity which competes with the business of any other Party or (ii) the ability of any Party to engage in any specific line of business or engage in any business activity in any specific geographic area.

ARTICLE 6
EXCHANGE OF INFORMATION; CONFIDENTIALITY

Section 6.01. *Agreement for Exchange of Information; Archives*. (a) Each of Cellectis and the Company, on behalf of its respective Group, agrees to provide, or cause to be provided, to the other Group, at any time before or after the Effective Date, as soon as reasonably practicable after written request therefor, access to any Information in the possession or under the control of such respective Group that can be retrieved without unreasonable disruption to its business which the requesting Party reasonably needs (i) to comply with reporting, disclosure, filing, record retention or other requirements imposed on the requesting Party (including under applicable securities or tax Laws) by a Governmental Authority having jurisdiction over the requesting Party, (ii) for use in any other judicial, regulatory, administrative, tax or other proceeding or in order to satisfy audit, accounting, regulatory, litigation, environmental, tax or other similar requirements, in each case other than claims or allegations that one Party to this Agreement or any member of its Group has against the other Party or any member of its Group, or (iii) subject to the foregoing clause (ii), to comply with its obligations under this Agreement.

(b) After the Effective Date, each of the Cellectis Group on the one hand, and the Company Group on the other hand, shall provide to such other Group access during regular business hours (as in effect from time to time) to Information that relates to (i) the business and operations of such other Group, or (ii) the intellectual property covered by the License Agreement, in each case that are located in archives retained or maintained by such other Group (or, if such Information does not exclusively relate to a Party's business, to the portions of such Information that so exclusively relate), subject to the requirements of any applicable state and/or federal regulation such as a Code of Conduct or Standard of Conduct, to the personnel, properties and information of such Party and its Subsidiaries, and only insofar as such access is reasonably required by the other Party for legitimate business reasons, and only for the duration such access is required, and relates to such other Party or the conduct of the business prior to the Effective Date. The Company or Cellectis, as applicable, may obtain copies (but not originals) at their own expense of such Information for bona fide business purposes.

(c) After the Effective Date, each of Cellectis and the Company shall provide, or cause to be provided, to the other Party (in such form as the providing Party retains such Information for its own use) all financial and other data and Information in such Party's possession or control as such requesting Party determines necessary or advisable in order to prepare its financial statements and reports or filings with any Governmental Authority.

(d) After the Effective Date, upon reasonable written notice, the Parties shall furnish or cause to be furnished to each other and their employees, counsel, auditors and representatives reasonable access, during normal business hours, to such Information and reasonable assistance as is required by applicable Law, including Section 404 of the Sarbanes-Oxley Act of 2002, or is reasonably necessary for financial reporting and accounting matters (including with respect to the preparation of any financial statements), letters of representation, reports or forms, the preparation and filing of any tax returns or the defense of any tax claim or assessment. In the event any Party reasonably determines that any such provision of Information could be commercially detrimental, violate any Law or Contract, or result in the waiver any Privilege, the Parties shall take all commercially reasonable measures to permit the compliance with such obligations in a manner that avoids any such harm or consequence, and shall thereafter be deemed to have complied with such obligation.

Section 6.02. *Ownership of Information*. Any Information owned by one Group that is provided to a requesting Party pursuant to Section 6.01 shall be deemed to remain the property of the providing Party. Unless expressly set forth in this Agreement, nothing contained in this Agreement shall be construed as granting or conferring any right, title or interest (whether by license or otherwise) in, to or under any such Information.

Section 6.03. *Record Retention*. To facilitate the possible exchange of Information pursuant to this Article 6 and other provisions of this Agreement after the Effective Date, the Parties agree to use their commercially reasonable efforts to retain all Information in their respective possession or control on the Effective Date in accordance with the policies of Cellectis as in effect from time to time or such other policies as may be reasonably adopted by the appropriate Party after the Effective Date. For the avoidance of doubt, such policies shall be deemed to apply to any Information in a Party's possession or control on the Effective Date relating to the other Party or members of its Group.

Section 6.04. *Limitations of Liability*. Except as otherwise provided in this Article 6, no Party shall have any liability to any other Party in the event that any Information exchanged or provided pursuant to this Agreement is found to be inaccurate or the requested Information is not provided, in the absence of willful misconduct by the Party requested to provide such Information. No Party shall have any liability to any other Party if any Information is destroyed after commercially reasonable efforts by such Party to comply with the provisions of Section 6.03.

Section 6.05. *Production of Witnesses; Records; Cooperation*. (a) After the Effective Date, except in the case of any Action involving or relating to a conflict or dispute between any member of the Cellectis Group, on the one hand, and any member of the Company Group, on the other hand, each Party hereto will use its commercially reasonable efforts to make available to each other Party, upon written request, the then current directors, officers, employees, other personnel and agents of the Person in its respective Group as witnesses and any books, records or other documents within its control or which it otherwise has the ability to make available, to the extent that any such Person (giving consideration to business demands of such directors, officers, employees,

other personnel and agents) or books, records or other documents may reasonably be required in connection with any Action in which indemnification is or may reasonably be expected to be sought that the requesting Party may from time to time be involved. The requesting Party shall bear all costs and expenses in connection therewith.

(b) If an Indemnifying Party or Indemnitee chooses to defend or to seek to compromise or settle any Third Party Claim, the other Party shall make available to such Indemnifying Party or Indemnitee, as applicable, upon written request then current directors, officers, employees, other personnel and agents of the Persons in its respective Group as witnesses and any Information within its control or possession, to the extent that any such Person (giving consideration to business demands of such directors, officers, employees, other personnel and agents) or books, records or other documents may reasonably be required in connection with such defense, settlement or compromise, or such prosecution, evaluation or pursuit, as the case may be, and shall otherwise reasonably cooperate in such defense, settlement or compromise, or such prosecution, evaluation or pursuit, as the case may be.

(c) Without limiting the foregoing, the Parties shall cooperate and consult to the extent reasonably necessary with respect to any Actions in which indemnification is or may reasonably be expected to be sought.

(d) The obligation of the Parties to provide witnesses pursuant to this Section 6.05 is intended to be interpreted in a manner so as to facilitate cooperation and shall include the obligation to provide as witnesses employees and other officers without regard to whether the witness or the employer of the witness could assert a possible business conflict (subject to the exception set forth in the first sentence of Section 6.05(a)).

(e) In connection with any matter contemplated by this Section 6.05 the Parties will enter into a mutually acceptable joint defense agreement so as to maintain to the extent practicable any applicable attorney-client privilege or work product immunity of any Person in any Group.

Section 6.06. *Confidentiality*. (a) Subject to Section 6.07, each of Cellectis and the Company (each, a "**Receiving Party**"), on behalf of itself and each Person in its respective Group, agree to hold, and to cause its respective directors, officers, employees, agents, accountants, counsel and other advisors and representatives to hold in strict confidence, with at least the same degree of care that applies to the confidential and proprietary information of Cellectis pursuant to policies in effect as of the Effective Date, all Information with respect to Cellectis, solely concerning the Company Business (for which the Company shall be the "**Disclosing Party**") and with respect to the Company, concerning the Cellectis Business (for which Cellectis shall be the "**Disclosing Party**") that is accessible to it, in its possession (including Information in its possession prior to the Effective Date) or furnished by the Disclosing Party or any Person in its respective Group, or accessible to, in the possession of, or furnished to the Company's respective directors, officers, employees, agents, accountants, counsel and other advisors and representatives at any time pursuant to this Agreement or otherwise, except, in each case,

to the extent that such Information (i) is or becomes part of the public domain through no breach of this Agreement by the Receiving Party or any of its Group, its respective directors, officers, employees, agents, accountants, counsel and other advisors and representatives, (ii) information that was independently developed following the Effective Date by employees or agents of the Receiving Party or any Person in its respective Group, its respective directors, officers, employees, agents, accountants, counsel and other advisors and representatives who have not accessed or otherwise received the applicable Information; provided that such independent development can be demonstrated by competent, contemporaneous written records of the Receiving Party or any Person in its respective Group, or (iii) becomes available to the Receiving Party or any Person in its respective Group following the Effective Date on a non-confidential basis from a third party who is not bound directly or indirectly by a duty of confidentiality to the Disclosing Party.

(b) Each Party acknowledges that it and the other members of the other Party Group may have in their possession confidential or proprietary Information of third parties that was received under confidentiality or non-disclosure agreements with such third party prior to the Effective Date. Such Party will hold, and will cause the other members of its Group and their respective directors, officers, employees, agents, accountants, counsel, consultants and other advisors and representatives to hold, in strict confidence the confidential and proprietary information of third parties to which they or any other member of their respective Groups has access, in accordance with the terms of any agreements entered into prior to the Effective Date between one or more members of such Party's Group (whether acting through, on behalf of, or connection with, the separated businesses) and such third parties.

(c) Upon the written request of a Party, the other Party shall promptly destroy any copies of such confidential or proprietary Information (including any extracts therefrom) specifically identified by the requesting Party to be destroyed, except to the extent required by Cellectis policies (in the case of Cellectis holding more than 50% of the outstanding Common Stock of the Company) or prohibited by applicable Law. Upon the written request of such requesting Party, the other Party shall cause one of its duly authorized officers to certify in writing to such requesting Party that the requirements of the preceding sentence have been satisfied in full.

(d) Notwithstanding anything to the contrary in this Article 6, (i) to the extent that an Ancillary Agreement or other Contract pursuant to which a Party or a Person in its respective Group is bound or its confidential Information is subject provides that certain Information shall be maintained confidential on a basis that is more protective of such Information or for a longer period of time than provided for herein, then the applicable provisions contained in such Ancillary Agreement or other Contract shall control with respect thereto and (ii) a Party and the Persons in its respective Group shall have no right to use any Information of the Disclosing Party unless otherwise provided for in this Agreement, an Ancillary Agreement or Contract between the Parties or a Person in its respective Group.

Section 6.07. *Protective Arrangements*. In the event that the Receiving Party or any Person in its Group either determines on the advice of its counsel that it is required to disclose any Information pursuant to applicable Law (including the rules and regulations of the Commission or any national securities exchange) or receives any request or demand from any Governmental Authority to disclose or provide Information of the Disclosing Party (or any Person in the Disclosing Party's Group) that is subject to the confidentiality provisions hereof, such Party shall notify the other Party prior to disclosing or providing such Information and shall cooperate at the expense of such other Party in seeking any reasonable protective arrangements (including by seeking confidential treatment of such Information) requested by such other Party. Subject to the foregoing, the Person that received such a request or determined that it is required to disclose Information may thereafter disclose or provide Information to the extent required by such Law (as so advised by counsel) or requested or required by such Governmental Authority; provided, however, that such Person provides the other Party, to the extent legally permissible, upon request with a copy of the Information so disclosed.

Section 6.08. *Preservation of Legal Privileges*. (a) Cellectis and the Company recognize that the members of their respective Groups possess and will possess information and advice that has been previously developed but is legally protected from disclosure under legal privileges, such as the attorney-client privilege or work product exemption and other concepts of legal protection ("**Privilege**"). Each Party recognizes that they shall be jointly entitled to the Privilege with respect to such privileged information and that each shall be entitled to maintain, preserve and assert for its own benefit all such information and advice, but both Parties shall ensure that such information is maintained so as to protect the Privileges with respect to the other Party's interest. To that end, neither Party will knowingly waive or compromise any Privilege associated with such information and advice without the prior written consent of the other Party. In the event that privileged information is required to be disclosed to any arbitrator or mediator in connection with a dispute between the Parties, such disclosure shall not be deemed a waiver of Privilege with respect to such information, and any Party receiving it in connection with a proceeding shall be informed of its nature and shall be required to safeguard and protect it.

(b) Upon receipt by either Party of any subpoena, discovery or other request that may call for the production or disclosure of information that is the subject of a Privilege, or if a Party obtains knowledge that any current or former employee of a Party has received any subpoena, discovery or other request that may call for the production or disclosure of such information, such Party shall provide the other Party a reasonable opportunity to review the information and to assert any rights it may have under this Section 6.08 or otherwise to prevent the production or disclosure of such information. Absent receipt of written consent from the other Party to the production or disclosure of information that may be covered by a Privilege, each Party agrees that it will not produce or disclose any information that may be covered by a Privilege unless a court of competent jurisdiction has entered a final, nonappealable order finding that the information is not entitled to protection under any applicable Privilege.

(c) Cellectis' transfer of Company Books and Records and other Information to the Company, Cellectis' agreement to permit the Company to obtain Information existing prior to the Effective Date, the Company's transfer of Cellectis Books and Records and other Information and the Company's agreement to permit Cellectis to obtain Information existing prior to the Effective Date are made in reliance on Cellectis' and the Company's respective agreements, as set forth in Section 6.06, Section 6.07 and this Section 6.08, to maintain the confidentiality of such Information and to take the steps provided herein for the preservation of all Privileges that may belong to or be asserted by Cellectis or the Company, as the case may be. The access to Information being granted pursuant to Section 6.01 hereof, the agreement to provide witnesses and individuals pursuant to Section 6.06 hereof and the disclosure to Cellectis and the Company of Privileged Information relating to the Company Business or Cellectis Business (if any) pursuant to this Agreement shall not be asserted by Cellectis or the Company to constitute, or otherwise deemed, a waiver of any Privilege that has been or may be asserted under this Section 6.08 or otherwise. Nothing in this Agreement shall operate to reduce, minimize or condition the rights granted to Cellectis and the Company in, or the obligations imposed upon the Parties by, this Section 6.08.

ARTICLE 7
FINANCIAL AND OTHER COVENANTS

Section 7.01. *Disclosure and Financial Controls*. The Company agrees that, for so long as Cellectis is required to consolidate the results of operations and financial position of the Company and any other members of the Company Group or to account for its investment in the Company under the equity method of accounting (determined in accordance with IFRS and consistent with reporting requirements under Cellectis policies applicable at the Effective Date and under applicable Law):

(a) Disclosure of Financial Controls. The Company will, and will cause each other member of the Company Group to, maintain, as of and after the Effective Date, disclosure controls and procedures and internal control over financial reporting as defined in Exchange Act Rule 13a-15; the Company will cause each of its principal executive and principal financial officers to sign and deliver certifications to the Company's periodic reports and will include the certifications in the Company's periodic reports, as and when required pursuant to Exchange Act Rule 13a-14 and Item 601 of Regulation S-K; the Company will cause its management to evaluate the Company's disclosure controls and procedures and internal control over financial reporting (including any change in internal control over financial reporting) as and when required pursuant to Exchange Act Rule 13a-15; the Company will disclose in its periodic reports filed with the Commission information concerning the Company management's responsibilities for and evaluation of the Company's disclosure controls and procedures and internal control over financial reporting (including, without limitation, the annual management report and attestation report of the Company's independent auditors relating to internal control over financial reporting) as and when required under Items 307 and 308 of Regulation S-K and other applicable Commission rules; and, without limiting the general application of the foregoing, the Company will, and will cause each other member of the Company Group to, maintain as of and after the Effective Date internal systems and procedures that will

provide reasonable assurance that (A) the Financial Statements are reliable and timely prepared in accordance with GAAP or IFRS (as applicable) and applicable Law, (B) all transactions of members of the Company Group are recorded as necessary to permit the preparation of the Financial Statements, (C) the receipts and expenditures of members of the Company Group are authorized at the appropriate level within the Company, and (D) unauthorized use or disposition of the assets of any member of the Company Group that could have a material effect on the Financial Statements is prevented or detected in a timely manner.

(b) Fiscal Year. The Company will, and will cause each member of the Company Group organized in the U.S. to maintain a fiscal year that commences and ends on the same calendar days as Cellectis' fiscal year commences and ends, and to maintain monthly accounting periods that commence and end on the same calendar days as Cellectis' monthly accounting periods commence and end. The Company will, and will cause each member of the Company Group organized outside the U.S. to maintain a fiscal year that commences and ends on the same calendar days as the fiscal year of the corresponding members of the Cellectis Group organized outside the U.S. commences and ends, and to maintain monthly accounting periods that commence and end on the same calendar days as the monthly accounting periods of the corresponding members of the Cellectis Group organized outside the U.S. commence and end.

(c) Monthly and Quarterly Financial Information. The Company and each of its Subsidiaries and Affiliates will deliver to Cellectis an income statement and balance sheet on a monthly basis for such period in such format and detail as Cellectis reasonably requests, including for purposes of Cellectis to prepare reconciliations with respect to its financial statements. The Company and each of its Subsidiaries and Affiliates will deliver to Cellectis an income statement and balance sheet and supplemental data related to cash flows and other necessary disclosures on a quarterly basis in such format and detail as Cellectis may reasonably request. The Company will be responsible for reviewing its results and data and for informing Cellectis immediately of any post-closing adjustments that come to its attention. The Company must provide final sign-off of its results, using Cellectis' materiality standards, no later than seven Business Days after the quarterly close period end for the income statement, for the balance sheet, cash flow and supplemental data. A certification will be provided by the Controller and Chief Financial Officer and Chief Executive Officer of the Company pertaining to the quarter financials and internal controls no later than five Business Days prior to Cellectis' filing or furnishing of its quarterly financial statements with the Commission.

(d) Quarterly Financial Statements. As soon as practicable and no later than 14 Business Days after the quarterly close period, the Company will deliver to Cellectis drafts of (A) the consolidated financial statements of the Company Group (and notes thereto) for such periods and for the period from the beginning of the current fiscal year to the end of such quarter, setting forth in each case in comparative form for each such fiscal quarter of the Company the consolidated figures (and notes thereto) for the corresponding quarter and periods of the previous fiscal year and all in reasonable detail and prepared in accordance with Article 10 of Regulation S-X and GAAP or IFRS (as applicable), and (B) a discussion and analysis by management of the Company Group's

financial condition and results of operations for such fiscal period, including, without limitation, an explanation of any material period-to-period change and any off-balance sheet transactions, all in reasonable detail and prepared in accordance with Item 303(b) of Regulation S-K; provided, however, that the Company will deliver such information at such earlier time upon Cellectis written request with 30 days' notice resulting from Cellectis' determination to accelerate the timing of the filing or furnishing of its financial statements with the Commission. The information set forth in (A) and (B) above is referred to in this Agreement as the "**Quarterly Financial Statements**." No later than five Business Days prior to the date the Company publicly files the Quarterly Financial Statements with the Commission or otherwise makes such Quarterly Financial Statements publicly available, the Company will deliver to Cellectis the final form of the Company Quarterly Financial Statements and certifications thereof by the principal executive and financial officers of the Company in substantially the forms required under Commission rules for periodic reports and in form and substance satisfactory to Cellectis, including for purposes of Cellectis to prepare reconciliations with respect to its financial statements; provided, however, that the Company may continue to revise such Quarterly Financial Statements prior to the filing thereof in order to make corrections and non-substantive changes which corrections and changes will be delivered by the Company to Cellectis as soon as practicable, and in any event within eight hours of making any such corrections or changes; provided, further, that Cellectis' and the Company's financial representatives will actively consult with each other regarding any changes (whether or not substantive) which the Company may consider making to its Quarterly Financial Statements and related disclosures during the five Business Days immediately prior to any anticipated filing by the Company with the Commission, with particular focus on any changes which would have an effect upon Cellectis' financial statements or related disclosures. In addition to the foregoing, no Quarterly Financial Statement or any other document which refers, or contains information not previously publicly disclosed with respect to the ownership of the Company by Cellectis or the IPO and transactions contemplated by this Agreement and the Ancillary Agreements following the Effective Date, will be filed with the Commission or otherwise made public by any Company Group member without the prior written consent of Cellectis, which consent shall not be unreasonably withheld. Notwithstanding anything to the contrary in this Section 7.01(d), the Company will not file its Quarterly Financial Statements with the Commission unless otherwise required by applicable Law or approved by Cellectis.

(e) Annual Financial Statements. On an annual basis, the Company will deliver to Cellectis an income statement and balance sheet and supplemental data related to cash flows and other necessary disclosures for such period in such format and detail as Cellectis may reasonably request, including for purposes of Cellectis to prepare reconciliations with respect to its financial statements. The Company will be responsible for reviewing its results and data and for informing Cellectis immediately of any post-closing adjustments within eight hours of its awareness. The Company must provide final sign-off of its results, using Cellectis' materiality standards, no later than seven Business Days after the annual close period end for the income statement, for the balance sheet, for the cash flow and supplemental data. A certification will be provided by the Controller and Chief Financial Officer and Chief Executive Officer of the Company pertaining to the financials and internal controls no later than seven Business Days prior to Cellectis'

filing of its audited annual financial statements (the "**Cellectis Annual Statements**") with the Commission. As soon as practicable, and in any event no later than 15 Business Days prior to the date on which Cellectis has notified the Company that Cellectis intends to file its annual report on Form 20-F or other document containing annual financial statements with the Commission, the Company will deliver to Cellectis any financial and other information and data with respect to the Company Group and its business, properties, financial position, results of operations and prospects as is reasonably requested by Cellectis in connection with the preparation of Cellectis' financial statements and annual report on Form 20-F. As soon as practicable, and in any event no later than fifteen Business Days prior to the date on which the Company is required to file an annual report on Form 10-K or other document containing its Annual Financial Statements (as defined below) with the Commission, the Company will deliver to Cellectis drafts of (A) the consolidated financial statements of the Company Group (and notes thereto) for such year, setting forth in each case in comparative form the consolidated figures (and notes thereto) for the previous fiscal years and all in reasonable detail and prepared in accordance with Regulation S-X and GAAP or IFRS (as applicable) and (B) a discussion and analysis by management of the Company Group's financial condition and results of operations for such year, including, without limitation, an explanation of any material period-to-period change and any off-balance sheet transactions, all in reasonable detail and prepared in accordance with Items 303(a) and 305 of Regulation S-K. The information set forth in (A) and (B) above is referred to in this Agreement as the "**Annual Financial Statements.**" The Company will deliver to Cellectis all revisions to such drafts as soon as any such revisions are prepared or made. No later than five Business Days prior to the date the Company publicly files the Annual Financial Statements with the Commission or otherwise makes such Annual Financial Statements publicly available, the Company will deliver to Cellectis the final form of its annual report on Form 10-K and certifications thereof by the principal executive and financial officers of the Company in substantially the forms required under Commission rules for periodic reports and in form and substance satisfactory to Cellectis; provided, however, that the Company may continue to revise such Annual Financial Statements prior to the filing thereof in order to make corrections and non-substantive changes which corrections and changes will be delivered by the Company to Cellectis as soon as practicable, and in any event within eight hours of making any such corrections or changes; provided, further, that Cellectis' and the Company's financial representatives will actively consult with each other regarding any changes (whether or not substantive) which the Company may consider making to its Annual Financial Statements and related disclosures during the five Business Days immediately prior to any anticipated filing with the Commission. In addition to the foregoing, no Annual Financial Statement or any other document which refers, or contains information not previously publicly disclosed with respect to the ownership of the Company by Cellectis or the IPO and transactions contemplated by this Agreement and the Ancillary Agreements following the Effective Date will be filed with the Commission or otherwise made public by any Company Group member without the prior written consent of Cellectis, which consent shall not be unreasonably withheld. Beginning with the 2017 fiscal year, the Company will use its reasonable best efforts to deliver to Cellectis, no later than five Business Days prior to the date on which Cellectis has notified the Company that Cellectis intends to file the

Cellectis Annual Statements with the Commission, the final form of the Annual Financial Statements accompanied by an opinion thereon by the Company's independent certified public accountants. Notwithstanding anything to the contrary in this Section 7.01(e), the Company will not file its Annual Financial Statements with the Commission unless otherwise required by applicable Law or approved by Cellectis.

(f) Affiliate Financial Statements. The Company will deliver to Cellectis all quarterly financial statements and annual financial statements of each Company Affiliate which is itself required to file financial statements with the Commission or otherwise make such financial statements publicly available, with such financial statements to be provided in the same manner and detail and on the same time schedule as Quarterly Financial Statements and Annual Financial Statements required to be delivered to Cellectis pursuant to this Section 7.01.

(g) Conformity with Cellectis Financial Presentation. All information provided by any Company Group member to Cellectis or filed with the Commission pursuant to Section 7.01(c) through (f) inclusive will be consistent in terms of format and detail and otherwise with the financial presentation in the prospectus for the IPO and as otherwise presently presented in financial reports to the Board of Directors of Cellectis, with such changes therein as may be requested by Cellectis from time to time consistent with changes in such accounting principles and practices.

(h) Company Reports Generally. The Company shall, and shall cause each Company Group member that files information with the Commission, to deliver to Cellectis: (A) substantially final drafts, as soon as the same are prepared, of (x) all reports, notices and proxy and information statements to be sent or made available by such Company Group member to its respective security holders, (y) all regular, periodic and other reports to be filed or furnished under Sections 13, 14 and 15 of the Exchange Act (including reports on Forms 10-K, 10-Q and 8-K and annual reports to shareholders), and (z) all registration statements and prospectuses to be filed by such Company Group member with the Commission or any securities exchange pursuant to the listed company manual (or similar requirements) of such exchange (collectively, the documents identified in clauses (x), (y) and (z) are referred to in this Agreement as "**Company Public Documents**"), and (B) as soon as practicable, but in no event later than five Business Days (other than with respect to Form 8-Ks) prior to the earliest of the dates the same are printed, sent or filed, current drafts of all such Company Public Documents and, with respect to Form 8-Ks, as soon as practicable, but in no event later than three Business Days prior to the earliest of the dates the same are printed, sent or filed in the case of planned Form 8-Ks and as soon as practicable, but in no event less than two hours in the case of unplanned Form 8-Ks; provided, however, that the Company may continue to revise such Company Public Documents prior to the filing thereof in order to make corrections and non-substantive changes which corrections and changes will be delivered by the Company to Cellectis as soon as practicable, and in any event within eight hours of making any such corrections or changes; provided, further, that Cellectis and the Company financial representatives will actively consult with each other regarding any changes (whether or not substantive) which the Company may consider making to any of its Company Public Documents and related disclosures prior to any anticipated filing

with the Commission, with particular focus on any changes which would have an effect upon Cellectis' financial statements or related disclosures. In addition to the foregoing, no Company Public Document or any other document which refers, or contains information not previously publicly disclosed with respect to the ownership of the Company by Cellectis or the IPO and transactions contemplated by this Agreement and the Ancillary Agreements following the Effective Date will be filed with the Commission or otherwise made public by any Company Group member without the prior written consent of Cellectis.

(i) Budgets and Financial Projections. The Company will, as promptly as practicable, deliver to Cellectis copies of all annual budgets and financial projections (including initial annual budgets and reforecasts after the first and third quarters of each fiscal year, each consistent in terms of format and detail mutually agreed upon by the Parties) relating to the Company on a consolidated basis and will provide Cellectis an opportunity to meet with management of the Company to discuss such budgets and projections.

(j) Other Information. With reasonable promptness, the Company will deliver to Cellectis such additional financial and other information and data with respect to the Company Group and their business, properties, financial positions, results of operations and prospects as from time to time may be reasonably requested by Cellectis.

(k) Press Releases and Similar Information. The Company and Cellectis will consult with each other as to the timing of their annual and quarterly earnings releases and any interim financial guidance for a current or future period and will give each other the opportunity to review the information therein relating to the Company Group and to comment thereon. Cellectis and the Company will make reasonable efforts to issue their respective annual and quarterly earnings releases at approximately the same time on the same date. Company shall coordinate the timing of its respective earnings release conference calls with Cellectis earning calls timing, such that the Company shall issue its annual and quarterly earnings release no later than five days before the Cellectis' annual and quarterly earnings release, provided that Cellectis will inform the Company of its next financial year agenda quarterly releases not later than December 15 of the preceding year. No later than eight hours prior to the time and date that a Party intends to publish its regular annual or quarterly earnings release or any financial guidance for a current or future period, such Party will deliver to the other Party copies of substantially final drafts of all related press releases and other statements to be made available by any member of that Party's Group to employees of any member of that Party's Group or to the public concerning any matters that could be reasonably likely to have a material financial impact on the earnings, results of operations, financial condition or prospects of any Company Group member. In addition, prior to the issuance of any such press release or public statement that meets the criteria set forth in the preceding two sentences, the issuing Party will consult with the other Party regarding any changes (other than typographical or other similar minor changes) to such substantially final drafts. Immediately following the issuance thereof, the issuing Party will deliver to the other Party copies of final drafts of all press releases and other public statements. Prior to the Effective Date, the Company shall consult with Cellectis prior to issuing any press releases or otherwise making public

statements with respect to the IPO and transactions contemplated by this Agreement and the Ancillary Agreements following the Effective Date or any of the other transactions contemplated hereby and prior to making any filings with any Governmental Authority with respect thereto.

(l) Cooperation on Cellectis Filings. The Company will cooperate fully, and cause Company Auditors to cooperate fully, with Cellectis to the extent requested by Cellectis in the preparation of Cellectis' public earnings or other press releases, quarterly reports, annual reports to shareholders, annual reports on Form 20-F, any current reports on Form 6-K and any other proxy, information and registration statements, reports, notices, prospectuses and any other filings or furnishings made by Cellectis with the Commission, any national or non-U.S. securities exchange or otherwise made publicly available (collectively, the "**Cellectis Public Filings**"). The Company agrees to provide to Cellectis all information that Cellectis reasonably requests in connection with any Cellectis Public Filings or that, in the judgment of Cellectis' legal counsel, is required to be disclosed or incorporated by reference therein under any Law, rule or regulation. The Company will provide such information in a timely manner on the dates requested by Cellectis (which may be earlier than the dates on which the Company otherwise would be required hereunder to have such information available) to enable Cellectis to prepare, print and release all Cellectis Public Filings on such dates as Cellectis will determine but in no event later than as required by applicable Law. The Company will use its commercially reasonable efforts to cause Company Auditors to consent to any reference to them as experts in any Cellectis Public Filings required under any Law, rule or regulation. If and to the extent requested by Cellectis, the Company will diligently and promptly review all drafts of such Cellectis Public Filings and prepare in a diligent and timely fashion any portion of such Cellectis Public Filing pertaining to the Company. Prior to any printing or public release of any Cellectis Public Filing, an appropriate executive officer of the Company will, if requested by Cellectis, certify that the information relating to any Company Group member or the Company Business in such Cellectis Public Filing is accurate, true, complete and correct in all material respects. Unless required by Law, rule or regulation, the Company will not publicly release any financial or other information which conflicts with the information with respect to any Company Group member or the Company Business that is included in any Cellectis Public Filing without Cellectis' prior written consent. Prior to the release or filing thereof, Cellectis will provide the Company with a draft of any portion of a Cellectis Public Filing containing information relating to the Company Group and will give the Company an opportunity to review such information and comment thereon; provided that Cellectis will determine in its sole and absolute discretion the final form and content of all Cellectis Public Filings.

(m) The Company must comply with Cellectis policies including without limitation the policies regarding the reporting requirements (such as the use of internal IT reporting tools like SAP, or other Cellectis internal IT systems).

Section 7.02. *Auditors and Audits; Annual Statements and Accounting*. The Company agrees that for so long as Cellectis is required to consolidate the results of operations and financial position of the Company and any other members of the Company Group or to account for its investment in the Company under the equity method of accounting (determined in accordance with GAAP or IFRS (as applicable) and consistent with reporting requirements under applicable Law) (an "**Applicable Period**"); provided that the Company's obligations pursuant to Section 7.02(e) and (f) shall continue beyond an Applicable Period to the extent any amendments to, or restatements or modifications of, Cellectis Public Filings are necessary with respect to any such Applicable Period:

(a) Selection of Company Auditors. Unless required by Law, the Company will not select a different accounting firm than Ernst & Young (or its affiliate accounting firms) (unless so directed by Cellectis in accordance with a change by Cellectis in its accounting firm) to serve as its (and the Company Affiliates') independent certified public accountants ("**Company Auditors**") without Cellectis' prior written consent; provided, however, that, to the extent any such Company Affiliates are currently using a different accounting firm to serve as their independent certified public accountants, such Company Affiliates may continue to use such accounting firm provided such accounting firm is reasonably satisfactory to Cellectis.

(b) Audit Timing. Beginning with the 2017 fiscal year, the Company will use its best efforts to enable Company Auditors to complete their audit such that they will date their opinion on the Annual Financial Statements on the same date that Cellectis' independent certified public accountants ("**Cellectis Auditors**") date their opinion on the Cellectis Annual Statements, and to enable Cellectis to meet its timetable for the printing, filing and public dissemination of the Cellectis Annual Statements, all in accordance with Section 7.01(a) hereof and as required by applicable Law, *provided* that, if the Cellectis Annual Statements shall be dated as of a date such that compliance with this Section 7.02(b) would cause the Company to fail to timely comply with any filing requirement of the Commission, then the Company shall be permitted to cause the Company Auditors to date their opinion on such earlier date as may be required to achieve such compliance.

(c) Quarterly Review. Beginning with the first fiscal quarter after the Effective Date, the Company shall use its best efforts to enable Cellectis' Auditors to complete their quarterly review procedures on the Quarterly Financial Statements on the same date that Cellectis Auditors complete their quarterly review procedures on Cellectis' quarterly financial statements.

(d) Information Needed by Cellectis. The Company will provide to Cellectis on a timely basis all information that Cellectis reasonably requires to meet its schedule for the preparation, printing, filing, and public dissemination of the Cellectis Annual Statements in accordance with Section 7.01(a) hereof and as required by applicable Law. Without limiting the generality of the foregoing, the Company will provide all required financial information with respect to the Company Group to the Company's Auditors in a sufficient and reasonable time and in sufficient detail to permit Company Auditors to take all steps and perform all reviews necessary to provide sufficient assistance to Cellectis' Auditors with respect to information to be included or contained in the Cellectis Annual Statements.

(e) Access to Company Auditors. The Company will authorize Company's Auditors to make available to Cellectis' Auditors both the personnel who performed, or are performing, the annual audit and quarterly reviews of the Company and work papers related to the annual audit and quarterly reviews of the Company, in all cases within a reasonable time prior to Company Auditors' opinion date, so that Cellectis' Auditors are able to perform the procedures they consider necessary to take responsibility for the work of Company's Auditors as it relates to Cellectis Auditors' report on Cellectis' financial statements, all within sufficient time to enable Cellectis to meet its timetable for the printing, filing and public dissemination of the Cellectis Annual Statements.

(f) Access to Records. At Cellectis' request, for so long as Cellectis and its Affiliates beneficially own, in the aggregate, at least 50% of the outstanding shares of Common Stock of the Company, Cellectis and its employees and other representatives and potential transferees of its Common Stock and their representatives shall have the right to consult with and advise senior management of the Company and to review the Company's books and records so that Cellectis may conduct audits relating to Company business, including without limitation the financial statements or other financial information provided by the Company under this Agreement as well as to the internal accounting controls, operations and Contracts of the Company Group upon reasonable advance notice, provided that such parties, potential transferees and their respective representatives agree to keep any such confidential, non-public information about the Company confidential (except as may be required by law or applicable listing standards then in effect) and agree to comply with all applicable securities laws in connection therewith.

(g) Notice of Changes. Subject to Section 7.01(g), the Company will give Cellectis as much prior notice as reasonably practicable of any proposed determination of, or any significant changes in, the Company's accounting estimates or accounting principles from those in effect on the Effective Date. The Company will consult with Cellectis and, if requested by Cellectis, the Company will consult with Cellectis' Auditors with respect thereto. The Company will not make any such determination or changes without Cellectis' prior written consent if such a determination or a change would be required to be disclosed in the Company's or Cellectis' financial statements as filed with the Commission or otherwise publicly disclosed therein.

(h) Accounting Changes Requested by Cellectis. Notwithstanding clause (g) above, the Company will make any changes in its accounting estimates or accounting principles that are requested by Cellectis in order for the Company's accounting practices and principles to be consistent with those of Cellectis.

(i) Special Reports of Deficiencies or Violations. The Company will report in reasonable detail to Cellectis the following events or circumstances promptly after any executive officer of the Company or any member of the Board of Directors of the Company becomes aware of such matter: (A) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting; (B) any fraud, whether or not material, that involves management or other employees who have a significant role in the Company's internal control over financial reporting; (C) any illegal act within the meaning of Section 10A(b) and (f) of the Exchange Act; and (D) any report of a material violation of Law that an attorney representing any Company Group member has formally made to any officers or directors of the Company pursuant to the SEC's attorney conduct rules (17 C.F.R. Part 205).

Section 7.03. *Retention of Certain Services*. As long as Cellectis and its Affiliates beneficially own at least 50% of the outstanding shares of Common Stock of the Company, Cellectis shall continue to provide the services as defined in the Management Services Agreement, pursuant to the terms as agreed between the Parties from time to time.

ARTICLE 8
DISPUTE RESOLUTION

Section 8.01. *Disputes*. Except as otherwise specifically provided in any Ancillary Agreement, the procedures for discussion, negotiation and mediation set forth in this Article 8 shall apply to all disputes, controversies or claims (whether arising in contract, tort or otherwise) between or among any Person in the Cellectis Group and the Company Group that may arise out of or relate to, or arise under or in connection with this Agreement, or the transactions contemplated hereby or thereby (including all actions taken in furtherance of the transactions contemplated hereby on or prior to the Effective Date.

Section 8.02. *Escalation; Mediation*. (a) It is the intent of the Parties to use their respective commercially reasonable efforts to resolve expeditiously any dispute, controversy or claim between or among them with respect to the matters covered by this Agreement or any Ancillary Agreement that may arise from time to time on a mutually acceptable negotiated basis. In furtherance of the foregoing, any Party involved in a dispute, controversy or claim with respect to such matters may deliver a notice (an "**Escalation Notice**") demanding an in person meeting involving representatives of the Parties at a senior level of management of the Parties (or if the Parties agree, of the appropriate strategic business unit or division within such entity). A copy of any such Escalation Notice shall be given to the General Counsel, or like officer or official, of each Party involved in the dispute, controversy or claim (which copy shall state that it is an Escalation Notice pursuant to this Agreement). Any agenda, location or procedures for such discussions or negotiations between the Parties may be established by the Parties from time to time; provided, however, that the Parties shall use their commercially reasonable efforts to meet within 30 days of the delivery of the Escalation Notice.

(b) If the Parties are not able to resolve the dispute, controversy or claim through the escalation process referred to above, then the matter shall be referred to mediation. The Parties shall retain a mediator to aid the Parties in their discussions and negotiations by informally providing advice to the Parties. Any opinion expressed by the mediator shall be strictly advisory and shall not be binding on the Parties, nor shall any opinion expressed by the mediator be admissible in any other proceeding. The mediator may be chosen from a list of mediators previously selected by the Parties or by other agreement of the Parties. Costs of the mediation shall be borne equally by the Parties involved in the matter, except that each Party shall be responsible for its own expenses. Mediation shall be a prerequisite to the commencement of any Action by either Party.

Section 8.03. *Court Actions.* (a) In the event that any Party, after complying with the provisions set forth in Section 8.02 above, desires to commence an Action, such Party, subject to Section 11.18, may submit the dispute, controversy or claim (or such series of related disputes, controversies or claims) to any court of competent jurisdiction as set forth in Section 11.18.

(b) Unless otherwise agreed in writing, the Parties will continue to provide service and honor all other commitments under this Agreement during the course of dispute resolution pursuant to the provisions of this Article 8, except to the extent such commitments are the subject of such dispute, controversy or claim.

ARTICLE 9
FURTHER ASSURANCES

Section 9.01. *Further Assurances*. (a) In addition to the actions specifically provided for elsewhere in this Agreement, each of the Parties will cooperate with each other and shall use its (and will cause their respective Subsidiaries and Affiliates to use) commercially reasonable efforts, prior to, on and after the Effective Date, to take, or cause to be taken, all actions, and to do, or cause to be done, all things, reasonably necessary, proper or advisable under applicable Laws, regulations and agreements to consummate and make effective the transactions contemplated by this Agreement and the Ancillary Agreements.

(b) Without limiting the foregoing, prior to, on and after the Effective Date, each Party shall cooperate with the other Party, and without any further consideration, at the expense of such other Party, to execute and deliver, or use its commercially reasonable efforts to cause to be executed and delivered, all instruments, including instruments of conveyance, assignment and transfer, and to make all filings with, and to obtain all consents, approvals or authorizations of, any Governmental Authority or any other Person under any permit, license, agreement, indenture, order, decree, financial assurance (including letter of credit) or other instrument (including any Consents or governmental approvals), and to take all such other actions as such Party may reasonably be requested to take by such other Party hereto from time to time, consistent with the terms of this Agreement, in order to effectuate the provisions and purposes of this Agreement and the Ancillary Agreements and the other transactions contemplated hereby and thereby.

(c) On or prior to the Effective Date, Cellectis and the Company in their respective capacities as direct and indirect stockholders of their respective Subsidiaries, shall each ratify any actions which are reasonably necessary or desirable to be taken by Cellectis, the Company or any other Subsidiary of the Company or Cellectis, as the case may be, to effectuate the transactions contemplated by this Agreement.

ARTICLE 10
TERMINATION

Section 10.01. *Termination*. This Agreement may be terminated in whole or in part at any time after the consummation of the IPO upon the earlier of (i) mutual written consent of Cellectis and the Company and (ii) the date on which Cellectis and its Affiliates cease to hold at least 15% of the outstanding shares of Common Stock of the Company.

Section 10.02. *Effect of Termination*. In the event of any termination of this Agreement in whole or in part, no Party (or any of its directors, officers, members or managers) shall have any Liability or further obligation to any other Party with respect to the portions of the Agreement so terminated.

ARTICLE 11
MISCELLANEOUS

Section 11.01. *Counterparts; Entire Agreement; Conflicting Agreements*. (a) This Agreement may be executed in one or more counterparts, all of which shall be considered one and the same agreement, and shall become effective when one or more counterparts have been signed by each of the Parties and delivered to the other Party. Execution of this Agreement or any other documents pursuant to this Agreement by facsimile or other electronic copy of a signature shall be deemed to be, and shall have the same effect as, executed by an original signature.

(b) This Agreement, the Ancillary Agreements, the Surviving Contracts, the exhibits, the schedules and appendices hereto and thereto contain the entire agreement between the Parties with respect to the subject matter hereof, supersede all previous agreements, negotiations, discussions, writings, understandings, commitments and conversations with respect to such subject matter and there are no agreements or understandings between the Parties with respect to such subject matter other than those set forth or referred to herein or therein.

(c) In the event of any inconsistency between this Agreement and any Schedule hereto, the Schedule shall prevail. Subject to Section 4.05(d), in the event and to the extent that there shall be a conflict between the provisions of this Agreement and the provisions of any Ancillary Agreement, the Ancillary Agreement shall control with respect to the subject matter thereof, and this Agreement shall control with respect to all other matters.

Section 11.02. *No Construction Against Drafter*. The Parties acknowledge that this Agreement and all the terms and conditions contained herein have been fully reviewed and negotiated by the Parties. Having acknowledged the foregoing, the Parties agree that any principle of construction or rule of law that provides that, in the event of any inconsistency or ambiguity, an agreement shall be construed against the drafter of the agreement shall have no application to the terms and conditions of this Agreement.

Section 11.03. *Governing Law*. This Agreement shall be governed by and construed and interpreted in accordance with the Laws of the State of New York, without regard to the conflict of laws principles thereof that would result in the application of any Law other than the Laws of the State of New York.

Section 11.04. *Assignability*. This Agreement shall be binding upon and inure to the benefit of the Parties hereto and their respective successors and permitted assigns; *provided, however*, that no Party hereto may assign its respective rights or delegate its respective obligations under this Agreement without the express prior written consent of the other Party or Parties hereto.

Section 11.05. *Third Party Beneficiaries*. Except for the indemnification rights under this Agreement of any Cellectis Indemnitee or Company Indemnitee in their respective capacities as such (a) the provisions of this Agreement are solely for the benefit of the Parties and are not intended to confer upon any Person (including employees of the Parties hereto) except the Parties any rights or remedies hereunder, and (b) there are no third party beneficiaries of this Agreement and this Agreement shall not provide any third person (including employees of the Parties hereto) with any remedy, claim, liability, reimbursement, claim of action or other right in excess of those existing without reference to this Agreement.

Section 11.06. *Notices*. All notices or other communications under this Agreement shall be in writing and shall be deemed to be duly given when (a) delivered in person, (b) deposited in the United States mail or private express mail, postage prepaid, addressed or (c) sent via email, in each case as follows:

If to Cellectis, to:

Cellectis S.A.
8, rue de la Croix Jarry
75013 Paris, France
Attention: Chief Executive Officer
Facsimile: +33 (0)1 81 69 16 06
E-mail: andre.choulika@cellectis.com

If to the Company to:

Calyxt, Inc.
600 County Road D West
Suite 8
New Brighton, MN 55112
Attention: Chief Executive Officer
E-mail: Federico.tripodi@calyxt.com

Any Party may, by notice to the other Party, change the physical or email address to which such notices are to be given. Any notice that is required under Article 7 to be given by a Party within a time period measured in hours, where the specified deadline to give such notice would fall between the hours of midnight to 7:00 a.m. local time for such Party on a particular day will be considered to have been given in a timely manner if the notice is delivered before 9:00 a.m. local time on such day.

Section 11.07. *Severability*. If any provision of this Agreement or the application thereof to any Person or circumstance is determined by a court of competent jurisdiction to be invalid, void or unenforceable, the remaining provisions hereof or the application of such provision to Persons or circumstances or in jurisdictions other than those as to which it has been held invalid or unenforceable, shall remain in full force and effect and shall in no way be affected, impaired or invalidated thereby, so long as the economic or legal substance of the transactions contemplated hereby is not affected in any manner adverse to any Party. Upon such determination, the Parties shall negotiate in good faith in an effort to agree upon such a suitable and equitable provision to effect the original intent of the Parties.

Section 11.08. *Force Majeure*. No Party shall be deemed in default of this Agreement to the extent that any delay or failure in the performance of its obligations under this Agreement results from any cause beyond its reasonable control and without its fault or negligence, such as acts of God, acts of civil or military authority, embargoes, epidemics, war, riots, insurrections, fires, explosions, earthquakes, floods, unusually severe weather conditions, labor problems or unavailability of parts, or, in the case of computer systems, any failure in electrical or air conditioning equipment. In the event of any such excused delay, the time for performance shall be extended for a period equal to the time lost by reason of the delay.

Section 11.09. *Late Payments*. Except as expressly provided to the contrary in this Agreement or in any Ancillary Agreement, any amount not paid when due pursuant to this Agreement (and any amounts billed or otherwise invoiced or demanded and properly payable that are not paid within 30 days of such bill, invoice or other demand) shall accrue interest at a rate per annum equal to the Prime Rate plus 2%.

Section 11.10. *Expenses*. Except as otherwise specified in this Agreement or the Ancillary Agreements or as otherwise agreed in writing between Cellectis and the Company, Cellectis and the Company shall each be responsible for its own fees, costs and expenses paid or incurred in connection with the IPO.

Section 11.11. *Headings*. The article, section and paragraph headings contained in this Agreement are for reference purposes only and shall not affect in any way the meaning or interpretation of this Agreement.

Section 11.12. *Survival of Covenants*. The covenants contained in this Agreement, indemnification obligations and liability for the breach of any obligations contained herein, shall survive the Effective Date and the other transactions contemplated by this Agreement shall remain in full force and effect.

Section 11.13. *Waivers of Default*. Waiver by any Party of any default by the other Party of any provision of this Agreement shall not be deemed a waiver by the waiving Party of any subsequent or other default, nor shall it prejudice the rights of the other Party.

Section 11.14. *Specific Performance*. In the event of any actual or threatened default in, or breach of, any of the terms, conditions and provisions of this Agreement, the Party or Parties who are or are to be thereby aggrieved shall have the right to specific performance and injunctive or other equitable relief of its rights under this Agreement, in addition to any and all other rights and remedies at law or in equity, and all such rights and remedies shall be cumulative.

Section 11.15. *Amendments*. No provisions of this Agreement shall be deemed waived, amended, supplemented or modified by any Party, unless such waiver, amendment, supplement or modification is in writing and signed by the authorized representative of the Party against whom it is sought to enforce such waiver, amendment, supplement or modification.

Section 11.16. *Interpretation*. Words in the singular shall be held to include the plural and vice versa and words of one gender shall be held to include the other genders as the context requires. The terms “hereof”, “herein” and “herewith” and words of similar import shall, unless otherwise stated, be construed to refer to this Agreement as a whole (including all of the schedules, exhibits and appendices hereto) and not to any particular provision of this Agreement. Article, Section, Exhibit, Schedule and Appendix references are to the Articles, Sections, Exhibits, Schedules and Appendices to this Agreement unless otherwise specified. The word “including” and words of similar import when used in this Agreement means “including, without limitation”, unless the context otherwise requires or unless otherwise specified.

Section 11.17. *Waiver of Jury Trial*. EACH OF THE PARTIES HEREBY WAIVES TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY WITH RESPECT TO ANY COURT PROCEEDING DIRECTLY OR INDIRECTLY ARISING OUT OF AND PERMITTED UNDER OR IN CONNECTION WITH THIS AGREEMENT OR THE TRANSACTIONS CONTEMPLATED BY THIS AGREEMENT. EACH OF THE PARTIES HEREBY (A) CERTIFIES THAT NO REPRESENTATIVE, AGENT OR ATTORNEY OF THE OTHER PARTY HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT SUCH OTHER PARTY WOULD NOT, IN THE EVENT OF LITIGATION, SEEK TO ENFORCE THE FOREGOING WAIVER AND (B) ACKNOWLEDGES THAT IT HAS BEEN INDUCED TO ENTER INTO THIS AGREEMENT AND THE TRANSACTIONS CONTEMPLATED BY THIS AGREEMENT, AS APPLICABLE, BY, AMONG OTHER THINGS, THE MUTUAL WAIVERS AND CERTIFICATIONS IN THIS SECTION 11.17.

Section 11.18. *Submission to Jurisdiction; Waivers*. With respect to any Action relating to or arising out of this Agreement, subject to the provisions of Article 8, each Party to this Agreement irrevocably (a) consents and submits to the exclusive jurisdiction of the courts of the State of New York and any court of the United States located in the Borough of Manhattan in New York City; (b) waives any objection which such Party

may have at any time to the laying of venue of any Action brought in any such court, waives any claim that such Action has been brought in an inconvenient forum and further waives the right to object, with respect to such Action, that such court does not have jurisdiction over such Party; and (c) consents to the service of process at the address set forth for notices in Section 11.06 herein; provided, however, that such manner of service of process shall not preclude the service of process in any other manner permitted under applicable Law.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their duly authorized representatives as of the date set forth above.

CELLECTIS S.A.

By: /s/ André Choulika
Name: André Choulika
Title: Chief Excutive Officer

CALYXT, INC.

By: /s/ Federico Tripodi
Name: Federico Tripodi
Title: Chief Excutive Officer

[*Signature Page to the Separation Agreement*]

Schedule 3.01(b)(iii)

Stockholders Agreement by and among Calyxt, Inc., Cellectis S.A. and the Persons listed on Schedule A thereto, dated as of July 25, 2017

Current account agreement between Calyxt, Inc. and Cellectis S.A., dated March 7, 2011

Letter of Credit with Société Générale to cover the New Brighton offices

Exhibit 10.4

STOCKHOLDERS AGREEMENT

THIS STOCKHOLDERS AGREEMENT (as it may be amended from time to time in accordance with the terms hereof, this "**Agreement**"), dated as of July 25, 2017, is made by and among Calyxt, Inc., a Delaware corporation (the "**Company**"), Cellectis S.A., a French *société anonyme* ("**Cellectis**") and the Persons listed on Schedule A hereto (each, a "**Non-Cellectis Holder**" and collectively, the "**Non-Cellectis Holders**").

RECITALS

WHEREAS, Cellectis beneficially owned all of the outstanding Company Shares (as defined below) prior to the consummation of the Company's proposed initial public offering (the "**IPO**"); and

WHEREAS, in connection with the IPO, the Company, Cellectis and the Non-Cellectis Holders desire to provide for certain rights and obligations of Cellectis, the Company and the Non-Cellectis Holders upon and after the consummation of the IPO.

NOW, THEREFORE, in consideration of the foregoing and the mutual promises, covenants and agreements of the Parties, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

ARTICLE 1

DEFINITIONS

Section 1.01. *Definitions*. As used in this Agreement, the following terms shall have the following meanings:

"**Additional Piggyback Rights**" has the meaning set forth in Section 4.02(c).

"**Affiliate**" of any Person means any other Person directly or indirectly controlling or controlled by or under direct or indirect common control with such Person; *provided*, *however*, that, for purposes of this Agreement, the Company shall not be considered an "**Affiliate**" of any of Cellectis and its Subsidiaries other than the Company, and each of Cellectis and its Subsidiaries other than the Company shall not be considered an "**Affiliate**" of the Company. As used herein, "**control**" means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of such entity, whether through ownership of voting securities or other interests, by contract or otherwise. For purposes of this definition, "**Affiliated**," "**controlling**," "**controlled by**," and "**under common control with**" have correlative meanings.

"**Agreement**" has the meaning set forth in the preamble.

"**Automatic Shelf Registration Statement**" has the meaning set forth in Section 4.04.

"**Beneficially Owned**" has the meaning set forth in Rule 13d-3 under the Exchange Act, but without reference to clause (d)(1) of such Rule.

"**Board of Directors**" means the board of directors of the Company.

"**Business Day**" means any day other than a Saturday, Sunday or day on which banking institutions in New York, New York are authorized or obligated by law or executive order to close.

"**Cellectis**" has the meaning set forth in the preamble.

"**Claims**" has the meaning set forth in 4.09(a).

"**Company**" has the meaning set forth in the preamble.

"**Company Shares**" means common stock of the Company and any and all securities of any kind whatsoever of the Company that may be issued by the Company after the date hereof in respect of, in exchange for, or in substitution of, Company Shares, pursuant to any stock dividends, stock splits, reverse stock splits, combinations, reclassifications, recapitalizations, share exchange, consolidation or other reorganizations and the like occurring after the date hereof.

"**Company Shares Equivalents**" means all options, warrants and other securities convertible into, or exchangeable or exercisable for (at any time or upon the occurrence of any event or contingency and without regard to any vesting or other conditions to which such securities may be subject) Company Shares or other equity securities of the Company (including any note or debt security convertible into or exchangeable for Company Shares or other equity securities of the Company).

"**Demand Exercise Notice**" has the meaning set forth in Section 4.01(a).

"**Demand Registration**" has the meaning set forth in Section 4.01(a).

"**Demand Registration Request**" has the meaning set forth in Section 4.01(a).

"**Director**" means a member of the Board of Directors.

"**Exchange Act**" means the Securities Exchange Act of 1934, as amended, and any successor thereto, and any rules and regulations promulgated thereunder, all as the same shall be in effect from time to time.

"**Expenses**" means any and all fees and expenses incident to the Company's performance of or compliance with Article 4, including: (i) SEC, stock exchange and FINRA registration and filing fees and all listing fees and fees with respect to the inclusion of securities on the NASDAQ or on any other securities market on which the Company Shares are listed or quoted, (ii) fees and expenses of compliance with state securities or "blue sky" laws and in connection with the preparation of a "blue sky" survey, including reasonable fees and expenses of outside "blue sky" counsel, (iii) printing and copying expenses, (iv) messenger and delivery expenses, (v) expenses incurred in connection with any road show, (vi) fees and disbursements of counsel for the Company, (vii) with respect to each registration, the fees

and disbursements of one counsel for the Participating Holder(s) (selected by the Majority Participating Holders), (viii) fees and disbursements of all independent public accountants (including the expenses of any audit and/or comfort letter and updates thereof) and fees and expenses of other Persons, including special experts, retained, or authorized to be retained, by the Company, (ix) fees and expenses payable to any qualified independent underwriter required under applicable FINRA rules, (x) any other fees and disbursements of underwriters, if any, customarily paid by issuers or sellers of securities (excluding, for the avoidance of doubt, any underwriting commission, discount or spread), (xi) any rating agency fees, and (xii) expenses for securities law liability insurance.

"**FINRA**" means the Financial Industry Regulatory Authority.

"**Governing Documents**" means (i) with respect to the Company, the certificate of incorporation of the Company, as amended or modified from time to time, and the by-laws of the Company, as amended or modified from time to time and (ii) with respect to any other Person, such Person's certificate of incorporation, by-laws or other similar constitutive documents.

"**Governmental Authority**" means any nation or government, any state, municipality or other political subdivision thereof, and any entity, body, agency, commission, department, board, bureau, court, tribunal or other instrumentality, whether federal, state, local, domestic, foreign or multinational, exercising executive, legislative, judicial, regulatory, administrative or other similar functions of, or pertaining to, government and any executive official thereof.

"**Holder**" means (i) Cellectis so long as it holds any Registrable Securities and (ii) any Person owning Registrable Securities who is a Permitted Transferee and becomes party to this Agreement.

"**Independent Director**" means a Director who qualifies, as of the date of such Director's election or appointment to the Board of Directors and as of any other date on which the determination is being made, as an "independent director" pursuant to SEC rules and applicable listing standards, as amended from time to time, as determined by the Board of Directors without the vote of such Director.

"**Initiating Holder**" has the meaning set forth in Section 4.01(a).

"**IPO**" has the meaning set forth in the recitals.

"**Litigation**" means any action, proceeding or investigation in any court or before any Governmental Authority.

"**Majority Participating Holders**" means (i) Cellectis if it is participating in an offering of Registrable Securities pursuant to Sections 4.01 or Section 4.02 or (ii) otherwise, the Participating Holders holding more than 50% of the Registrable Securities proposed to be included in such offering.

"**Manager**" has the meaning set forth in Section 4.01(c).

Any "**Necessary Action**" means, with respect to a specified result, all actions (to the extent such actions are permitted by law and by the Governing Documents) necessary to cause such result, including (i) voting or providing a written consent or proxy with respect to the Company Shares, (ii) causing the adoption of stockholders' resolutions and amendments to the Governing Documents, (iii) causing Directors (to the extent such Directors were nominated or designated by the Person obligated to undertake the Necessary Action, and subject to any fiduciary duties that such Directors may have as Directors) to act in a certain manner or causing them to be removed in the event they do not act in such a manner, (iv) executing agreements and instruments, and (v) making, or causing to be made, with governmental, administrative or regulatory authorities, all filings, registrations or similar actions that are required to achieve such result.

"**Non-Cellectis Holder**" and "**Non-Cellectis Holders**" have the meaning set forth in the preamble.

"**Participating Holders**" means all Holders of Registrable Securities which are proposed to be included in any registration or offering of Registrable Securities pursuant to Section 4.01 or Section 4.02.

"**Party**" means the Company, Cellectis, the Non-Cellectis Holders and any Permitted Transferee who becomes a Party pursuant to Article 5.

"**Permitted Transferee**" means in the case of any Holder, (i) any Affiliate of such Holder that executes a customary joinder agreement to this Agreement or (ii) a Person or Affiliated Persons to whom such Holder transferred a number of Company Shares such that after giving effect to such transfer such Person or Affiliated Persons Beneficially Owns or Own, in the aggregate, at least 10% of the then outstanding Company Shares.

"**Person**" means an individual, partnership, limited liability company, corporation, trust, other entity, association, estate, unincorporated organization or a government or any agency or political subdivision thereof.

"**Piggyback Shares**" has the meaning set forth in Section 4.03(a)(iv).

"**Registrable Securities**" means any Company Shares held by the Holders at any time (including those held as a result of the conversion or exercise of Company Shares Equivalents); *provided* that, as to any Registrable Securities held by a particular Holder, such securities shall cease to be Registrable Securities when (A) a registration statement with respect to the sale of such securities shall have been declared effective under the Securities Act and such securities shall have been disposed of in accordance with such registration statement, or (B) (x) such securities are eligible to be sold by such Holder in a single transaction in compliance with the requirements of Rule 144 under the Securities Act, as such Rule 144 may be amended (or any successor provision thereto) without volume limitations under Rule 144 and (y) such Holder no longer Beneficially Owns in the aggregate a number of Company Shares equal to at least 10% of the then outstanding Company Shares.

"**Rule 144**" and "**Rule 144A**" have the meaning set forth in Section 4.12.

"**SEC**" means the U.S. Securities and Exchange Commission.

"**Section 4.03(a) Sale Number**" has the meaning set forth in Section 4.03(a).

"**Section 4.03(b) Sale Number**" has the meaning set forth in Section 4.03(b).

"**Section 4.03(c) Sale Number**" has the meaning set forth in Section 4.03(c).

"**Securities Act**" means the U.S. Securities Act of 1933, as amended, and any successor thereto, and any rules and regulations promulgated thereunder, all as the same shall be in effect from time to time.

"**Subsidiary**" means, when used with respect to any Person, (a) a corporation in which such Person or one or more Subsidiaries of such Person, directly or indirectly, owns capital stock having a majority of the total voting power in the election of directors of all outstanding shares of all classes and series of capital stock of such corporation entitled generally to vote in such election; and (b) any other Person (other than a corporation) in which such Person or one or more Subsidiaries of such Person, directly or indirectly, has (i) a majority ownership interest or (ii) the power to elect or direct the election of a majority of the members of the governing body of such first-named Person.

"**Valid Business Reason**" has the meaning set forth in Section 4.01(a)(iv).

"**WKSI**" has the meaning set forth in Section 4.04.

Section 1.02. *Other Interpretive Provisions*.

(a) The meanings of defined terms are equally applicable to the singular and plural forms of the defined terms.

(b) The words "**hereof**," "**herein**," "**hereunder**" and similar words refer to this Agreement as a whole and not to any particular provision of this Agreement; and any subsection and Section references are to this Agreement unless otherwise specified.

(c) The term "**including**" is not limiting and means "**including without limitation**."

(d) The captions and headings of this Agreement are for convenience of reference only and shall not affect the interpretation of this Agreement.

(e) Whenever the context requires, any pronouns used herein shall include the corresponding masculine, feminine or neuter forms.

ARTICLE 2

REPRESENTATIONS AND WARRANTIES

Each of the Parties hereby represents and warrants, solely with respect to itself (and, in each case to the extent applicable in the case of Parties who are natural persons), to each other Party that:

Section 2.01. *Existence; Authority; Enforceability*. Such Party has the power and authority to enter into this Agreement and to carry out its obligations hereunder. Such Party is duly organized and validly existing under the laws of its jurisdiction of organization, and the execution of this Agreement, and the performance of its obligations hereunder, have been authorized by all Necessary Action, and no other act or proceeding on its part is necessary to authorize the execution of this Agreement or the performance of its obligations hereunder. This Agreement has been duly executed by it and constitutes its legal, valid and binding obligation, enforceable against it in accordance with its terms except as the same may be affected by bankruptcy, insolvency, moratorium or similar laws, or by legal or equitable principles relating to or limiting the rights of contracting parties generally.

Section 2.02. *Absence of Conflicts*. The execution and delivery by such Party of this Agreement and the performance of its obligations hereunder does not (a) conflict with, or result in the breach of any provision of the constitutive documents of such Party; (b) result in any violation, breach, conflict, default or event of default (or an event which with notice, lapse of time, or both, would constitute a default or event of default), or give rise to any right of acceleration or termination or any additional payment obligation, under the terms of any contract, agreement or permit to which such Party is a party or by which such Party's assets or operations are bound or affected; or (c) violate any law applicable to such Party, except, in the case of clause (b), as would not have a material adverse effect on such Party's ability to perform its obligations hereunder.

Section 2.03. *Consents*. Other than as has already been obtained, no consent, waiver, approval, authorization, exemption, registration, license or declaration is required to be made or obtained by such Party in connection with the execution, delivery or performance of this Agreement, except in each case, as would not have a material adverse effect on such Party's ability to perform its obligations hereunder.

ARTICLE 3

GOVERNANCE

Section 3.01. *Board of Directors*.

(a) Effective as of the date of this Agreement, the Board of Directors shall be composed of five Directors, each of whom shall be a designee of Cellectis and two of whom shall be "independent directors" pursuant to applicable listing standards, in each case in accordance with the Company's Governing Documents.

(b) From and after the date of this Agreement, so long as Cellectis and its Affiliates Beneficially Own, in the aggregate, a number of Company Shares equal to at least 15% of the then outstanding Company Shares, Cellectis shall have the right, but not the obligation, to nominate for the Board of Directors a number of designees equal to the greater of: (i) three designees and (ii) a majority of the Directors. In the event that at any time the number of designees of Cellectis who are members of the Board of Directors is fewer than the total number of designees Cellectis is entitled to nominate pursuant to this Section 3.01(b), Cellectis shall have the right, at any time, to nominate such additional designees to which it is entitled, in which case the Company shall take, or cause to be taken, all Necessary Action to, (A) increase the size of the Board of Directors as required to enable Cellectis to so nominate such additional designees and (B) appoint such additional designees nominated by Cellectis to such newly created directorships. So long as Cellectis and its Affiliates Beneficially Own, in the aggregate, a number of Company Shares equal to at least 15% of the then outstanding Company Shares, no change shall be made to the number of Directors on the Board of Directors without the prior approval of Cellectis.

(c) The Company shall take all Necessary Action to cause the Board of Directors to be constituted as set forth in this Section 3.01 (including appointing or removing designees nominated by Cellectis and filling any vacancies created by reason of death, disability, retirement, removal or resignation of the Cellectis' designees with a new designee of Cellectis). The Company agrees to include in the slate of nominees recommended by the Board of Directors and in the Company's proxy statement or notice of each meeting at which Directors are to be elected those persons designated pursuant to this Section 3.01 and to use its best efforts to cause the election or appointment of each such designee to the Board of Directors, including nominating such designees to be elected as Directors.

(d) Any nominee designated by Cellectis pursuant to this Section 3.01 may be removed (with or without cause) from time to time and at any time by Cellectis upon notice to the Company, and may otherwise only be removed for cause (subject to Cellectis' rights under this Section 3.01 with respect to any vacancy created thereby).

(e) The Company shall enter into indemnification agreements and maintain Directors and Officers liability insurance for the benefit of each nominee of Cellectis elected or appointed to the Board of Directors with respect to all periods during which such individual is a member of the Board of Directors, on terms, conditions and amounts substantially similar to the terms, conditions and amounts of the Company's current Directors and Officers liability insurance policy, and shall use commercially reasonable efforts to cause such indemnification and insurance to be maintained in full force and effect. The Company shall provide each such nominee with all benefits (including all fees and entitlements) on substantially the same terms and conditions as are provided to other members of the Board of Directors performing similar roles.

(f) The Company shall reimburse the designees of Cellectis for all reasonable out-of-pocket expenses incurred in connection with their attendance at meetings of the Board of Directors and any committees thereof.

Section 3.02. *Chairman; Committees.*

(a) For so long as Cellectis is entitled to nominate Directors for election to the Board of Directors pursuant to Section 3.01(b), Cellectis shall have the right to designate the Director to serve in the role of Chairman of the Board of Directors and to have at least one of their designated Directors serve on each committee of the Board of Directors, to the extent such Directors are permitted to serve on such committees under SEC rules and applicable listing standards then in effect.

(b) The Company agrees to use its best efforts to cause the appointment of the Director designated by Cellectis to serve in the role of Chairman and the Directors designated by Cellectis to the committees of the Board of Directors in accordance with this Section 3.02.

Section 3.03. *Information; Duties.*

(a) For so long as Cellectis and its Affiliates Beneficially Own, in the aggregate, a number of Company Shares equal to at least 15% of the then outstanding Company Shares, the Company agrees that (i) the Directors designated by Cellectis may share confidential, non-public information about the Company with Cellectis and its Affiliates and (ii) Cellectis and its employees and other representatives and potential transferees of its Company Shares and their representatives shall have the right to consult with and advise senior management of the Company and to review the Company's books and records upon reasonable advance notice, in each case only to the extent reasonably necessary in connection with their investment in the Company, including any potential sales thereof, provided that such parties, potential transferees and their respective representatives agree to keep any such confidential, non-public information about the Company confidential (except as may be required by law or applicable listing standards then in effect) and agree to comply with all applicable securities laws in connection therewith.

(b) At any time during which the Company does not file reports with the SEC that contain (a) audited annual financial statements of the Company and (b) unaudited interim quarterly financial statements of the Company, the Company shall deliver to Cellectis, within 10 days after the Company would have been required to file the relevant report with the SEC (as if the Company were a non-accelerated filer), consolidated balance sheets of the Company and the related consolidated statements of income, cash flows and stockholders equity, including footnotes, as of the end of each fiscal year and the end of each of the first three fiscal quarters in each fiscal year of the Company.

(c) The Company agrees that, notwithstanding anything to the contrary in any other agreement or at law or in equity, when Cellectis or its Affiliates take any action under this Agreement (including in their respective capacities as Holders) to give or withhold consent, Cellectis and such Affiliates shall, to the fullest extent permitted by law, have no duty to consider the interests of the Company or other Holders, if any, or any other stockholder of the Company and may act exclusively in their and their Affiliates' respective own interests; *provided*, *however*, that the foregoing shall in no way affect the obligations of the Parties to comply with the provisions of this Agreement.

Section 3.04. *Controlled Company*.

(a) For so long as the Company qualifies as a "controlled company" under the applicable listing standards then in effect, the Company will elect to be a "controlled company" for purposes of such applicable listing standards, and will disclose in its annual meeting proxy statement that it is a "controlled company" and the basis for that determination. The Company and Cellectis acknowledge and agree that, as of the date of this Agreement, the Company is a "controlled company." If the Company ceases to qualify as a "controlled company" under applicable listing standards then in effect, Cellectis and the Company will take whatever action may be reasonably necessary, if any, to cause the Company to comply with SEC rules and applicable listing standards then in effect.

(b) After the Company ceases to qualify as a "controlled company" under applicable listing standards then in effect, Cellectis shall cause a sufficient number of their designees to qualify as "independent directors" to ensure that the Board of Directors complies with such applicable listing standards in the time periods required by the applicable listing standards then in effect.

Section 3.05. *Cellectis Reserved Matters*.

(a) For so long as Cellectis and its Affiliates Beneficially Own, in the aggregate, a number of Company Shares equal to at least 50% of the then outstanding Company Shares, the following matters shall require the prior approval of Cellectis:

(i) any modification to the Company's or any future Subsidiary of the Company's share capital (e.g., share capital increase or decrease) the creation of any Subsidiary, any grant of stock-based compensation, any distributions or public or private offering, merger, spin-off, liquidation, winding up or carve-out transactions;

(ii) the annual business plan and annual budget of the Company and any modification thereof;

(iii) any external growth transactions by the Company exceeding $500,000 and not included in the approved annual business plan and annual budget of the Company;

(iv) any investment and disposition decisions of the Company exceeding $500,000 and not included in the approved annual business plan and annual budget of the Company (it being understood that this excludes the purchase and sale of inventory as a part of the normal course of business);

(v) any related-party agreement or any agreement or transaction between the executives or stockholders of the Company, on the one hand, and the Company or any of its Subsidiaries, on the other hand;

(vi) any decision pertaining to the recruitment, dismissal or removal, or increase of the compensation of executives and corporate officers of the Company;

(vii) any material decision of the Company relating to material litigation of the Company;

(viii) any decision of the Company relating to the opening of a social or restructuring plan or pre-insolvency proceedings of the Company;

(ix) any buyback by the Company of Company Shares;

(x) any new borrowings or debts of the Company exceeding $500,000 and early repayment of loans of the Company, if any (it being understood that Cellectis will approve the entering into of contracts for revolving loans and other short-term loans and the repayment of such for financing general operating activities, such as revolving loans for inventory or factoring of receivables);

(xi) grants by the Company of any pledges on securities of the Company;

(xii) development of any new activities and businesses not described in the annual business plan and annual budget of the Company;

(xiii) entry by the Company into any material agreement or partnership; and

(xiv) any offshore and relocation activities.

(b) For so long as Cellectis and its Affiliates Beneficially Own, in the aggregate, a number of Company Shares equal to at least 15% of the then outstanding Company Shares, the following matters shall require the prior approval of Cellectis:

(i) any amendment to the Company's Governing Documents that would change:

(A) the name of the Company;

(B) the jurisdiction of incorporation of the Company;

(C) the location of the Company's principal executive offices;

(D) the purpose or purposes for which the Company is incorporated; or

(E) this Article 3;

(ii) any regular or special dividends to holders of the Company Shares;

(iii) the commencement of any voluntary, or the Company's consent to any, proceeding for the dissolution, winding up or bankruptcy of the Company or a material Subsidiary (or group of Subsidiaries that are collectively material) of the Company;

(iv) any public or private offering, merger, amalgamation or consolidation of the Company or the spinoff of a business of the Company or any sale, conveyance, transfer or other disposition of the Company's assets; and

(v) any appointment to the Board of Directors contrary to this Agreement or the Governing Documents.

ARTICLE 4

REGISTRATION RIGHTS

Section 4.01. *Registration.*

(a) *Demand Registrations*. If the Company shall receive from either Cellectis or any other Holder or group of Holders holding at least 10% of the then outstanding Company Shares, in either case at any time beginning 180 days after the effective date of the registration statement filed in connection with the IPO (or such earlier time as agreed by the Company) a written request that the Company file a registration statement with respect to Registrable Securities (a "**Demand Registration Request**," and the registration so requested is referred to herein as a "**Demand Registration**," and the sender(s) of such request pursuant to this Agreement shall be known as the "**Initiating Holder(s)**"), then the Company shall, within five days of the receipt thereof, give written notice (the "**Demand Exercise Notice**") of such request to all other Holders, and subject to the limitations of this Section 4.01, use its reasonable best efforts to effect, as soon as practicable, the registration under the Securities Act (including by means of a shelf registration pursuant to Rule 415 thereunder if so requested and if the Company is then eligible to use such a registration) of all Registrable Securities that the Holders request to be registered. There is no limitation on the number of Demand Registrations pursuant to this Section 4.01 which the Company is obligated to effect. However, the Company shall not be obligated to take any action to effect any Demand Registration:

(i) within three months after a Demand Registration pursuant to this Section 4.01 that has been declared, ordered or become automatically effective;

(ii) during the period starting with the date 15 days prior to its good faith estimate of the date of filing of, and ending on a date 90 days after the effective date of, a Company-initiated registration (other than a registration relating solely to the sale of securities to employees of the Company pursuant to a stock option, stock purchase or similar plan or to an SEC Rule 145 transaction), *provided* that the Company is actively employing in good faith all reasonable efforts to cause such registration statement to become effective;

(iii) where the anticipated offering price, before any underwriting discounts or commissions, is equal to or less than $25,000,000;

(iv) if the Company shall furnish to such Holders a certificate signed by the Chief Executive Officer of the Company stating that in the good faith judgment of the

Board of Directors, any registration of Registrable Securities should not be made or continued (or sales under a shelf registration statement should be suspended) because (i) such registration (or continued sales under a shelf registration statement) would materially interfere with a material financing, acquisition, corporate reorganization or merger or other material transaction or event involving the Company or any of its subsidiaries or (ii) the Company is in possession of material non-public information, the disclosure of which has been determined by the Board of Directors to not be in the Company's best interests (in either case, a "**Valid Business Reason**"), then (x) the Company may postpone filing a registration statement relating to a Demand Registration Request or suspend sales under an existing shelf registration statement until five Business Days after such Valid Business Reason no longer exists, but in no event for more than 90 days after the date the Board of Directors determines a Valid Business Reason exists and (y) in case a registration statement has been filed relating to a Demand Registration Request, if the Valid Business Reason has not resulted from actions taken by the Company, the Company may cause such registration statement to be withdrawn and its effectiveness terminated or may postpone amending or supplementing such registration statement until five Business Days after such Valid Business Reason no longer exists, but in no event for more than 90 days after the date the Board of Directors determines a Valid Business Reason exists; and the Company shall give written notice to the Participating Holders of its determination to postpone or withdraw a registration statement or suspend sales under a shelf registration statement and of the fact that the Valid Business Reason for such postponement, withdrawal or suspension no longer exists, in each case, promptly after the occurrence thereof; *provided*, *however*, that the Company shall not defer its obligation in this manner for more than a total of 90 days in any 12 month period; or

(v) in any particular jurisdiction in which the Company would be required to qualify to do business or to execute a general consent to service of process in effecting such registration, qualification or compliance.

If the Company shall give any notice of postponement, withdrawal or suspension of any registration statement pursuant to clause (iv) of this Section 4.01(a), the Company shall not, during the period of postponement, withdrawal or suspension, register any Company Shares, other than pursuant to a registration statement on Form S-4 or S-8 (or an equivalent registration form then in effect). Each Holder of Registrable Securities agrees that, upon receipt of any notice from the Company that the Company has determined to withdraw or suspend any registration statement pursuant to clause (iv) of this Section 4.01(a), such Holder will discontinue its disposition of Registrable Securities pursuant to such registration statement and, if so directed by the Company, will deliver to the Company (at the Company's expense) all copies, other than permanent file copies, then in such Holder's possession of the prospectus covering such Registrable Securities that was in effect at the time of receipt of such notice. If the Company shall have withdrawn or prematurely terminated a registration statement filed pursuant to a Demand Registration (whether pursuant to clause (iv) of this Section 4.01(a) or as a result of any stop order, injunction or other order or requirement of the SEC or any other governmental agency or court), the Company shall not be considered to have effected an effective registration for the purposes of this Agreement until the Company shall have filed a new

registration statement covering the Registrable Securities covered by the withdrawn registration statement and such registration statement shall have been declared effective and shall not have been withdrawn. If the Company shall give any notice of withdrawal, suspension or postponement of a registration statement, the Company shall, not later than five Business Days after the Valid Business Reason that caused such withdrawal, suspension or postponement no longer exists (but in no event later than 90 days after the date of the postponement, suspension or withdrawal), use its reasonable best efforts to effect the registration under the Securities Act of the Registrable Securities covered by the withdrawn, suspended or postponed registration statement in accordance with this Section 4.01 unless the Initiating Holders shall have withdrawn such request, in which case the Company shall not be considered to have effected an effective registration for the purposes of this Agreement), and such registration shall not be withdrawn, suspended or postponed pursuant to clause (iv) of this Section 4.01(a).

(b)

(i) The Company, subject to Sections 4.03 and 4.06, shall include in a Demand Registration (x) the Registrable Securities of the Initiating Holders and (y) the Registrable Securities of any other Holder of Registrable Securities, which shall have made a written request to the Company for inclusion in such registration pursuant to Section 4.02 (which request shall specify the maximum number of Registrable Securities intended to be disposed of by such Participating Holder) within 5 days after the receipt of the Demand Exercise Notice.

(ii) The Company shall, as expeditiously as possible, but subject to the limitations set forth in this Section 4.01, use its reasonable best efforts to (x) effect such registration under the Securities Act (including by means of a shelf registration pursuant to Rule 415 under the Securities Act if so requested and if the Company is then eligible to use such a registration) of the Registrable Securities which the Company has been so requested to register, for distribution in accordance with such intended method of distribution and (y) if requested by the Majority Participating Holders, obtain acceleration of the effective date of the registration statement relating to such registration.

(c) In connection with any Demand Registration, the Majority Participating Holders shall have the right to designate the lead managing underwriter (any lead managing underwriter for the purposes of this Agreement, the "**Manager**") in connection with such registration and each other managing underwriter for such registration, in each case subject to consent of the Company, not be unreasonably withheld.

(d) If so requested by the Initiating Holder(s), the Company (together with all Holders proposing to distribute their securities through such underwriting) shall enter into an underwriting agreement in customary form with the underwriter or underwriters selected for such underwriting in accordance with the terms of this Agreement.

(e) Any Holder that intends to sell Registrable Securities by means of a shelf registration pursuant to Rule 415 thereunder, shall give the Company two days' prior notice of any such sale.

Section 4.02. *Piggyback Registrations*.

(a) If, at any time or from time to time the Company will register or commence an offering of any of its securities for its own account or otherwise (other than pursuant to registrations on Form S-4 or Form S-8 or any similar successor forms thereto) (including but not limited to the registrations or offerings pursuant to Section 4.01), the Company will:

(i) promptly give to each Holder written notice thereof (in any event within five Business Days after the determination to pursue such offering); and

(ii) include in such registration and in any underwriting involved therein (if any), all the Registrable Securities specified in a written request or requests, made within 5 days after mailing or personal delivery of such written notice from the Company, by any of the Holders, except as set forth in Sections 4.02(b) and 4.02(f), with the securities which the Company at the time proposes to register or sell to permit the sale or other disposition by the Holders (in accordance with the intended method of distribution thereof) of the Registrable Securities to be so registered or sold, including, if necessary, by filing with the SEC a post-effective amendment or a supplement to the registration statement filed by the Company or the prospectus related thereto. There is no limitation on the number of such piggyback registrations pursuant to the preceding sentence which the Company is obligated to effect. No registration of Registrable Securities effected under this Section 4.02(a) shall relieve the Company of its obligations to effect Demand Registrations under Section 4.01 hereof.

(b) If the registration in this Section 4.02 involves an underwritten offering, the right of any Holder to include its Registrable Securities in a registration or offering pursuant to this Section 4.02 shall be conditioned upon such Holder's participation in the underwriting and the inclusion of such Holder's Registrable Securities in the underwriting to the extent provided herein. All Holders proposing to distribute their Registrable Securities through such underwriting shall (together with the Company) enter into an underwriting agreement in customary form with the underwriter or underwriters selected for such underwriting (i) in the case of a primary offering, by the Company or (ii) in the case of an offering pursuant to Section 4.01, pursuant to Section 4.01(c).

(c) The Company, subject to 4.03 and 4.06, may elect to include in any registration statement and offering pursuant to any Demand Registration by any Holder, (i) authorized but unissued shares of Company Shares or Company Shares held by the Company as treasury shares and (ii) any other Company Shares which are requested to be included in such registration pursuant to the exercise of piggyback registration rights granted by the Company after the date hereof and which are not inconsistent with the rights granted in, or otherwise conflict with the terms of, this Agreement ("**Additional**

Piggyback Rights"); *provided, however*, that such inclusion shall be permitted only to the extent that it is pursuant to, and subject to, the terms of the underwriting agreement or arrangements, if any, entered into by the Initiating Holders.

(d) If, at any time after giving written notice of its intention to register or sell any equity securities and prior to the effective date of the registration statement filed in connection with such registration or sale of such equity securities, the Company shall determine for any reason not to register or sell or to delay registration or sale of such equity securities, the Company may, at its election, give written notice of such determination to all Holders of record of Registrable Securities and (i) in the case of a determination not to register or sell, shall be relieved of its obligation to register or sell any Registrable Securities in connection with such abandoned registration or sale, without prejudice, however, to the rights of Holders under Section 4.01, and (ii) in the case of a determination to delay such registration or sale of its equity securities, shall be permitted to delay the registration or sale of such Registrable Securities for the same period as the delay in registering such other equity securities.

(e) Notwithstanding anything contained herein to the contrary, the Company shall, at the request of any Holder, file any prospectus supplement or post-effective amendments and otherwise take any action necessary to include therein all disclosure and language deemed necessary or advisable by such Holder if such disclosure or language was not included in the initial registration statement, or revise such disclosure or language if deemed necessary or advisable by such Holder including filing a prospectus supplement naming the Holders, partners, members and shareholders to the extent required by law.

Section 4.03. *Allocation of Securities Included in Registration Statement or Offering*

(a) Subject to subsection (e) of this Section 4.03, but notwithstanding any other provision of this Agreement, in connection with an underwritten offering initiated by a Demand Registration Request, if the Manager advises the Initiating Holders in writing that marketing factors require a limitation of the number of shares to be underwritten (such number, the "**Section 4.03(a) Sale Number**") within a price range acceptable to the Majority Participating Holders, the Initiating Holders shall so advise all Holders of Registrable Securities that would otherwise be underwritten pursuant hereto, and the Company shall use its reasonable best efforts to include in such registration or offering, as applicable, the number of shares of Registrable Securities in the registration and underwriting as follows:

(i) first, all Registrable Securities requested to be included in such registration or offering by the Holders thereof (including pursuant to the exercise of piggyback rights pursuant to Section 4.02); *provided, however*, that if such number of Registrable Securities exceeds the Section 4.03(a) Sale Number, the number of such Registrable Securities (not to exceed the Section 4.03(a) Sale Number) to be included in such registration shall be allocated among all such Holders requesting inclusion thereof in proportion, as nearly as practicable, to the respective amounts of Registrable Securities held by such Holders at the time of filing of the registration statement or the time of the offering, as applicable;

(ii) second, if by the withdrawal of Registrable Securities by a Participating Holder, a greater number of Registrable Securities held by other Holders, may be included in such registration or offering (up to the Section 4.03(a) Sale Number), then the Company shall offer to all Holders who have included Registrable Securities in the registration or offering the right to include additional Registrable Securities in the same proportions as set forth in Section 4.03(a)(i);

(iii) third, to the extent that the number of Registrable Securities to be included pursuant to clause (i) and (ii) of this Section 4.03(a) is less than the Section 4.03(a) Sale Number, and if the underwriter so agrees, any securities that the Company proposes to register or sell, up to the Section 4.03(a) Sale Number; and

(iv) fourth, to the extent that the number of securities to be included pursuant to clauses (i), (ii) and (iii) of this Section 4.03(a) is less than the Section 4.03(a) Sale Number, the remaining securities to be included in such registration or offering shall be allocated on a pro rata basis among all Persons requesting that securities be included in such registration or offering pursuant to the exercise of Additional Piggyback Rights (**"Piggyback Shares**"), based on the aggregate number of Piggyback Shares then owned by each Person requesting inclusion in relation to the aggregate number of Piggyback Shares owned by all Persons requesting inclusion, up to the Section 4.03(a) Sale Number.

(b) Subject to subsection (e) of this Section 4.03, but notwithstanding any other provision of this Agreement, in a registration involving an underwritten offering on behalf of the Company, which was initiated by the Company, if the managing underwriter determines that marketing factors require a limitation of the number of shares to be underwritten (such number, the "**Section 4.03(b) Sale Number**") the Company shall so advise all Holders whose securities would otherwise be registered and underwritten pursuant hereto, and the number of shares of Registrable Securities that may be included in the registration and underwriting shall be allocated as follows:

(i) first, all equity securities that the Company proposes to register for its own account;

(ii) second, to the extent that the number of securities to be included pursuant to clause (i) of this Section 4.03(b) is less than the Section 4.03(b) Sale Number, among all Holders in proportion, as nearly as practicable, to the respective amounts of Registrable Securities requested for inclusion in such registration by Holders pursuant to Section 4.02 up to the Section 4.03(b) Sale Number; and

(iii) third, to the extent that the number of securities to be included pursuant to clauses (i) and (ii) of this Section 4.03(b) is less than the Section 4.03(b) Sale Number, the remaining securities to be included in such registration shall be allocated on a pro rata basis among all Persons requesting that securities be included in such

registration pursuant to the exercise of Additional Piggyback Rights, based on the aggregate number of Piggyback Shares then owned by each Person requesting inclusion in relation to the aggregate number of Piggyback Shares owned by all Persons requesting inclusion, up to the Section 4.03(b) Sale Number.

(c) Subject to subsection (e) of this Section 4.03, if any registration pursuant to Section 4.02 involves an underwritten offering by any Person(s) (other than a Holder) to whom the Company has granted registration rights which are not inconsistent with the rights granted in, or otherwise conflict with the terms of, this Agreement, the managing underwriter (as selected by the Company or such other Person) shall advise the Company that, in its view, the number of securities requested to be included in such registration exceeds the number (the "**Section 4.03(c) Sale Number**") that can be sold in an orderly manner in such registration within a price range acceptable to the Company, the Company shall include shares in such registration as follows:

(i) first, the shares requested to be included in such registration shall be allocated on a pro rata basis among such Person(s) requesting the registration and all Holders requesting that Registrable Securities be included in such registration pursuant to the exercise of piggyback rights pursuant to Section 4.02, based on the aggregate number of securities or Registrable Securities, as applicable, then owned by each of the foregoing requesting inclusion in relation to the aggregate number of securities or Registrable Securities, as applicable, owned by all such Holders and Persons requesting inclusion, up to the Section 4.03(c) Sale Number;

(ii) second, to the extent that the number of securities to be included pursuant to clause (i) of this Section 4.03(c) is less than the Section 4.03(c) Sale Number, the remaining shares to be included in such registration shall be allocated on a pro rata basis among all Persons requesting that securities be included in such registration pursuant to the exercise of Additional Piggyback Rights, based on the aggregate number of Piggyback Shares then owned by each Person requesting inclusion in relation to the aggregate number of Piggyback Shares owned by all Persons requesting inclusion, up to the Section 4.03(c) Sale Number; and

(iii) third, to the extent that the number of securities to be included pursuant to clauses (i) and (ii) of this Section 4.03(c) is less than the Section 4.03(c) Sale Number, the remaining shares to be included in such registration shall be allocated to shares the Company proposes to register for its own account, up to the Section 4.03(c) Sale Number.

(d) If any Holder of Registrable Securities disapproves of the terms of the underwriting, or if, as a result of the proration provisions set forth in clauses (a), (b) or (c) of this Section 4.03, any Holder shall not be entitled to include all Registrable Securities in a registration or offering that such Holder has requested be included, such Holder may elect to withdraw such Holder's request to include Registrable Securities in such registration or offering or may reduce the number requested to be included; *provided*, *however*, that (x) such request must be made in writing, to the Company, Manager and, if applicable, the Initiating Holder(s), prior to the execution of the underwriting agreement

with respect to such registration and (y) such withdrawal or reduction shall be irrevocable and, after making such withdrawal or reduction, such Holder shall no longer have any right to include such withdrawn Registrable Securities in the registration as to which such withdrawal or reduction was made to the extent of the Registrable Securities so withdrawn or reduced.

Section 4.04. *Registration Procedures*. If and whenever the Company is required by the provisions of this Agreement to use its reasonable best efforts to effect or cause the registration of any Registrable Securities under the Securities Act as provided in this Agreement, the Company shall, as expeditiously as possible (but, in any event, within 60 days after a Demand Registration Request in the case of Section 4.04(a) below), in connection with the Registration of the Registrable Securities and, where applicable, a takedown off of a shelf registration statement:

(a) prepare and file with the SEC a registration statement on an appropriate registration form of the SEC for the disposition of such Registrable Securities in accordance with the intended method of disposition thereof, which registration form (i) shall be selected by the Company and (ii) shall, in the case of a shelf registration, be available for the sale of the Registrable Securities by the selling Holders thereof and such registration statement shall comply as to form in all material respects with the requirements of the applicable registration form and include all financial statements required by the SEC to be filed therewith, and the Company shall use its reasonable best efforts to cause such registration statement to become effective and remain continuously effective from the date such registration statement is declared effective until the earliest to occur (i) the first date as of which all of the Registrable Securities included in the registration statement have been sold or (ii) a period of 90 days in the case of an underwritten offering effected pursuant to a registration statement other than a shelf registration statement and a period of three years in the case of a shelf registration statement (*provided*, *however*, that before filing a registration statement or prospectus or any amendments or supplements thereto, or comparable statements under securities or state “blue sky” laws of any jurisdiction, or any free writing prospectus related thereto, the Company will furnish to one counsel for the Holders participating in the planned offering (selected by the Majority Participating Holders) and to one counsel for the Manager, if any, copies of all such documents proposed to be filed (including all exhibits thereto), which documents will be subject to the reasonable review and reasonable comment of such counsel (*provided* that the Company shall be under no obligation to make any changes suggested by the Holders), and the Company shall not file any registration statement or amendment thereto, any prospectus or supplement thereto or any free writing prospectus related thereto to which the Majority Participating Holders or the underwriters, if any, shall reasonably object);

(b) prepare and file with the SEC such amendments and supplements to such registration statement and the prospectus used in connection therewith as may be necessary to keep such registration statement continuously effective for the period set forth in Section 4.04(a) and to comply with the provisions of the Securities Act with respect to the sale or other disposition of all Registrable Securities covered by such registration statement in accordance with the intended methods of disposition by the

seller or sellers thereof set forth in such registration statement (and, in connection with any shelf registration statement, file one or more prospectus supplements covering Registrable Securities upon the request of one or more Holders wishing to offer or sell Registrable Securities whether in an underwritten offering or otherwise);

(c) in the event of any underwritten public offering, enter into and perform its obligations under an underwriting agreement, in usual and customary form, with the Manager of such offering;

(d) furnish, without charge, to each Participating Holder and each underwriter, if any, of the securities covered by such registration statement such number of copies of such registration statement, each amendment and supplement thereto (in each case including all exhibits), the prospectus included in such registration statement (including each preliminary prospectus and any summary prospectus), any other prospectus filed under Rule 424 under the Securities Act and each free writing prospectus utilized in connection therewith, in each case, in conformity with the requirements of the Securities Act, and other documents, as such seller and underwriter may reasonably request in order to facilitate the public sale or other disposition of the Registrable Securities owned by such seller (the Company hereby consenting to the use in accordance with all applicable law of each such registration statement (or amendment or post-effective amendment thereto) and each such prospectus (or preliminary prospectus or supplement thereto) or free writing prospectus by each such Participating Holder and the underwriters, if any, in connection with the offering and sale of the Registrable Securities covered by such registration statement or prospectus);

(e) use its reasonable best efforts to register or qualify the Registrable Securities covered by such registration statement under such other securities or state “blue sky” laws of such jurisdictions as any sellers of Registrable Securities or any managing underwriter, if any, shall reasonably request in writing, and do any and all other acts and things which may be reasonably necessary or advisable to enable such sellers or underwriter, if any, to consummate the disposition of the Registrable Securities in such jurisdictions (including keeping such registration or qualification in effect for so long as such registration statement remains in effect), except that in no event shall the Company be required to qualify to do business as a foreign corporation in any jurisdiction where it would not, but for the requirements of this paragraph (e), be required to be so qualified, to subject itself to taxation in any such jurisdiction or to consent to general service of process in any such jurisdiction;

(f) promptly notify each Participating Holder and each managing underwriter, if any: (i) when the registration statement, any pre-effective amendment, the prospectus or any prospectus supplement related thereto, any post-effective amendment to the registration statement or any free writing prospectus has been filed and, with respect to the registration statement or any post-effective amendment, when the same has become effective; (ii) of any request by the SEC or state securities authority for amendments or supplements to the registration statement or the prospectus related thereto or for additional information; (iii) of the issuance by the SEC of any stop order suspending the effectiveness of the registration statement or the initiation of any proceedings for that

purpose; (iv) of the receipt by the Company of any notification with respect to the suspension of the qualification of any Registrable Securities for sale under the securities or state "blue sky" laws of any jurisdiction or the initiation of any proceeding for such purpose; (v) of the existence of any fact of which the Company becomes aware which results in the registration statement or any amendment thereto, the prospectus related thereto or any supplement thereto, any document incorporated therein by reference, any free writing prospectus or the information conveyed to any purchaser at the time of sale to such purchaser containing an untrue statement of a material fact or omitting to state a material fact required to be stated therein or necessary to make any statement therein not misleading; and (vi) if at any time the representations and warranties contemplated by any underwriting agreement, securities sale agreement, or other similar agreement, relating to the offering shall cease to be true and correct in all material respects; and, if the notification relates to an event described in clause (v), the Company shall promptly prepare and furnish to each such seller and each underwriter, if any, a reasonable number of copies of a prospectus supplemented or amended so that, as thereafter delivered to the purchasers of such Registrable Securities, such prospectus shall not include an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein in the light of the circumstances under which they were made not misleading;

(g) comply (and continue to comply) with all applicable rules and regulations of the SEC (including maintaining disclosure controls and procedures (as defined in Exchange Act Rule 13a-15(e)) and internal control over financial reporting (as defined in Exchange Act Rule 13a-15(f)) in accordance with the Exchange Act), and make generally available to its security holders, as soon as reasonably practicable after the effective date of the registration statement (and in any event within 45 days, or 90 days if it is a fiscal year, after the end of such 12 month period described hereafter), an earnings statement (which need not be audited) covering the period of at least 12 consecutive months beginning with the first day of the Company's first fiscal quarter after the effective date of the registration statement, which earnings statement shall satisfy the provisions of Section 11(a) of the Securities Act and Rule 158 thereunder;

(h) (i)(A) cause all such Registrable Securities covered by such registration statement to be listed on the principal securities exchange on which similar securities issued by the Company are then listed (if any), if the listing of such Registrable Securities is then permitted under the rules of such exchange, or (B) if no similar securities are then so listed, to cause all such Registrable Securities to be listed on a national securities exchange and, without limiting the generality of the foregoing, take all actions that may be required by the Company as the issuer of such Registrable Securities in order to facilitate the managing underwriter's arranging for the registration of at least two market makers as such with respect to such shares with FINRA, and (ii) comply (and continue to comply) with the requirements of any self-regulatory organization applicable to the Company, including all corporate governance requirements;

(i) provide and cause to be maintained a transfer agent and registrar for all such Registrable Securities covered by such registration statement not later than the effective date of such registration statement;

(j) enter into such customary agreements (including, if applicable, an underwriting agreement) and take such other actions as the Majority Participating Holders or the underwriters shall reasonably request in order to expedite or facilitate the disposition of such Registrable Securities (it being understood that the Holders of the Registrable Securities which are to be distributed by any underwriters shall be parties to any such underwriting agreement and may, at their option, require that the Company make to and for the benefit of such Holders the representations, warranties and covenants of the Company which are being made to and for the benefit of such underwriters);

(k) use its reasonable best efforts (i) to obtain an opinion from the Company's counsel and a comfort letter and updates thereof from the Company's independent public accountants who have certified the Company's financial statements included or incorporated by reference in such registration statement, in each case, in customary form and covering such matters as are customarily covered by such opinions and comfort letters (including, in the case of such comfort letter, events subsequent to the date of such financial statements) delivered to underwriters in underwritten public offerings, which opinion and letter shall be dated the dates such opinions and comfort letters are customarily dated and otherwise reasonably satisfactory to the underwriters, if any, and to the Majority Participating Holders, and (ii) furnish to each Holder participating in the offering and to each underwriter, if any, a copy of such opinion and letter addressed to such underwriter;

(l) deliver promptly to counsel for each Participating Holder and to each managing underwriter, if any, copies of all correspondence between the SEC and the Company, its counsel or auditors and all memoranda relating to discussions with the SEC or its staff with respect to the registration statement, and, upon receipt of such confidentiality agreements as the Company may reasonably request, make reasonably available for inspection by counsel for each Participating Holder, by counsel for any underwriter, participating in any disposition to be effected pursuant to such registration statement and by any accountant or other agent retained by any Participating Holder or any such underwriter, all pertinent financial and other records, pertinent corporate documents and properties of the Company, and cause all of the Company's officers, directors and employees to supply all information reasonably requested by any such counsel for a Participating Holder, counsel for an underwriter, accountant or agent in connection with such registration statement;

(m) use its reasonable best efforts to obtain the prompt withdrawal of any order suspending the effectiveness of the registration statement, or the prompt lifting of any suspension of the qualification of any of the Registrable Securities for sale in any jurisdiction;

(n) provide a CUSIP number for all Registrable Securities, not later than the effective date of the registration statement;

(o) use its best efforts to make available its employees and personnel for participation in "road shows" and other marketing efforts and otherwise provide reasonable assistance to the underwriters (taking into account the needs of the Company's businesses and the requirements of the marketing process) in marketing the Registrable Securities in any underwritten offering;

(p) prior to the filing of any document which is to be incorporated by reference into the registration statement or the prospectus (after the initial filing of such registration statement), and prior to the filing of any free writing prospectus, provide copies of such document to counsel for each Participating Holder and to each managing underwriter, if any, and make the Company's representatives reasonably available for discussion of such document and make such changes in such document concerning the Participating Holders prior to the filing thereof as counsel for the Participating Holders or underwriters may reasonably request;

(q) furnish to counsel for each Participating Holder and to each managing underwriter, without charge, at least one signed copy of the registration statement and any post-effective amendments or supplements thereto, including financial statements and schedules, all documents incorporated therein by reference, the prospectus contained in such registration statement (including each preliminary prospectus and any summary prospectus), any other prospectus filed under Rule 424 under the Securities Act and all exhibits (including those incorporated by reference) and any free writing prospectus utilized in connection therewith;

(r) cooperate with the Participating Holders and the managing underwriter, if any, to facilitate the timely preparation and delivery of certificates not bearing any restrictive legends representing the Registrable Securities to be sold, and cause such Registrable Securities to be issued in such denominations and registered in such names in accordance with the underwriting agreement at least three Business Days prior to any sale of Registrable Securities to the underwriters or, if not an underwritten offering, in accordance with the instructions of the Participating Holders at least three Business Days prior to any sale of Registrable Securities and instruct any transfer agent and registrar of Registrable Securities to release any stop transfer orders in respect thereof;

(s) cooperate with any due diligence investigation by any Manager, underwriter or Participating Holder and make available such documents and records of the Company and its Subsidiaries that they reasonably request (which, in the case of the Participating Holder, may be subject to the execution by the Participating Holder of a customary confidentiality agreement in a form which is reasonably satisfactory to the Company);

(t) take no direct or indirect action prohibited by Regulation M under the Exchange Act;

(u) take all such other commercially reasonable actions as are necessary or advisable in order to expedite or facilitate the disposition of such Registrable Securities;

(v) take all reasonable action to ensure that any free writing prospectus utilized in connection with any registration covered by Section 4.01 or 4.02 complies in all material respects with the Securities Act, is filed in accordance with the Securities Act

to the extent required thereby, is retained in accordance with the Securities Act to the extent required thereby and, when taken together with the related prospectus, will not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in light of the circumstances under which they were made, not misleading; and

(w) in connection with any underwritten offering, if at any time the information conveyed to a purchaser at the time of sale includes any untrue statement of a material fact or omits to state any material fact necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading, promptly file with the SEC such amendments or supplements to such information as may be necessary so that the statements as so amended or supplemented will not, in light of the circumstances, be misleading.

To the extent the Company is a well-known seasoned issuer (as defined in Rule 405 under the Securities Act) (a "**WKSI**") at the time any Demand Registration Request is submitted to the Company, and such Demand Registration Request requests that the Company file an automatic shelf registration statement (as defined in Rule 405 under the Securities Act) (an "**automatic shelf registration statement**") on Form S-3, the Company shall file an automatic shelf registration statement which covers those Registrable Securities which are requested to be registered. The Company shall use its reasonable best efforts to remain a WKSI (and not become an ineligible issuer (as defined in Rule 405 under the Securities Act)) during the period during which the Registrable Securities remain Registrable Securities. If the Company does not pay the filing fee covering the Registrable Securities at the time the automatic shelf registration statement is filed, the Company agrees to pay such fee at such time or times as the Registrable Securities are to be sold. If the automatic shelf registration statement has been outstanding for at least three years, at the end of the third year the Company shall refile a new automatic shelf registration statement covering the Registrable Securities. If at any time when the Company is required to re-evaluate its WKSI status the Company determines that it is not a WKSI, the Company shall use its reasonable best efforts to refile the shelf registration statement on Form S-3 and, if such form is not available, Form S-1 and keep such registration statement effective during the period during which such registration statement is required to be kept effective.

If the Company files any shelf registration statement for the benefit of the holders of any of its securities other than the Holders, the Company agrees that it shall include in such registration statement such disclosures as may be required by Rule 430B under the Securities Act (referring to the unnamed selling security holders in a generic manner by identifying the initial offering of the securities to the Holders) in order to ensure that the Holders may be added to such shelf registration statement at a later time through the filing of a prospectus supplement rather than a post-effective amendment.

It shall be a condition precedent to the obligations of the Company to take any action pursuant to Sections 4.01, 4.02 or 4.04 that each Participating Holder shall furnish to the Company such information regarding themselves, the Registrable Securities held by them, and the intended method of disposition of such securities as the Company may from time to time reasonably request so long as such information is necessary for the Company to consummate such registration and shall be used only in connection with such registration.

If any such registration statement or comparable statement under state "blue sky" laws refers to any Holder by name or otherwise as the Holder of any securities of the Company, then such Holder shall have the right to require (i) the insertion therein of language, in form and substance satisfactory to such Holder and the Company, to the effect that the holding by such Holder of such securities is not to be construed as a recommendation by such Holder of the investment quality of the Company's securities covered thereby and that such holding does not imply that such Holder will assist in meeting any future financial requirements of the Company, or (ii) in the event that such reference to such Holder by name or otherwise is not in the judgment of the Company, as advised by counsel, required by the Securities Act or any similar federal statute or any state "blue sky" or securities law then in force, the deletion of the reference to such Holder.

Section 4.05. *Registration Expenses*. All Expenses incurred in connection with any registration, filing, qualification or compliance pursuant to Article 4 shall be borne by the Company, whether or not a registration statement becomes effective. All underwriting discounts and all selling commissions relating to securities registered by the Holders shall be borne by the holders of such securities pro rata in accordance with the number of shares sold in the offering by such Participating Holder.

Section 4.06. *Certain Limitations on Registration Rights*. In the case of any registration under Section 4.01 pursuant to an underwritten offering, or, in the case of a registration under Section 4.02, all securities to be included in such registration shall be subject to the underwriting agreement and no Person may participate in such registration or offering unless such Person (i) agrees to sell such Person's securities on the basis provided therein and completes and executes all reasonable questionnaires, and other documents (including custody agreements and powers of attorney) which must be executed in connection therewith; *provided*, *however*, that all such documents shall be consistent with the provisions hereof, and (ii) provides such other information to the Company or the underwriter as may be necessary to register such Person's securities.

Section 4.07. *Limitations on Sale or Distribution of Other Securities*.

(a) Each Holder and Non-Cellectis Holder agrees, (i) to the extent requested in writing by a managing underwriter, if any, of any registration effected pursuant to Section 4.01, not to sell, transfer or otherwise dispose of, including any sale pursuant to Rule 144 under the Securities Act, any Company Shares, or any other equity security of the Company or any security convertible into or exchangeable or exercisable for any equity security of the Company (other than as part of such underwritten public offering) during the time period reasonably requested by the managing underwriter, not to exceed 90 days, and (ii) to the extent requested in writing by a managing underwriter of any underwritten public offering effected by the Company for its own account, not to sell any Company Shares (other than as part of such underwritten public offering) during the time

period reasonably requested by the managing underwriter, which period shall not exceed 90 days; and, if so requested, each Holder and Non-Cellectis Holder agrees to enter into a customary lock-up agreement with such managing underwriter.

(b) The Company hereby agrees that, if it shall previously have received a request for registration pursuant to Section 4.01 or 4.02, and if such previous registration shall not have been withdrawn or abandoned, the Company shall not sell, transfer, or otherwise dispose of, any Company Shares, or any other equity security of the Company or any security convertible into or exchangeable or exercisable for any equity security of the Company (other than as part of such underwritten public offering, a registration on Form S-4 or Form S-8 or any successor or similar form which is (x) then in effect or (y) shall become effective upon the conversion, exchange or exercise of any then outstanding Company Shares Equivalent), until a period of 90 days shall have elapsed from the effective date of such previous registration; and the Company shall (i) so provide in any registration rights agreements hereafter entered into with respect to any of its securities and (ii) use its reasonable best efforts to cause each holder of any equity security or any security convertible into or exchangeable or exercisable for any equity security of the Company purchased from the Company at any time other than in a public offering to so agree.

Section 4.08. *No Required Sale*. Nothing in this Agreement shall be deemed to create an independent obligation on the part of any Holder to sell any Registrable Securities pursuant to any effective registration statement.

Section 4.09. *Indemnification*.

(a) In the event of any registration and/or offering of any securities of the Company under the Securities Act pursuant to this Article 4, the Company will, and hereby agrees to, and hereby does, indemnify and hold harmless, to the fullest extent permitted by law, each Holder, its directors, officers, fiduciaries, employees, shareholders, members or general and limited partners (and the directors, officers, fiduciaries, employees, shareholders, members or general and limited partners thereof), any underwriter (as defined in the Securities Act) for such Holder and each Person, if any, who controls such Holder or underwriter within the meaning of the Securities Act or Exchange Act, from and against any and all losses, claims, damages or liabilities, joint or several, actions or proceedings (whether commenced or threatened) and expenses (including reasonable fees of counsel and any amounts paid in any settlement effected with the Company's consent, which consent shall not be unreasonably withheld or delayed) to which each such indemnified party may become subject under the Securities Act or otherwise in respect thereof (collectively, "**Claims**"), insofar as such Claims arise out of or are based upon (i) any untrue statement or alleged untrue statement of a material fact contained in any registration statement under which such securities were registered under the Securities Act or the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, (ii) any untrue statement or alleged untrue statement of a material fact contained in any preliminary or final prospectus or any amendment or supplement thereto, together with the documents incorporated by reference therein, or any free

writing prospectus utilized in connection therewith, or the omission or alleged omission to state therein a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading, (iii) any untrue statement or alleged untrue statement of a material fact in the information conveyed by the Company to any purchaser at the time of the sale to such purchaser, or the omission or alleged omission to state therein a material fact required to be stated therein, or (iv) any violation by the Company of any federal, state or common law rule or regulation applicable to the Company and relating to action required of or inaction by the Company in connection with any such registration, and the Company will reimburse any such indemnified party for any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such Claim as such expenses are incurred; *provided*, *however*, that the Company shall not be liable to any such indemnified party in any such case to the extent such Claim arises out of or is based upon any untrue statement or alleged untrue statement of a material fact or omission or alleged omission of a material fact made in such registration statement or amendment thereof or supplement thereto or in any such prospectus or any preliminary or final prospectus or free writing prospectus in reliance upon and in conformity with written information furnished to the Company by or on behalf of such indemnified party specifically for use therein. Such indemnity and reimbursement of expenses shall remain in full force and effect regardless of any investigation made by or on behalf of such indemnified party and shall survive the transfer of such securities by such seller.

(b) Each Participating Holder shall, severally and not jointly, indemnify and hold harmless (in the same manner and to the same extent as set forth in paragraph (a) of this Section 4.09) to the extent permitted by law the Company, its officers and directors, each Person controlling the Company within the meaning of the Securities Act, each underwriter (within the meaning of the Securities Act) of the Company's securities covered by such a registration statement, any Person who controls such underwriter, and any other Holder selling securities in such registration statement and each of its directors, officers, partners or agents or any Person who controls such Holder with respect to any untrue statement or alleged untrue statement of any material fact in, or omission or alleged omission of any material fact from, such registration statement, any preliminary or final prospectus contained therein, or any amendment or supplement thereto, or any free writing prospectus utilized in connection therewith, if such statement or alleged statement or omission or alleged omission was made in reliance upon and in conformity with written information furnished to the Company or its representatives by or on behalf of such Participating Holder, specifically for use therein and reimburse such indemnified party for any legal or other expenses reasonably incurred in connection with investigating or defending any such Claim as such expenses are incurred; *provided*, *however*, that the aggregate amount which any such Participating Holder shall be required to pay pursuant to this Sections 4.09(b), 4.09(c) and 4.09(e) shall in no case be greater than the amount of the net proceeds actually received by such Participating Holder upon the sale of the Registrable Securities pursuant to the registration statement giving rise to such Claim. The Company and each Participating Holder hereby acknowledge and agree that, unless otherwise expressly agreed to in writing by such Participating Holders to the contrary, for all purposes of this Agreement, the only information furnished or to be furnished to the Company for use in any such registration statement, preliminary or final prospectus or

amendment or supplement thereto or any free writing prospectus are statements specifically relating to (a) the beneficial ownership of Company Shares by such Participating Holder and its Affiliates and (b) the name and address of such Participating Holder. Such indemnity and reimbursement of expenses shall remain in full force and effect regardless of any investigation made by or on behalf of such indemnified party and shall survive the transfer of such securities by such Holder.

(c) Indemnification similar to that specified in the preceding paragraphs (a) and (b) of this Section 4.09 (with appropriate modifications) shall be given by the Company and each Participating Holder with respect to any required registration or other qualification of securities under any applicable securities and state “blue sky” laws.

(d) Any Person entitled to indemnification under this Agreement shall notify promptly the indemnifying party in writing of the commencement of any action or proceeding with respect to which a claim for indemnification may be made pursuant to this Section 4.09, but the failure of any indemnified party to provide such notice shall not relieve the indemnifying party of its obligations under the preceding paragraphs of this Section 4.09, except to the extent the indemnifying party is materially and actually prejudiced thereby and shall not relieve the indemnifying party from any liability which it may have to any indemnified party otherwise than under this Article 4. In case any action or proceeding is brought against an indemnified party, the indemnifying party shall be entitled to (x) participate in such action or proceeding and (y) unless, in the reasonable opinion of outside counsel to the indemnified party, a conflict of interest between such indemnified and indemnifying parties may exist in respect of such claim, assume the defense thereof jointly with any other indemnifying party similarly notified, with counsel reasonably satisfactory to such indemnified party. The indemnifying party shall promptly notify the indemnified party of its decision to assume the defense of such action or proceeding. If, and after, the indemnified party has received such notice from the indemnifying party, the indemnifying party shall not be liable to such indemnified party for any legal or other expenses subsequently incurred by such indemnified party in connection with the defense of such action or proceeding other than reasonable costs of investigation; *provided*, *however*, that (i) if the indemnifying party fails to take reasonable steps necessary to defend diligently the action or proceeding within 20 days after receiving notice from such indemnified party that the indemnified party believes it has failed to do so; (ii) if such indemnified party who is a defendant in any action or proceeding which is also brought against the indemnifying party reasonably shall have concluded that there may be one or more legal or equitable defenses available to such indemnified party which are not available to the indemnifying party or which may conflict with those available to another indemnified party with respect to such Claim; or (iii) if representation of both parties by the same counsel is otherwise inappropriate under applicable standards of professional conduct, then, in any such case, the indemnified party shall have the right to assume or continue its own defense as set forth above (but with no more than one firm of counsel for all indemnified parties in each jurisdiction, except to the extent any indemnified party or parties reasonably shall have made a conclusion described in clause (ii) or (iii) above) and the indemnifying party shall be liable for any expenses therefor. No indemnifying party shall, without the written consent of the indemnified party, effect the settlement or compromise of, or consent to the entry

of any judgment with respect to, any pending or threatened action or claim in respect of which indemnification or contribution may be sought hereunder (whether or not the indemnified party is an actual or potential party to such action or claim), unless such settlement or compromise (i) includes an unconditional release of such indemnified party from all liability on any claims that are the subject matter of such action or claim and (ii) does not include a statement as to, or an admission of, fault, culpability or a failure to act by or on behalf of an indemnified party. The indemnity obligations contained in Sections 4.09(a) and 4.09(b) shall not apply to amounts paid in settlement of any such loss, claim, damage, liability or action if such settlement is effected without the consent of the indemnified party which consent shall not be unreasonably withheld.

(e) If for any reason the foregoing indemnity is held by a court of competent jurisdiction to be unavailable to an indemnified party under Section 4.09(a), (b) or (c), then each applicable indemnifying party shall contribute to the amount paid or payable to such indemnified party as a result of any Claim in such proportion as is appropriate to reflect the relative fault of the indemnifying party, on the one hand, and the indemnified party, on the other hand, with respect to such Claim as well as any other relevant equitable considerations. The relative fault shall be determined by a court of law by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the indemnifying party or the indemnified party and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such untrue statement or omission. If, however, the allocation provided in the second preceding sentence is not permitted by applicable law, then each indemnifying party shall contribute to the amount paid or payable by such indemnified party in such proportion as is appropriate to reflect not only such relative faults but also the relative benefits of the indemnifying party and the indemnified party as well as any other relevant equitable considerations. The parties hereto agree that it would not be just and equitable if any contribution pursuant to this Section 4.09(e) were to be determined by pro rata allocation or by any other method of allocation which does not take account of the equitable considerations referred to in the preceding sentences of this Section 4.09(e). The amount paid or payable in respect of any Claim shall be deemed to include any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such Claim. No Person guilty of fraudulent misrepresentation (within the meaning of Section 11 (f) of the Securities Act) shall be entitled to contribution from any Person who was not guilty of such fraudulent misrepresentation. Notwithstanding anything in this Section 4.09(e) to the contrary, no indemnifying party (other than the Company) shall be required pursuant to this Section 4.09(e) to contribute any amount greater than the amount of the net proceeds actually received by such indemnifying party upon the sale of the Registrable Securities pursuant to the registration statement giving rise to such Claim, less the amount of any indemnification payment made by such indemnifying party pursuant to Sections 4.09(b) and 4.09(c).

(f) The indemnity and contribution agreements contained herein shall be in addition to any other rights to indemnification or contribution which any indemnified party may have pursuant to law or contract (except as set forth in subsection (h) below) and shall remain operative and in full force and effect regardless of any investigation

made or omitted by or on behalf of any indemnified party and shall survive the transfer of the Registrable Securities by any such party and the completion of any offering of Registrable Securities in a registration statement.

(g) The indemnification and contribution required by this Section 4.09 shall be made by periodic payments of the amount thereof during the course of the investigation or defense, as and when bills are received or expense, loss, damage or liability is incurred; *provided*, *however*, that the recipient thereof hereby undertakes to repay such payments if and to the extent it shall be determined by a court of competent jurisdiction that such recipient is not entitled to such payment hereunder.

(h) If a customary underwriting agreement shall be entered into in connection with any registration pursuant to Section 4.01 or 4.02, the indemnity, contribution and related provisions set forth therein shall supersede the indemnification and contribution provisions set forth in this Section 4.09.

Section 4.10. *Underwritten Offerings*.

(a) *Requested Underwritten Offerings*. If the Initiating Holders request an underwritten offering pursuant to a registration under Section 4.01 (pursuant to a request for a registration statement to be filed in connection with a specific underwritten offering or a request for a shelf takedown in the form of an underwritten offering), the Company shall enter into a customary underwriting agreement with the underwriters. Such underwriting agreement shall (i) be satisfactory in form and substance to the Majority Participating Holders, (ii) contain terms not inconsistent with the provisions of this Agreement and (iii) contain such representations and warranties by, and such other agreements on the part of, the Company and such other terms as are generally prevailing in agreements of that type, including indemnities and contribution agreements on substantially the same terms as those contained herein (it being understood that an underwriting agreement in substantially the form of the underwriting agreement for the IPO shall be deemed to satisfy the foregoing requirements). Any Participating Holder shall be a party to such underwriting agreement and may, at its option, require that any or all of the representations and warranties by, and the other agreements on the part of, the Company to and for the benefit of such underwriters shall also be made to and for the benefit of such Participating Holder and that any or all of the conditions precedent to the obligations of such underwriters under such underwriting agreement be conditions precedent to the obligations of such Participating Holder; *provided*, *however*, that the Company shall not be required to make any representations or warranties with respect to written information specifically provided by a Participating Holder for inclusion in the registration statement (as set forth in the penultimate sentence of Section 4.09(b) of this Agreement). Each such Participating Holder shall not be required to make any representations or warranties to or agreements with the Company or the underwriters other than customary representations, warranties or agreements regarding such Participating Holder, its ownership of, and title to, the Registrable Securities, any written information specifically provided by such Participating Holder for inclusion in the registration statement and its intended method of distribution; and any liability of such Participating Holder to the Company, any underwriter or other Person under such underwriting agreement shall be

limited to the amount of the net proceeds received by such Holder upon the sale of the Registrable Securities pursuant to the registration statement and shall be limited to liability for written information specifically provided by such Participating Holder (as set forth in the penultimate sentence of Section 4.09(b) of this Agreement).

(b) *Piggyback Underwritten Offerings*. In the case of a registration pursuant to Section 4.02 which involves an underwritten offering, the Company shall enter into an underwriting agreement in connection therewith and all of the Participating Holders' Registrable Securities to be included in such registration shall be subject to such underwriting agreement. Any Participating Holder may, at its option, require that any or all of the representations and warranties by, and the other agreements on the part of, the Company to and for the benefit of such underwriters shall also be made to and for the benefit of such Participating Holder and that any or all of the conditions precedent to the obligations of such underwriters under such underwriting agreement be conditions precedent to the obligations of such Participating Holder; *provided*, *however*, that the Company shall not be required to make any representations or warranties with respect to written information specifically provided by a Participating Holder for inclusion in the registration statement. Each such Participating Holder shall not be required to make any representations or warranties to or agreements with the Company or the underwriters other than customary representations, warranties or agreements regarding such Participating Holder, its ownership of, and title to, the Registrable Securities, any written information specifically provided by such Participating Holder for inclusion in the registration statement (as set forth in the penultimate sentence of Section 4.09(b) of this Agreement) and its intended method of distribution; and any liability of such Participating Holder to any underwriter or other Person under such underwriting agreement shall be limited to the amount of the net proceeds received by such Participating Holder upon the sale of the Registrable Securities pursuant to the registration statement and shall be limited to liability for written information specifically provided by such Participating Holder (as set forth in the penultimate sentence of Section 4.09(b) of this Agreement).

Section 4.11. *Adjustments Affecting Registrable Securities*. The provisions of this Article 4 shall apply, to the full extent set forth herein with respect to the Registrable Securities, to any and all shares of capital stock of the Company or any successor or assign of the Company (whether by merger, share exchange, consolidation, sale of assets or otherwise) or any Subsidiary of the Company which may be issued in respect of, in exchange for or in substitution of, Registrable Securities and shall be appropriately adjusted for any stock dividends, splits, reverse splits, combinations, recapitalizations and the like occurring after the date hereof.

Section 4.12. *Rule 144 and Rule 144A*. If the Company shall have filed a registration statement pursuant to the requirements of Section 12 of the Exchange Act or a registration statement pursuant to the requirements of the Securities Act in respect of the Company Shares or Company Shares Equivalents, the Company covenants that (i) so long as it remains subject to the reporting provisions of the Exchange Act, it will timely file the reports required to be filed by it under the Securities Act or the Exchange Act (including, but not limited to, the reports under Sections 13 and 15(d) of the Exchange Act referred to in subparagraph (c)(1) of Rule 144 under the Securities Act, as such Rule

may be amended ("**Rule 144**")) or, if the Company is not required to file such reports, it will, upon the request of any Holder, make publicly available other information so long as necessary to permit sales by such Holder under Rule 144, Rule 144A under the Securities Act, as such Rule may be amended ("**Rule 144A**"), or any similar rules or regulations hereafter adopted by the SEC, and (ii) it will take such further action as any Holder may reasonably request, all to the extent required from time to time to enable such Holder to sell Registrable Securities without registration under the Securities Act within the limitation of the exemptions provided by (A) Rule 144, (B) Rule 144A or (C) any similar rule or regulation hereafter adopted by the SEC. Upon the request of any Holder of Registrable Securities, the Company will deliver to such Holder a written statement by the Company that it has complied with the reporting requirements of Rule 144, the Securities Act and the Exchange Act (at any time after it has become subject to such reporting requirements), or that it qualifies as a registrant whose securities may be resold pursuant to Form S-3 (at any time after it so qualifies), a copy of the most recent annual or quarterly report of the Company and such other reports and documents so filed by the Company and such other information as may be reasonably requested in availing any Holder of any rule or regulation of the SEC which permits the selling of any such securities without registration or pursuant to such form.

Section 4.13. *Limitations on Subsequent Registration Rights*. From and after the effective date of the first registration statement filed by the Company for the offering of its securities to the general public, the Company may, without the prior written consent of the Holders or the Non-Cellectis Holders, enter into any agreement with any holder or prospective holder of any securities of the Company which provides such holder or prospective holder of securities of the Company comparable, but not more favorable or conflicting (including conflicting with any priorities set forth in Section 4.03), information and registration rights granted to the Holders hereby.

ARTICLE 5

TRANSFERS OF SHARES

Section 5.01. *Rights and Obligations of Permitted Transferees*.

(a) Any Permitted Transferee of a Holder may elect to become party to this Agreement and, upon execution and delivery of a customary joinder agreement, shall be considered a Party hereto and be treated as a Holder for all purposes of this Agreement.

(b) Notwithstanding the foregoing, Section 5.01(a) shall not apply to any Transfer of Company Shares to a Permitted Transferee completed pursuant to (i) a registration statement, (ii) an underwritten registered public offering or (iii) a bona fide sale pursuant to a brokers' transaction, transaction directly with a market maker or riskless principal transaction in each case in accordance with Rule 144 under the Securities Act (including block trades), in each case for which the transferor does not have knowledge that such Company Shares are being transferred to a Permitted Transferee.

ARTICLE 6

GENERAL PROVISIONS

Section 6.01. *Further Assurances*. The Parties shall take all Necessary Action in order to give full effect to this Agreement and every provision hereof. Each of the Company, the Holders and the Non-Cellectis Holders shall take or cause to be taken all lawful action necessary to ensure at all times that the Company's Governing Documents are not at any time inconsistent with the provisions of this Agreement. In addition, each Party shall do and perform or cause to be done and performed all such further acts and things and shall execute and deliver all such other agreements, certificates, instruments, and documents as any other Party reasonably may request in order to carry out the intent and accomplish the purposes of this Agreement.

Section 6.02. *Assignment; Benefit*. The rights and obligations hereunder of the Parties shall not be assigned without the prior written consent of Cellectis, Calyxt and any Permitted Transferee who becomes a Party pursuant to Article 5, except in connection with a transfer of Company Shares in compliance with Article 5. In addition, the registration rights set forth in Article 4 may only be assigned in connection with a transfer of at least 10% of the then outstanding Company Shares. Any assignment of rights or obligations in violation of this Section 6.02 shall be null and void. This Agreement shall be binding upon and shall inure to the benefit of the Parties, and their respective successors and permitted assigns.

Section 6.03. *Pledges*. Upon the request of Cellectis to pledge, hypothecate or grant security interests in any or all of the Company Shares held by it, including to banks or financial institutions as collateral or security for loans, advances or extensions of credit, the Company agrees to cooperate with Cellectis in taking action reasonably necessary to consummate any such pledge, hypothecation or grant, including delivery of letter agreements to lenders in form and substance reasonably satisfactory to such lenders (which may include agreements by the Company in respect of the exercise of remedies by such lenders) and instructing the transfer agent to transfer any such Company Shares subject to the pledge, hypothecation or grant into the facilities of The Depository Trust Company without restricted legends.

Section 6.04. *Termination*. This Agreement shall terminate on the date on which Cellectis and its Affiliates no longer Beneficially Own, in the aggregate, a number of Company Shares equal to at least 10% of the then outstanding Company Shares, unless Cellectis has made a transfer of Company Shares to a Person satisfying the definition of Permitted Transferee who has become a party to this Agreement, in which case this Agreement shall terminate on the date on which such Person no longer Beneficially Owns in the aggregate a number of Company Shares equal to at least 10% of the then outstanding Company Shares.

Section 6.05. *Severability*. In the event that any provision of this Agreement shall be invalid, illegal or unenforceable, such provision shall be construed by limiting it so as to be valid, legal and enforceable to the maximum extent provided by law and the validity, legality and enforceability of the remaining provisions of this Agreement shall not in any way be affected or impaired thereby.

Section 6.06. *Entire Agreement*. This Agreement, the Governing Documents and the other agreements referenced herein and therein constitute the entire agreement among the Parties with respect to the subject matter hereof, and supersede any prior agreement or understanding among them with respect to the matters referred to herein.

Section 6.07. *Amendment*. The provisions of this Agreement, including the provisions of this sentence, may not be amended, modified or supplemented, and waivers or consents to departures from the provisions of this Agreement may not be given without the written consent of the Company and holders of a majority of the Registrable Securities; *provided*, *however*, that in no event shall the obligations of any holder of Registrable Securities be increased or the rights of any Holder be adversely affected (without similarly increasing or adversely affecting the rights of all Holders), except upon the written consent of such Holder. Notwithstanding the foregoing, a waiver or consent to depart from the provisions hereof with respect to a matter that relates exclusively to the rights of Holders of Registrable Securities whose securities are being sold pursuant to a registration statement and that does not directly or indirectly affect the rights of other Holders of Registrable Securities may be given by holders of at least a majority of the Registrable Securities being sold by such Holders pursuant to such registration statement.

Section 6.08. This Agreement may not be amended, modified, supplemented, waived or terminated (other than pursuant to Section 6.04) except with the written consent of Cellectis; *provided* that, any amendment, modification, supplement, waiver or termination that adversely affects the rights of the Company under this Agreement, imposes additional obligations on the Company, or amends or modifies Section 3.01, Section 3.02, Article 6, and any corresponding definitions in Article 1, will require both (i) the written consent of Cellectis and (ii) the written consent of the Company with the approval of the "independent directors" of the Company.

Section 6.09. *Waiver*. Except as set forth in Section 6.08, no waiver of any breach of any of the terms of this Agreement shall be effective unless such waiver is expressly made in writing and executed and delivered by the Party against whom such waiver is claimed. Waiver by any Party of any breach or default by any other Party of any of the terms of this Agreement shall not operate as a waiver of any other breach or default, whether similar to or different from the breach or default waived. No waiver of any provision of this Agreement shall be implied from any course of dealing between the Parties or from any failure by any Party to assert its or his or her rights hereunder on any occasion or series of occasions.

Section 6.10. *Counterparts*. This Agreement may be executed in any number of separate counterparts each of which when so executed shall be deemed to be an original and all of which together shall constitute one and the same agreement.

Section 6.11. *Notices*. Unless otherwise specified herein, all notices, consents, approvals, reports, designations, requests, waivers, elections and other communications

authorized or required to be given pursuant to this Agreement shall be in writing and shall be given, made or delivered (and shall be deemed to have been duly given, made or delivered upon receipt) by personal hand-delivery, by facsimile transmission, by electronic mail, by mailing the same in a sealed envelope, registered first-class mail, postage prepaid, return receipt requested, or by air courier guaranteeing overnight delivery, addressed as follows:

If to Calyxt, Inc., to:

Calyxt, Inc.
600 County Road D West
Suite 8
New Brighton, MN 55112
Attention: Joseph Saluri, General Counsel
E-mail: joseph.saluri@calyxt.com

If to Cellectis S.A., to:

Cellectis S.A.
8, rue de la Croix Jarry
75013 Paris, France
Attention: Marie-Bleuenn Terrier, General Counsel
Facsimile: +33 (0)1 81 69 16 06
E-mail: marie-bleuenn.terrier@cellectis.com

Section 6.12. *Governing Law*. This Agreement is governed by and will be construed in accordance with the laws of the State of Delaware, excluding any conflict-of-laws rule or principle (whether of Delaware or any other jurisdiction) that might refer the governance or the construction of this Agreement to the law of another jurisdiction.

Section 6.13. *Jurisdiction*. Each of the Parties (a) consents to submit itself to the personal jurisdiction of the Court of Chancery of the State of Delaware in the event any dispute arises out of this Agreement, (b) agrees that it will not attempt to deny or defeat such personal jurisdiction by motion or other request for leave from such court and (c) agrees that it will not bring any action relating to this Agreement or any of the transactions contemplated by this Agreement in any court other than the Court of Chancery of the State of Delaware. Each Party hereby agrees that, to the fullest extent permitted by law, service of any process, summons, notice or document by U.S. registered mail to the respective addresses set forth in Section 6.11 shall be effective service of process for any suit or proceeding in connection with this Agreement.

Section 6.14. *Waiver of Jury Trial*. EACH OF THE PARTIES HEREBY IRREVOCABLY WAIVES ALL RIGHT TO TRIAL BY JURY IN ANY ACTION, PROCEEDING OR COUNTERCLAIM (WHETHER BASED ON CONTRACT, TORT OR OTHERWISE) ARISING OUT OF OR RELATING TO THIS AGREEMENT OR THE ACTIONS OF THE PARTIES IN THE NEGOTIATION, ADMINISTRATION, PERFORMANCE AND ENFORCEMENT THEREOF. The Company or any Holder may file an original counterpart or a copy of this Section 6.14 with any court as written evidence of the consent of any of the Parties to the waiver of their rights to trial by jury.

Section 6.15. *Specific Performance*. It is hereby agreed and acknowledged that it will be impossible to measure the money damages that would be suffered if the Parties fail to comply with any of the obligations imposed on them by this Agreement and that, in the event of any such failure, an aggrieved Party will be irreparably damaged and will not have an adequate remedy at law. Each Party shall, therefore, be entitled (in addition to any other remedy to which such Party may be entitled at law or in equity) to seek injunctive relief, including specific performance, to enforce such obligations, without the posting of any bond, and if any action should be brought in equity to enforce any of the provisions of this Agreement, none of the Parties shall raise the defense that there is an adequate remedy at law.

Section 6.16. *Adjustments*. All references in this Agreement to Company Shares shall be appropriately adjusted for any stock dividends, splits, reverse splits, combinations, reclassifications, recapitalizations, reorganizations and the like occurring after the date hereof.

Section 6.17. *No Third Party Beneficiaries*. This Agreement is not intended to confer upon any Person, except for the Parties, any rights or remedies hereunder.

* * *

IN WITNESS WHEREOF, the parties set forth below have duly executed this Agreement as of the day and year first above written.

CALYXT, INC.

By: /s/ Federico A. Tripodi
Name: Federico A. Tripodi
Title: Chief Executive Officer

CELLECTIS S.A.

By: /s/ André Choulika
Name: André Choulika
Title: Chief Executive Officer

By: /s/ André Choulika
Name: André Choulika

By: /s/ Philippe Dumont
Name: Philippe Dumont

By: /s/ Alain Godard
Name: Alain Godard

By: /s/ Anna Ewa Kozicz-Stankiewicz
Name: Anna Ewa Kozicz-Stankiewicz

By: /s/ Laurent Arthaud
Name: Laurent Arthaud

By: /s/ Federico A. Tripodi
Name: Federico A. Tripodi

By: /s/ Bryan W. J. Corkal
Name: Bryan W. J. Corkal

By: /s/ Dan Voytas
Name: Dan Voytas

By: /s/ Feng Zhang
Name: Feng Zhang

By: /s/ Manoj Sahoo
Name: Manoj Sahoo

By: /s/ Glenn Bowers
Name: Glenn Bowers

By: /s/ Michel Arbadji
Name: Michel Arbadji

By: /s/ Joseph B. Saluri
Name: Joseph B. Saluri

Schedule A

Directors:
André Choulika
Philipe Dumont
Alain Godard
Anna Ewa Kozicz-Stankiewicz
Laurent Arthaud

Executive Officers:
Federico A. Tripodi
Bryan W. J. Corkal
Dan Voytas
Feng Zhang
Manoj Sahoo
Glenn Bowers
Michel Arbadji
Joseph B. Saluri

LICENSE AGREEMENT

This LICENSE AGREEMENT (this "**Agreement**"), dated as of July 25, 2017 (the "**Effective Date**"), is entered into by and between Cellectis S.A., a corporation existing and registered under the laws of France, located at 8 rue de la Croix Jarry, 75013 Paris, France ("**Cellectis**"), and Calyxt, Inc., a corporation existing and registered under the laws of Delaware, located at 600 County Road D West, Suite 8, New Brighton, MN 55112, USA ("**Calyxt**") (each a "**Party**" and collectively, the "**Parties**").

W I T N E S S E T H:

WHEREAS, Cellectis owns or otherwise controls certain Intellectual Property Rights and desires to grant to Calyxt, and Calyxt desires to receive from Cellectis, a license to use and otherwise exploit such Intellectual Property Rights, in each case upon the terms and conditions set forth herein.

NOW, THEREFORE, in consideration of the mutual covenants and agreements hereinafter set forth and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

ARTICLE 1
DEFINITIONS

Section 1.01. *Definitions*. (a) For purposes of this Agreement, the following terms shall have the following meanings:

"**Affiliate**" means, with respect to any Person, any other Person directly or indirectly controlling, controlled by, or under common control with such other Person, whether now or in the future. For purposes of this definition, (i) "**control**" when used with respect to any Person means the power to direct the management and policies of such Person, directly or indirectly, whether through the ownership of voting securities, by contract or otherwise, and the terms "**controlling**" and "**controlled**" have correlative meanings and (ii) neither Cellectis nor any of its Subsidiaries shall be considered to be an Affiliate of Calyxt or any of its Subsidiaries (and vice versa).

"**Applicable Law**" means, with respect to any Person, any transnational, domestic or foreign federal, state or local law (statutory, common or otherwise), constitution, treaty, convention, ordinance, code, rule, regulation, order, injunction, judgment, decree, ruling or other similar requirement enacted, adopted, promulgated or applied by a Governmental Authority that is binding upon or applicable to such Person, as amended unless expressly specified otherwise.

"**Bare Sublicense**" means any sublicense granted by Calyxt to any third party of rights to some or all of the Licensed Cellectis Patents pursuant to Section 2.03, without any Calyxt Licensed Product developed by or in collaboration with Calyxt.

"**Bare Sublicense Revenue**" means any and all consideration, payments and revenue (including the fair market value of any non-cash consideration) received by Calyxt pursuant to any Bare Sublicense.

"**Business Day**" means a day, other than Saturday, Sunday or other day on which commercial banks in Paris, France are authorized or required by Applicable Law to close.

"**Calyxt Field**" means the field of researching, developing and commercializing agricultural and food products, including, but not limited to traits, seeds, proteins, oils, carbohydrates, food, and food and animal feed ingredients, excluding any application in connection with animals and animal cells.

"Calyxt Improvement" means any improvements, modifications, refinements to, enhancements, derivatives or combinations of, any Licensed Cellectis IP made by Calyxt or any of its Affiliates after the Effective Date and all Intellectual Property Rights in any of the foregoing.

"**Calyxt Improvement Patents**" means any Patents owned or controlled by Calyxt or any of its Affiliates Covering any Calyxt Improvements.

"**Calyxt Licensed Products**" means any and all products (i) the creation, generation, development, making or use of which is, in whole or in part, Covered by a Licensed Cellectis Patent, or (ii) which is created, generated, bred or made by use of a process Covered by a Licensed Cellectis Patent. For sake of clarity, any plant or seed which contains one or more modifications made using a process Covered by any of the Licensed Cellectis Patents, as well as any progeny of such plant or seed, any part of such plant or seed, and any product derived from such plant or seed (such as, for example, meal and oil derived from any soybean), is a Calyxt Licensed Product.

"**Cellectis Improvement**" means any improvements, modifications or refinements to, or enhancements or derivatives of any Licensed Cellectis IP made by Cellectis or any of its Affiliates after the Effective Date and all Intellectual Property Rights in any of the foregoing.

"**Confidential Information**" means any and all non-public, proprietary or other confidential information disclosed by a Party ("**disclosing party**") to the other Party ("**receiving party**") and includes all information licensed hereunder without the need for any further notice or marking, excluding any information that: (i) the receiving party independently develops without reference to the disclosed information; (ii) the receiving party independently receives on a non-confidential and authorized basis from a source other than the disclosing party; (iii) becomes public knowledge through no fault of the receiving party; or (iv) is in the public domain at the time the receiving party receives the disclosed information.

"**Cover**" means, with respect to any product, service or process, and any Intellectual Property Right, that the manufacture, use, offer for sale, sale, distribution, importation, development or other commercialization of such product, service or process would, but for any ownership of or license under such Intellectual Property Right, constitute an infringement, misappropriation or other violation of any of such Intellectual Property Right. "**Covered**" and "**Covering**" have correlative meanings.

"**Exclusively Licensed Cellectis Patents**" means any and all Licensed Cellectis Patents exclusively related to the Calyxt Field for which Calyxt is granted exclusive rights under the Calyxt License.

"**Governmental Authority**" means any transnational, domestic or foreign federal, state or local governmental, regulatory or administrative authority, department, court, agency or official, including any political subdivision thereof.

"**Intellectual Property Rights**" means any and all intellectual property rights or similar proprietary rights throughout the world, including all (i) national and multinational statutory invention registrations and similar statutory rights, patents and patent applications, including all provisionals, non-provisionals, divisionals, continuations, continuations-in-part, reissues, renewals, reexaminations, extensions, supplemental protection certificates and the equivalents of any of the foregoing in any jurisdiction, and all inventions disclosed in any of the foregoing ("**Patents**"); (ii) trademarks, service marks, certification marks, logos, trade names, trade dress, domain names and other indications of origin, including all registrations and applications for registration of, and all goodwill associated with, any of the foregoing ("**Trademarks**"); (iii) copyrights and registrations and applications for registration thereof, including all derivative works, moral rights, renewals, extensions, reversions or restorations associated with such copyrights, regardless of the medium of fixation or means of expression; (iv) trade secrets, know-how and other confidential or proprietary information (including processes, techniques and research and development information); and (v) mask works, industrial designs (whether or not registered), database rights, publicity rights and privacy rights.

"**Licensable**" means, with respect to any Intellectual Property Right, that a Person has the power and authority to grant a license (or sublicense, as the case may be), on the applicable terms and conditions of this Agreement, to such Intellectual Property Right without any of the following: (i) the consent of any third party (unless such consent can be obtained without providing any additional consideration to such third party); (ii) impairing such Person's existing rights in respect of such Intellectual Property Right (it being understood that the grant of any license hereunder, in and of itself, shall not be construed as an impairment of any of such Person's rights); (iii) imposing any additional obligations on such Person under any preexisting agreement relating to such Intellectual Property Right; and/or (iv) the payment of royalties or other consideration on or after the Effective Date by such Person to any third party under any preexisting agreement relating to such Intellectual Property Right (other than to the University of Minnesota pursuant to the UMinn License). For the avoidance of doubt, in no event shall any Intellectual Property Right be "**Licensable**" if any of the foregoing conditions in clauses (i)-(iv) apply.

"**Licensed Cellectis IP**" means the (i) Licensed Cellectis Patents; and (ii) Other Licensed Intellectual Property Rights.

"**Licensed Cellectis Patents**" means any and all Patents that are: (i) related to the Calyxt Field; (ii) necessary for Calyxt to operate in the Calyxt Field; and (iii) Licensable by Cellectis and existing as of the Effective Date.

"**Licensed TALEN Mark**" means the trademark "TALEN" and all registrations and applications for registration thereof, in each case as owned by Cellectis as of the Effective Date, including the registration set forth on Schedule A.

"**Net Sales**" means, with respect to any Calyxt Licensed Product, the gross amount invoiced by Calyxt or any of its sublicensees for any such Calyxt Licensed Product, in each case less (i) all trade, quantity, and cash discounts actually allowed; (ii) all credits and allowances actually granted due to rejections, returns, billing errors, and retroactive price reductions; (iii) applicable duties; (iv) all credits or allowances given or made for uncollectible amounts and for which a provision is made in Calyxt's financial statements; (v) the commodity price for seed and grain; and (vi) applicable excise, sale and use taxes. Net Sales shall also include the fair market value of all other consideration received as consideration for the sale or disposition of any Calyxt Licensed Product, whether such consideration is in cash, payment in kind, exchange or another form. Net Sales shall be determined by using generally accepted accounting principles consistently applied.

"Non-Exclusive Field" means the field of researching, developing and commercializing a modified or mutated I-CreI homing endonuclease that is a homodimer, heterodimer or single chain endonuclease, but solely to the extent the foregoing falls within the Calyxt Field.

"Other Licensed Intellectual Property Rights" means any and all know-how and other Intellectual Property Rights (excluding any Patents and Trademarks) that are (i) related to the Calyxt Field; (ii) necessary for Calyxt to operate in the Calyxt Field; and (iii) Licensable by Cellectis and existing as of the Effective Date.

"Patent-Related Expenses" means costs and expenses (including out-of-pocket attorneys' fees, patent agent fees and governmental filing fees) that Cellectis or any of its Affiliates incurs in prosecuting and maintaining the Licensed Cellectis Patents which are exclusively and solely related to the Calyxt Field.

"**Person**" means an individual, corporation, partnership, limited liability company, association, trust or other entity or organization, including a Governmental Authority.

"**Royalty Term**" means, with respect to any Calyxt Licensed Product in any jurisdiction, the period commencing on the Effective Date and ending upon the expiration of the last-to-expire Valid Claim Covering such Calyxt Licensed Product in such jurisdiction.

"**Sublicense Revenue Term**" means the period commencing on the Effective Date and ending upon the expiration of the last-to-expire Valid Claim.

"**Subsidiary**" means, with respect to any Person, any entity of which securities or other ownership interests having ordinary voting power to elect a majority of the board of directors or other Persons performing similar functions are at the time directly or indirectly owned by such Person.

"**UMinn License**" means the Exclusive Patent License Agreement between the University of Minnesota and Cellectis dated as of January 10, 2011 (as amended, including by the First Amendment to the Exclusive Patent License Agreement, dated as of May 24, 2012, Second Amendment to the Exclusive Patent License Agreement, dated as of April 1, 2014, and Third Amendment to the Exclusive Patent License Agreement, dated as of December 16, 2015).

"**University of Minnesota**" means the Regents of the University of Minnesota.

"**Valid Claim**" means any (i) claim in any unexpired and issued Patent included in the Licensed Cellectis Patents that has not been (A) disclaimed, revoked or held invalid or unenforceable by a decision of a court or other Governmental Authority of competent jurisdiction from which no appeal (other than an appeal to the highest appellate court of such jurisdiction) can be taken, or with respect to which an appeal is not taken within the time allowed for appeal, or (B) irretrievably abandoned, disclaimed or admitted to be invalid or unenforceable by Cellectis through reissue, disclaimer or otherwise, or (ii) pending claim in a pending Patent application included in the Licensed Cellectis Patents that has not been abandoned or finally rejected without the possibility of appeal or refiling.

(b) Each of the following terms is defined in the Section set forth opposite such term:

Term	Section
Agreement	Preamble
Calyxt	Preamble
Calyxt License	2.01
Calyxt TM License	2.02
Cellectis	Preamble
Controlling Party	9.02
Effective Date	Preamble
Indemnified Party	8.03
Indemnifying Party	8.03
Infringement	9.02
Losses	8.01
Necessary Third Party License	5.02
Negotiation Period	2.06
Non-Controlling Party	9.02
Option Period	2.06
Parties	Preamble
Party	Preamble
Remainder	9.02
Third Party Claim	8.03
UMinn IP	2.04

Section 1.02. *Other Definitional and Interpretative Provisions*. The words "hereof", "herein" and "hereunder" and words of like import used in this Agreement shall refer to this Agreement as a whole and not to any particular provision of this Agreement. The captions herein are included for convenience of reference only and shall be ignored in the construction or interpretation hereof. References to Articles, Sections and Schedules are to Articles, Sections and Schedules of this Agreement unless otherwise specified. All Schedules annexed hereto or referred to herein are hereby incorporated in and made a part of this Agreement as if set forth in full herein. Any capitalized terms used in any Schedule but not otherwise defined therein, shall have the meaning as defined in this Agreement. Any singular term in this Agreement shall be deemed to include the plural, and any plural term the singular. Whenever the words "include", "includes" or "including" are used in this Agreement, they shall be deemed to be followed by the words "without limitation", whether or not they are in fact followed by those words or words of like import. "Writing", "written" and comparable terms refer to printing, typing and other means of reproducing words (including electronic media) in a visible form. References to any agreement or contract are to that agreement or contract as amended, modified or supplemented from time to time in accordance with the terms hereof and thereof. References to any Person include the successors and permitted assigns of that Person. References from or through any date mean, unless otherwise specified, from and including or through and including, respectively. References to "law", "laws" or to a particular statute or law shall be deemed also to include any and all Applicable Law.

ARTICLE 2
GRANT OF LICENSE

Section 2.01. *Calyxt License.* Subject to the terms and conditions of this Agreement, Cellectis hereby grants to Calyxt an exclusive (except as otherwise provided herein and subject to existing licenses granted by Cellectis to third parties prior to the Effective Date) worldwide, perpetual license, with the right to sublicense (in accordance with Section 2.03) under the Licensed Cellectis IP to use, have used, make, have made, sell, have sold, offer for sale, export, import and otherwise exploit any and all Calyxt Licensed Products within the Calyxt Field (the "**Calyxt License**"). Notwithstanding the foregoing, the Calyxt License shall be non-exclusive solely in the Non-Exclusive Field, such that the rights as set forth above in this Section 2.01 are granted to Calyxt on a non-exclusive basis in the Non-Exclusive Field under the Calyxt License.

Section 2.02. *Trademark License Grant*. Subject to the terms and conditions of this Agreement, Cellectis hereby grants to Calyxt a worldwide, non-exclusive, sublicensable (in accordance with Section 2.03), royalty-free and fully paid-up, non-transferable (except as set forth in Section 11.01) license under the Licensed TALEN Mark to use, make, have made, sell, offer for sale, import and otherwise exploit any and all Calyxt Licensed Products within the Calyxt Field (the "**Calyxt TM License**").

Section 2.03. *Sublicense Rights.* The Calyxt License and the Calyxt TM License include the right of Calyxt to grant sublicenses to any Person; *provided* that (a) any such sublicense shall be in writing and automatically terminate upon any termination of this Agreement (it being understood that any such sublicense shall include express terms and conditions to effect such automatic termination); (b) sublicensees of the Calyxt License shall not be permitted to grant further sublicenses thereunder with respect to any UMinn IP (as defined below); (c) Calyxt shall cause each of its sublicensees to abide by all applicable terms and conditions of this Agreement, enforce such terms and conditions and the provisions of any sublicense against each such sublicensee; and (d) Calyxt shall remain responsible and liable to Cellectis for the performance of each such sublicensee's obligations and for all acts or omissions of such sublicensee as if they were acts of Calyxt under this Agreement.

Section 2.04. *UMinn License.* The Parties acknowledge and agree that Calyxt has received a copy of the UMinn License and certain Licensed Cellectis IP is owned by the University of Minnesota ("**UMinn IP**") and the Calyxt License with respect to the UMinn IP is granted as a sublicense under, and subject to the terms and conditions of, the UMinn License. Accordingly, in exercising its rights under the Calyxt License, Calyxt shall comply with any and all terms and conditions of the UMinn License as they would apply to Calyxt as a sublicensee with respect to any UMinn IP. Without limiting the generality of the foregoing, promptly following receipt of written notice thereof, Calyxt shall reimburse Cellectis for any and all payments made by Cellectis to the University of Minnesota pursuant to Sections 11.6.4 (Milestone Payments), 11.11 (Annual Fee), and 11.12 (Commercialization Fee) of the UMinn License, but solely to the extent that any such payments are required as a result of the applicable activities of Calyxt hereunder or thereunder. Calyxt shall not be liable to the University of Minnesota for any other payments other than those as specifically set forth in the previous sentence. Without the prior written consent of Calyxt, Cellectis shall not (A) terminate the UMinn License, or (B) amend or waive any rights under the UMinn License in any manner that would reasonably be expected to have a material adverse effect on any of Calyxt's rights under this Agreement. In addition, Calyxt shall provide, and shall cause its sublicensees to provide, to Cellectis all reports, information and other assistance in connection with Calyxt's and its sublicensees' activities pursuant to this Agreement that are reasonably required to enable Calyxt to comply with its obligations under the UMinn License.

Section 2.05. *Calyxt Improvements.* (a) As between the Parties, any and all Calyxt Improvements shall be solely and exclusively owned by Calyxt.

(b) Subject to the terms and conditions of this Agreement, Calyxt, on behalf of itself and its Affiliates, hereby grants to Cellectis and its Affiliates an exclusive, perpetual, worldwide, sublicensable, non-transferable (except as set forth in Section 11.01), royalty-free and fully paid-up license to use and otherwise exploit Calyxt Improvements for any purpose outside of the Calyxt Field. On a continuing basis during the term of this Agreement, Calyxt shall promptly make available to Cellectis all Calyxt Improvements then in existence that are necessary or reasonably useful for the commercialization of such Calyxt Improvements by Cellectis outside of the Calyxt Field, and provide Cellectis with all reasonable assistance to enable Cellectis to understand and use such Calyxt Improvement. Calyxt shall use commercially reasonable efforts to identify and disclose all Calyxt Improvements based on facts known to Calyxt, as well as in response to specific requests made by Cellectis.

Section 2.06. *Calyxt Option on Cellectis Improvements*. Solely during the period in which Cellectis and its Affiliates own, in the aggregate, a number of Calyxt common shares equal to at least fifty percent (50%) of the then outstanding common shares of Calyxt, Cellectis shall promptly disclose to Calyxt all Cellectis Improvements then in existence that are necessary or reasonably useful for the commercialization of such Cellectis Improvements by Calyxt in the Calyxt Field, and provide Calyxt an option to obtain a license within the Calyxt Field. Calyxt may exercise its option by sending a written notice to Cellectis within thirty (30) days after it has the knowledge of such Cellectis Improvements (the "**Option Period**"). If Calyxt has exercised its option within the Option Period to obtain such a license, then for a period of thirty (30) days after Cellectis receives such notice from Calyxt (the "**Negotiation Period**"), the Parties shall, in good faith, negotiate the terms and conditions of a definitive agreement pursuant to which Cellectis would grant Calyxt a royalty-bearing license with respect to such Cellectis Improvement; *provided* that if Calyxt does not exercise its option within the Option Period, or if the Parties do not agree on the terms and conditions of such a definitive agreement for such license within the Negotiation Period, Cellectis shall be free to grant any third party any license or other rights with respect to such Cellectis Improvement.

Section 2.07. *No Other Licenses*. Except as expressly provided in this Agreement, no other licenses are granted to either Party under this Agreement. Each Party acknowledges and agrees that (a) any use by Calyxt or any of its sublicensees of the Licensed Cellectis IP outside the scope of the Calyxt License or the Licensed TALEN Mark outside the scope of the Calyxt TM License is expressly prohibited and (b) any use by Cellectis or any of its sublicensees of the Calyxt Improvements outside the scope of the licenses granted to Cellectis or any of its sublicensees pursuant to Section 2.05 is expressly prohibited.

ARTICLE 3
LICENSED TALEN MARK; QUALITY CONTROL

Section 3.01. *Quality Control*. Cellectis reserves the right to practice reasonable quality control with regard to the use of the Licensed TALEN Mark by Calyxt or any of its sublicensees and Calyxt shall, and shall cause its sublicensees to, adhere to such quality, appearance, reputational, distinctiveness and other standards with respect to the use of the Licensed TALEN Mark and with respect to the goods and services sold or rendered under the Licensed TALEN Mark as Cellectis may require from time to time. Calyxt hereby acknowledges the validity of the Licensed TALEN Mark and Cellectis' exclusive right, title, and interest in and to the Licensed TALEN Mark, subject to the license granted hereunder. Calyxt shall, and shall cause its sublicensees to, (a) not take any action or make any statement which would reasonably be expected to damage the reputation or goodwill associated with Cellectis, any of its Affiliates, or the Licensed TALEN Mark, or to prejudice, infringe or impair the rights of Cellectis with respect to the Licensed TALEN Mark and (b) comply with all Applicable Law governing the use of the Licensed TALEN Mark, including all services performed under the Licensed TALEN Mark and all goods to which the Licensed TALEN Mark is applied. At Calyxt's sole expense, Calyxt shall supply, and shall cause its sublicensees to supply, Cellectis with specimens of all uses of the Licensed TALEN Mark upon the reasonable request of Cellectis.

Section 3.02. *Reservation of Rights; Ownership.* (a) Calyxt, on behalf of itself and its sublicensees, acknowledges and agrees that (i) Cellectis is the sole and exclusive owner of all right, title and interest in and to the Licensed TALEN Mark; (ii) Cellectis shall have the sole and exclusive right to prosecute and maintain the Licensed TALEN Mark; and (iii) neither Calyxt nor any of its sublicensees has acquired, and shall not acquire, any right, title or interest in or to the Licensed TALEN Mark other than the rights expressly set forth in this Agreement. Calyxt shall cooperate with Cellectis in taking all appropriate measures for the protection of the Licensed TALEN Mark.

(b) Calyxt shall not, and shall cause its sublicensees not to, (i) challenge the validity, enforceability or ownership of the Licensed TALEN Mark or claim adversely or assist in any claim adverse to Cellectis concerning any right, title or interest in the Licensed TALEN Mark; (ii) do or permit any act which may directly or indirectly impair or prejudice Cellectis' title to the Licensed TALEN Mark or be detrimental to the reputation and goodwill of Cellectis or any of its Affiliates, including any act which might assist or give rise to any application to remove or de-register any of the Licensed TALEN Mark; or (iii) register or attempt to register any trademarks for any words, names, graphics, or other source identifiers that are identical or confusingly similar to the Licensed TALEN Mark. All use of the Licensed TALEN Mark by Calyxt and any of its sublicensees, and all goodwill associated with such use, shall inure to the benefit of Cellectis.

Section 3.03. *Trademark Notice*. In connection with the use of the Licensed TALEN Mark, Calyxt and its sublicensees shall mark each use with the registered trademark symbol, "®," or such other trademark notice symbol as designated by Cellectis.

ARTICLE 4
COMMERCIALIZATION

Section 4.01 *Commercialization and Performance Milestones*. Calyxt shall use its commercially reasonable efforts, and shall require all sublicensees to use commercially reasonable efforts, in each case consistent with sound and reasonable business practices and judgment, to commercialize the Licensed Cellectis Patents in the Calyxt Field and to manufacture, offer to sell and sell Calyxt Licensed Products as soon as practicable and to maximize sales thereof.

Section 4.02 *Covenants Regarding the Manufacture of Licensed Products.* Calyxt hereby covenants and agrees, and shall require all sublicensees to covenant and agree, that (a) the manufacture, use, sale, or transfer of Calyxt Licensed Products shall comply with all Applicable Laws, including all federal export laws and regulations; and (b) it will make commercially reasonable efforts such that the Calyxt Licensed Products shall not be defective in design or manufacture. Calyxt hereby further covenants and agrees that, pursuant to 35 United States Code Section 204, it shall, and it shall cause each sublicensee, to substantially manufacture in the United States of America all products embodying or produced through the use of an invention that is subject to the rights of the federal government of the United States of America.

Section 4.03 *Export and Regulatory Compliance*. Calyxt understands that the Arms Export Control Act (AECA), including its implementing International Traffic In Arms Regulations (ITAR) and the Export Administration Act (EAA), including its Export Administration Regulations (EAR), are some (but not all) of the laws and regulations that comprise the U.S. export laws and regulations. Calyxt further understands that the U.S. export laws and regulations include (but are not limited to): (i) ITAR and EAR product/service/data-specific requirements; (ii) ITAR and EAR ultimate destination-specific requirements; (iii) LIAR and EAR end user-specific requirements; (iv) Foreign Corrupt Practices Act; and (v) antiboycott laws and regulations. Calyxt shall comply with all then-current applicable export laws and regulations of the U.S. Government (and other applicable U.S. laws and regulations) pertaining to the Calyxt Licensed Products (including any associated products, items, articles, computer software, media, services, technical data, and other information). Calyxt certifies that it shall not, directly or indirectly, export (including any deemed export), nor re-export (including any deemed re-export) the Calyxt Licensed Products (including any associated products, items, articles, computer software, media, services, technical data, and other information) in violation of U.S. export laws and regulations or other applicable U.S. laws and regulations. Calyxt shall include an appropriate provision in its agreements with its authorized sublicensees to assure that these parties comply with all then-current applicable U.S. export laws and regulations and other applicable U.S. laws and regulations.

Section 4.04 *Commercialization Reports*. As requested by Cellectis in writing, no more than once per year, Calyxt shall deliver to Cellectis written reports of Calyxt's and its sublicensees' efforts and plans to commercialize the Licensed Cellectis Patents in the Calyxt Field and to manufacture, offer to sell, or sell Calyxt Licensed Products.

Section 4.05 *Use of Cellectis and University of Minnesota Names and Trademarks*. Except for the Licensed TALEN Mark, no provision of this Agreement grants Calyxt or any of its sublicensees any right or license to use the name, logo, or any marks owned by or associated with Cellectis, the University of Minnesota or the names, or identities of any member of the faculty, staff, or student body of the University of Minnesota. Calyxt shall not use and shall not permit any of its sublicensees to use any such logos, marks, names, or identities without the prior written approval of Cellectis or the University of Minnesota, as applicable.

Section 4.06 *Governmental Markings*.

(a) Calyxt and its sublicensees may mark all Calyxt Licensed Products in a manner consistent with their current patent marking practices for their own products and Applicable Laws. Where marking is to be performed but the Calyxt Licensed Product cannot be marked, the patent notice shall be placed on associated tags, labels, packaging, or accompanying documentation (either electronic or paper) as appropriate.

(b) Calyxt and its sublicensees are solely responsible for obtaining all necessary approvals from Governmental Authorities for the development, production, distribution, sale, and use of any Calyxt Licensed Product, at Calyxt's expense, including, without limitation, any safety studies. Calyxt is solely responsible for including with the Calyxt Licensed Product any warning labels, packaging and instructions as to the use and the quality control for such Calyxt Licensed Product.

(c) Calyxt agrees to register this Agreement with any foreign Governmental Authority that requires such registration, and Calyxt shall pay all costs and legal fees in connection with such registration. Calyxt shall comply with all foreign laws affecting this Agreement or the sale of Calyxt Licensed Products.

ARTICLE 5
ROYALTIES AND BARE SUBLICENSE REVENUE

Section 5.01. *Royalties and Bare Sublicense Revenue.* As consideration for the Calyxt License, Calyxt shall pay to Cellectis the following amounts during the following periods:

(a) With respect to each Calyxt Licensed Product in any jurisdiction, three percent (3%) of all Net Sales of such Calyxt Licensed Product in such jurisdiction during the Royalty Term for such Calyxt Licensed Product; and

(b) thirty percent (30%) of all Bare Sublicense Revenue during the Sublicense Revenue Term.

Section 5.02. *Royalty Stacking for Third Party Rights*. (a) If Calyxt is presently required, or in the future is required, to secure a royalty-bearing or fee-bearing license under any patent to use, make, have made, sell, offer for sale or import any Calyxt Licensed Product in the Calyxt Field in any jurisdiction (a "**Necessary Third Party License**"), then, during the period in which Calyxt is required to make royalty payments to the licensor under such Necessary Third Party License, Calyxt shall have the right to reduce the royalty rate contemplated in Section 5.01(a) with respect to the Net Sales of such Calyxt Licensed Product in such jurisdiction by an amount equal to one quarter (1/4) of the royalty rate payable to such licensor pursuant to such Necessary Third Party License; *provided* that, in no event shall the royalty rate contemplated in Section 5.01(a) with respect to any Net Sales of any Calyxt Licensed Product be reduced to less than two percent (2%). If such Necessary Third Party License includes a royalty stacking provision of like intent to this Section 5.02, the royalty rate reduction provided for in this Section 5.02 will be calculated as if such provision in such Necessary Third Party License were absent. For the avoidance of doubt, and notwithstanding anything in this Agreement to the contrary, in no event shall any agreement to which Calyxt is a party as of or prior to the Effective Date be deemed a Necessary Third Party License under this Agreement.

(b) Without limiting Section 5.02(a), and by way of example only:

(i) If, after the Effective Date, Calyxt is required to enter into a Necessary Third Party License, pursuant to which Calyxt is required to pay the licensor thereunder a royalty of two percent (2%) of the net sales of a Calyxt Licensed Product in a jurisdiction, then, during the period in which such royalty is required to be paid, the royalty rate contemplated in Section 5.01(a) with respect to the Net Sales of such Calyxt Licensed Product in such jurisdiction would equal two and one half percent (2.5%).

(ii) If, after the Effective Date, Calyxt is required to enter into a Necessary Third Party License, pursuant to which Calyxt is required to pay the licensor thereunder a royalty of eight percent (8%) of the net sales of a Calyxt Licensed Product in a jurisdiction, then, during the period in which such royalty is required to be paid, the royalty rate contemplated in Section 5.01(a) with respect to the Net Sales of such Calyxt Licensed Product in such jurisdiction would equal two percent (2%).

Section 5.03. *Reimbursement of Patent-Related Expenses*. Commencing on the Effective Date, Calyxt shall pay all invoices issued by Cellectis or any of its Affiliates for any Patent-Related Expenses under this Agreement within thirty (30) days of its receipt of each such invoice.

Section 5.04. *Reporting; Audit Rights.* Calyxt shall render to Cellectis, on a calendar quarterly basis, commencing with the first calendar quarter after the Effective Date, a detailed written report of the royalties and Bare Sublicense Revenue due to Cellectis. Such report shall be accompanied by a remittance of such royalties and Bare Sublicense Revenue as shown to be due hereunder. Each report shall be rendered within thirty (30) days following the end of each calendar quarterly period. Calyxt shall keep books and records in sufficient detail to enable the royalty payments and Bare Sublicense Revenue due hereunder to be adequately determined. Once per calendar year, upon reasonable written notice, Cellectis or any third party owner of Patent rights included in the Licensed Cellectis IP shall have the right at its sole cost and expense to cause a nationally recognized independent certified public accountant reasonably acceptable to Calyxt to examine and inspect such books and records during Calyxt's normal business hours, but only to the extent necessary to verify the computation of royalties and Bare Sublicense Revenue payable hereunder. Such books and records shall be deemed Confidential Information of Calyxt hereunder, and such nationally recognized independent certified public accountant shall disclose to Cellectis or such third party only the royalties and Bare Sublicense Revenue payable and the percentage under/overpayment by Calyxt. In the event that such examination determines that Calyxt has underpaid royalties and Bare Sublicense Revenue by more than three percent (3%), Calyxt shall reimburse Cellectis for its reasonable costs in conducting such examination. At Calyxt's expense, Calyxt shall also provide Cellectis with all reasonably requested cooperation in connection with complying with any audit regarding the activities of Calyxt hereunder that is conducted by or on behalf of the University of Minnesota pursuant to the UMinn License.

Section 5.05. *Method of Payment*. Each payment by Calyxt hereunder shall be made by electronic transfer in immediately available funds, at Cellectis' election, via either a bank wire transfer or any other means of electronic funds transfer to a bank account specified in writing by Cellectis to Calyxt. Cellectis may change such account by written notice at least five (5) Business Days before any payment is due. All royalties and Bare Sublicense Revenue of Calyxt

shall be computed and paid in U.S. dollars. For the purposes of determining the amount of any royalties or Bare Sublicense Revenue due for any relevant calendar quarter, the amount of Net Sales or Bare Sublicense Revenue in any foreign currency shall be converted into U.S. dollars in a manner consistent with Calyxt's customary practices used to prepare its audited financial reports. No more than once per calendar year, upon written request of Cellectis, Calyxt shall provide Cellectis with a written explanation of such customary practices of Calyxt.

Section 5.06. *Withholding Taxes.* To the extent either Party is required by Applicable Law to withhold or deduct any amounts from any payments to be made under this Agreement, such Party shall be entitled to withhold or deduct such amounts and such amounts shall be treated for all purposes of this Agreement as having been paid to the Party in respect of which such deduction and withholding were made. Each Party shall (in consultation and cooperation with the other) use commercially reasonable efforts to attempt to lawfully mitigate, reduce or avoid such withholdings or deductions. Promptly after the execution of this Agreement, Cellectis shall provide to Calyxt a valid Form W-8BEN-E establishing Cellectis' right to a zero percent rate of withholding tax with respect to the amounts payable by Calyxt under this Article 5 under Article 12 of the United States – France income tax treaty.

ARTICLE 6
REPRESENTATIONS AND WARRANTIES; DISCLAIMERS; LIMITATION OF LIABILITY

Section 6.01. *Mutual Representations and Warranties*. As of the Effective Date, each Party hereby represents and warrants to the other Party that (a) the execution, delivery and performance by such Party of this Agreement are within such Party's corporate powers and have been duly authorized by all necessary corporate action on the part of such Party and (b) this Agreement constitutes a valid and binding agreement of such Party enforceable against such Party in accordance with its terms (subject to applicable bankruptcy, insolvency, fraudulent transfer, reorganization, moratorium and other laws affecting creditors' rights generally and general principles of equity).

Section 6.02. *Disclaimers and Limitation of Liability*. EXCEPT FOR THE REPRESENTATIONS AND WARRANTIES IN SECTION 6.01, ALL LICENSES AND RIGHTS GRANTED HEREIN ARE MADE ON AN "AS IS" BASIS, AND THE PARTIES EACH HEREBY DISCLAIM ANY EXPRESS OR IMPLIED REPRESENTATIONS OR WARRANTIES OF ANY KIND, INCLUDING WITHOUT LIMITATION, THOSE REGARDING MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OF NON-INFRINGEMENT. NOTWITHSTANDING ANYTHING IN THIS AGREEMENT TO THE CONTRARY, CALYXT ACKNOWLEDGES AND AGREES THAT ALL RIGHTS GRANTED TO CALYXT UNDER THIS AGREEMENT ARE SUBJECT IN ALL RESPECTS TO ANY AND ALL LICENSES OR OTHER RIGHTS GRANTED BY CELLECTIS OR ANY OF ITS AFFILIATES TO ANY THIRD PARTIES WITH RESPECT TO ANY LICENSED CELLECTIS IP AS OF OR PRIOR TO THE EFFECTIVE DATE. TO THE EXTENT PERMITTED BY APPLICABLE LAW, NEITHER PARTY SHALL BE LIABLE UNDER

ANY LEGAL OR EQUITABLE THEORY FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY KIND ARISING OUT OF OR OTHERWISE RELATED TO THIS AGREEMENT, EVEN IF SUCH PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Section 6.03. *University of Minnesota Disclaimer; Limitation of Liability; and Release.*

(a) Calyxt acknowledges and agrees that the disclaimer, remedy limitation and damages cap provisions applicable to and exclusion of representations and warranties by the University Minnesota, set forth in Sections 10.2, 11.1 and 11.2 of the UMinn License shall apply with respect to Calyxt's rights and remedies under this Agreement and such Sections are hereby incorporated by reference herein, *mutatis mutandis.*

(b) Calyxt, on behalf of itself and its Affiliates and its and their respective employees, hereby releases the University of Minnesota, Cellectis and their respective regents, employees and agents forever from any and all suits, actions, claims, liabilities, demands, damages, losses, and expenses (including reasonable attorneys' and investigative expenses) relating to or arising out of the manufacture, use, lease, sale, or other disposition of any Calyxt Licensed Product.

ARTICLE 7
CONFIDENTIALITY

Section 7.01. *Confidentiality*. (a) The receiving party shall keep confidential the disclosing party's Confidential Information, and shall not use any of the disclosing party's Confidential Information for any purpose other than the exercise of the receiving party's rights, or as otherwise permitted, under this Agreement. The receiving party shall preserve the confidentiality of the disclosing party's Confidential Information as it would customarily take to preserve the confidentiality of its own similar type of confidential information and shall not disclose the disclosing party's Confidential Information to any third party without the prior written consent of the disclosing party, except as expressly permitted hereunder. The receiving party may disclose the Confidential Information to (i) any of its employees, agents, independent contractors and sublicensees who need it in connection with this Agreement and are bound in writing by restrictions regarding disclosure and use of the Confidential Information comparable to and no less restrictive than those set forth herein or (ii) the extent it is in response to a valid order of a court or other Governmental Authority or to otherwise comply with Applicable Law; *provided* that, in the case of clause (ii), the receiving party shall first provide written notice to the disclosing party and reasonably cooperate with the disclosing party to obtain a protective order or other measures preserving the confidential treatment of such Confidential Information and requiring that the information or documents so disclosed be used only for the purposes for which the order was issued or is otherwise required by Applicable Law.

(b) The terms and conditions of this Agreement shall be deemed Confidential Information for the purposes of this Agreement; *provided* that each Party may disclose the terms and conditions of this Agreement: (i) in confidence, to its accountants, banks and present and prospective financing sources and their advisors; (ii) in connection with the enforcement of this Agreement or rights under

this Agreement; (iii) in confidence, in connection with an actual or proposed merger, acquisition or similar transaction involving such Party; (iv) in confidence, to its Affiliates; (v) in confidence, to its third party independent contractors who have a need to know, solely in connection with their provision of services to such Party; (vi) as required by applicable securities laws or the rules of any stock exchange on which securities of such Party are traded or any other Applicable Law; or (vii) as mutually agreed upon by the Parties in writing.

ARTICLE 8
INDEMNIFICATION

Section 8.01. *Indemnification by Calyxt*. Calyxt shall defend Cellectis and its Affiliates and their respective officers, directors, employees, contractors, customers and agents against any action, suit, proceeding or other claim, and indemnify and hold each of them harmless from any and all damages, liabilities, expenses, and other losses (including reasonable attorneys' fees and court costs) ("**Losses**") to the extent arising from any (a) breach of this Agreement by Calyxt; (b) breach of the UMinn License caused by any activities of Calyxt or its sublicensees; (c) use, making, having made, sale, offer for sale, importation or any other exploitation of any Calyxt Licensed Products or any exploitation of the Licensed Cellectis IP by Calyxt or any of its sublicensees; (d) gross negligence or willful misconduct by Calyxt; and/or (e) violation of Applicable Law by Calyxt.

Section 8.02. *Indemnification by Cellectis*. Cellectis shall defend Calyxt and its Affiliates and their respective officers, directors, employees, and agents against any action, suit, proceeding or other claim, and indemnify and hold each of them harmless from any and all Losses to the extent arising from any (a) breach of this Agreement by Cellectis; (b) gross negligence or willful misconduct by Cellectis; and/or (c) violation of Applicable Law by Cellectis.

Section 8.03. *Third Party Claim Procedures*. (a) The Party seeking indemnification under Section 8.01 or 8.02 (the "**Indemnified Party**") shall give prompt notice in writing to the Party against whom indemnity is to be sought (the "**Indemnifying Party**") of the assertion of any claim or the commencement of any action, suit, proceeding or other claim by any third party ("**Third Party Claim**") in respect of which indemnity may be sought under such Section. Such notice shall set forth in reasonable detail such Third Party Claim and the basis for indemnification (taking into account the information then available to the Indemnified Party). The failure to so notify the Indemnifying Party shall not relieve the Indemnifying Party of its obligations hereunder, except to the extent such failure shall have actually prejudiced the Indemnifying Party.

(b) The Indemnifying Party shall be entitled to participate in the defense of any Third Party Claim and, subject to the limitations set forth in this Section, shall be entitled to control and appoint lead counsel for such defense, in each case at its own expense; *provided* that prior to assuming control of such defense, the Indemnifying Party must acknowledge that it would have an indemnity obligation for the Losses resulting from such Third Party Claim as provided under this Article 8.

(c) The Indemnifying Party shall not be entitled to assume or maintain control of the defense of any Third Party Claim and shall pay the fees and expenses of counsel retained by the Indemnified Party if (i) the Indemnifying Party does not deliver the acknowledgment referred to in Section 8.03(b) within thirty (30) days of receipt of notice of the Third Party Claim pursuant to Section 8.03(a); (ii) the Third Party Claim relates to or arises in connection with any criminal action, proceeding or claim; (iii) the Third Party Claim seeks an injunction or equitable relief against the Indemnified Party or any of its Affiliates; or (iv) the Indemnifying Party has failed or is failing to prosecute or defend vigorously the Third Party Claim.

(d) If the Indemnifying Party shall assume the control of the defense of any Third Party Claim in accordance with the provisions of this Section 8.03, the Indemnifying Party shall obtain the prior written consent of the Indemnified Party before entering into any settlement of such Third Party Claim.

(e) In circumstances where the Indemnifying Party is controlling the defense of a Third Party Claim in accordance with paragraphs (b) and (c) above, the Indemnified Party shall be entitled to participate in the defense of any Third Party Claim and to employ separate counsel of its choice for such purpose, in which case the fees and expenses of such separate counsel shall be borne by the Indemnified Party; *provided* that in such event the Indemnifying Party shall pay the fees and expenses of such separate counsel (i) incurred by the Indemnified Party prior to the date the Indemnifying Party assumes control of the defense of the Third Party Claim or (ii) if representation of both the Indemnifying Party and the Indemnified Party by the same counsel would create a conflict of interest.

(f) Each Party shall cooperate, and cause their respective Affiliates to cooperate, in the defense or prosecution of any Third Party Claim and shall furnish or cause to be furnished such records, information and testimony, and attend such conferences, discovery proceedings, hearings, trials or appeals, as may be reasonably requested in connection therewith.

Section 8.04. *Direct Claim Procedures*. In the event that an Indemnified Party has a claim for indemnity under Section 8.01 or 8.02 against an Indemnifying Party that does not involve a Third Party Claim, the Indemnified Party shall give prompt notice in writing of such claim to the Indemnifying Party. Such notice shall set forth in reasonable detail such claim and the basis for indemnification (taking into account the information then available to the Indemnified Party). The failure to so notify the Indemnifying Party shall not relieve the Indemnifying Party of its obligations hereunder, except to the extent such failure shall have actually prejudiced the Indemnifying Party.

ARTICLE 9
PROSECUTION, MAINTENANCE; LITIGATION

Section 9.01. *Prosecution and Maintenance*. (a) As between the Parties, Cellectis shall have the sole and exclusive right to prosecute and maintain the Licensed Cellectis IP and Licensed TALEN Mark (it being understood that, and Calyxt acknowledges and agrees that, pursuant to the UMinn License, the University of Minnesota has the sole and exclusive right to

prosecute and maintain the UMinn IP). Subject to any rights granted to any third parties prior to the date hereof with respect to any Exclusively Licensed Cellectis Patents, Cellectis shall (i) keep Calyxt reasonably informed of all steps to be taken in connection with the prosecution and maintenance of the Exclusively Licensed Cellectis Patents, and (ii) consider in good faith (or, in the case of any Exclusively Licensed Cellectis Patents being prosecuted by the University of Minnesota, use commercially reasonable efforts to cause the University of Minnesota to consider in good faith) all reasonable comments and suggestions by Calyxt regarding such matters, including in respect of any actions, decisions, applications, amendments, submissions or correspondence related thereto. Notwithstanding the foregoing, subject to any rights granted to any third parties prior to the date hereof with respect to any Exclusively Licensed Cellectis Patents, in the event that Cellectis elects to abandon or otherwise cease prosecuting and maintaining any Exclusively Licensed Cellectis Patent (excluding the Patents licensed to Cellectis under the UMinn License), prior to any such abandonment, Calyxt shall have the option to acquire at no cost any such Exclusively Licensed Cellectis Patent and assume the responsibility for the prosecution and maintenance of such Exclusively Licensed Cellectis Patent (it being understood that, in the event that Calyxt exercises such option to acquire such Exclusively Licensed Cellectis Patent, (A) Cellectis shall execute and deliver any documents and perform any other acts, in each case as may be reasonably necessary to effect the foregoing and (B) effective as of Calyxt acquiring ownership of such Exclusively Licensed Cellectis Patent, such Exclusively Licensed Cellectis Patent shall thereafter be automatically deemed to be licensed to Cellectis under the licenses granted to Cellectis pursuant to Section 2.05).

(b) As between the Parties, Calyxt shall have the sole and exclusive right to prosecute and maintain all Intellectual Property Rights owned or otherwise controlled by Calyxt or any of its Affiliates, including all Intellectual Property Rights in or to any Calyxt Improvements. To the extent that any Calyxt Improvement Patents relate to any subject matter outside of the Calyxt Field, Calyxt shall (i) keep Cellectis reasonably informed of all steps to be taken in connection with the prosecution and maintenance of such Calyxt Improvement Patents, and (ii) consider in good faith all reasonable comments and suggestions by Cellectis regarding such matters, including in respect of any actions, decisions, applications, amendments, submissions or correspondence related thereto. Notwithstanding the foregoing, in the event that Calyxt elects to abandon or otherwise cease prosecuting or maintaining any such Calyxt Improvement Patent related to any subject matter outside of the Calyxt Field, prior to any such abandonment, Cellectis shall have the option to acquire at no cost any such Calyxt Improvement Patent and assume the responsibility for the prosecution and maintenance of such Calyxt Improvement Patent (it being understood that, in the event that Cellectis exercises such option to acquire such Calyxt Improvement Patent, (x) Calyxt shall execute and deliver any documents and perform any other acts, in each case as may be reasonably necessary to effect the foregoing and (y) effective as of Cellectis acquiring ownership of such Calyxt Improvement Patent, such Calyxt Improvement Patent shall thereafter be automatically deemed to be licensed to Calyxt under the Calyxt License).

Section 9.02. *Litigation*. (a) If either Party becomes aware of any actual or threatened infringement or other violation by any third party of any Licensed Cellectis Patent or Calyxt Improvement Patent, or any challenge to any Licensed Cellectis Patent or Calyxt Improvement Patent by any third party, then such Party shall promptly notify the other Party in writing thereof.

(b) Cellectis shall have the first right, but not the obligation, at its expense and using counsel of its choice, to enforce any Licensed Cellectis Patent against any Person or defend any challenge with respect to any such Licensed Cellectis Patent. Cellectis shall have sole and exclusive control of any decisions or other aspects of any such enforcement or defense; *provided* that if Cellectis elects to not (i) enforce any Exclusively Licensed Cellectis Patent against any infringement or other violation of the exclusive rights granted to Calyxt under the Calyxt License or (ii) defend any such Exclusively Licensed Cellectis Patent from any challenge that would be reasonably expected to have a material adverse effect on Calyxt's exclusive rights under the Calyxt License, then in either case (but only to the extent that prior to the date hereof Cellectis has not granted any third party any right to enforce or defend any such Exclusively Licensed Cellectis Patent), Cellectis shall promptly provide Calyxt with written notice of such election and, following receipt of such notice, Calyxt may, at its sole option and expense, enforce its rights under or defend any challenge to such Exclusively Licensed Cellectis Patent, as applicable.

(c) Calyxt shall have the first right, but not the obligation, at its expense and using counsel of its choice, to enforce any Calyxt Improvement Patent against any Person or defend any challenge with respect to any such Calyxt Improvement Patent. Calyxt shall have sole and exclusive control of any decisions or other aspects of any such enforcement or defense; *provided* that if Calyxt elects to not (i) enforce any such Calyxt Improvement Patent against any infringement or other violation thereof outside of the Calyxt Field or (ii) defend any such Calyxt Improvement Patent from any challenge that would be reasonably expected to have a material adverse effect on Cellectis' rights under the licenses granted to Cellectis pursuant to Section 2.05, then in either case, Calyxt shall promptly provide Cellectis with written notice of such election and, following receipt of such notice, Cellectis may, at its sole option and expense, enforce its rights under or defend any challenge to such Calyxt Improvement Patent, as applicable.

(d) The Party controlling any enforcement or defense under Section 9.02(b) or 9.02(c) (the "***Controlling Party***") shall keep the other Party (the "***Non-Controlling Party***") reasonably and regularly informed of the status and progress of such enforcement or defense efforts, and shall reasonably consider the Non-Controlling Party's comments on any such efforts. The Non-Controlling Party shall provide the Controlling Party with all reasonable assistance in the enforcement or defense of any Exclusively Licensed Cellectis Patents or Calyxt Improvement Patents, as applicable, as the Controlling Party may reasonably request, including by signing or executing any necessary documents and consenting to it being named a party to any applicable proceedings. The Non-Controlling Party shall have the right to be represented in any enforcement or defense of any Exclusively Licensed Cellectis Patents or Calyxt Improvement Patents, as applicable, by counsel of its choice and at its own expense. Neither Party shall settle any action, suit, proceeding or other claim involving any Exclusively Licensed Cellectis Patent or Calyxt Improvement Patent in any manner without the prior written consent of the other Party, such consent not to be unreasonably withheld.

(e) Any recoveries resulting from an action, suit, proceeding or other claim brought by a Party under Section 9.02(b) or 9.02(c) shall be first applied against payment of each Party's costs and expenses in connection therewith. Any such recoveries in excess of such costs and expenses (the "**Remainder**") shall be retained by the Controlling Party; *provided* that if Calyxt is the Controlling Party, the Remainder with respect to any enforcement of the Exclusively Licensed Cellectis Patents shall be included in Net Sales and Bare Sublicense Revenue, as applicable, for purposes of calculating royalties and payments owed to Cellectis hereunder.

(f) For the avoidance of doubt, as between the Parties, (i) Cellectis shall have the sole and exclusive right, but not the obligation, to bring and control any legal action in connection with any actual, alleged, or threatened infringement of any Licensed Cellectis Patents (A) outside of the Calyxt Field and (B) within the Non-Exclusive Field, in each case at Cellectis' own expense as it reasonably determines appropriate and (ii) Calyxt shall have the sole and exclusive right, but not the obligation, to bring and control any legal action in connection with any actual, alleged, or threatened infringement of any Calyxt Improvement Patents within the Calyxt Field at its own expense as it reasonably determines appropriate.

ARTICLE 10
TERM AND TERMINATION

Section 10.01. *Term.* This Agreement shall remain in full force and effect in perpetuity unless earlier terminated, in whole or in part, pursuant to Section 10.02 or 10.03.

Section 10.02. *Mutual Agreement.* This Agreement may be terminated in its entirety at any time upon the mutual written agreement of the Parties.

Section 10.03. *For Cause.* Either Party may, by written notice to the other Party, immediately terminate this Agreement (a) if such other Party is in material breach of any provision of this Agreement (it being understood that if such breach is capable of being cured, such other Party shall have the right to cure such breach within sixty (60) days of receiving written notice thereof) and (b) upon the bankruptcy, dissolution or winding up of such other Party, or the making or seeking to make or arrange an assignment for the benefit of creditors of such other Party, or the initiation of proceedings in voluntary or involuntary bankruptcy, or the appointment of a receiver or trustee of such other Party's property that is not discharged within ninety (90) days.

Section 10.04. *Survival*. Notwithstanding anything in this Agreement to the contrary, Sections 2.05(a), 2.07, 3.02, 5.04, 6.02, 6.03, 9.02(f) and 10.04, and Articles 7, 8 and 11 shall survive any expiration or termination of this Agreement.

ARTICLE 11
MISCELLANEOUS

Section 11.01. *Assignment.* Neither this Agreement nor any rights or obligations hereunder may be assigned or otherwise transferred by either Party, in whole or in part, whether voluntarily or by operation of Applicable Law, without the prior written consent of the other Party; *provided* that either Party may, without the consent of the other Party, assign or otherwise transfer this Agreement to (a) any of its Affiliates or (b) any successor to all or substantially all of the assets or business of such Party to which this Agreement relates. Any attempted assignment or transfer in contravention of this Section 11.01 shall be void *ab initio*.

Section 11.02. *Notices.* All notices, requests and other communications to either Party hereunder shall be in writing (including facsimile transmission and electronic mail transmission, so long as a receipt of such electronic mail is requested and received) and shall be given,

if to Cellectis, to:

Cellectis S.A.
8 rue de la Croix Jarry
75013 Paris, France
Attention: Marie-Bleuenn Terrier
E-mail: marie-bleuenn.terrier@cellectis.com

if to Calyxt, to:

Calyxt, Inc.
600 County Road D West, Suite 8
New Brighton, MN 55112
Attention: Federico A. Tripodi
E-mail: Federico.tripodi@calyxt.com

or such other address or facsimile number as such Party may hereafter specify for the purpose by notice to the other Party. All such notices, requests and other communications shall be deemed received on the date of receipt by the recipient thereof if received prior to 5:00 p.m. in the place of receipt and such day is a Business Day in the place of receipt. Otherwise, any such notice, request or communication shall be deemed not to have been received until the next succeeding Business Day in the place of receipt.

Section 11.03. *Amendments and Waivers*. (a) Any provision of this Agreement may be amended or waived if, but only if, such amendment or waiver is in writing and is signed, in the case of an amendment, by each Party, or in the case of a waiver, by the Party against whom the waiver is to be effective.

(b) No failure or delay by any Party in exercising any right, power or privilege hereunder shall operate as a waiver thereof nor shall any single or partial exercise thereof preclude any other or further exercise thereof or the exercise of any other right, power or privilege. The rights and remedies herein provided shall be cumulative and not exclusive of any rights or remedies provided by Applicable Law.

Section 11.04. *Expenses*. Except as otherwise provided herein, all costs and expenses incurred in connection with this Agreement shall be paid by the Party incurring such cost or expense.

Section 11.05. *Governing Law*. This Agreement shall be governed by and construed in accordance with the laws of France

Section 11.06. *Jurisdiction*. The Parties agree that any suit, action or proceeding seeking to enforce any provision of, or based on any matter arising out of or in connection with, this Agreement or the transactions contemplated hereby shall be brought in a court of competent jurisdiction sitting in Paris, France and each of the Parties hereby irrevocably consents to the exclusive jurisdiction of such court (and of the appropriate appellate courts therefrom) in any such suit, action or proceeding and irrevocably waives, to the fullest extent permitted by law, any objection that it may now or hereafter have to the laying of the venue of any such suit, action or proceeding in any such court or that any such suit, action or proceeding brought in any such court has been brought in an inconvenient forum. Process in any such suit, action or proceeding may be served on any Party anywhere in the world, whether within or without the jurisdiction of any such court. Without limiting the foregoing, each Party agrees that service of process on such Party as provided in Section 11.02 shall be deemed effective service of process on such Party.

Section 11.07. *WAIVER OF JURY TRIAL*. EACH OF THE PARTIES HEREBY IRREVOCABLY WAIVES ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL PROCEEDING ARISING OUT OF OR RELATED TO THIS AGREEMENT OR THE TRANSACTIONS CONTEMPLATED HEREBY.

Section 11.08. *Counterparts; Effectiveness; Third Party Beneficiaries*. This Agreement may be signed in any number of counterparts, each of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument. This Agreement shall become effective when each Party shall have received a counterpart hereof signed by the other Parties. Until and unless each Party has received a counterpart hereof signed by the other Party, this Agreement shall have no effect and neither Party shall have any right or obligation hereunder (whether by virtue of any other oral or written agreement or other communication). No provision of this Agreement is intended to confer any rights, benefits, remedies, obligations, or liabilities hereunder upon any Person other than the Parties and their respective successors and assigns; *provided* that the University of Minnesota shall be a third party beneficiary of Section 6.03.

Section 11.09. *Entire Agreement*. This Agreement constitutes the entire agreement between the Parties with respect to the subject matter hereof and thereof and supersedes all prior agreements and understandings, both oral and written, between the Parties with respect to the subject matter hereof and thereof.

Section 11.10. *Relationship of the Parties.* Nothing contained in this Agreement is intended or shall be deemed to make either Party the agent, employee, partner or joint venturer of the other Party or be deemed to provide such Party with the power or authority to act on behalf of the other Party or to bind the other Party to any contract, agreement or arrangement with any other individual or entity.

Section 11.11. *Severability.* If any term, provision, covenant or restriction of this Agreement is held by a court of competent jurisdiction or other Governmental Authority to be invalid, void or unenforceable, the remainder of the terms, provisions, covenants and restrictions of this Agreement shall remain in full force and effect and shall in no way be affected, impaired or invalidated so long as the economic or legal substance of the transactions contemplated hereby is not affected in any manner materially adverse to either Party. Upon such a determination, the Parties shall negotiate in good faith to modify this Agreement so as to effect the original intent of the Parties as closely as possible in an acceptable manner in order that the transactions contemplated hereby be consummated as originally contemplated to the fullest extent possible.

Section 11.12. *Specific Performance.* The Parties agree that irreparable damage would occur if any provision of this Agreement were not performed in accordance with the terms hereof and that the Parties shall be entitled to an injunction or injunctions to prevent breaches of this Agreement or to enforce specifically the performance of the terms and provisions hereof in any court set forth in Section 11.06, in addition to any other remedy to which they are entitled at law or in equity.

[Remainder of page intentionally left blank]

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed as of the date first written above.

CELLECTIS S.A.

By: /s/ André Choulika
Name: André Choulika
Title: Chief Executive Officer

CALYXT, INC.

By: /s/ Federico Tripodi
Name: Federico Tripodi
Title: Chief Executive Officer

Schedule A

Licensed TALEN Mark

Mark	Serial No.	Registration No.	Filing Date	Registration Date	Country
TALEN	79/107519	4,729,507	October 27, 2011	May 5, 2015	U.S.

February 03, 2017

Mr Manoj SAHOO
[***]
Plymouth MN 55446

Dear Mr Sahoo,

On behalf of Calyxt, Inc., (the "Company"), I am pleased to offer you a position with the Company as Chief Commercial Officer. This offer letter agreement (this "Letter") sets forth the terms of your offer which, if you accept, will govern your employment with the Company.

1. Certain Definitions. Certain words or phrases used in this Letter with initial capital letters will have the meanings set forth in paragraph 9 hereof.

2. Employment. If you accept the terms of this Letter by January 31, 2017, the Company will employ you beginning on March 1, 2017 or sooner if practicable as your work authorization process is successfully transferred from your current employer (the "Effective Date"), upon the terms and conditions set forth in this Letter, and ending as provided in paragraph 6 hereof. Notwithstanding anything in this Letter to the contrary, you will be an at-will employee of the Company and you or the Company may terminate your employment with the Company for any reason or no reason at any time. The period during which you are employed by the Company is referred to in this Letter as the "Employment Term."

3. Position and Duties. You shall serve as Chief Commercial Officer of the Company and shall have the duties, responsibilities and authority consistent with an executive serving in such position, subject to the Company's right to expand such duties, responsibilities and authority, either generally or in specific instances. You shall devote all of your business time and attention to the performance of your duties under this Letter and will not engage in any other business activities, without the prior consent of the Company's Board of Directors. Notwithstanding the foregoing, you will be permitted to purchase and own less than five percent (5%) of the publicly-traded securities of any corporation, provided that such ownership represents a passive investment and that you are not a controlling person of, or a member of a group that controls such corporation, and provided further that this ownership does not interfere with the performance of your duties and

responsibilities to the Company, including but not limited to the duties and responsibilities set forth in this Section 3. You will report to the Chief Executive Officer of Calyxt.

4. Place of Employment and Permanent Residence.

The principal place of your employment will be the Company's office in New Brighton, Minnesota, except that you may be required to travel on Company business during your employment.

5. Compensation and Benefits.

Salary. The Company shall pay you an annualized salary of $250,000 (the "Base Salary") during the Employment Period in periodic installment in accordance with the Company's payroll practices as may be in effect from time to time, but not less frequently than monthly. Your Base Salary will be subject to review at least annually by the Board and the Board may, but will not be required to, increase your Base Salary during the Employment Term.

Annual Performance Bonus. For each calendar year of the Employment Term, you will be eligible to receive an annual performance bonus ("Annual Performance Bonus") from the Company, with the target amount of such bonus equal to fifty percent (50%) of your Base Salary. You will be eligible to earn a prorated Annual Performance Bonus for your individual contribution and the Company's performance between the Effective Date and December 31, 2017. Your Annual Performance Bonus will be based on achievement of individual and/or Company performance goals that are established by the Board in its sole discretion at the beginning of each calendar year. Following the close of each calendar year, the Board shall determine whether you have earned an Annual Performance Bonus, and the amount of any such bonus, based on the goals established at the beginning of the year. Payment of the Annual Performance Bonus is expressly conditioned upon your employment with the Company on the date the Annual Performance Bonus is paid, except as provided in paragraph 6(e) below and as provided in paragraph 6(d) in case of Termination Without Cause (as defined in paragraph 9) and conditions detailed in paragraph 7(b)(i). The Annual Performance Bonus will be paid within seventy-five (75) days after the end of the calendar year to which it relates. Your target Annual Performance Bonus will be subject to periodic review and adjustment by the Board, in its sole discretion, from time to time.

(a) Additional Milestone Bonuses. The Company will pay you Milestone Bonuses subject to all required withholding and employment taxes:

- $20,000 upon first commercial retail sale of a food product containing calyxt ingredients

-$20,000 upon execution and announcement of a deal with a leading food or ingredient company

Equity Award. You will be eligible to participate in and receive stock option or equity award grants under the Company's equity incentive plan from time to time in the sole discretion of the Board, and in accordance with the terms and conditions of such plans.

Executive Benefits Package. You will be entitled during your employment to participate in the Company's Executive Benefits Package. The Company's "Executive Benefits Package" means those benefits (including benefits for which substantially all of the employees of the Company are from time to time generally eligible), as determined from time to time by the Company's Board of Directors (the "Board"). The Company reserves the right to amend or cancel any employee benefit plans, programs, or practices at any time in its sole discretion, subject to the terms of the employee benefit plan and applicable law.

Vacation. During the Employment Period, you will be entitled to take paid vacation pursuant to the Company's existing policies regarding paid vacations. You will be entitled to accrue twenty (20) days of paid vacation per calendar year. Beginning on the Effective Date, your vacation time will accrue on a monthly basis at a rate of 1.67 days per month. Vacation time that is not used by you in the calendar year it accrues may be carried over to the next calendar year, but you will cease to accrue additional vacation time beyond your annual accrual (i.e., 20 days) in any calendar year until you have taken vacation and your accrued vacation time has dropped below the maximum annual accrual of 20 days. Beginning in the 7th year of service, One additional day will be added per year worked, up to a maximum of 25 days.

(b) Immigration status. Calyxt will cover all legal expenses related to your work authorization and your and your family's permanent residency process, including committing to providing you support in pursuing Green Card under Employment-Based Immigration: First Preference EB-1

6. Termination Events.

Your employment with the Company will continue until terminated upon the occurrence of any of the following events:

(a) Your death;

(b) Your Permanent Disability;

(c) Your written notice of your termination of your employment to the CEO;

(d) The termination of your employment by the Company at any time Without Cause (as defined in paragraph 9) with the termination to take effect as determined by the Company; or

(e) The termination of your employment by the Company For Cause (as defined in paragraph 9), with the termination to take effect immediately upon written notice by the Company to the Employee or upon a date determined by the Company.

7. Consequences of Termination.

(a) Compensation upon Termination by Company – For Cause. Upon the termination of your employment For Cause, you will cease to have any rights to Base Salary, bonus awards, expense reimbursements, fringe benefits or any other compensation or benefits of any nature, except that you will be entitled to receive any Base Salary that has accrued but is unpaid, any reimbursable expenses that have been incurred but are unpaid, and any unused vacation days that have accrued under the Company's vacation policy, as of your Termination Date, which will be paid in accordance with Company's usual payroll procedures. (collectively, the "Accrued Amounts").

(b) Compensation upon Termination by Company – Not For Cause.

(i) Upon the termination Without Cause of your employment provided for in paragraph 6(d), you will cease to have any rights to Base Salary, bonus awards, expense reimbursements, fringe benefits or any other compensation or benefits of any nature, except that you will be entitled to receive the Accrued Amounts and Annual Performance Bonus on a prorata temporis basis.

(ii) So long as you are complying with the non-compete and other applicable obligations set forth in this agreement, the Company shall continue to pay you Severance Pay in an amount equal to twelve (12) months of Base Salary at a rate in effect on the date of termination, reduced by any required federal, state and local taxes and any other applicable withholdings or deductions, with the Company's payment of such salary continuation payable in periodic installments in accordance with the Company payroll practices. Additionally, if Termination by Company-Not For Cause, occurs prior to you and your family

receiving a green card (permanent residency) the Company will make reasonable accommodations to support the continuity of your legal stay in the United States during until the end of the severance or non Compete period, or until you find another job, whichever occurs first. You agree and acknowledge that the Company may condition the receipt of any Severance Pay due to you pursuant to this paragraph upon: (i) you entering into a full release of claims in favour of the Company, its affiliates and subsidiaries and their respective officers and directors and separation agreement in such form as to be provided by the Company and (ii) such general release becomes effective within twenty -one (21) business days after the day it is provided to you for execution, and is not thereafter revoked by you, and provided further that you comply with all terms and conditions of this separation agreement, you will receive the benefit to which you are entitled. In the event the Company invokes its non-compete option as provided for in paragraph 8(b), your severance payment will end and the other terms and conditions of this separation agreement will continue.

(c) Compensation upon Termination - By You. Upon your voluntary termination of your employment provided for in paragraph 6(c), you will cease to have any rights to Base Salary, bonus awards, expense reimbursements, fringe benefits or any other compensation or benefits of any nature, except that you will be entitled to receive the Accrued Amounts.

(d) Compensation Upon Termination - Death or Permanent Disability. In the event your employment is terminated because of death or Permanent Disability, you will cease to have any rights to Base Salary, bonus awards, expense reimbursements, fringe benefits or any other compensation or benefits of any nature, except that you will be entitled to receive the Accrued Amounts. In the event your employment is terminated as a result of your death, your spouse or, if you are not married at the time of your death, your estate will be entitled to the Accrued Amounts.

8. Competitive Activity; Confidentiality; Non-Solicitation; Discoveries and Inventions; Works Made for Hire.

(a) Acknowledgements and Agreements. You hereby acknowledge and agree that in the performance of your duties to the Company, you will be brought into frequent contact with existing Customers and Potential Customers of the Company throughout the world. You agree that trade secrets and confidential information of the Company, more fully described in subparagraph 8(e)(i), gained by you during your association with the Company, have been developed by the Company through substantial expenditures of time, effort and money and constitute valuable and

unique property of the Company. You further understand and agree that the foregoing makes it necessary for the protection of the Company's Business that you do not compete with the Company during your employment with the Company and that you do not compete with the Company for a reasonable period thereafter, as further provided in the following subparagraphs.

(b) Competitive Activity.

(i) While employed by the Company, and for a period of one (1) year following your Termination Date, you are obligated to provide notice to Calyxt of future activity and responsibilities (as provided for in subparagraph 8(b)(ii)) prior to starting a new position. Upon receipt of such notice, the Company will have a 10-day window to exercise a non-compete for a period not to exceed 12 months from the Termination Date. In such event, the Company will pay you your base salary according to the Company payroll schedule less applicable withholdings. In the even (i) you are terminated without cause by the Company, (ii) the Company is paying a severance payment to you, and (iii) the Company invokes its non-compete option, your severance payments will end and the non-compete payment will begin for a period not to exceed one year from Termination Date. In the event you breach this clause, you agree to reimburse immediately all severance and non-compete payments you received from the Company.

(ii) Direct or Indirect Competition. For the purpose of subparagraph 8(b)(i) but without limitation thereof, you will be in violation thereof if you engage in any or all of the activities set forth therein directly as an individual on your own account, or indirectly as a partner, joint venturer, employee, agent, salesperson, consultant, officer and/or director of any firm, association, partnership, corporation or other entity, or as a stockholder of any corporation in which you or your spouse, child or parent owns, directly or indirectly, individually or in the aggregate, more than five percent of the outstanding stock.

(iii) If it is judicially determined that you have violated subparagraph 8(b)(i), then the period applicable to each obligation that you have been determined to have violated will automatically be extended from the date of judicial determination by a period of time equal in length to the period during which such violation(s) occurred.

(c) The Company. For purposes of this subparagraph 8(c), the Company will include any and all direct and indirect subsidiary, parent, affiliated, or related companies of the Company for which you worked or had responsibility at the time of termination of your employment and at any time during the two-year period prior to such termination.

(d) Non-Solicitation.

(i) Of Customers. You will not directly or indirectly at any time during the period of your employment or for a period of twenty-four (24) months following your Termination Date, directly or indirectly, solicit, divert, or take away or supervise any other person, firm, or other entity in soliciting, diverting, or taking away any Customer or Prospective Customer of the Company for the purpose of selling, performing or providing services related to the Company's Business to that Customer or Prospective Customer.

(ii) Of Employees. You will not, directly or indirectly, at any time during the period of your employment or for a period of twenty-four (24) months following your Termination Date solicit, hire, employ, engage, affiliate with for profit, retain (or assist any other person or entity in soliciting, hiring, employing, engaging, affiliating for profit or retaining) any person who was a Company employee or consultant or independent contractor at any time during the one (1)-year period prior to your soliciting, hiring, employing, engaging, affiliating for profit or retaining, whether for your benefit or the benefit of any other person or organization other than the Company, or solicit, induce, or encourage any such person to terminate or leave the Company's employ, engagement, or other remunerative relationship with the Company. You acknowledge that this covenant is necessary to enable the Company to maintain a stable workforce and remain in business.

Confidentiality.

(i) You will keep in strict confidence, and will not, directly or indirectly, at any time, during or after your employment with the Company, disclose, furnish, disseminate, make available or, except in the course of performing your duties of employment, use any trade secrets or confidential business and technical information of the Company or its Customers, suppliers or vendors, without limitation as to when or how you may have acquired such information. Such confidential information will include, without limitation, all information belonging to the Company, its affiliates, subsidiaries, or any other person or entity that has entrusted information to the Company in confidence, technology, computer programs or programming, systems, software, software codes, designs, data bases, trade secrets, know-how, research, methods, manuals, records, product or service ideas or plans, work-in-progress, results, algorithms, inventions, developments, original

works of authorship, discoveries, experimental processes, experimental results, unpublished patent applications, laboratory notebooks, processes, formulas, investigation or research techniques, engineering designs and drawings, hardware configuration information, regulatory information, medical reports, clinical data and analysis reagents, cell lines, biological materials, chemical formulas, financial information including but not limited to price lists, pricing methodologies, cost data, financial forecasts, historical financial data, and budgets, marketing information, including but not limited to market share data, marketing plans, licenses, business plans, lists of the needs and preferences of Customers and Prospective Customers, promotional materials, training courses and other training and instructional materials, vendor and product information, all agreements with third parties and terms of agreements, transactions and potential transactions, negotiations, information relating to employees and consultants of the Company, including names, contact information, and expertise, lists of or information relating to suppliers and vendors and other business information disclosed by the Company (whether by oral, written, graphic or machine-readable format) which confidential information is designated in writing to be confidential or proprietary, or if given orally, is confirmed in writing as having been disclosed as confidential or proprietary within a reasonable time (not to exceed 30 days after the oral disclosure), or which information would, under the circumstances appear to a reasonable person to be confidential or proprietary.

(ii) You specifically acknowledge that all such confidential information, whether reduced to writing, maintained on any form of electronic media, or maintained in your mind or memory and whether compiled by the Company, and/or you, derives independent economic value from not being readily known to or ascertainable by proper means by others who can obtain economic value from its disclosure or use, that reasonable efforts have been made by the Company to maintain the secrecy of such information, that such information is the sole property of the Company and that any retention and your use of such information during your employment with the Company (except in the course of performing your duties and obligations to the Company) or after the termination of your employment will constitute a misappropriation of the Company's trade secrets.

(iii) You agree that upon termination of your employment with the Company, for any reason, you will return to the Company, in good condition, all property of the Company, including without limitation, the originals and all copies of any documents in whatever form (electronic, hard copy, etc.) or materials which contain, reflect, summarize, describe, analyze or refer or relate to any

items of information listed in subparagraph 8(e)(i) of this Letter. You agree that all confidential information, as listed in subparagraph 8(e)(i) of this Letter is the sole property of the Company and you have no right, title or interest to this property. In the event that such items are not so returned, the Company will have the right to charge you for all reasonable damages, costs, attorneys' fees and other expenses incurred in searching for, taking, removing and/or recovering such property.

(iv) Notwithstanding the above, you will have no liability to the Company with regard to any confidential information you can prove was in the public domain at the time it was disclosed or entered the public domain through no fault of yours.

Discoveries and Inventions; Work Made for Hire.

(i) You agree that upon conception and/or development of any idea, discovery, invention, improvement, software, writing or other material or design that: (A) relates to the business of the Company, or (B) relates to the Company's actual or demonstrably anticipated research or development, or (C) results from any work performed by you for the Company, you will assign to the Company the entire right, title and interest in and to any such idea, discovery, invention, improvement, software, writing or other material or design. (together, "Discoveries and Inventions") Subject to the requirements of applicable state law, if any, you understand that Discoveries and Inventions will not include, and the provisions of this Letter will not apply to any idea, discovery, invention, improvement, software, writing or other material or design that qualifies fully for exclusion under the provisions of applicable state law. You also agree that any idea, discovery, invention, improvement, software, writing or other material or design that relates to the business of the Company or relates to the Company's actual or demonstrably anticipated research or development which is conceived or suggested by you, either solely or jointly with others, within one year following termination of your employment under this Letter or any successor agreements will be presumed to have been so made, conceived or suggested in the course of such employment with the use of the Company's equipment, supplies, facilities, and/or trade secrets.

(ii) You agree that during your employment, and for one year after termination of your employment under this Letter or any successor agreements, you will disclose immediately and fully to the Company any Discovery and Invention conceived, made or developed by you solely or jointly with others. The Company agrees to keep any such disclosures confidential. You also agree to record descriptions of all work in the manner directed by the Company, agree that all such records and copies, samples and experimental materials will be the exclusive property of the Company, and agree not to remove these records from the Company's place of

business except as expressly permitted by Company policy which may, from time to time, be revised at the sole election of the Company for the purpose of furthering the Company's business. You agree that at the request of and without charge to the Company, but at the Company's expense, you will execute a written assignment of the idea, discovery, invention, improvement, software, writing or other material or design to the Company and will assign to the Company any application for letters patent or for trademark registration made thereon, and to any common-law or statutory copyright therein; and that you will do whatever may be necessary or desirable to enable the Company to secure any patent, trademark, copyright, or other property right therein in the United States and in any foreign country, and any division, renewal, continuation, or continuation in part thereof, or for any reissue of any patent issued thereon. In the event the Company is unable, after reasonable effort, and in any event after ten business days, to secure you signature on a written assignment to the Company of any application for letters patent or to any common-law or statutory copyright or other property right therein, whether because of your physical or mental incapacity or for any other reason whatsoever, you irrevocably designate and appoint the General Counsel of the Company as your attorney-in-fact to act on your behalf to execute and file any such application and to do all other lawfully permitted acts to further the prosecution and issuance of such letters patent, copyright or trademark. Any assignment of the rights to an idea, discovery, invention, improvement, software, writing or other material or design includes all rights of attribution, paternity, integrity, modification, disclosure and withdrawal, any other rights throughout the world that may be known or referred to as "moral rights," "artists rights," "droit moral," or the like. ("Moral Rights") To the extent that Moral Rights cannot be assigned under applicable law, you hereby waive and agree not to enforce any and all Moral Rights, including, without limitation, any limitation on subsequent modification, to the extent permitted under applicable law.

(iii) You acknowledge that, to the extent permitted by law, all work papers, reports, documentation, drawings, photographs, negatives, tapes and masters therefor, prototypes and other materials (hereinafter, "items"), including without limitation, any and all such items generated and maintained on any form of electronic media, generated by you during your employment with the Company will be considered a "work made for hire" and that ownership of any and all copyrights in any and all such items will belong to the Company. The item will recognize the Company as the copyright owner, will contain all proper copyright notices, e.g., "(creation date), All Rights Reserved," and will be in condition to be registered or otherwise placed in compliance with registration or other statutory requirements throughout the world.

Communication of Contents of Letter. While employed by the Company and for one year thereafter, you will communicate the contents of paragraph 8 of this Letter to any person, firm, association, partnership, corporation or other entity that you intend to be employed by, associated with, or represent.

Confidentiality Agreements. You agree that you will not disclose to the Company or induce the Company to use any secret or confidential information belonging to your former employers. Except as indicated, you warrant that you are not bound by the terms of a confidentiality agreement or other agreement with a third party that would preclude or limit your right to work for the Company and/or to disclose to the Company any ideas, inventions, discoveries, improvements or designs or other information that may be conceived during employment with the Company. You agree to provide the Company with a copy of any and all agreements with a third party that preclude or limit your right to make disclosures or to engage in any other activities contemplated by your employment with the Company.

Relief. You acknowledge and agree that the remedy at law available to the Company for breach of any of your obligations under this Letter would be inadequate. You therefore agree that, in addition to any other rights or remedies that the Company may have at law or in equity, temporary and permanent injunctive relief may be granted in any proceeding which may be brought to enforce any provision contained in subparagraphs 8(b), 8(d), 8(e), 8(f), 8(g) and 8(h) inclusive, of this Letter, without the necessity of proof of actual damage or the need to post a bond.

Reasonableness. You acknowledge that your obligations under this paragraph 8 are reasonable in the context of the nature of the Company's Business and the competitive injuries likely to be sustained by the Company if you were to violate such obligations. You further acknowledge that this Letter is made in consideration of, and is adequately supported by the agreement of the Company to perform its obligations under this Letter and by other consideration, which you acknowledge constitutes good, valuable and sufficient consideration.

9. Definitions.

(a) "Customer" means any client, customer or account, including, but not limited to any person, firm, corporation, association or other business entity of any kind to which the Company has provided or is providing products or services.

(b) "Company's Business" means the research, development, and/or commercialization of products and services based on gene-editing technologies in the field of agriculture, food and plant sciences, which is to be construed to include all research, development, and/or commercialization of products and services as may hereinafter evolve within the gene editing field or is in planning or developmental stages at the Company.

(c) "Permanent Disability" means that, because of accident, disability, or physical or mental illness, you are incapable of performing your duties to the Company or any subsidiary, as determined by the Board. Notwithstanding the foregoing, you will be deemed to have become incapable of performing your duties to the Company or any subsidiary, if you are incapable of so doing for (i) a continuous period of 90 days and remain so incapable at the end of such 90 day period or (ii) periods amounting in the aggregate to 180 days within any one period of 365 days and remain so incapable at the end of such aggregate period of 180 days.

(d) "Prospective Customer" means any prospective client, customer or account, including, without limitation, any person, firm, corporation, association or other business entity of any kind with which the Company had any negotiations or substantial discussions regarding the possibility of providing products or services within the one (1) year period preceding your Termination Date

(e) "Section 409A" means Section 409A of the Internal Revenue Code of 1986, as amended, and any guidance issued thereunder.

(f) "Termination Date" means the effective date of your termination of employment with the Company.

(g) "Termination For Cause" means the termination by the Company of your employment with the Company or any subsidiary as a result of (i) your conviction of or plea of guilty or nolo contendere to a crime that constitutes a felony or a crime that constitutes a misdemeanor involving moral turpitude; (ii) your engagement in an act of fraud, dishonesty, or unauthorized disclosure of Confidential Information (as defined in this Letter); (iii) your failure or refusal to comply with any valid and legal directive of the Board of Directors; (iv) your gross negligence or willful misconduct with respect to the Company or any subsidiary or affiliate of the Company; (v) your failure or refusal to perform your duties and responsibilities as Chief Commercial Officer, (other than such failure resulting from incapacity due to physical or mental illness) which is not cured within five (5) days after written notice thereof to you; (vi) your material failure to comply with the Company's written policies or rules, as they may be in effect from time to time during your employment, which is not cured within five (5) days after written notice thereof to you; or (vii) your material breach of this Letter or any other agreement with the Company, which is not cured within thirty (30) days after written notice thereof to you.

(h) "Termination Without Cause" means the termination by the Company of your employment with the Company for any reason other than a termination for Permanent Disability, death, or a Termination for Cause.

10. Section 409(A).

(a) General Compliance. This Letter is intended to comply with Section 409(A) or an exemption thereunder and will be construed and administered in accordance with Section 409(A). Notwithstanding any other provision of this Letter, payments provided under this Letter may only be made upon an event and in a manner that complies with Section 409(A) or an applicable exemption. Any payments under this Letter that may be excluded from Section 409(a) either as separation pay provided due to an involuntary separation from service or as a short-term deferral will be excluded from Section 409(A) to the maximum extent possible. For purposes of Section 409(A), each installment payment provided under this Letter will be treated as a separate payment. Any payments to be made under this Letter upon a termination of employment will only be made upon a "separation from service" under Section 409A. Notwithstanding the foregoing, the Company makes no representations that the payments and benefits provided under this Letter comply with Section 409A and in no event will the Company be liable for all or any portion of any taxes, penalties, interest or other expenses that may be incurred by you on account of non-compliance with Section 409A.

(b) Specified Employees. Notwithstanding any other provision of this Letter, if any payment or benefit provided to you in connection with your termination of employment is determined to constitute "non-qualified deferred compensation" within the meaning of Section 409A and you are determined to be a "specified employee" at that time as defined in Section 409A(a)(2)(b)(i), then such payment or benefit will not be paid until the first payroll date to occur following the six-month anniversary of the Termination Date (the "Specified Employee Payment Date") or, if earlier, on your death. The aggregate of any payments that would otherwise have been paid before the Specified Employee Payment Date (and interest on such amounts calculated based on the applicable federal rate published by the Internal Revenue Service for the month in which your separation from service occurs shall be paid to the you in lump sum on the specified Employee Payment date and thereafter, any remaining payments will be paid without delay in accordance with their original schedule.

11. Representations. As of the Effective Date, you represent and warrant to the Company that:

(a) Your acceptance of employment with the Company and your performance of the duties and responsibilities under this Letter will not conflict with or result in a violation of, a breach of, or a default under any contract, agreement or understanding to which he is a party or otherwise bound.

(b) Your acceptance of employment with the Company and the performance of your duties and responsibilities under this Letter will not violate any non-solicitation, non-competition or other similar covenant or agreement of a prior employer.

12. Survival. Upon the termination of this Letter, the respective rights and obligations of the parties hereto will survive this termination to the extent necessary to carry out the intention of the parties to this Letter.

13. Taxes. The Company may withhold from any amounts payable under this Letter all federal, state, city or other taxes as the Company is required to withhold pursuant to any applicable law, regulation or ruling. Notwithstanding any other provision of this Letter, the Company will not be obligated to guarantee any particular tax result for you with respect to any payment provided to you hereunder, and you will be responsible for any taxes imposed on you with respect to any such payment.

14. Notices. Any notice provided for in this Letter will be in writing, with a copy to respective individual email addresses, and will be either personally delivered, sent by reputable overnight carrier or mailed by first class mail, return receipt requested, to the recipient at the address below indicated:

Notices to You:
Mr Manoj SAHOO
[***]
Plymouth MN 55446

Notices to the Company:
Mr. Federico TRIPODI, CEO
Calyxt, Inc.
600 County Road D STE 8
New Brighton, MN 55112

or such other address or to the attention of such other person as the recipient party will have specified by prior written notice to the sending party. Any notice under this Letter will be deemed to have been given when so delivered.

15. Severability. Whenever possible, each provision of this Letter will be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Letter is held to be invalid or unenforceable in any respect under any applicable law, such invalidity or unenforceability will not affect any other provision, but this Letter will be reformed, construed and enforced as if such invalid or unenforceable provision had never been contained herein. Should a determination be made by the Court designated in paragraph 20 hereof that the character, duration, or geographical scope of paragraph 8 of the Letter is unreasonable in light of the circumstances as they then exist, then it is the intention and the agreement of the parties to the Letter that the provision be construed by the Court in such a manner as to impose only those restrictions on the parties that are reasonable in light of the circumstances as they then exist and as are necessary to assure the parties of the intended benefit of the Letter. If, in any judicial proceeding, the Court refuses to enforce all of the separate provisions included in the Letter because, taken together, they are more extensive than necessary to assure the parties of the intended benefit of the Letter, those provisions which, if eliminated, would permit the remaining separate provisions to be enforced in such proceeding, will, for the purpose of such proceeding, be deemed eliminated from the Letter.

16. Prevailing Party's Litigation Expenses. In the event of litigation between you and the Company related to this Letter, the non-prevailing party will reimburse the prevailing party for any costs and expenses (including, without limitation, attorneys' fees) reasonably incurred by the prevailing party in connection therewith.

17. Complete Agreement. This Letter embodies the complete agreement and understanding between the parties with respect to the subject matter hereof and effective as of its date supersedes and preempts any prior understandings, agreements or representations by or between the parties, written or oral, which may have related to the subject matter hereof in any way.

18. Counterparts. This Letter may be executed in separate counterparts, each of which will be deemed to be an original and both of which taken together will constitute one and the same agreement.

19. Successors and Assigns. This Letter will bind and inure to the benefit of and be enforceable by you, the Company and your and the Company's respective heirs, executors, personal representatives, successors and assigns, except that neither party may assign any rights or delegate any obligations hereunder without the prior written consent of the other party. You hereby consent to the assignment by the Company of all of its rights and obligations hereunder to any successor to the Company by merger or consolidation or purchase of all or substantially all of the Company's assets, provided such transferee or successor assumes the liabilities of the Company hereunder.

20. Governing Law. This Letter will be governed by, and construed in accordance with, the internal, substantive laws of the State of Minnesota. You agree that the state and federal courts located in the State of Minnesota, without regard to or application of conflict of laws principles, will have jurisdiction in any action, suit or proceeding against you based on or arising out of this Letter and you hereby: (a) submit to the personal jurisdiction of such courts; (b) consent to service of process in connection with any action, suit or proceeding against you; and (c) waive any other requirement (whether imposed by statute, rule of court or otherwise) with respect to personal jurisdiction, venue or service of process.

21. Amendment and Waiver. The provisions of this Letter may be amended or waived only with the prior written consent of you and the Company, and no course of conduct or failure or delay in enforcing the provisions of this Letter will affect the validity, binding effect or enforceability of this Letter.

22. Acknowledgement of Full Understanding. I acknowledge and agree that I have fully read and understand this Letter, and I have had the opportunity to ask questions and consult with an attorney of my choice before signing this Letter.

If these terms are acceptable to you, please sign and date this Letter in the appropriate space below and return it to me as soon as possible. We look forward to you becoming a part of our team.

Please call me with any questions.

Sincerely,

/s/ Federico Tripodi
Federico TRIPODI, CEO
Date: February 03, 2017

Agreed and Accepted:

/s/ Manoj Sahoo
Date: Feb 5, 2017

CALYXT, INC.

INDEMNIFICATION AGREEMENT

This Indemnification Agreement (this "**Agreement**"), effective as of July 19, 2017, by and between Calyxt, Inc., a Delaware corporation (the "**Company**") and [_____] ("**Indemnitee**").

W I T N E S S E T H:

WHEREAS, the Board of Directors of the Company (the "**Board**") has determined that it is reasonable, prudent and necessary for the Company contractually to obligate itself to indemnify, and to advance expenses on behalf of, the Company's directors on its board of directors and officers to the fullest extent permitted by applicable law so that they will serve or continue to serve the Company free from undue concern that they will not be so indemnified.

WHEREAS, this Agreement is a supplement to and in furtherance of the Amended and Restated Certificate of Incorporation (the "**Certificate of Incorporation**") and the Amended and Restated Bylaws (the "**Bylaws**") of the Company and any resolutions adopted pursuant thereto and any liability insurance procured by the Company and shall not be deemed a substitute therefor, nor to diminish or abrogate any rights of Indemnitee thereunder.

NOW, THEREFORE, in consideration of the premises and the covenants contained herein, the Company and Indemnitee do hereby covenant and agree as follows:

ARTICLE 1
CERTAIN DEFINITIONS

(a) As used in this Agreement:

"**Change of Control**" means any one of the following circumstances occurring after the date hereof: (i) there shall have occurred an event required to be reported with respect to the Company in response to Item 6(e) of Schedule 14A of Regulation 14A (or in response to any similar item or any similar schedule or form) under the Exchange Act, regardless of whether the Company is then subject to such reporting requirement; (ii) any "person" or "group" (as such terms are used in Sections 13(d) and 14(d) of the Exchange Act) shall have become, without prior approval of the Company's Board by approval of a majority of the Continuing Directors, the "beneficial owner" (as defined in Rule 13d-3 under the Exchange Act), directly or indirectly, of securities of the Company representing a majority or more of the combined voting power of the Company's then outstanding voting securities (provided that, for purposes of this clause (ii), the

term “person” shall exclude (x) Parent or any of its affiliates, (y) any trustee or other fiduciary holding securities under an employee benefit plan of the Company and (z) any corporation owned, directly or indirectly, by the stockholders of the Company in substantially the same proportions as their ownership of stock of the Company); (iii) there occurs a merger or consolidation of the Company with any other entity, other than a merger or consolidation which would result in the voting securities of the Company outstanding immediately prior to such merger or consolidation continuing to represent (either by remaining outstanding or by being converted into voting securities of the surviving entity) more than 51% of the combined voting power of the voting securities of the surviving entity outstanding immediately after such merger or consolidation and with the power to elect at least a majority of the board of directors or other governing body of such surviving entity; (iv) all or substantially all the assets of the Company are sold or disposed of in a transaction or series of related transactions (other than to Parent or any of its affiliates); (v) the approval by the stockholders of the Company of a complete liquidation of the Company; or (vi) the Continuing Directors cease for any reason to constitute at least a majority of the members of the Board.

“**Continuing Director**” means (i) each director on the Board on the date hereof or (ii) any new director whose election or nomination for election by the Company’s stockholders was approved by a vote of at least a majority of the directors then still in office who were directors on the date hereof or whose election or nomination was so approved.

“**Corporate Status**” means the status of a person who is or was a director, officer, trustee, general partner, managing member, fiduciary, board of directors’ committee member, employee or agent of the Company or of any other Enterprise.

“**Disinterested Director**” means a director of the Company who is not and was not a party to the Proceeding in respect of which indemnification is sought by Indemnitee.

“**Enterprise**” means the Company and any other corporation, limited liability company, partnership, joint venture, trust, employee benefit plan or other enterprise of which Indemnitee is or was serving at the request of the Company as a director, officer, trustee, general partner, managing member, fiduciary, board of directors’ committee member, employee or agent.

“**Exchange Act**” means the Securities Exchange Act of 1934, as amended.

“**Expenses**” means all direct and indirect costs (including attorneys’ fees, retainers, court costs, transcripts, fees of experts, witness fees, travel expenses, duplicating costs, printing and binding costs, telephone charges, postage, delivery service fees, and all other disbursements or expenses) reasonably incurred in connection with (i) prosecuting, defending, preparing to prosecute or defend, investigating, being or preparing to be a witness in, or otherwise participating in, a

Proceeding or (ii) establishing or enforcing a right to indemnification under this Agreement, the Company's Certificate of Incorporation or the Bylaws, applicable law or otherwise. Expenses also shall include Expenses incurred in connection with any appeal resulting from any Proceeding, including the premium, security for, and other costs relating to any cost bond, supersedeas bond, or other appeal bond or its equivalent. For the avoidance of doubt, Expenses, however, shall not include any Liabilities.

"**Independent Counsel**" means a law firm, or a member of a law firm, that is experienced in matters of corporate law and neither currently is, nor in the five years previous to its selection or appointment has been, retained to represent (i) the Company, Parent or Indemnitee in any matter material to any such party (other than with respect to matters concerning Indemnitee under this Agreement or of other indemnitees under similar indemnification agreements) or (ii) any other party to the Proceeding giving rise to a claim for indemnification hereunder. Notwithstanding the foregoing, the term "Independent Counsel" shall not include any person who, under the applicable standards of professional conduct then prevailing, would have a conflict of interest in representing either the Company or Indemnitee in an action to determine Indemnitee's rights under this Agreement.

"**Liabilities**" means any losses or liabilities, including any judgments, fines, excise taxes and penalties, penalties and amounts paid in settlement, arising out of or in connection with any Proceeding (including all interest, assessments and other charges paid or payable in connection with or in respect of any such judgments, fines, excise taxes and penalties, penalties or amounts paid in settlement).

"**Parent**" means Cellectis S.A., a société anonyme incorporated under the laws of France.

"**Proceeding**" means any threatened, pending or completed action, derivative action, suit, claim, counterclaim, cross claim, arbitration, alternate dispute resolution mechanism, investigation, inquiry, administrative hearing or any other actual, threatened or completed proceeding, whether civil (including intentional and unintentional tort claims), criminal, administrative or investigative, including any appeal therefrom, and whether instituted by or on behalf of the Company or any other party, or any inquiry or investigation that Indemnitee in good faith believes might lead to the institution of any such action, suit or other proceeding hereinabove listed in which Indemnitee was, is or will be involved as a party, potential party, non-party witness or otherwise by reason of any Corporate Status of Indemnitee, or by reason of any action taken (or failure to act) by him or her or of any action (or failure to act) on his or her part while serving in any Corporate Status.

(b) For the purposes of this Agreement:

References to "Company" shall include, in addition to the resulting or surviving corporation, any constituent corporation (including any constituent of a constituent) absorbed in a consolidation or merger which, if its separate existence had continued, would have had power and authority to indemnify its directors, officers, employees or agents, so that if Indemnitee is or was a director, officer, employee, or agent of such constituent corporation or is or was serving at the request of such constituent corporation as a director, officer, employee, or agent of another corporation, partnership, joint venture, trust or other enterprise, then Indemnitee shall stand in the same position under the provisions of this Agreement with respect to the resulting or surviving corporation as Indemnitee would have with respect to such constituent corporation if its separate existence had continued.

Reference to "other enterprise" shall include employee benefit plans; references to "fines" shall include any excise tax assessed with respect to any employee benefit plan; references to "serving at the request of the Company" shall include any service as a director, officer, employee or agent of the Company which imposes duties on, or involves services by, such director, officer, employee or agent with respect to an employee benefit plan, its participants or beneficiaries; and a person who acted in good faith and in a manner he reasonably believed to be in the best interests of the participants and beneficiaries of an employee benefit plan shall be deemed to have acted in a manner "not opposed to the best interests of the Company" as referred to in this Agreement.

Reference to "including" shall mean "including, without limitation," regardless of whether the words "without limitation" actually appear, references to the words "herein," "hereof" and "hereunder" and other words of similar import shall refer to this Agreement as a whole and not to any particular paragraph, subparagraph, section, subsection or other subdivision.

As used in this Agreement, the words "herein," "hereof," and "hereunder" and other words of similar import refer to this Agreement as a whole and not to any particular paragraph, subparagraph, section, subsection, or other subdivision. Whenever the context may require, any pronoun used in this Agreement shall include the corresponding masculine, feminine or neuter forms, and the singular form of nouns, pronouns and verbs shall include the plural and vice versa.

ARTICLE 2
SERVICES BY INDEMNITEE

Section 2.01. *Services By Indemnitee.* Indemnitee hereby agrees to serve or continue to serve, at the will of the Company, as a director or officer of the Company, for so long as Indemnitee is duly elected or appointed or until Indemnitee tenders his or her resignation or is removed.

ARTICLE 3
INDEMNIFICATION

Section 3.01. *General.* (a) The Company hereby agrees to and shall indemnify Indemnitee and hold Indemnitee harmless from and against any and all Expenses and Liabilities, in either case, actually and reasonably incurred by Indemnitee or on Indemnitee's behalf by reason of Indemnitee's Corporate Status, to the fullest extent permitted by applicable law. The Company's indemnification obligations set forth in this Section 3.01 shall apply (i) in respect of Indemnitee's past, present and future service in any Corporate Status and (ii) regardless of whether Indemnitee is serving in any Corporate Status at the time any such Expense or Liability is incurred.

For purposes of this Agreement, the meaning of the phrase "to the fullest extent permitted by applicable law" shall include, but not be limited to:

(i) to the fullest extent permitted by any provision of the General Corporation Law of the State of Delaware ("**DGCL**"), or the corresponding provision of any successor statute, and

(ii) to the fullest extent authorized or permitted by any amendments to or replacements of the DGCL adopted after the date of this Agreement that increase the extent to which a corporation may indemnify its officers and directors.

(b) *Witness Expenses*. Notwithstanding any other provision of this Agreement, to the extent that Indemnitee is, by reason of his or her Corporate Status, a witness in any Proceeding to which Indemnitee is not a party, he shall be indemnified against all Expenses actually and reasonably incurred by Indemnitee or on his or her behalf in connection therewith.

(c) *Expenses as a Party Where Wholly or Partly Successful*. Notwithstanding any other provisions of this Agreement, to the fullest extent permitted by applicable law, to the extent that Indemnitee is a party to (or a participant in) and is successful, on the merits or otherwise, in any Proceeding or in defense of any claim, issue or matter therein, in whole or in part, the Company shall indemnify Indemnitee against all Expenses actually and reasonably incurred by him or her in connection therewith. If Indemnitee is not wholly successful in such Proceeding, but is successful, on the merits or otherwise, as to one or more but less than all claims, issues or matters in such Proceeding, the Company shall, to the fullest extent permitted by applicable law, indemnify Indemnitee against all Expenses actually and reasonably incurred by Indemnitee or on his or her behalf in connection with each successfully resolved claim, issue or matter. For purposes of this Section and without limitation, the termination of any claim, issue or matter in such a Proceeding by dismissal, with or without prejudice, shall be deemed to be a successful result as to such claim, issue or matter.

Section 3.02. *Exclusions.* Notwithstanding any provision of this Agreement and unless Indemnitee ultimately is successful on the merits with respect to any such claim, the Company shall not be obligated under this Agreement to make any indemnity in connection with any claim made against Indemnitee:

(a) for (i) an accounting of profits made from the purchase and sale (or sale and purchase) by Indemnitee of securities of the Company within the meaning of Section 16(b) of the Exchange Act or similar provisions of state statutory law or common law or (ii) any reimbursement of the Company by Indemnitee of any bonus or other incentive-based or equity-based compensation or of any profits realized by Indemnitee from the sale of securities of the Company, as required in each case under the Exchange Act (including any such reimbursements that arise from an accounting restatement of the Company pursuant to Section 304 of the Sarbanes-Oxley Act of 2002 (the "**Sarbanes-Oxley Act**"), or the payment to the Company of profits arising from the purchase and sale by Indemnitee of securities in violation of Section 306 of the Sarbanes-Oxley Act); or

(b) except as otherwise provided in Sections 6.01(e), prior to a Change of Control, in connection with any Proceeding (or any part of any Proceeding) initiated by Indemnitee (other than any cross claim or counterclaim asserted by the Indemnitee), including any Proceeding (or any part of any Proceeding) initiated by Indemnitee against the Company, Parent or their respective directors, officers, employees or other indemnitees.

ARTICLE 4
ADVANCEMENT OF EXPENSES; DEFENSE OF CLAIMS

Section 4.01. *Advances.* Notwithstanding any provision of this Agreement to the contrary, the Company shall advance any Expenses actually and reasonably incurred by Indemnitee in connection with any Proceeding within 60 days after the receipt by the Company of each statement requesting such advance from time to time, whether prior to or after final disposition of any Proceeding. Advances shall be unsecured and interest free. Advances shall be made without regard to Indemnitee's ability to repay such amounts and without regard to Indemnitee's ultimate entitlement to indemnification under the other provisions of this Agreement. Advances shall include any and all reasonable Expenses incurred pursuing an action to enforce this right of advancement, including Expenses incurred preparing and forwarding statements to the Company to support the advances claimed.

Section 4.02. *Repayment of Advances or Other Expenses.* Indemnitee agrees that Indemnitee shall reimburse the Company for all Expenses advanced by the Company pursuant to Section 4.01, in the event and only to the extent that

it shall be determined by final judgment or other final adjudication under the provisions of any applicable law (as to which all rights of appeal therefrom have been exhausted or lapsed) that Indemnitee is not entitled to be indemnified by the Company for such Expenses.

Section 4.03. *Defense of Claims.* The Company shall be entitled to assume the defense of any Proceeding with counsel consented to by Indemnitee (such consent not to be unreasonably withheld) upon the delivery by the Company to Indemnitee of written notice of the Company's election to do so. After delivery of such notice, consent to such counsel by Indemnitee and the retention of such counsel by the Company, the Company will not be liable to Indemnitee under this Agreement for any fees or expenses of counsel subsequently incurred by Indemnitee with respect to such Proceeding; *provided* that (i) Indemnitee shall have the right to employ separate counsel in respect of any Proceeding at Indemnitee's expense and (ii) if (A) the employment of counsel by Indemnitee has been previously authorized in writing by the Company or (B) Indemnitee shall have reasonably concluded upon the advice of counsel that there is a conflict of interest between the Company and Indemnitee in the conduct of the defense of such Proceeding, then in each such case the fees and expenses of Indemnitee's counsel shall be at the Company's expense.

ARTICLE 5
PROCEDURES FOR NOTIFICATION OF AND DETERMINATION OF ENTITLEMENT TO INDEMNIFICATION

Section 5.01. *Notification; Request For Indemnification.* (a) As soon as reasonably practicable after receipt by Indemnitee of written notice that he or she is a party to or a participant (as a witness or otherwise) in any Proceeding or of any other matter in respect of which Indemnitee intends to seek indemnification or advancement of Expenses hereunder, Indemnitee shall provide to the Company written notice thereof, including the nature of and the facts underlying the Proceeding. The omission by Indemnitee to so notify the Company will not relieve the Company from any liability which it may have to Indemnitee hereunder or otherwise, except to the extent of any material and actual prejudice to the Company caused by such omission.

(b) To obtain indemnification under this Agreement, Indemnitee shall deliver to the Company a written request for indemnification, including therewith such information as is reasonably available to Indemnitee and reasonably necessary to determine Indemnitee's entitlement to indemnification hereunder. Such request(s) may be delivered from time to time and at such time(s) as Indemnitee deems appropriate in his or her sole discretion. Indemnitee's entitlement to indemnification shall be determined according to Section 5.02 of this Agreement and applicable law.

Section 5.02. *Determination of Entitlement.* (a) Where there has been a written request by Indemnitee for indemnification pursuant to Section 5.01(b), then as soon as is reasonably practicable (but in any event not later than 60 days) after final disposition of the relevant Proceeding, a determination, if required by applicable law, with respect to Indemnitee's entitlement thereto shall be made in the specific case: (i) if a Change of Control shall not have occurred, (A) by a majority vote of the Disinterested Directors, even though less than a quorum of the Board, (B) by a committee of Disinterested Directors designated by a majority vote of the Disinterested Directors, even though less than a quorum of the Board, (C) if there are no such Disinterested Directors or, if such Disinterested Directors so direct, by Independent Counsel in a written opinion to the Board, a copy of which shall be delivered to Indemnitee; or (ii) if a Change of Control shall have occurred, by Independent Counsel in a written opinion to the Board, a copy of which shall be delivered to Indemnitee. If it is so determined that Indemnitee is entitled to indemnification, payment to Indemnitee shall be made within ten (10) days after such determination. Indemnitee shall reasonably cooperate with the person, persons or entity making such determination with respect to Indemnitee's entitlement to indemnification, including providing to such person, persons or entity upon reasonable advance request any documentation or information which is not privileged or otherwise protected from disclosure and which is reasonably available to Indemnitee and reasonably necessary to such determination. Any costs or expenses (including attorneys' fees and disbursements) actually and reasonably incurred by Indemnitee in so cooperating with the person, persons or entity making such determination shall be borne by the Company (irrespective of the determination as to Indemnitee's entitlement to indemnification).

(b) If entitlement to indemnification is to be determined by Independent Counsel pursuant to Section 5.02(a)(ii), such Independent Counsel shall be selected by Indemnitee, and Indemnitee shall give written notice to the Company advising it of the identity of the Independent Counsel so selected. If entitlement to indemnification is to be determined by Independent Counsel pursuant to Section 5.02(a)(i)(C) (or if Indemnitee requests that such selection be made by the Board), such Independent Counsel shall be selected by the Company in which case the Company shall give written notice to Indemnitee advising him or her of the identity of the Independent Counsel so selected. In either event, Indemnitee or the Company, as the case may be, may, within 10 days after such written notice of selection shall have been received, deliver to the Company or to Indemnitee, as the case may be, a written objection to such selection; *provided, however*, that such objection may be asserted only on the ground that the Independent Counsel so selected does not meet the requirements of "Independent Counsel" as defined in Section 1 of this Agreement, and the objection shall set forth with particularity the factual basis of such assertion. Absent a proper and timely objection, the person so selected shall act as Independent Counsel. If such written objection is so made and substantiated, the Independent Counsel so selected may not serve as Independent Counsel unless and until such objection is withdrawn or a court of competent jurisdiction has determined that such objection is without merit. If,

within 20 days after the later of submission by Indemnitee of a written request for indemnification pursuant to Section 5.01(b) hereof and the final disposition of the Proceeding, no Independent Counsel shall have been selected and not objected to, either the Company or Indemnitee may petition a court of competent jurisdiction for resolution of any objection which shall have been made by the Company or Indemnitee to the other's selection of Independent Counsel and/or for the appointment as Independent Counsel of a person selected by the court or by such other person as the court shall designate, and the person with respect to whom all objections are so resolved or the person so appointed shall act as Independent Counsel under Section 5.02(a) hereof. Upon the due commencement of any judicial proceeding or arbitration pursuant to Section 6.01(a) of this Agreement, the Independent Counsel shall be discharged and relieved of any further responsibility in such capacity (subject to the applicable standards of professional conduct then prevailing).

(c) The Company agrees to pay the reasonable fees and expenses of any Independent Counsel serving under this Agreement.

Section 5.03. *Presumptions and Burdens of Proof; Effect of Certain Proceedings.* (a) In making any determination with respect to entitlement to indemnification hereunder, the person or persons or entity making such determination shall, to the fullest extent not prohibited by law, presume that Indemnitee is entitled to indemnification under this Agreement if Indemnitee has submitted a request for indemnification in accordance with Section 5.01(b) of this Agreement, and the Company shall, to the fullest extent not prohibited by law, have the burden of proof to overcome that presumption in connection with the making by any person, persons or entity of any determination contrary to that presumption. Neither the failure of any person, persons or entity to have made a determination prior to the commencement of any action pursuant to this Agreement that indemnification is proper in the circumstances because Indemnitee has met the applicable standard of conduct, nor an actual determination by any person, persons or entity that Indemnitee has not met such applicable standard of conduct, shall be a defense to the action or create a presumption that Indemnitee has not met the applicable standard of conduct.

(b) If the person, persons or entity empowered or selected under Section 5.02 of this Agreement to determine whether Indemnitee is entitled to indemnification shall not have made a determination within the 60-day period referred to in Section 5.02(a), the requisite determination of entitlement to indemnification shall, to the fullest extent not prohibited by law, be deemed to have been made and Indemnitee shall be entitled to such indemnification, absent (i) a misstatement by Indemnitee of a material fact, or an omission of a material fact necessary to make Indemnitee's statement not materially misleading, in connection with the request for indemnification, or (ii) a prohibition of such indemnification under applicable law; *provided*, *however*, that such 60-day period may be extended for a reasonable time, not to exceed an additional 30 days, if the

person, persons or entity making the determination with respect to entitlement to indemnification in good faith requires such additional time for the obtaining or evaluating of documentation and/or information relating thereto.

(c) The termination of any Proceeding or of any claim, issue or matter therein, by judgment, order, settlement or conviction, or upon a plea of nolo contendere or its equivalent, shall not (except as otherwise expressly provided in this Agreement) of itself adversely affect the right of Indemnitee to indemnification or create a presumption that Indemnitee did not act in good faith and in a manner which he reasonably believed to be in or not opposed to the best interests of the Company or, with respect to any criminal Proceeding, that Indemnitee had reasonable cause to believe that his or her conduct was unlawful.

(d) For purposes of any determination of good faith, Indemnitee shall be deemed to have acted in good faith if Indemnitee's action is in good faith reliance on the records or books of account of any Enterprise, including financial statements, or on information supplied to Indemnitee by the officers of such Enterprise in the course of their duties, or on the advice of legal counsel for such Enterprise or on information or records given or reports made to such Enterprise by an independent certified public accountant or by an appraiser or other expert selected by such Enterprise. The provisions of this Section 5.03(d) shall not be deemed to be exclusive or to limit in any way the other circumstances in which Indemnitee may be deemed or found to have met the applicable standard of conduct set forth in this Agreement.

(e) The knowledge and/or actions, or failure to act, of any other director, trustee, partner, managing member, fiduciary, officer, agent or employee of any Enterprise shall not be imputed to Indemnitee for purposes of determining any right to indemnification under this Agreement.

ARTICLE 6
REMEDIES OF INDEMNITEE

Section 6.01. *Adjudication or Arbitration.* (a) In the event of any dispute between Indemnitee and the Company hereunder as to entitlement to indemnification or advancement of Expenses (including where (i) a determination is made pursuant to Section 5.02 of this Agreement that Indemnitee is not entitled to indemnification under this Agreement, (ii) advancement of Expenses is not timely made pursuant to Section 4.01 of this Agreement, (iii) payment of indemnification pursuant to Section 3.01 of this Agreement is not made within 20 days after a determination has been made that Indemnitee is entitled to indemnification, (iv) no determination as to entitlement to indemnification is timely made pursuant to Section 5.02 of this Agreement and no payment of indemnification is made within 20 days after entitlement is deemed to have been determined pursuant to Section 5.03(b) or (v) a contribution payment is not made

in a timely manner pursuant to Section 8.04 of this Agreement), then Indemnitee shall be entitled to an adjudication by a court of his or her entitlement to such indemnification, contribution or advancement.

(b) In the event that a determination shall have been made pursuant to Section 5.02(a) of this Agreement that Indemnitee is not entitled to indemnification, any judicial proceeding or arbitration commenced pursuant to this Section 6.01 shall be conducted in all respects as a *de novo* trial, or arbitration, on the merits, and Indemnitee shall not be prejudiced by reason of that adverse determination. In any judicial proceeding or arbitration commenced pursuant to this Section 6.01 the Company shall have the burden of proving Indemnitee is not entitled to indemnification or advancement of Expenses, as the case may be, and the Company may not refer to or introduce into evidence any determination pursuant to Section 5.02(a) of this Agreement adverse to Indemnitee for any purpose. If Indemnitee commences a judicial proceeding or arbitration pursuant to this Section 6.01, Indemnitee shall not be required to reimburse the Company for any advances pursuant to Section 4.02 until a final determination is made with respect to Indemnitee's entitlement to indemnification (as to which all rights of appeal have been exhausted or lapsed).

(c) If a determination shall have been made pursuant to Section 5.02(a) of this Agreement that Indemnitee is entitled to indemnification, the Company shall be bound by such determination in any judicial proceeding or arbitration commenced pursuant to this Section 6.01, absent (i) a misstatement by Indemnitee of a material fact, or an omission of a material fact necessary to make Indemnitee's statement not materially misleading, in connection with the request for indemnification, or (ii) a prohibition of such indemnification under applicable law.

(d) The Company shall be precluded from asserting in any judicial proceeding or arbitration commenced pursuant to this Section 6.01 that the procedures and presumptions of this Agreement are not valid, binding and enforceable and shall stipulate in any such court or before any such arbitrator that the Company is bound by all the provisions of this Agreement.

(e) The Company shall indemnify Indemnitee to the fullest extent permitted by law against all Expenses and, if requested by Indemnitee, shall (within 10 days after the Company's receipt of such written request) advance such Expenses to Indemnitee, which are reasonably incurred by Indemnitee in connection with any judicial proceeding or arbitration brought by Indemnitee for (i) indemnification or advances of Expenses by the Company (or otherwise for the enforcement, interpretation or defense of his or her rights) under this Agreement or any other agreement, including any other indemnification, contribution or advancement agreement, or any provision of the Company's Certificate of Incorporation or Bylaws now or hereafter in effect or (ii) recovery or advances under any directors' and officers' liability insurance policy maintained by the Company, regardless of whether Indemnitee ultimately is determined to be entitled to such indemnification, contribution, advancement or insurance recovery, as the case may be.

ARTICLE 7
DIRECTORS' AND OFFICERS' LIABILITY INSURANCE

Section 7.01. *D&O Liability Insurance.* The Company and/or Parent shall obtain and maintain a policy or policies of insurance ("**D&O Liability Insurance**") with reputable insurance companies providing liability insurance for directors and officers of the Company in their capacities as such (and for any capacity in which any director or officer of the Company serves any other Enterprise at the request of the Company), in respect of acts or omissions occurring while serving in such capacity, on terms with respect to coverage and amount (including with respect to the payment of Expenses) no less favorable than those of such policy in effect on the date hereof, except for any changes approved by the Board prior to a Change of Control; *provided* that such coverage and amounts are available on commercially reasonable efforts.

Section 7.02. *Evidence of Coverage.* Upon request by Indemnitee, the Company shall provide copies of all policies of D&O Liability Insurance obtained and maintained in accordance with Section 7.01 of this Agreement.

ARTICLE 8
MISCELLANEOUS

Section 8.01. *Nonexclusivity of Rights.* The rights of indemnification, contribution and advancement of Expenses as provided by this Agreement shall not be deemed exclusive of any other rights to which Indemnitee may at any time be entitled to under applicable law, the Company's Certificate of Incorporation, the Company's Bylaws, any agreement, a vote of stockholders or a resolution of directors, or otherwise. No right or remedy herein conferred is intended to be exclusive of any other right or remedy, and every other right and remedy shall be cumulative and in addition to every other right and remedy given hereunder or now or hereafter existing at law or in equity or otherwise. The assertion or employment of any right or remedy hereunder, or otherwise, shall not prevent the concurrent assertion or employment of any other right or remedy.

Section 8.02. *Insurance and Subrogation.* (a) Indemnitee shall be covered by the Company's D&O Liability Insurance in accordance with its or their terms to the maximum extent of the coverage available for any director or officer under such policy or policies. If, at the time the Company receives notice of a claim hereunder, the Company has director and officer liability insurance in effect, the Company shall give prompt notice of such Proceeding to the insurers in accordance with the procedures set forth in the respective policies. The Company

shall thereafter take all necessary or desirable action to cause such insurers to pay, on behalf of Indemnitee, all amounts payable as a result of such Proceeding in accordance with the terms of such policies. The failure or refusal of any such insurer to pay any such amount shall not affect or impair the obligations of the Company under this Agreement.

(b) In the event of any payment under this Agreement, the Company shall be subrogated to the extent of such payment to all of the rights of recovery of Indemnitee, who shall execute all papers required and take all action necessary to secure such rights, including execution of such documents as are necessary to enable the Company to bring suit to enforce such rights.

(c) The Company shall not be liable under this Agreement to make any payment of amounts otherwise indemnifiable (or for which advancement is provided) hereunder if and to the extent that Indemnitee has actually received such payment under any insurance policy or other indemnity provision.

(d) The Company's obligation to indemnify or advance Expenses hereunder to Indemnitee who is or was serving at the request of the Company as a director, officer, trustee, partner, managing member, fiduciary, board of directors' committee member, employee or agent of any other Enterprise shall be reduced by any amount Indemnitee has actually received as indemnification or advancement of Expenses from such Enterprise.

Section 8.03. *Contribution.* To the fullest extent permissible under applicable law, if the indemnification provided for in this Agreement is unavailable to Indemnitee for any reason whatsoever, the Company, in lieu of indemnifying Indemnitee, shall contribute to the amount incurred by Indemnitee, whether for judgments, fines, penalties, excise taxes, amounts paid or to be paid in settlement and/or for Expenses, in connection with any claim relating to an indemnifiable event under this Agreement, in such proportion as is deemed fair and reasonable in light of all of the circumstances of such Proceeding in order to reflect (i) the relative benefits received by the Company and Indemnitee as a result of the event(s) and/or transaction(s) giving rise to such Proceeding; and/or (ii) the relative fault of the Company (and its directors, officers, employees and agents) and Indemnitee in connection with such event(s) and/or transaction(s).

Section 8.04. *Amendment.* This Agreement may not be modified or amended except by a written instrument executed by or on behalf of each of the parties hereto.

Section 8.05. *Waivers.* The observance of any term of this Agreement may be waived (either generally or in a particular instance and either retroactively or prospectively) by the party entitled to enforce such term only by a writing signed by the party against which such waiver is to be asserted. Unless otherwise expressly provided herein, no delay on the part of any party hereto in exercising any right, power or privilege hereunder shall operate as a waiver thereof, nor shall

any waiver on the part of any party hereto of any right, power or privilege hereunder operate as a waiver of any other right, power or privilege hereunder nor shall any single or partial exercise of any right, power or privilege hereunder preclude any other or further exercise thereof or the exercise of any other right, power or privilege hereunder.

Section 8.06. *Entire Agreement.* This Agreement and the documents referred to herein constitute the entire agreement between the parties hereto with respect to the matters covered hereby, and any other prior or contemporaneous oral or written understandings or agreements with respect to the matters covered hereby are superseded by this Agreement, provided that this Agreement is a supplement to and in furtherance of the Certificate of Incorporation and Bylaws of the Company and applicable law, and shall not be deemed a substitute therefor, nor to diminish or abrogate any rights of Indemnitee thereunder.

Section 8.07. *Severability.* If any provision or provisions of this Agreement shall be held to be invalid, illegal or unenforceable for any reason whatsoever: (a) the validity, legality and enforceability of the remaining provisions of this Agreement (including each portion of any Section of this Agreement containing any such provision held to be invalid, illegal or unenforceable, that is not itself invalid, illegal or unenforceable) shall not in any way be affected or impaired thereby and shall remain enforceable to the fullest extent permitted by law; (b) such provision or provisions shall be deemed reformed to the extent necessary to conform to applicable law and to give the maximum effect to the intent of the parties hereto; and (c) to the fullest extent possible, the provisions of this Agreement (including each portion of any Section of this Agreement containing any such provision held to be invalid, illegal or unenforceable, that is not itself invalid, illegal or unenforceable) shall be construed so as to give effect to the intent manifested thereby.

Section 8.08. *Notices.* All notices, requests, demands and other communications under this Agreement shall be in writing (which may be by facsimile transmission). All such notices, requests and other communications shall be deemed received on the date of receipt by the recipient thereof if received prior to 5:00 p.m. in the place of receipt and such day is a business day in the place of receipt. Otherwise, any such notice, request or communication shall be deemed not to have been received until the next succeeding business day in the place of receipt. The address for notice to a party is as shown on the signature page of this Agreement, or such other address as any party shall have given by written notice to the other party as provided above.

Section 8.09. *Binding Effect.* (a) The Company expressly confirms and agrees that it has entered into this Agreement and assumed the obligations imposed on it hereby in order to induce Indemnitee to serve as a director or officer of the Company, and the Company acknowledges that Indemnitee is relying upon this Agreement in serving as a director or officer of the Company.

(b) This Agreement shall be binding upon and inure to the benefit of and be enforceable by the parties hereto and their respective successors, assigns, including any direct or indirect successor by purchase, merger, consolidation or otherwise to all or substantially all of the business and/or assets of the Company, spouses, heirs, and executors, administrators, personal and legal representatives. The Company shall require and cause any successor (whether direct or indirect by purchase, merger, consolidation or otherwise) to all or substantially all, or a substantial part of the business or assets of the Company, by written agreement in form and substance satisfactory to Indemnitee, expressly to assume and agree to perform this Agreement in the manner and to the same extent that the Company would be required to perform if no such succession had taken place.

(c) The indemnification, contribution and advancement of Expenses provided by, or granted pursuant to this Agreement shall continue as to a person who has ceased to be a director or officer and shall inure to the benefit of the heirs, executors, administrators, legatees and assigns of such a person.

Section 8.10. *Governing Law.* This Agreement and the legal relations among the parties shall be governed by, and construed and enforced in accordance with, the laws of the State of Delaware, without regard to its conflict of laws rules.

Section 8.11. *Consent To Jurisdiction.* Except with respect to any arbitration commenced by Indemnitee pursuant to Section 6.01(a) of this Agreement, the Company and Indemnitee hereby irrevocably and unconditionally (i) agree that any action or proceeding arising out of or in connection with this Agreement shall be brought only in the Chancery Court of the State of Delaware (the "**Delaware Court**"), and not in any other state or federal court in the United States of America or any court in any other country, (ii) consent to submit to the exclusive jurisdiction of the Delaware Court for purposes of any action or proceeding arising out of or in connection with this Agreement, (iii) waive any objection to the laying of venue of any such action or proceeding in the Delaware Court, and (iv) waive, and agree not to plead or to make, any claim that any such action or proceeding brought in the Delaware Court has been brought in an improper or inconvenient forum.

Section 8.12. *Headings.* The Article and Section headings in this Agreement are for convenience of reference only, and shall not be deemed to alter or affect the meaning or interpretation of any provisions hereof.

Section 8.13. *Counterparts.* This Agreement may be executed in one or more counterparts, each of which shall for all purposes be deemed to be an original but all of which together shall constitute one and the same Agreement. Only one such counterpart signed by the party against whom enforceability is sought needs to be produced to evidence the existence of this Agreement.

IN WITNESS WHEREOF, this Agreement has been duly executed and delivered to be effective as of the date first above written.

CALYXT, INC.

By: _____
Name:
Title:

Calyxt, Inc.
600 County Road D West
New Brighton, MN 55112
Attention: Bryan W.J. Corkal
E-mail: bryan.corkal@calyxt.com

With a copy to:

Jones Day
250 Vesey Street
New York, New York 10281
Attention: Boris Dolgonos
Peter Devlin
Facsimile No.: (212) 755-7306
E-mail: bdolgonos@jonesday.com
pdevlin@jonesday.com

[____], as Indemnitee

Address:
Facsimile No.:

With a copy to:

Address:
Facsimile No.:
Attention:

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the Registration Statement (Form S-8 No. 333-219382) pertaining to the Calyxt, Inc. 2017 Omnibus Incentive Plan and the Calyxt, Inc. Equity Incentive Plan of Calyxt, Inc. of our report dated March 13, 2018, with respect to the financial statements of Calyxt, Inc. included in this Annual Report (Form 10-K) for the year ended December 31, 2017.

/s/ Ernst & Young LLP

Minneapolis, Minnesota
March 13, 2018

Exhibit 31.1

CERTIFICATION PURSUANT TO RULES 13a-14(a) AND 15d-14(a)
UNDER THE SECURITIES EXCHANGE ACT, AS AMENDED

I, Federico A. Tripodi, certify that:

1. I have reviewed this Annual Report on Form 10-K of Calyxt, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:

   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   c. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 13, 2018

/s/ Federico A. Tripodi
Federico A. Tripodi
Chief Executive Officer

Exhibit 31.2

CERTIFICATION PURSUANT TO RULES 13a-14(a) AND 15d-14(a)
UNDER THE SECURITIES EXCHANGE ACT, AS AMENDED

I, Bryan W.J. Corkal, certify that:

1. I have reviewed this Annual Report on Form 10-K of Calyxt, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:

   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   c. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 13, 2018

/s/ Bryan W.J. Corkal
Bryan W.J. Corkal
Chief Financial Officer

Exhibit 32

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of Calyxt, Inc. (the "Company") on Form 10-K for the period ending December 31, 2017, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), each of the undersigned hereby certifies, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that, to his knowledge:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 13, 2018

/s/ Federico A. Tripodi
Federico A. Tripodi
Chief Executive Officer
(Principal Executive Officer)

/s/ Bryan W.J. Corkal
Bryan W.J. Corkal
Chief Financial Officer
(Principal Financial Officer)