PRESS RELEASE

Mayflower Bioventures Launches its First Spin-Out, Primera Therapeutics, in Strategic Collaboration with Cellectis to Develop a Gene Editing Platform to Treat Mitochondrial Diseases

New York (N.Y) - December 29, 2022: Following the formation of Mayflower Bioventures, a cell and gene therapy accelerator stood up from Hibiscus BioVentures and Mayo Clinic, comes the launch of their first start-up, Primera Therapeutics, Inc. (Primera). Cellectis (Euronext Growth: ALCLS - Nasdaq: CLLS), a clinical-stage biotechnology company using its gene editing platform to deliver life-saving cell and gene therapies, and Primera announced today the execution of a Collaboration Agreement under which the Parties will work collaboratively to edit mutations in the mitochondrial DNA (mtDNA) *in vivo* to treat the root cause of associated diseases.

Inherited mitochondrial diseases caused by genetic changes in the mtDNA have very limited to no treatment options, and often result in early childhood death. An estimated 1 in 5,000 people worldwide suffer from mtDNA – associated diseases. Primera is advancing pioneering mtDNA gene editing therapies developed in the Mayo Clinic lab of Drs. Steven Ekker and Karl Clark to precisely fix a patient's mutated mtDNA and potentially achieve a cure for the disease. Primera's initial clinical focus is on rare mitochondrial diseases for which there are no approved treatments. Mayo Clinic excels in delivering and developing advanced care for complex diseases including the interdisciplinary research and clinical treatment through its Mitochondrial Care Research Center.

"We are thrilled to launch Primera through Mayflower Bioventures and power it with the research and treatment expertise at Mayo Clinic and through collaborations with leading industry partners such as Cellectis, alongside a wonderful group of academic centers and nonprofit partners," noted Dr. Stephen Ekker, Dean of the Mayo Clinic Graduate School of Biomedical Sciences and a key scientific inventor and thought leader for Primera. "It requires a team effort to drive this program forward into the clinic and for patients who are suffering with these dreadful diseases."

Primera, together with Cellectis, will be co-developing a mtDNA engineering toolbox that could enable effective therapies for mitochondrial diseases. The experience Cellectis brings in groundbreaking gene editing research, technology, manufacturing and clinical development will be invaluable in moving quickly to advance these programs and mitochondrial research forward.

The Collaboration Agreement should be supplemented by other agreements to be concluded between the Parties, under which Cellectis would receive a 19% equity ownership stake in Primera and would take a seat on Primera's Board of Directors.

Pursuant to the Collaboration Agreement, Primera has a right to exercise an exclusive worldwide option for a license from Cellectis on up to five product candidates developed under the collaboration (the "partnership products"). Upon Primera exercising the option, Cellectis will be

eligible for up to $750 million of development and sales milestones for the partnership products, as well as high single-digit royalty payments on the net sales of partnership products.

“Our partnership with Primera further showcases and expands the application of our gene-editing capabilities into a previously unexplored space. This partnership is very much in line with Cellectis’ mission to leverage its gene editing technologies to develop potentially life-saving product candidates to address unmet medical needs,” said André Choulika, Ph.D., CEO of Cellectis.

Along with Cellectis and Mayo Clinic, Primera is collaborating with patient advocacy groups including the United Mitochondrial Disease Foundation (UMDF). UMDF, the largest source of funding for mitochondrial disease research outside of the government, promotes research and education for the diagnosis, treatment and cure of mitochondrial disorders and supports affected individuals and families. “UMDF is proud to partner with Primera. We are closely aligned in our vision of driving the development and application of technologies to address the needs of those currently suffering from mitochondrial genetic diseases,” noted Philip Yeske, PhD., Science and Alliance Officer for UMDF.

Marni Falk, MD, Executive Director of the Mitochondrial Medicine Frontier Program at Children's Hospital of Philadelphia, Professor of Pediatrics at University of Pennsylvania Perelman School of Medicine, and Clinical Geneticist serves as a Clinical and Scientific Research Advisor to Primera and sees the Cellectis and Primera collaboration as providing new hope for mitochondrial disease patients. “I have dedicated my career to building a team focused on research, development, translation, clinical development and patient management of mitochondrial disease, encompassing novel diagnostics and treatments. As there currently are no highly effective treatments, we are largely limited to offering supportive therapy. We see over 1,300 patients from around the world in our mitochondrial medicine clinic each year, including both adults and children suffering from these devastating multi-system diseases. Through an interdisciplinary approach, we collaborate in performing groundbreaking research and development of technologies, such as Primera’s, that may have the potential to be disease-modifying and address the needs of those currently battling energy deficiency from genetic-based primary mitochondrial diseases.”

Primera is dedicated to advancing its programs to be first into the clinic that will apply gene editing technologies directly to mitochondrial mutations that drive mitochondrial disease and in the future, potentially broader diseases with central components of mitochondrial dysfunction.

About Mitochondrial Disease (CHOP.edu)

It is estimated that every 30 minutes, a child is born who will develop a mitochondrial disorder by age 10. Overall, approximately 1 in every 4,300 individuals in the United States has a mitochondrial disease. Mitochondrial diseases are a group of disorders that affect the mitochondria, which are small organelles found in almost every cell of the body responsible for energy production. When the number or function of mitochondria in the cell are disrupted, less energy is produced and organ dysfunction results. Depending on which cells within the body have disrupted mitochondria, different symptoms may occur. Mitochondrial disease can cause a vast array of health concerns, including fatigue, weakness, metabolic strokes, seizures, cardiomyopathy, arrhythmias, developmental or cognitive disabilities, diabetes mellitus, impairment of hearing, vision, growth, liver, gastrointestinal, or kidney function, and more. These symptoms can present at any age from infancy up until late adulthood. Currently there is no highly effective treatment that addresses the root cause of mitochondrial disorders. The management of mitochondrial disease is supportive therapy, which may include nutritional management, exercise and/or vitamin or amino acid supplements.

About Cellectis

Cellectis is a clinical-stage biotechnology company using its pioneering gene-editing platform to develop life-saving cell and gene therapies. Cellectis utilizes an allogeneic approach for CAR-T immunotherapies in oncology, pioneering the concept of off-the-shelf and ready-to-use gene-edited CAR T-cells to treat cancer patients, and a platform to make therapeutic gene editing in hemopoietic stem cells for various diseases. As a clinical-stage biopharmaceutical company with over 22 years of experience and expertise in gene editing, Cellectis is developing life-changing product candidates utilizing TALEN®, its gene editing technology, and PulseAgile, its pioneering electroporation system to harness the power of the immune system in order to treat diseases with unmet medical needs. Cellectis' headquarters are in Paris, France, with locations in New York, New York and Raleigh, North Carolina. Cellectis is listed on the Nasdaq Global Market (ticker: CLLS) and on Euronext Growth (ticker: ALCLS). For more information, visit www.cellectis.com. Follow Cellectis on social media: @cellectis, LinkedIn and Twitter.

About Primera

Primera Therapeutics (Primera) is focused on addressing the root cause of mitochondrial diseases by developing a first-in-class gene editing platform to target inherited mutant mitochondrial DNA. Primera's first approach uses a fully customizable TALE-based system to specifically target the mutant DNA in the mitochondrial genome. This delivery application enables precision gene editing to be deployed at the mitochondrial level for the first time. By leveraging an innovative toolbox with the support of key strategic partners, Primera seeks to accelerate the development of mitochondrial disease cures and quickly aid this undeserved patient population. Primera intends to work directly with Cellectis, CHOP, Mayo Clinic, UMDF and other collaborators, to bring a cure to clinic as fast as possible. For more information, visit www.primeratherapeutics.com. Follow Primera on LinkedIn.

Forward-looking Statements

This press release contains "forward-looking" statements within the meaning of applicable securities laws, including the Private Securities Litigation Reform Act of 1995. Forward-looking statements may be identified by words such as "anticipate," "believe," "intend", "expect," "plan," "scheduled," "could," "may" and "will," or the negative of these and similar expressions. These

forward-looking statements, which are based on our management's current expectations and assumptions and on information currently available to management. Forward-looking statements include statements about our ability to execute the agreements to supplement the Collaboration Agreement, the advancement of our innovation and research and development activities. These forward-looking statements are made in light of information currently available to us and are subject to numerous risks and uncertainties, including with respect to the numerous risks associated with biopharmaceutical product candidate development. With respect to our cash runway, our operating plans, including product development plans, may change as a result of various factors, including factors currently unknown to us. Furthermore, many other important factors, including those described in our Annual Report on Form 20-F and the financial report (including the management report) for the year ended December 31, 2021 and subsequent filings Cellectis makes with the Securities Exchange Commission from time to time, as well as other known and unknown risks and uncertainties may adversely affect such forward-looking statements and cause our actual results, performance or achievements to be materially different from those expressed or implied by the forward-looking statements. Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to update the reasons why actual results could differ materially from those anticipated in the forward-looking statements, even if new information becomes available in the future.

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