PRESS RELEASE

Cellectis Published Streamlined Manufacturing Method to Generate Ultrapure Allogeneic CAR T-Cell Therapies

June 25, 2020 – New York (N.Y.) – Cellectis (Euronext Growth: ALCLS; Nasdaq: CLLS), a biopharmaceutical company focused on developing immunotherapies based on gene-edited allogeneic CAR T-cells (UCART), announced the publication of a new research paper released today in *Frontiers in Bioengineering and Biotechnology*. This article describes an innovative and easy-to-implement procedure which will streamline the manufacturing of allogeneic 'off-the-shelf' CAR T-cell therapies.

The methodology described in this article defines a novel non-mechanical purification strategy to generate TCRαβ negative (allogeneic) cells for CAR T-cell therapies. With an early and transient expression of an anti-CD3 CAR in the engineered donor T-cells, Cellectis programed these cells to self-eliminate the remaining TCR+ cell population and obtained an ultrapure TCRαβ$^{(-)}$ population (up to 99.9%) at the end of the CAR-T production.

"We propose a novel, modular and broadly implementable methodology that can efficiently eliminate residual TCRαβ+ cells during the early steps of the allogeneic CAR T-cell generation process without altering key characteristics (T-cell differentiation, exhaustion markers, proliferative capacity and target cell killing capacity)", said Alexandre Juillerat, Ph.D., Team Leader, Innovation Department and NY Laboratory Head, Cellectis. "This study provides a proof of concept to produce the next generation of allogeneic 'off-the-shelf' CAR T-cell therapies," he added.

Using Cellectis' proprietary technologies, TALEN® gene editing together with our PulseAgile cell electroporation device, the innovation team developed a new strategy to achieve purification levels compatible with manufacturing and clinical requirements, including the prevention of GvHD. This new method offers optimal outcome for potential future applications in both liquid and solid tumor development programs.

Alexandre Juillerat, Ph.D., Team Leader, Innovation Department and NY Laboratory Head, Cellectis

Alexandre Juillerat, Ph.D., graduated in Chemistry from the University of Lausanne, Switzerland. After receiving his Ph.D. in 2006 in protein engineering from the École Polytechnique Fédérale de Lausanne (EPFL, Switzerland), he moved to the laboratory of Structural Immunology at the Institut Pasteur in Paris, France. In 2010, he joined the R&D department of Cellectis in Paris, France, working on the development and implementation of sequence specific designer nucleases including the transcription activator-like effector nucleases (TALEN®). He then joined the Cellectis facility based in New York, NY, leading projects associated with the development of the T-cell chimeric antigen receptor (CAR) technology. Cellectis' New-York-based innovation team is constantly at the forefront of

pioneered research, inventing and generating robust, first-in-class allogeneic CAR T-cell product candidates that address multiple unmet cancer needs.

Straightforward generation of ultrapure off-the-shelf allogeneic CAR-T cells

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About Cellectis
Cellectis is developing the first of its kind 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. As a clinical-stage biopharmaceutical company with over 20 years of 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 target and eradicate cancer cells.

As part of its commitment to a cure, Cellectis remains dedicated to its goal of providing life-saving UCART product candidates to address unmet needs for multiple cancers including acute myeloid leukemia (AML), B-cell acute lymphoblastic leukemia (B-ALL) and multiple myeloma (MM).

Cellectis headquarters are in Paris, France, with additional 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 YouTube.

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statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Further information on the risk factors that may affect company business and financial performance is included in Cellectis' Annual Report on Form 20-F and the financial report (including the management report) for the year ended December 31, 2019 and subsequent filings Cellectis makes with the Securities Exchange Commission from time to time. 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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