PRESS RELEASE

# Cellectis Publishes a Scientific Article Unveiling Three Key Factors for Efficient TALE Base Editing

**New York, NY – June 20, 2024 –** Cellectis (the "Company") (Euronext Growth: ALCLS - NASDAQ: CLLS), a clinical-stage biotechnology company using its pioneering gene-editing platform to develop life-saving cell and gene therapies, announced today the publication of a manuscript in Scientific Reports, demonstrating how three key factors can be determinant for efficient TALE base editing.

TALE base editors are a recent and important addition to the gene editing landscape. By design, TALE base editors do not create break within DNA strands as does CRISPR/Cas9, or other engineered nucleases, and is a promising therapeutic strategy for genetic diseases. A key aspect to broaden the scope of possible applications is our comprehension of design rules.

TALE base editors rely on the deamination of cytidines within double strand DNA, leading to the formation of an uracil (U) intermediate. These molecular tools are fusions of transcription activator-like effector domains (TALE) for specific DNA sequence binding, split-DddA deaminase halves that will, upon catalytic domain reconstitution, initiate the conversion of a cytosine (C) to a thymine (T), and an uracil glycosylase inhibitor (UGI).

Previous works have pointed towards the positioning of targeted cytosine to be a key determinant for efficient editing.

To extend the understanding of key determining factors allowing efficient TALE base editing (C-to-T conversion), Cellectis investigated whether the nature (length and composition) of the linker that connects the TALE array with the split deaminase catalytic heads could impact C-to-T conversion within the editing window.

The datasets presented in this paper highlight how three key factors, spacer length, TALEB architecture and composition of the surrounding bases, can impact editing outcomes and further improve our understanding of TALE base editors' activity and specificity, leading to the possibility to tune and control editing using educated designs.

"This experimental strategy used by Cellectis to characterize editing profiles in depth and in a high throughput format could easily be applied to any new editors to continue expanding this platform for potential therapeutic applications" said Maria Feola, Scientist III, Manager, Gene Editing at Cellectis.

Research data specifically underlines the primordial importance of the positions preceding the targeted TC, which markedly increases editing efficiency.

The article is available on Scientific Reports website by clicking on this link:

https://www.nature.com/articles/s41598-024-63203-8

**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 24 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).

**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 "promising," "could," and "potential," 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, include statements about the potential benefit and potential development of the Company's research programs. 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. 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, 2023 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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