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

FORM 6-K

REPORT OF FOREIGN PRIVATE ISSUER PURSUANT TO RULE 13a-16 OR 15d-16 UNDER THE SECURITIES EXCHANGE ACT OF 1934

Date of Report: October 22, 2024

Commission File Number: 001-36891

Cellectis S.A. (Exact Name of registrant as specified in its charter)

> 8, rue de la Croix Jarry 75013 Paris, France +33 1 81 69 16 00 (Address of principal executive office)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F. Form 20-F [X] Form 40-F []

EXHIBIT INDEX

<u>Exhibit</u> <u>Title</u>

<u>99.1</u> <u>Press release, dated October 22, 2024</u>

SIGNATURES

Pursuant to the requirements 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.

Cellectis S.A. (Registrant)

Date: October 22, 2024

/s/ André Choulika André Choulika Chief Executive Officer

Cellectis to Present Data on TALE-Base Editors and Non-Viral Gene Therapy at the ESGCT 31st Annual Congress

NEW YORK, Oct. 22, 2024 (GLOBE NEWSWIRE) -- 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 that they will be showcasing pre-clinical data that permit the design of an efficient and specific TALE base editors (TALEB) as well as a process to enhance the efficacy of non-viral gene insertion in hematopoietic stem and progenitor cells (HSPCs) at the European Society of Cell and Gene Therapy 31st annual congress, that will take place on October 22-25, 2024, in Roma, Italy.

The data will be presented in two posters:

Controlling C-to-T editing with TALE base editors

Presenter: Alexandre Juillerat, Ph.D., Vice-President Gene Editing & NY Lab Head at Cellectis

Date/Time: Thursday, October 24 from 2:00pm to 3:30pm CET

Poster number: P0666

- TALE base editors (TALEB) are fusions of a transcription activator-like effector domain (TALE), split-DddA deaminase halves, and an uracil glycosylase inhibitor (UGI). The C-to-T class of TALEB edits double strand DNA by converting a cytosine (C) to a thymine (T) via the formation of an uracil intermediate.
- Cellectis recently developed a strategy that allows the comprehensive characterization of C-to-T conversion efficiencies within the editing window. This method also takes advantage of a highly precise and efficient TALEN®-mediated ssODN knock-in in primary T cells to assess how target composition and spacer variations affect TALEB activity/efficiency.
- The datasets obtained in this study enhanced our understanding of TALEB and permitted the design of efficient and specific tools that could be compatible with the potential development of therapeutic applications.

Circular Single-Stranded DNA Enables Efficient TALEN-Mediated Gene Insertion in Long Term HSC

Presenter: Julien Valton, Ph.D., Vice-President Gene Therapy at Cellectis

Date/Time: Thursday, October 24 from 2:00pm to 3:30pm CET

Poster number: P0585

- Non-viral alternatives such as linear single-stranded DNA (LssDNA) and circular single-stranded DNA (CssDNA) are emerging as promising options to vectorized DNA donor template for nuclease-mediated gene insertion in hematopoietic stem and progenitor cells (HSPCs) used for gene therapy applications.
- Capitalizing on its TALEN® technology, Cellectis has devised a gene editing process that incorporates non-viral DNA donor template delivery (LssDNA or CssDNA) to enhance gene insertion in HSPCs.
- The circularization of ssDNA increases gene insertion rates in long term HSCs and has the potential to enhance their engraftment capacity in preclinical murine model, thereby to facilitate the advancement of next-generation cell therapies. This research marks a crucial step towards enhancing the efficacy of non-viral gene therapy.

The posters will be published on Cellectis' website after the presentations.

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 25 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).

To find out more, visit our website: www.cellectis.com

Follow Cellectis on social networks @cellectis on LinkedIn and X (formerly Twitter)

TALEN® is a registered trademark owned by Cellectis.

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 "will", "could", "potential", "has the potential to" and emerging 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 of our research programs, including without limitation the TALEB and TALEN technologies. 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.

For further information on Cellectis, please contact:

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Attachment

• PRESS RELEASE-ESGCT_POSTERS (https://ml.globenewswire.com/Resource/Download/f21c5e33-b0ce-4d8c-99a9-7e395f45828c)