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

For the month of November 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

Exhibit <u>Title</u>

99.1 Press Release, dated November 5, 2024

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: November 5, 2024

/s/ André Choulika
André Choulika
Chief Executive Officer

Cellectis Presents Multiple Strategies to Enhance CAR T-cell Efficacy in Solid Tumors at the SITC Annual Meeting

NEW YORK, Nov. 05, 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 pre-clinical data to enhance CAR T cell activity against solid tumors while preventing potential toxicity, will be presented at the Society for Immunotherapy of Cancer's 39th Annual Meeting (SITC), that will take place on November 6-10, 2024 in Houston, Texas.

The data will be presented in a poster:

Title: Breaking barriers in solid tumors with SMART allogeneic CAR T-cells

Date / Time: November 9th, 2024 from 9:00am to 8:30pm ET

Presenter: Beatriz Aranda-Orgilles, Associate Director, Immuno Oncology at Cellectis

Poster number: 254

Despite the success of CAR T-cell therapies treating blood cancers, these cutting-edge technologies continue to face obstacles in solid tumors. A main barrier is the hostile tumor microenvironment (TME), which forms an immunosuppressive barrier and restricts T-cell infiltration into the tumor. Other contributing causes such as tumor antigen diversity or low expression of CAR-targeted tumor-associated antigens (TAA) in normal tissues can lead to antigen escape or on-target off-tumor toxicity, respectively. These factors can lead to relapse and pose a challenge for therapeutic safety.

Cellectis presents several strategies using TALEN®-mediated gene editing to generate allogeneic CAR T-cells while repurposing PD-1 function with tightly regulated functionalities, with the objective to increase efficacy and avoid potential toxicities in solid tumors.

Using *in vitro* and *in vivo* techniques, we show that TME-induced FAP-dependent expression of CAR tethers cytotoxic activity to the tumor area and can minimize potential "on-target off-tumor" toxicities. In a parallel approach, we integrate IL-12 into PD-1 regulatory elements to confine IL-12 to the TME and inactivate TGFBR2 to overcome TGFB1-mediated resistance. This strategy enhances proliferation and infiltration of CAR T-cells, while reducing tumor burden and limiting side effects.

Overall, our data show the potential of repurposing immune pathways to create armored allogeneic CAR T-cells with enhanced activity in immunosuppressive microenvironments while minimizing potential safety issues. These approaches have the potential to provide a therapeutic option for patients with solid malignancies.

The poster is available on Cellectis website

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 "can", "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. 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

• SITC_2024_abstract released_PR (https://ml.globenewswire.com/Resource/Download/ba1eea50-e68a-481e-bf48-9bdd040946cd)