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 October 2023

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	Title
99.1	Press Release dated October 12, 2023

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 12, 2023

/s/ André Choulika
André Choulika
Chief Executive Officer

EXHIBIT 99.1

Cellectis and Imagine Institute Publish A Proof-Of-Concept Study of a Gene Surgery Candidate to Treat Activated Phosphoinositide 3-Kinase Δ Syndrome Type 1 (APDS1)

NEW YORK, Oct. 12, 2023 (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 the publication of a new research paper in *Molecular Therapy – Methods & Clinical Development*, demonstrating the efficacy of its TALEN-mediated gene correction of mutated *PIK3CD* gene in APDS1 T-cells.

The research work described in this article was jointly conducted by Imagine Institute and Cellectis teams.

About APDS1:

Activated phosphoinositide 3-kinase δ syndrome (also known as APDS type 1 or APDS1) is a rare but devastating disease caused by gain-of-function mutations in the *PIK3CD* gene and resulting in a combined immunodeficiency.

Approved treatments for APDS1 consist in prophylactic measures including long term antibiotics and Ig (immunoglobulin) replacement therapy.

Allogeneic hematopoietic stem/progenitor cell (HSPC) transplantation has been proposed as a definitive treatment for APDS1. However, the lack of compatible donor as well as graft failure, graft instability, and poor graft function are still major challenges that must be overcome to reach a positive therapeutic outcome. Thus, so far there are neither optimal nor long-term therapeutic solutions for APDS1 patients and new alternative treatments are highly regarded.

The study published here aims at exploring an alternative therapeutic strategy by correcting the mutated *PIK3CD* gene associated to APDS1 by gene editing. This article describes a TALEN®-mediated gene insertion strategy that allows targeted correction of the dominant gain-of-function mutation of the *PIK3CD* gene by insertion of a functional sequence in a precise manner. Results show efficient gene insertion in APDS1 patients' T-cells, normalization of PI3K signaling and rescue of T-cell cytotoxic functions.

Preclinical results demonstrated that:

- The *PIK3CD* gene can be efficiently corrected by TALEN®-mediated gene insertion of the functional *PIK3CD* DNA sequence vectorized by AAV, in healthy donor and APDS1 patient T-cells.
- TALEN®-mediated *PIK3CD* gene correction rescues PI3K signaling in APDS1 patient T-cells.
- TALEN®-mediated *PIK3CD* gene correction normalizes the transcriptomic status of APDS1 patient CD8+ T-cells and rescues their cytolytic activity.

In summary, we demonstrate that the *PIK3CD* dominant gain of function mutation associated to APDS1 can be successfully corrected in APDS1 patient T-cells using TALEN® gene editing and AAV-based DNA repair matrix. This correction rescues the cytolytic function of APDS1 T-cells, normalizes their intracellular phospho-AKT levels found at basal and at activated states as well as the transcriptomic signature of certain genes involve in T-cells' cytolytic function, activation, and fitness.

"This successful demonstration of *PIK3CD* gene correction warrants the development of a gene therapy approach to treat p110δ dysregulations in a long-term fashion. This proof-of-concept study paves the way for the future development of a *bona fide* gene surgery candidate to potentially cure APDS1" said Julien Valton, Ph.D., Vice President Gene Therapy at Cellectis.

Rescuing the Cytolytic Function of APDS1 Patient T-cells via TALEN-mediated PIK3CD Gene Correction

Poggi L.[1,2], Chentout L.[1,2,] Lizot S.[3], Boyne A. [4], Juillerat A.[4], Moiani A.[3], Luka M.[5,6], Carbone. F [5,6], Ménager M M. [5,6], Cavazzana M.[1,7], Duchateau P.[4], Valton J.[3]*, Kracker S.[1,2]*

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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 23 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 "anticipate," "expect," "plan," "could" 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, include statements about the potential benefit and potential development of the Company's preclinical product candidates. 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, 2022 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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Attachment

- APDS1_scientific_article_PR_ENGLISH_VF.pdf (https://ml.globenewswire.com/Resource/Download/4521dc3e-1fc7-44bd-af31-fc7ef17aaadf)