PRESS RELEASE

Cellectis Announces Poster Presentation on BALLI-01 at the European Hematology Association (EHA) 2023

- *BALLI-01 (evaluating UCART22) abstract demonstrates safety and preliminary efficacy of UCART22 in heavily pretreated r/r B-ALL population*

New York, NY – May 11, 2023 - 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, today announced the release of an abstract, which was accepted for presentation at the European Hematology Association (EHA) Hybrid Congress, taking place on June 8-15, 2023 in Frankfurt, Germany.

Cellectis will present, in a poster session, updated clinical and translational data on its BALLI-01 clinical trial (evaluating UCART22) in patients with relapsed/refractory B-cell acute lymphoblastic Leukemia (r/r B-ALL).

"Cellectis is excited to present updated clinical and translational data from its BALLI-01 clinical trial (evaluating UCART22) in patients with relapsed/refractory B-cell acute lymphoblastic leukemia. These data are very encouraging for patients who have limited, if any, treatment options, especially for those who have failed prior CD19 directed CAR T-cell therapy and allogeneic stem cell transplant" said Mark Frattini, M.D., Ph.D., Chief Medical Officer at Cellectis.

Poster Presentation:

BALLI-01 investigation UCART22 product candidate in r/r B-ALL

The abstract includes preliminary clinical data from the Phase 1/2a, open label dose-escalation BALLI-01, in patients with r/r B-ALL having received UCART22 following lymphodepletion (LD) with either fludarabine, cyclophosphamide (FC) or FC with alemtuzumab (FCA).

The data show that UCART22 was well tolerated and clinical responses were achieved. UCART22 continues to have a good safety profile, with no serious treatment emergent adverse events (TEAEs) or DLTs reported. Overall, these data support the safety and preliminary efficacy of UCART22 in a heavily pretreated r/r B-ALL population.

UCART22 is a genetically modified allogeneic T-cell product manufactured from healthy donor cells. Donor-derived T-cells are transduced using a lentiviral vector to express the anti-CD22 chimeric antigen receptor (CAR) and are further modified using Cellectis' TALEN® technology to disrupt the T-cell receptor alpha constant (TRAC) and CD52 genes to minimize risk of graft-vs-host disease (GvHD) and allow use of an anti-CD52 antibody for lymphodepletion (LD).

Presentation Details:

Title: Updated Results of the Phase I BALLI-01 Trial of UCART22, an Anti-CD22 Allogeneic CAR-T Cell Product, in Patients with Relapsed or Refractory (R/R) CD22+ B-Cell Acute Lymphoblastic Leukemia (B-ALL)

Presenter: Nicolas Boissel, M.D., Ph.D., Hôpital St Louis, Assistance Publique – Hôpitaux de Paris, Paris, France

Abstract and logistic details are available on www.ehaweb.org

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). For more information, visit www.cellectis.com. Follow Cellectis on social media: @cellectis, LinkedIn and YouTube

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," "believe," "intend", "expect," "plan," "scheduled," "could," "would" 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. Forward-looking statements include statements about the timing of our presentation of clinical and translational data, the advancement, timing and progress of clinical trials (including with respect to patient enrollment and follow-up), the adequacy and continuity of supply of clinical supply and alemtuzumab, the ability of an anti-CD52 as alemtuzumab to improve any efficacy and the potential benefit of UCART 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. With respect to our cash runway, our operating plans, including product development plans, may change as a result of various factors, including factors currently unknown to us. 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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