PRESS RELEASE

Cellectis Announces Strategic Transformation To *In Vivo* Gene Editing Company

- *Cellectis to advance two lead in vivo programs .HEAL-101 and .HEAL-201 in severe dyslipidemias with preliminary Phase 1 data planned in H2 2027 and H1 2028, respectively*
- *Transformation supported by continuing existing cell therapy partnerships while exiting lasme-cel and eti-cel development*
- *Realignment of the operating model targeting Cellectis cash runway extension into H2 2028*
- *Conference call and webcast on September 14: English at 8 a.m. ET, French at 9 a.m. ET*

New York, NY – September 14, 2026, at 2:40 a.m. ET – Cellectis (the "Company") (Euronext Growth: ALCLS – NASDAQ: CLLS), a pioneer in gene editing, announced that on September 11, 2026, the board of directors approved a strategic transformation to become an *in vivo* gene editing company focused on developing long-lasting treatments for chronic diseases.

A differentiated *in vivo* Gene Editing pipeline

The Company's strategic transformation builds on the achievement of promising preclinical proof-of-concept for its lead candidate programs, .HEAL-101 and .HEAL-201. .HEAL-101 is an *in vivo* base editing product candidate targeting *APOC3* for severe hypertriglyceridemia and .HEAL-201 is an *in vivo* epigenetic editing product candidate targeting *PCSK9* for severe hypercholesterolemia.

.HEAL-101

- Severe hypertriglyceridemia (sHTG) remains a significant unmet medical need, with affected patients facing a high risk of acute pancreatitis, an increased burden of cardiovascular disease, and limited treatment options. .HEAL-101 is being developed for patients with high-risk sHTG, including those with triglyceride levels ≥880 mg/dL or ≥500 mg/dL with a history of acute pancreatitis, representing an estimated target population of approximately 1 to 2 million patients across the United States and Europe.
- .HEAL-101 targets the human *APOC3* gene, a well-validated target for sHTG, via a TALE-base editor specific to the *APOC3* gene ("APOC3 TALEB") formulated in Lipid Nanoparticles (LNP).

- The APOC3 TALEB displayed high on-site base editing activity when transfected as mRNA in a hepatic cell line (mean base editing >70%) and base editing translated into a deep and significant reduction of APOC3 protein secretion (mean reduction >70%). APOC3 TALEB displayed a highly specific base editing profile using an unbiased, genome wide off-site identification method.

- Intravenous injection of .HEAL-101 in a liver humanized normolipidemic murine model successfully edited human *APOC3* (mean on-site base editing ~55%) and decreased plasmatic APOC3 levels (mean decrease ~60%; up to 70%), associated with a decrease of circulating triglycerides (mean decrease ~45%; up to 68% with respect to pre-treatment baseline). It did not significantly increase the level of liver ALT (alanine aminotransferase) compared to untreated control.

- Intravenous injection of .HEAL-101 in a hypertriglyceridemic humanized *APOC3* transgenic murine model significantly decreased plasmatic APOC3 levels (mean decrease ~70%) and triglyceride levels (means decrease ~76%) compared to pre-treatment baseline, demonstrating the efficacy of .HEAL-101 in a relevant disease model.

- The Company plans to initiate a Phase 1 investigator-initiated trial (IIT) in China and share the preliminary clinical data from this program in H2 2027.

.HEAL-201

- Severe hypercholesterolemia remains a major driver of atherosclerotic cardiovascular disease, with many high-risk patients continuing to experience elevated low-density lipoprotein cholesterol (LDL-C) levels despite currently available therapies. This burden is particularly significant among younger high-risk patients with severe genetic forms of hypercholesterolemia and those with premature cardiovascular disease, representing an estimated 1 to 2 million patients across the United States and Europe. .HEAL-201 is being developed to address the needs of these high-risk patient populations.

- .HEAL-201 targets the human *PCSK9* gene, a well-validated target for severe hypercholesterolemia, via a TALE-epigenetic modulator specific to the promoter of *PCSK9* (“PCSK9 TALEM”) formulated in LNP to treat severe hypercholesterolemia.

- The *PCSK9* TALEM displayed a high on-site epigenome editing activity when transfected as mRNA in a hepatic cell line (mean base editing >90%). Epigenome editing translates into a stable, deep and significant reduction of *PCSK9* transcript levels and PCSK9 secretion without evidence for off-site gene and protein modulation.

- Intravenous injection of PCSK9 TALEM mRNA LNPs in a liver humanized murine model, successfully decreased plasmatic levels of PCSK9 (mean >90%).

- The Company plans to initiate a Phase 1 IIT in China and share the preliminary clinical data from this program in H1 2028.

Cellectis' differentiated gene editing platform

Cellectis' core competencies encompass nuclease editing, base editing, epigenetic editing and transcriptional regulation. While most gene editing companies focus on a single editing modality, Cellectis' broad gene editing toolbox built over a quarter century allows for a combination of therapeutic targets utilizing several gene editing modalities.

André Choulika, Ph.D., Co-Founder and Chief Executive Officer of Cellectis, commented: "Gene surgery has the potential to transform the treatment of high-risk metabolic diseases by delivering long-lasting benefits through a single IV injection. Our decision to focus Cellectis on *in vivo* Gene Editing reflects the progress we have made with .HEAL-101 and .HEAL-201 and our assessment of where our gene editing capabilities can be most effectively deployed. These programs use two distinct approaches from our platform, base editing of *APOC3* and epigenetic editing of *PCSK9*, which are designed to provide highly specific genomic or epigenomic modulation with the goal of avoiding double-strand DNA breaks. They have generated encouraging preclinical proof-of-concept and our priority is now to advance both programs toward the clinic and generate first-in-human data."

Lasme-cel and eti-cel

In 2026, despite our continued conviction in the promise of allogeneic CAR T-cell therapies and strong physician interest in lasme-cel and eti-cel, the commercial and clinical landscape for B-ALL and NHL changed materially. Continued and recently accelerated advances in frontline treatment regimens have lowered relapse rates, reducing the number of patients progressing to later lines of therapy. Concurrently, the rapid emergence of bispecific antibodies and *in vivo* CAR-T approaches has intensified competition in second and third-line treatment settings. Together, these dynamics have reduced the addressable patient population for lasme-cel and eti-cel, resulting in slower enrollment, a potentially longer and more costly development pathway, and therefore a delayed timeline to potential registration. We believe these trends are likely to continue and further constrain the commercial opportunity for both product candidates.

After a thorough assessment of the evolving therapeutic landscape and strategic review, the Company has determined that the most effective use of its financial and operational resources is to focus on and accelerate the advancement of its most promising *in vivo* gene editing assets. Cellectis will therefore exit the development of lasme-cel and eti-cel, while seeking strategic partnering opportunities to maximize their value.

Operational realignment to the new strategic direction

The Company will realign its organization[1] and resources to focus on its *in vivo* Gene Editing pipeline and support its existing cell therapy partnerships with AstraZeneca, Allogene, Servier and Iovance. These combined actions are being designed to extend the Company's cash runway

[1] Subject to the completion of the relevant works council consultation process and applicable US & French labor law requirements.

into H2 2028[2], providing financial flexibility to advance Cellectis' *in vivo* Gene Editing pipeline through key development milestones.

Conference Call

The Cellectis management team will host a conference call and webcast on September 14, 2026:

- **English-language at 8:00 a.m. ET**.
  Webcast link:
  https://viavid.webcasts.com/starthere.jsp?ei=1775356&tp_key=7d1d05c480
  Phone number: +1-800-717-1738 or +1-646-307-1865

- **French-language at 9:00 a.m. ET.**
  Webcast link:
  https://viavid.webcasts.com/starthere.jsp?ei=1775361&tp_key=2968b7b0ca
  Phone number: +1-800-717-1738 or +1-646-307-1865

A replay will be available on the Company's website, under the Investors section "Events & Webcasts" following the event.

In this context, the trading of Cellectis' ordinary shares on the regulated market of Euronext Growth market of Euronext Paris will be temporarily halted, at the Company's request, on Monday September 14, 2026 from the opening of the market at 9:00 a.m. CET until the opening of the Nasdaq Global Market at 3:30 p.m. CET.

About Cellectis

Cellectis is a genome engineering company developing genetic medicines for diseases that today demand a lifetime of treatment. Leveraging decades of expertise in programmable DNA-binding proteins, the Company has built a differentiated genome engineering platform spanning gene editing, base editing, epigenetic editing and transcriptional regulation. By delivering the genomic intervention each disease requires, Cellectis is advancing a new generation of genetic medicines designed to move beyond disease management and toward lasting therapeutic impact.

Cellectis' headquarters are in Paris, France, with locations in New York, and Raleigh (NC). Cellectis is listed on the Nasdaq Global Market (ticker: CLLS) and on Euronext Growth (ticker: ALCLS). To find out more, visit www.cellectis.com and follow Cellectis on LinkedIn and X.

Cautionary Statement

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 "believe," "can," "design", "encouraging," "expect", "into", "moving forward", "plan", "potential", "promising," "target", "will", or similar expressions and/or the negative of these. These forward-looking statements are based on our management's current expectations and assumptions and on information currently available to management.

[2] Excluding any impact from the potential future partnering of lasme-cel and/or eti-cel.

Forward-looking statements in this press release include statements regarding the Company's transition into an in vivo gene editing company, the ability of the Company to initiate a IIT in China, the planned timing for the release of first-in-human data for the Company's lead programs, the potential for success of the Company's in vivo gene editing programs, the ability to continue advancement of cell therapy activities through existing partnerships, the ability to partner lasme-cel and/or eti-cel, the anticipated impact, including potential cost savings, of the Company's decision to cease the development of lasme-cel and eti-cel and to initiate a restructuring plan, the contemplated implementation of headcount reductions and other cost-savings initiatives and their planned timeframe, and the targeted extension of the Company's cash runway. Actual results, performance or events may differ materially from those projected in any forward-looking statement. Many important factors may adversely affect such forward-looking statements and cause actual results to differ from those in any forward-looking statement, including, without limitation, uncertainties inherent in the initiation and completion of preclinical and clinical studies; the availability and timing of results from studies, once initiated; the acceptance by global regulatory agencies of data generated from IIT in China; the potential that pre-clinical animal model data may not translate into further preclinical development or clinical setting; promising preclinical data not yielding positive further preclinical data or clinical results; the performance of the IIT in China, changes in the competitive landscape for in vivo gene editing products; expectations for regulatory approvals to conduct clinical trials; availability of funding sufficient for the Company's foreseeable and unforeseeable operating expenses and capital expenditure requirements; and impacts of the Company's headcount reductions and other cost savings initiatives, which may include operational and strategic challenges. 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 as amended and in our annual financial report (including the management report) for the year ended December 31, 2025 and subsequent filings Cellectis makes with the Securities Exchange Commission from time to time, which are available on the SEC's website at www.sec.gov, 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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