PRESS RELEASE

Cellectis' UCART123 Administered to First Patient with BPDCN in Phase I Clinical Trial at MD Anderson Cancer Center

UCART123 is First U.S. Gene Edited, Off-the-Shelf CAR T-Cell Program

August 17, 2017 – New York (N.Y.) – Cellectis (Alternext: ALCLS; Nasdaq: CLLS), a clinical-stage biopharmaceutical company focused on developing immunotherapies based on gene-edited CAR T-cells (UCART), announced today that the first patient with Blastic Plasmacytoid Dendritic Cell Neoplasm (BPDCN) has been dosed in Cellectis' Phase I clinical study using the Company's wholly controlled TALEN® gene edited product candidate UCART123 at the MD Anderson Cancer Center. UCART123 is the first allogeneic, "off-the-shelf" gene edited CAR T-cell product candidate targeting CD123 to be investigated in U.S. clinical trials.

The UCART123 clinical program for BPDCN is led by Dr. Naveen Pemmaraju, MD, Assistant Professor, Professor Marina Konopleva MD, PhD, and Professor Hagop Kantarjian, MD, Department Chair, Department of Leukemia, Division of Cancer Medicine, at the MD Anderson Cancer Center.

The clinical trial will investigate the safety and efficacy of UCART123 in patients with BPDCN in the relapsed, refractory and front-line setting. BPDCN is a rare and aggressive hematological malignancy classified in the myeloid diseases among the acute leukemias that are derived from plasmacytoid dendritic cell precursors. It is a bone marrow disease that also often affects skin and lymph nodes.

Given its rarity and recent recognition as a distinct clinicopathological entity, no standardized therapeutic approach has been established for BPDCN, and the optimal therapy remains to be defined. Although transient responses are achieved by combination chemotherapy regimens that are used to treat acute leukemia or lymphoma, most patients relapse with the drug-resistant disease.

"We are eager to progress through clinical trials with UCART123, Cellectis' wholly controlled gene-edited product candidate, next with the treatment of BPDCN, rare but aggressive entity," said Dr. Loan Hoang-Sayag, Cellectis' Chief Medical Officer. "With this innovative treatment, the hope is that our "off-the-shelf" approach will transform the way we think about cancer care and serve as the next step in curing this disease through the power of gene editing."

About Cellectis

Cellectis is a clinical-stage biopharmaceutical company focused on developing a new generation of cancer immunotherapies based on gene-edited T-cells (UCART). By

capitalizing on its 17 years of expertise in gene editing – built on its flagship TALEN® technology and pioneering electroporation system PulseAgile – Cellectis uses the power of the immune system to target and eradicate cancer cells.
Using its life-science-focused, pioneering genome engineering technologies, Cellectis' goal is to create innovative products in multiple fields and with various target markets.
Cellectis is listed on the Nasdaq market (ticker: CLLS) and on the NYSE Alternext market (ticker: ALCLS). To find out more about us, visit our website: www.cellectis.com

Talking about gene editing? We do it. TALEN® is a registered trademark owned by the Cellectis Group.

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This press release contains "forward-looking" statements that are based on our management's current expectations and assumptions and on information currently available to management. Forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. The risks and uncertainties include, but are not limited to, the risk that the preliminary results from our product candidates will not continue or be repeated, the risk of not maintaining regulatory approval to pursue UCART123 clinical trials, the risk of not obtaining regulatory approvals to commence clinical studies on UCART123 in other countries or on other UCART product candidates, the risk that any one or more of our product candidates will not be successfully developed and commercialized. Further information on the risks factors that may affect company business and financial performance, is included in filings Cellectis makes with the Security Exchange Commission from time to time and its financial reports. Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to update the reasons 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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