

PRESS RELEASE

Cellectis Reports Clinical Hold of UCART123 Studies

September 4, 2017 – New York (N.Y.) – Cellectis (Alternext: ALCLS - Nasdaq: CLLS) a clinical-stage biopharmaceutical company focused on developing immunotherapies based on gene-edited allogeneic CAR T-cells (UCART), announced today having received notice from the U.S. Food and Drug Administration (FDA) that a clinical hold was placed on both UCART123 ongoing Phase 1 studies, respectively in acute myeloid leukemia (AML) and in blastic plasmacytoid dendritic cell neoplasm (BPDCN).

Cellectis is working closely with the investigators and the FDA in order to resume the trials with an amended protocol including a lowered dosing of UCART123.

The clinical hold was initiated after Cellectis reported one fatality in the BPDCN clinical trial (ABC study). This was the first patient treated in the BPDCN study, a 78-year-old male treated with one prior therapy, who presented with relapsed/refractory BPDCN with 30% blasts in his bone marrow and cutaneous lesions (biopsy-proven BPDCN) at baseline prior to conditioning regimen. He received 30mg/m²/day fludarabine for 4 days and 1g/m²/day cyclophosphamide for 3 days, as a preconditioning regimen. On August 16, 2017 (Day 0), he received 6.25x10⁵ UCART123 cells per kilogram, the first dose level explored in the protocol, without complication. At Day 5, the patient experienced a grade 2 Cytokine Release Syndrome (CRS)¹, and a grade 3 lung infection, which quickly improved after a first dose of tocilizumab and institution of anti-infective therapy (broad spectrum intravenous antibiotics). He then experienced at Day 8 a grade 5 CRS, together with a grade 4 Capillary Leak Syndrome². Despite a treatment in keeping with CRS management including administration of corticosteroids and tociluzumab x 2 as well as intensive care unit support, the patient died on Day 9.

The first patient treated in the AML study was a 58-year-old woman, with 84% blasts in her bone marrow at baseline prior to conditioning regimen. On June 27, 2017 (Day 0), the patient received the same preconditioning regimen and the same dose of UCART123 as the BPDCN patient, without complication. She experienced an initial grade 2 CRS at Day 8, worsening to a grade 3 at Day 9 and resolving at Day 11 with

¹ Cytokine release syndrome is an immediate complication occurring with the use of anti-T-cell antibody infusions. Severe cases are known as cytokine storms. CRS is characterized clinically by hypothermia or fever, rigors, hypotension, rash, dyspnea and occasionally bronchospasm, nausea and diarrhea. These side effects develop soon after the administration of the agent and can last for several hours. Severe and even fatal reactions associated with pulmonary edema and hepatitis have been described.

² Capillary leak syndrome is characterized by the escape of blood plasma through capillary walls, from the blood circulatory system to surrounding tissues, muscle compartments, organs or body cavities.

treatment management in intensive care unit. She also experienced a grade 4 Capillary Leak Syndrome at Day 9, resolved at Day 12.

No GvHD³ was reported for any of these patients.

The DSMB (Data Safety Monitoring Board) met on August 28 and recommended lowering the dose to 6.25x10⁴ UCART123 cells per kilogram in both studies and capping cyclophosphamide to a total dose of 4g over 3 days.

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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³ GvHD: Graft versus Host Disease

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.