

PRESS RELEASE

Cellectis Announces Promising Study on Next Generation Engineered Allogeneic CAR T-cells

Publication in *Molecular Therapy*, a Nature Publishing Group Journal

New York, June 10, 2015 – Cellectis (Alternext: ALCLS – Nasdaq Global Market: CLLS), the gene-editing company employing proprietary technologies to develop best-in-class CAR T-cell products in adoptive immunotherapy for cancer, today announced the publication of a study in *Molecular Therapy,* a Nature Publishing Group Journal, describing the development of the next generation of engineered CAR T-cells compatible with allogeneic adoptive transfer immunotherapy.

Study Highlights

- The adoptive transfer of allogeneic CAR T-cells represents a promising strategy to fight multiple cancers worldwide.
- Cellectis has streamlined an engineering process to generate CAR T-cells that could be compatible with allogeneic adoptive transfer in combination with nucleoside analogues lymphodepleting drugs.

When allogeneic CAR T-cell infusion is considered, host versus graft and graft versus host reactions must be avoided to prevent rejection of adoptively transferred cells, host tissue damages and to elicit significant antitumoral outcome.

In this report, Julien Valton Ph.D. and his collaborators addressed these requirements by developing a multidrug resistant $TCR\alpha\beta$ -deficient CAR T-cell. This engineered T-cell displayed efficient antitumor activity and significant resistance to purine and pyrimidine nucleoside analogues, which are currently used clinically in preconditioning lymphodepleting regimens. Their properties could prevent their alloreactivity and enable control over engraftment in patients. In addition, they are compatible in combination therapy, an approach likely to improve clinical outcomes. By providing a basic framework to develop a universal T-cell compatible with allogeneic adoptive transfer, Cellectis is laying the foundation for the large-scale utilization of CAR T-cell immunotherapies.

Julien Valton, Ph.D. Innovation Senior Scientist

Dr. Julien Valton obtained his Ph.D. degree at Université Joseph Fourier in Grenoble (France) where he was trained as enzymologist. He then joined the Yale School of Medicine to apply his knowledge to therapeutic research, by investigating the mechanism of inhibition of receptor tyrosine kinases involved in the development of gastrointestinal cancer. In 2009, he moved a step further into the field of applied science by joining the R&D Department of Cellectis, where he actively participated to set, improve and use meganucleases and TALEN® for targeted gene therapy and genome engineering purposes. He is now part of the NYC based Cellectis, Inc.

A Multidrug Resistant Engineered CAR T-Cell for Allogeneic Combination Immunotherapy

Julien Valton, Valérie Guyot, Alan Marechal, Jean Marie Filhol, Alexandre Juillerat, Aymeric Duclert, Philippe Duchateau and Laurent Poirot http://dx.doi.org/10.1038/MT.2015.104

About Cellectis

Cellectis is a preclinical stage biopharmaceutical company focused on developing immunotherapies based on gene edited engineered CAR-T cells (UCART). The company's mission is to develop a new generation of cancer therapies based on engineered T-cells. Cellectis capitalizes on its 15 years of expertise in genome engineering - based on its flagship TALEN® products and meganucleases and pioneering electroporation PulseAgile technology - to create a new generation of immunotherapies. CAR technologies are designed to target surface antigens expressed on 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 S.A. is listed on the Nasdaq Global Market (ticker: CLLS) and on the NYSE Alternext market (ticker: ALCLS). To find out more about us, visit our website: www.cellectis.com

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