

FORWARD-LOOKING STATEMENTS

This presentation 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 that our clinical trials will not be successful. The risk of not obtaining regulatory approval to commence clinical trials on additional 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 risk factors that may affect company business and financial performance, is included in our annual report on form 20-F and the financial report (including the management report) for the year ended December 31, 2019 and subsequent filings Cellectis makes with the Securities and Exchange Commission from time to time.

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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WRITING THE HISTORY OF ALLOGENEIC CAR T-CELLS

20 years

of expertise in gene editing

8 years

of experience in allogeneic CAR-T manufacturing

6 clinical trials

ongoing as of 2020;

3 Cellectis-sponsored
3 partnered

INVENTORS / PIONEERS OF GENE EDITING & ALLOGENEIC CART-CELLS



In 2012...

Mission to develop allogeneic CAR T-cells begins

In 2015...

First-in-man compassionate use of an allogeneic CAR-T product candidate occurs



ADVANTAGES OF ALLOGENEIC VS. AUTOLOGOUS CAR-T

Manufacturing variability + several weeks before treatment is available **Autologous process:** CANCER **CANCER TREATMENT** MANUFACTURING INDIVIDUAL CAR-T **DECISION** PATIENT APHERESIS OF A SINGLE **THERAPY PATIENT PRODUCT** Allogeneic process: Consistent manufacturing + quality Immediate treatment TIME SAVED **COST EFFECTIVE HEALTHY DONOR SCALABLE** MASS PRODUCED MARKET ACCESS ALLOGENEIC CAR-T **CANCER TREATMENT** OFF-THE-SHELF **APHERESIS** MANUFACTURING OF 100+ **THERAPIES DECISION CAR-T THERAPY**



DOSES/BATCH

PARTNERSHIPS WITH INDUSTRY LEADERS

Up to \$3.2B in potential milestone payments plus royalties



Exclusive license to 15 allogeneic CAR T-Cell targets including UCARTBCMA / ALLO-715

Up To \$2.8B In Development & Sales Milestones

+ High Single-Digit Royalties on Sales



Exclusive license to CD19-directed allogeneic CAR T-Cells including UCART19 / ALLO-501 and ALLO-501A¹

Up To \$410M In Development & Sales Milestones

+ Low Double-Digit Royalties on Sales



Exclusive license agreement to use TALEN® technology to develop geneedited TILs

Undisclosed Development & Sales Milestones

+ Royalties on Sales



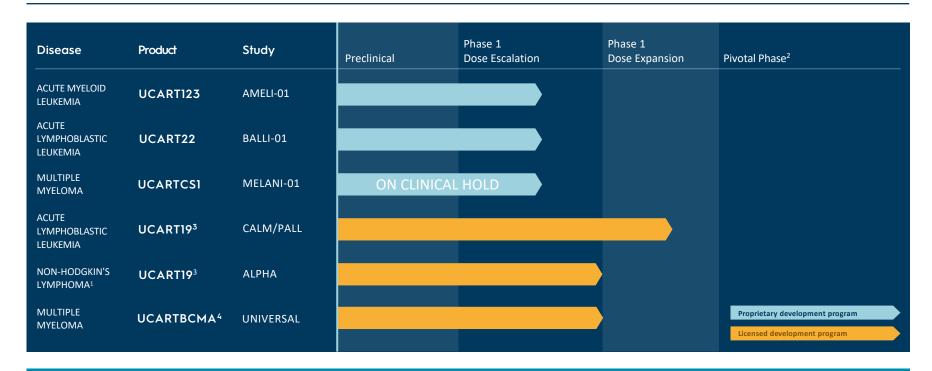
Equity Investor

6.56% ownership in Cellectis

As of June 30, 2020



PIPELINE: INNOVATIVE CANCER THERAPIES FOR UNMET NEEDS



Cellectis and its partners are also working on a number of other preclinical targets



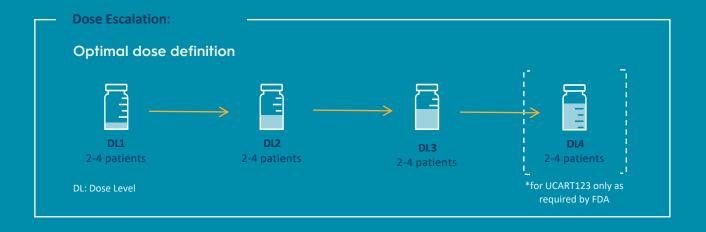
CLINICAL TRIAL: DESIGN OF PHASE 1 DOSE ESCALATION STUDIES

Primary Objectives:

Safety and Identification of Optimal Dose

Secondary Objectives:

Efficacy and Correlative Studies





ALLO-501*: CELLECTIS LICENSED ALLOGENEIC CAR-T

PHASE 1 dose escalation in R/R Non-Hodgkin Lymphoma



Safety - Primary Objective

Graft vs Host Disease

ICANS (Immune Effector Cell-Associated

Neurotoxicity Syndrome)

Grade 3 Cytokine Release Syndrome

9% Grade 3 Infection

Grade 3 Infusion Reaction

Efficacy – Secondary Objective

63% Overall Response Rate

37% Complete Response Rate

75% ORR in CAR-T naïve patients (N=16)

44% Complete Response Rate

Re-dosing one patient with ALLO-501 and ALLO-647 resulted in an ongoing CR

The ALPHA trial utilizes ALLO-647, Allogene's anti-CD52 monoclonal antibody as a part of its lymphodepletion regimen



Data Source: ASCO 2020 Conference Presentation

The ALPHA study targets Diffuse Large B-Cell Lymphoma (DLBCL) and Follicular Lymphoma (FL) indications, which are subtypes of NHL.

UCARTI9: FIRST CELLECTIS LICENSED ALLOGENEIC CAR-T

PHASE 1 dose escalation in R/R ALL

Safety - Primary Objective

Grade ≥2 skin Graft vs Host Disease

Grade 3-4 neurotoxicity

Grade 3-4 Cytokine Release Syndrome

Efficacy – Secondary Objective

82% CR/CRi rate with optimal lymphodepletion

67% overall CR/CRi rate

71% of these patients were MRD-

Re-dosing with UCART19 resulted in cell expansion and MRD- status in 2/3 patients



Peak expansion observed mostly at Day 14



UCART123 IN ACUTE MYELOID LEUKEMIA

AML Incidence Rates & Survival Data

19,940

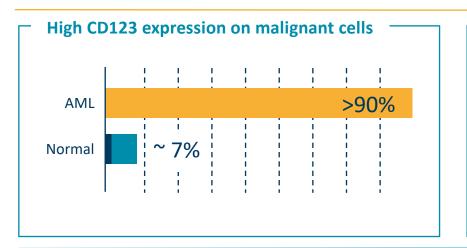
Estimated new cases of AML in the US for 2020

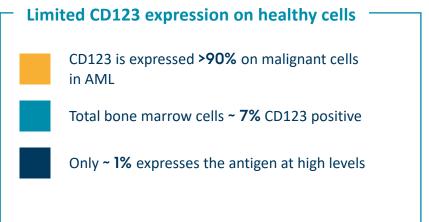


5-year OS in adults



5-year OS in adults >55 years old





Also expressed on BPDCN and Hodgkin's lymphoma

Cellectis Trial Recruitment Sites









UCART22 IN ACUTE LYMPHOBLASTIC LEUKEMIA

ALL Incidence Rates & Survival Data

6.150

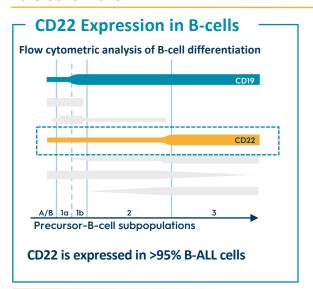
Estimated new cases of ALL in the US for 2020

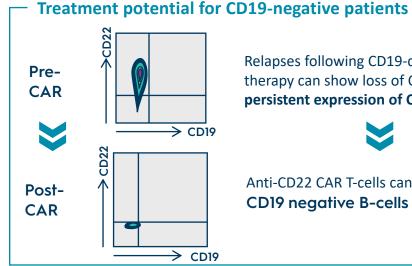
20%

5-year OS in adults

<6

Months median disease-free survival in R/R pediatric patients





Relapses following CD19-directed CAR T-cell therapy can show loss of CD19 antigen but persistent expression of CD22



Anti-CD22 CAR T-cells can induce remissions in CD19 negative B-cells









UCARTCSI IN MULTIPLE MYELOMA

MM Incidence Rates & Survival Data

32,270

Estimated new cases of MM in the US for 2020

43-83

Months is median OS for stages 2-3

50%

5-year OS in adults

High expression on malignant cells

>95%

expression in MM cells

→ CS1 expression is high and uniform on MM cells

Treatment alternative to BCMA-targeted therapies

- → Many BCMA-targeted cell therapies show relapses after 12-14 months of treatment
- → Elotuzumab, a CS1-targeting antibody, (in combination with lenalidomide and dexamethasone in R/R MM patients) shows:

5% CR rate and 45% partial remissions

Cellectis Trial Recruitment Sites

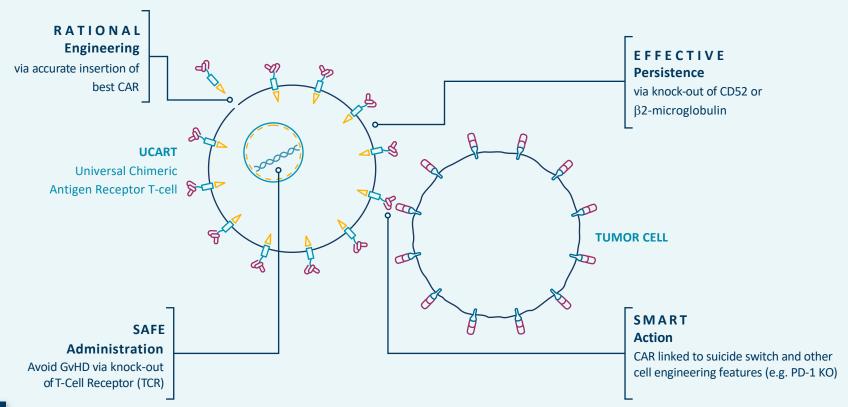








UCARTS - ALLOGENEIC CAR T-CELLS THROUGH PRECISION GENE EDITING



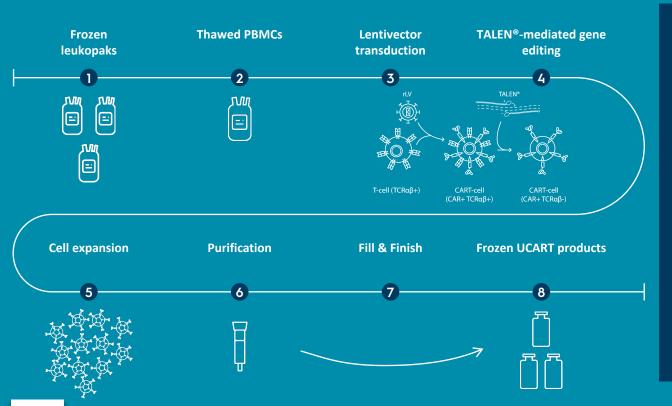


TALEN® GENE EDITING - ADVANTAGES

TALEN®:

Driven by protein/DNA interactions to work on potential off-Our nucleases act like DNA scissors to edit genes at precise target sites: site cleavage Releases DNA ends accessible to DNA repair mechanisms to perform gene insertions and corrections through homologous 16 RVDs recombination and gene inactivation through non-homologous end joining Over 20 years of building a strong patent portfolio with umbrella patents on gene editing A) Gene insertion or Knock-In (KI) B) Gene correction C) Gene inactivation or Knock-Out (KO) 96.8% Knock->65% Knock-In **Out Efficiency Efficiency** Require homologous recombination

UCART MANUFACTURING



- → 8 years of experience in allogeneic CAR-T manufacturing
- → Validated gene editing technology for cell manufacturing
- → 4 UCART product candidates manufactured so far
- → Full QC system in place
- → 3 wholly controlled product candidates cleared for 3 clinical trials by the U.S. FDA



IN-HOUSE MANUFACTURING

Raw materials



Clinical & Commercial UCART Product Candidates



14,000 sq ft. facility

Production of clinical starting materials

Operational "go-live" targeted in 2020

82,000 sq ft. facility

Production of clinical & commercial UCART product candidates

Operational "go-live" targeted in **2021**



THE CELLECTIS GROUP



~68.7%* ownership



NASDAQ: CLLS

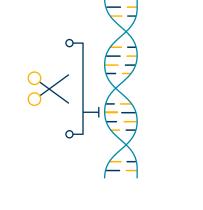
EURONEXT GROWTH: ALCLS

~\$282M** cash as of June 30, 2020

Expected to fund operations into 2022

Based in Paris, France, New York & Raleigh, USA

Patient focused



NASDAQ: CLXT

\$35M cash as of June 30, 2020

Cash Runway Extended into Fiscal Year 2022

Based in Minnesota, USA

Consumer focused

High value asset





MILESTONES

Proprietary clinical programs

UCARTCS1: Phase 1 R/R MM - currently on clinical hold; first patient dosed in Q4 2019

UCART22: Phase 1 in R/R ALL ongoing; first patient dosed in Q4 2019

UCART123: Phase 1 for R/R AML ongoing; New IND granted by FDA in Q3 2019 Partnered clinical programs

UCART19: Phase 1 in R/R ALL ongoing

UCART19 (ALLO-501/ALLO-501A): Phase 1 in R/R NHL ongoing, data presented at ASCO 2020; first patient dosed in H1 2019

UCARTBCMA (ALLO-715): Phase 1 in R/R MM ongoing, first patient dosed in H2 2019

Manufacturing

Ongoing construction of 2 in-house manufacturing plants:

Facility in Paris, France for raw material supply

Facility in Raleigh, North Carolina for GMP, commercial scale UCART manufacturing

EXPECTED MILESTONES IN 2020

Clinical programs

Provide interim clinical data on completed dose cohorts for proprietary and partnered programs at relevant scientific conferences

Manufacturing

Go-live with Paris facility

Construction complete for Raleigh facility



THANK YOU

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