
cellectis
EDITING LIFE
COMMITMENT TO A CURE
cellectis.com

# 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 other filings Cellectis makes with the securities and 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.

# 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 CAR T-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

## Autologous process:

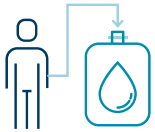
Manufacturing variability + several weeks before treatment is available

1. CANCER TREATMENT DECISION
2. CANCER PATIENT APHERESIS
3. MANUFACTURING OF A SINGLE PATIENT PRODUCT
4. INDIVIDUAL CAR-T THERAPY

## Allogeneic process:

Consistent manufacturing + quality

Immediate treatment



HEALTHY DONOR APHERESIS

SCALABLE MANUFACTURING OF 100+ DOSES/BATCH

MASS PRODUCED ALLOGENEIC CAR-T THERAPIES

1. CANCER TREATMENT DECISION
2. OFF-THE-SHELF CAR-T THERAPY

- TIME SAVED
- COST EFFECTIVE
- MARKET ACCESS

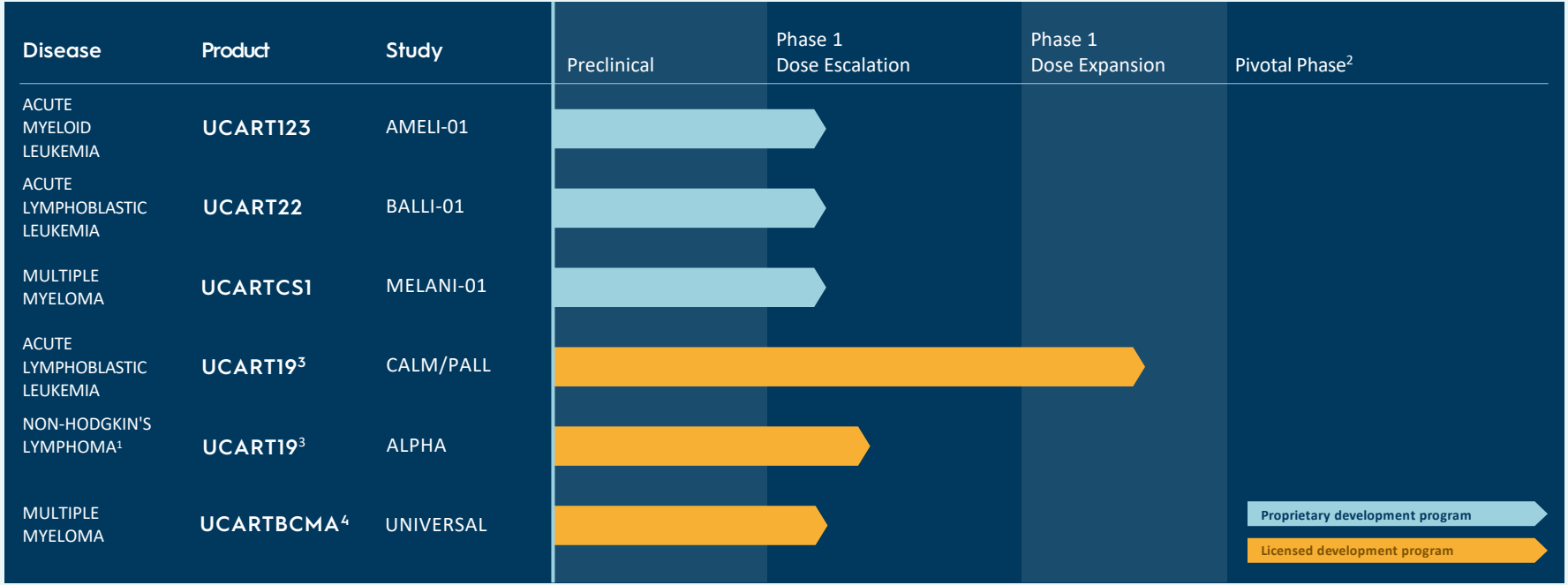
# PARTNERSHIPS WITH INDUSTRY LEADERS

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

| | | |
|---|---|---|
| Allogene THERAPEUTICS | **Exclusive license to 15 allogeneic CAR T-Cell Targets**<br>Including UCARTBCMA/ALLO-715[1] | **Up To $2.8B in Development & Sales Milestones**<br>+ High Single-Digit Royalties on Sales |
| SERVIER | **Exclusive license to CD19-directed allogeneic CAR T-Cells**<br>Including UCART19/ALLO-501 and ALLO-501A[2] | **Up To $410M in Development & Sales Milestones**<br>+ Low Double-Digit Royalties on Sales |
| IOVANCE BIOTHERAPEUTICS | **Exclusive license agreement to use TALEN® technology to develop gene-edited TILs** | Regulatory & Sales Milestones<br>+ Royalties on Sales |
| Pfizer | **Equity Investor** | **6.57% ownership in Cellectis**<br>As of December 31, 2019 |

[1]UCARTBCMA/ALLO-715 is exclusively licensed to Allogene from Servier.
[2]UCART19/ALLO-501 and ALLO-501A are exclusively licensed to Servier and under a joint clinical development program between Servier and Allogene.

# PIPELINE: INNOVATIVE CANCER THERAPIES FOR UNMET NEEDS



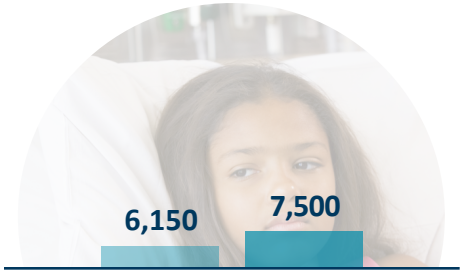

**Cellectis and its partners are also working on a number of other preclinical targets**

1 The ALPHA study targets Diffuse Large B-Cell Lymphoma (DLBCL) and Follicular Lymphoma (FL) indications, which are subtypes of HNL
2 We expect the pivotal phase to be the last clinical phase before commercialization
3UCART19/ALLO-501 is exclusively licensed to Servier and under a joint clinical development program between Servier and Allogene
4 UCARTBCMA/ALLO-715 is exclusively licensed to Allogene

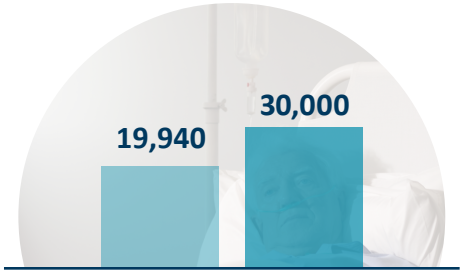
# PIPELINE TARGETS MULTIPLE UNMET NEEDS IN CANCER

## Estimated numbers of new cases in 2020

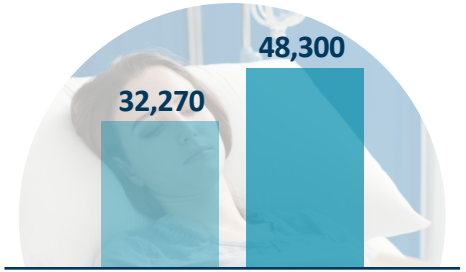
### ALL




### AML




### MM




## Survival data

**20%** 5-year OS* in adults

**<6 months** median disease-free survival in pediatric patients

**UCART22**

**27%** 5-year OS in adults

**6%** 5-year OS in adults >55 years old

**UCART123**

**50%** 5-year OS in adults

**43–83 months** median OS for stages 2-3

**UCARTCS1**

* Overall Survival

# CLINICAL TRIAL: DESIGN OF PHASE 1 STUDIES (DOSE FINDING)

**Primary Objectives:**

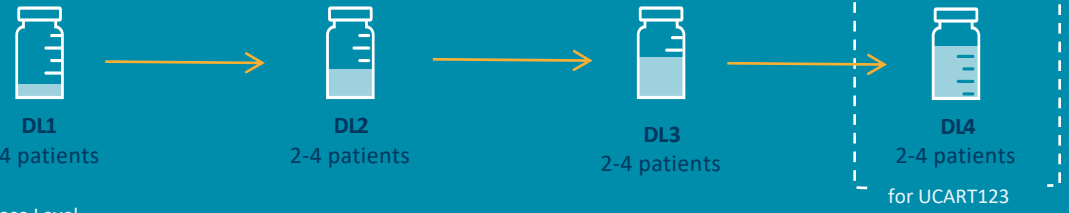
## Safety and Identification of Optimal Dose

**Secondary Objectives:**

## Efficacy and Correlative Studies

**Dose Escalation:**

Optimal dose definition




DL: Dose Level

# UCART19: PROOF OF CONCEPT / FIRST ALLOGENEIC CAR-T


## Safety – Primary Objective

**0%** Grade ≥2 skin Graft vs Host Disease

**0%** Grade 3-4 neurotoxicity

**14%** 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

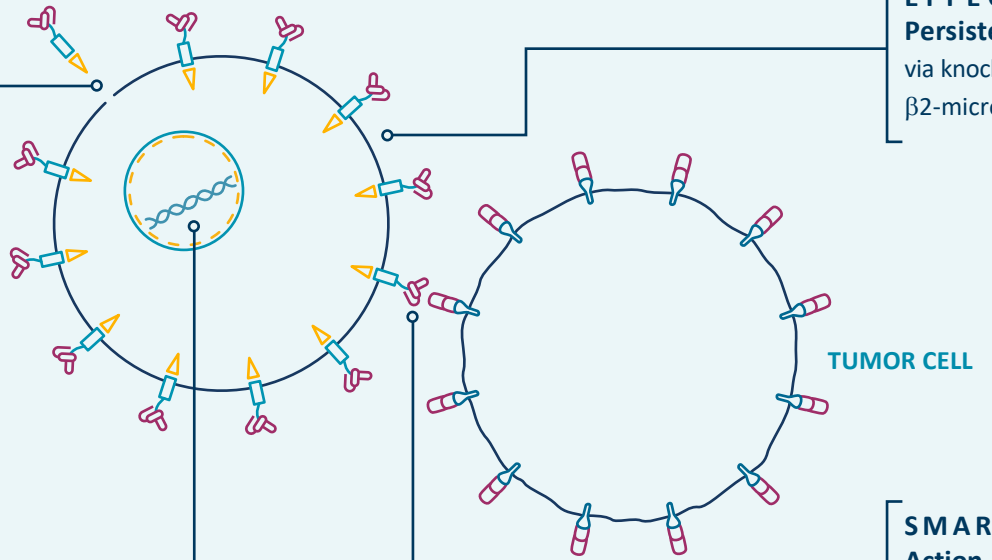
Please note: this slide contains pooled data.
UCART19 is exclusively licensed to Servier and under a joint clinical development program between Servier and Allogene.
Lymphodepletion regimen consisting of fludarabine, cyclophosphamide and an anti-CD52 mAb.

# UCARTs – ALLOGENEIC CAR T-CELLS THROUGH PRECISION GENE EDITING

**RATIONAL**
**Engineering**
via accurate insertion of best CAR

**EFFECTIVE**
**Persistence**
via knock-out of CD52 or β2-microglobulin

**UCART**
Universal Chimeric Antigen Receptor T-cell




**SAFE**
**Administration**
Avoid GvHD via knock-out of T-Cell Receptor (TCR)

**SMART**
**Action**
CAR linked to suicide switch and other cell engineering features (e.g. PD-1 KO)

# TALEN® GENE EDITING – ADVANTAGES

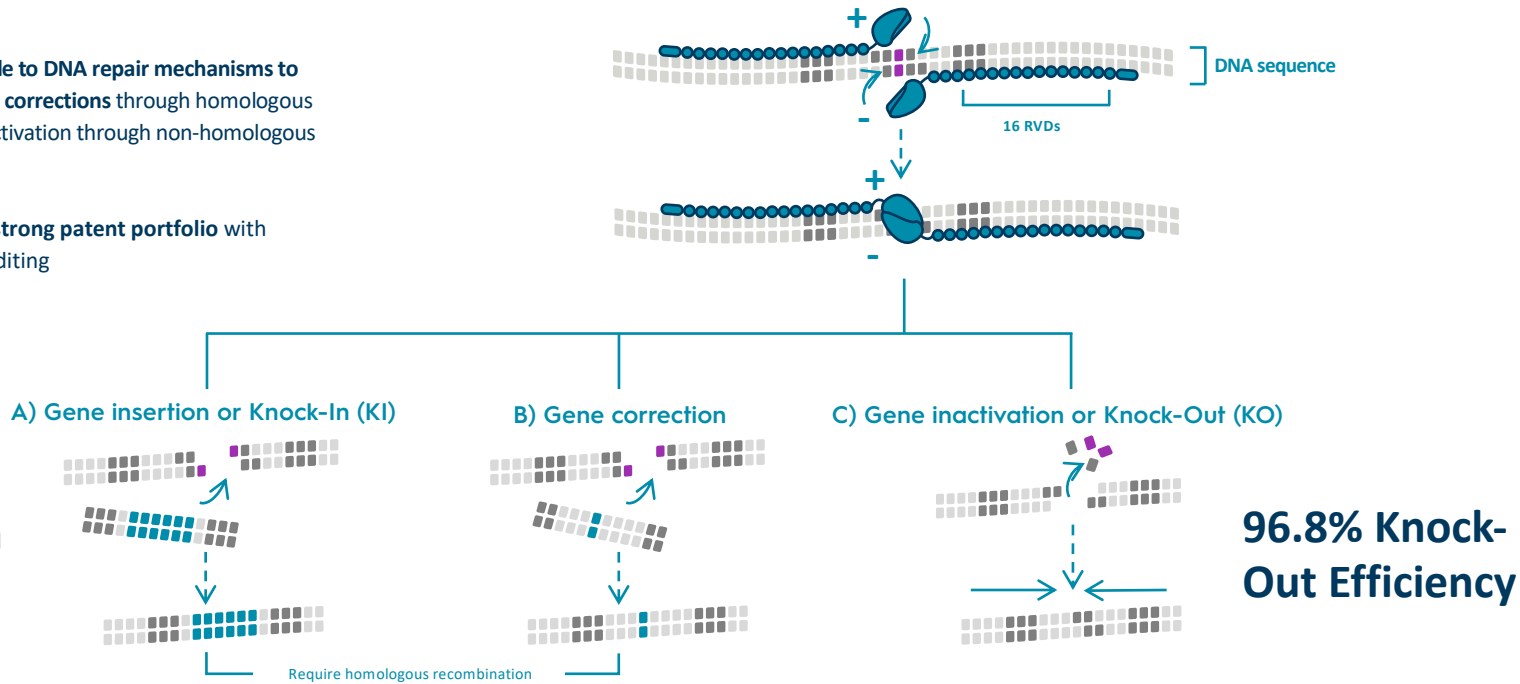
## TALEN®:

**Driven by protein/DNA** interactions to work on potential off-site cleavage

Releases DNA ends **accessible to DNA repair mechanisms to perform gene insertions and corrections** through homologous recombination and gene inactivation through non-homologous end joining

Over 20 years of building a **strong patent portfolio** with umbrella patents on gene editing

**Our nucleases** act like DNA scissors to edit genes at precise target sites:

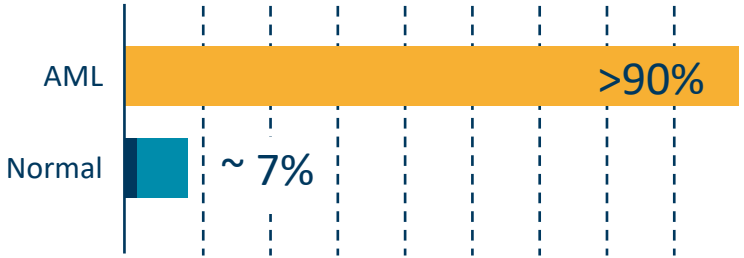



**>65% Knock-In Efficiency**

**96.8% Knock-Out Efficiency**

# CD123 TARGET: RATIONALE FOR THERAPY IN ACUTE MYELOID LEUKEMIA

## High expression on malignant cells




## Limited expression on healthy cells

- CD123 is expressed **>90%** on malignant cells in AML
- Total bone marrow cells **~ 7%** CD123 positive
- Only **~ 1%** expresses the antigen at high levels

## CD123 expression in cells

Also expressed on BPDCN and Hodgkin's lymphoma

## Cellectis Trial Recruitment Sites

MOFFITT CANCER CENTER

THE UNIVERSITY OF TEXAS MD Anderson Cancer Center
Making Cancer History®

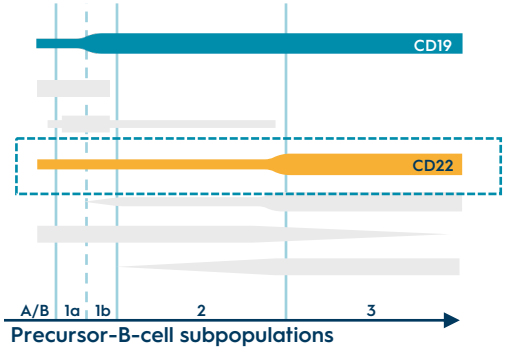
Dana-Farber Cancer Institute

Weill Cornell Medicine

# CD22 TARGET: RATIONALE FOR THERAPY IN ACUTE LYMPHOBLASTIC LEUKEMIA

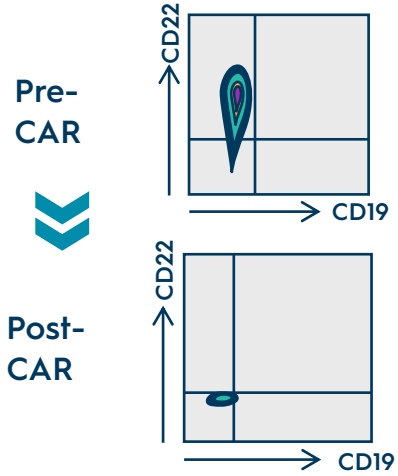
## CD22 Expression in B-cells

**Flow cytometric analysis of B-cell differentiation**




**CD22 is expressed in >95% B-ALL cells**

## Potential in disease space




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**

## Cellectis Trial Recruitment Sites

Weill Cornell Medicine

THE UNIVERSITY OF TEXAS MD Anderson Cancer Center
Making Cancer History®

THE UNIVERSITY OF CHICAGO MEDICINE

# CS1-SLAMF7 TARGET: RATIONALE FOR THERAPY IN MULTIPLE MYELOMA

## High expression on malignant cells

**>95%**

expression in MM cells

- CS1 expression is **high and uniform** on MM cells

## Clinical validation

→ **Elotuzumab** is a monoclonal antibody targeting CS1

→ Elotuzumab is **safe and effective** in MM patients

→ Elotuzumab (in combination with lenalidomide and dexamethasone in R/R MM patients) shows: **5% CR rate and 45% partial remissions**

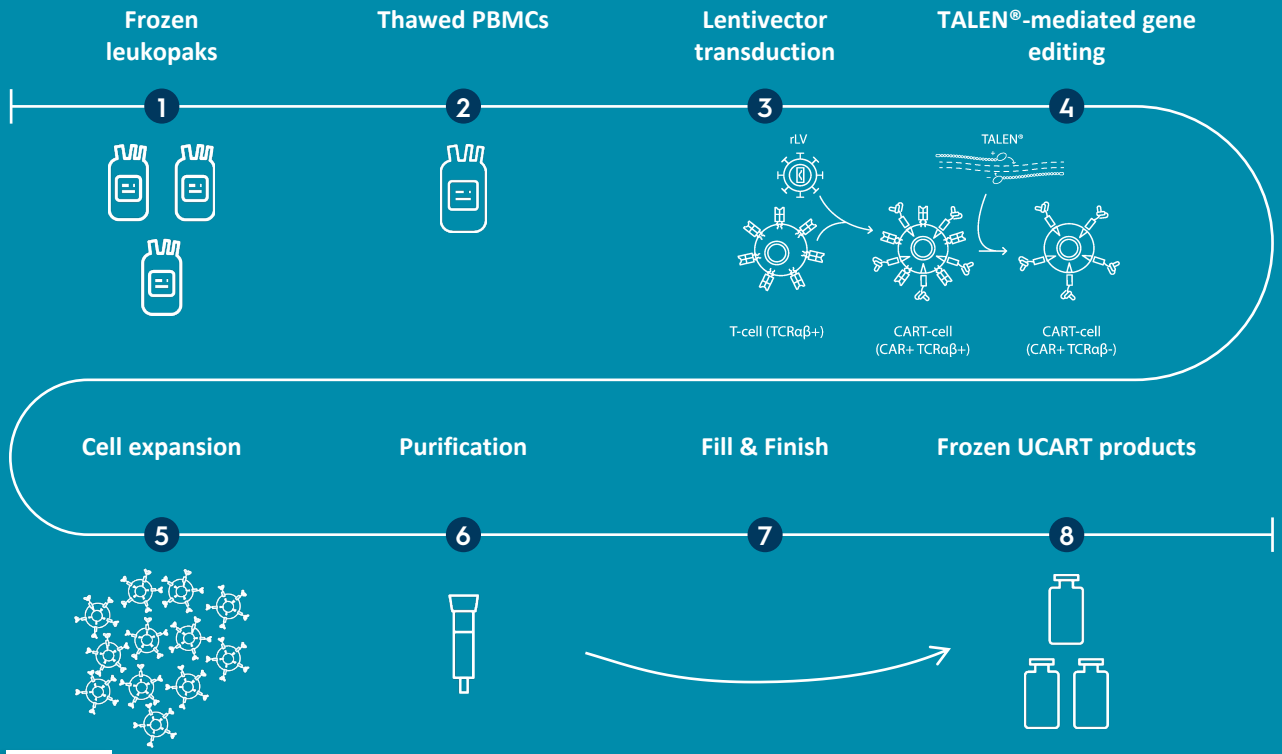
## Cellectis Trial Recruitment Sites

Weill Cornell Medicine

THE UNIVERSITY OF TEXAS MD Anderson Cancer Center
Making Cancer History®

Hackensack Meridian *Health*

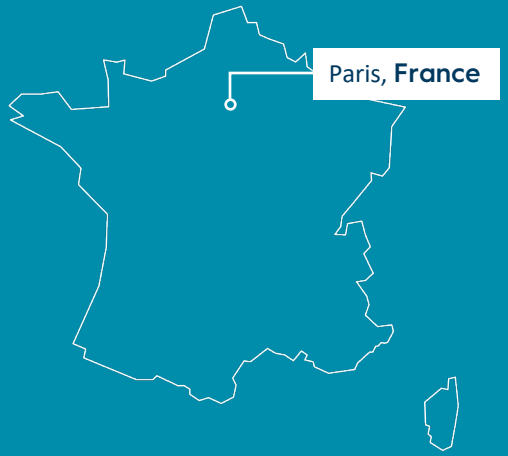
# UCART MANUFACTURING




- 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

~68.9%* ownership

NASDAQ: CLLS

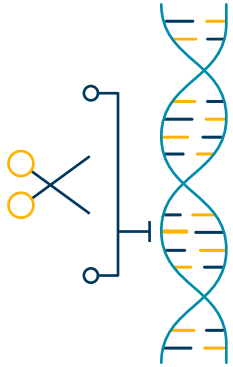
EURONEXT GROWTH: ALCLS

~$304M** cash as of December 31, 2019

Expected to fund operations into 2022

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

Patient focused



NASDAQ: CLXT

$60M cash as of December 31, 2019

Expected to fund operations into mid-2021

Based in Minnesota, USA

Consumer focused

High value asset

**Gene editing is the link**

* As of December 31, 2019

** $364M of consolidated cash, cash equivalents, current assets and restricted cash (Cellectis + Calyxt)

# ACHIEVED MILESTONES IN 2019

## **Proprietary** clinical programs

**UCARTCS1: Phase 1 R/R MM ongoing; 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): Phase 1 in R/R DLBCL and FL (subtypes of NHL) ongoing, 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

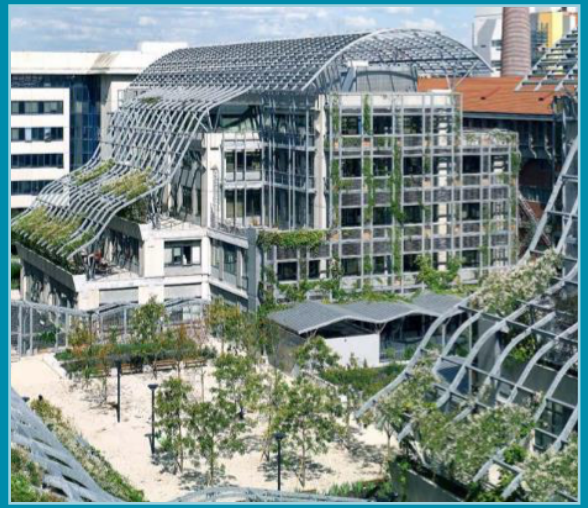
**Go-live with Paris facility**

**Construction complete for Raleigh facility**

UCART19/ALLO-501 is exclusively licensed to Servier and under a joint clinical development program between Servier and Allogene.
Product candidates exclusively licensed to Allogene

# THANK YOU

Reach us at: investor@cellectis.com



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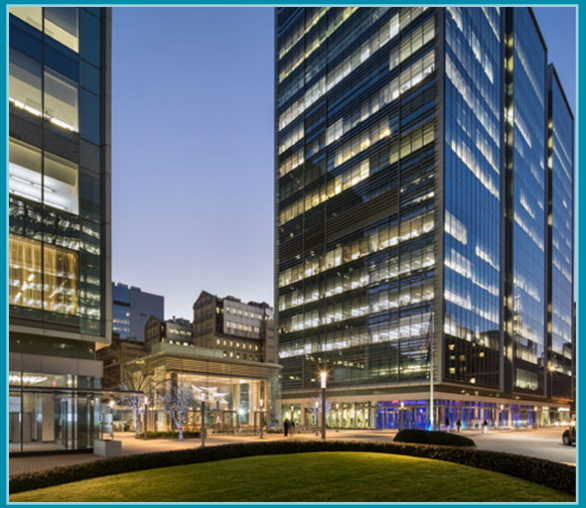
75013 Paris – France



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