



## COMMITMENT TO A CURE

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# FORWARD-LOOKING STATEMENTS

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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 Collectis 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.

Collectis proprietary information.

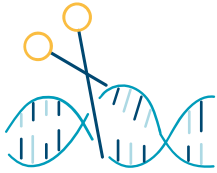
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## OUR MISSION

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Leverage our leadership in gene editing and CAR-T therapy to bring new **hope** to cancer patients through broadly available, off-the-shelf therapies

# CELLECTIS - COMMITMENT TO A CURE



## INNOVATION

Protein engineering for best-in-class gene editing & CAR technologies, cell engineering and culture technologies

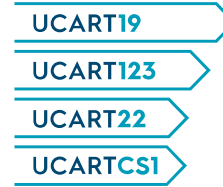
Innovative and robust gene-editing (TALEN®) platform



## LEADERSHIP

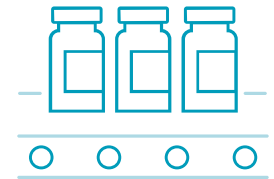
First clinical proof-of-concept for allogeneic CAR-T therapies, first pediatric ALL patient in 2015

Making cancer therapy cost-effective and available faster to patients globally



## PIPELINE

Pioneering robust first-in-class allogeneic CAR T-cell programs for different hematological malignancies, as well as solid tumors (pre-clinical)



## MANUFACTURING

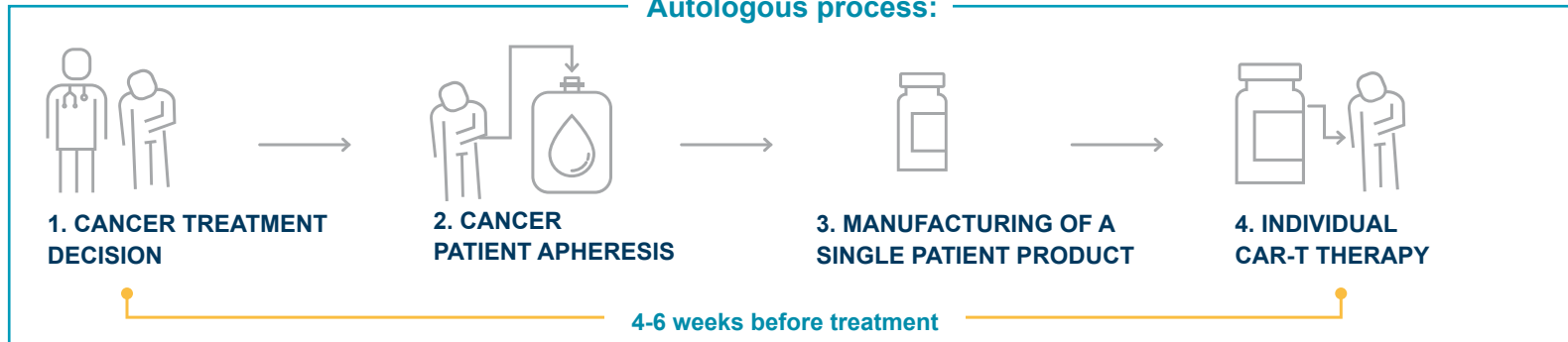
Scalable, efficient process to generate consistent and highly potent CAR-T therapies

Two facilities being built to ensure manufacturing autonomy

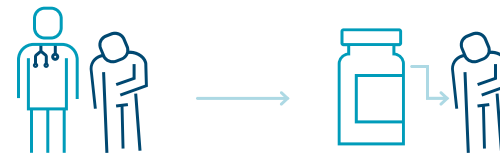
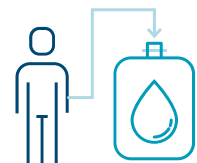
Reinforced by industry leading partnerships and a strong cash position

# ADVANTAGES OF ALLOGENEIC VS. AUTOLOGOUS CAR-T

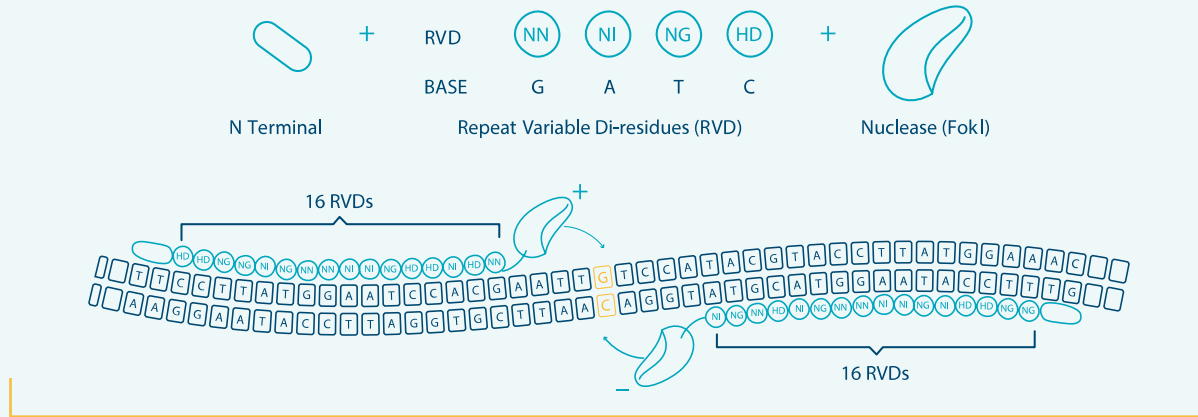
## Autologous process:



## Allogeneic process:



# TALEN®: BEST-IN-CLASS GENE EDITING



## PRECISION

targeting within 6 base pairs of any target in the genome (effective changes)

## SPECIFICITY

recognition site is 32 base pairs long (avoids errors)

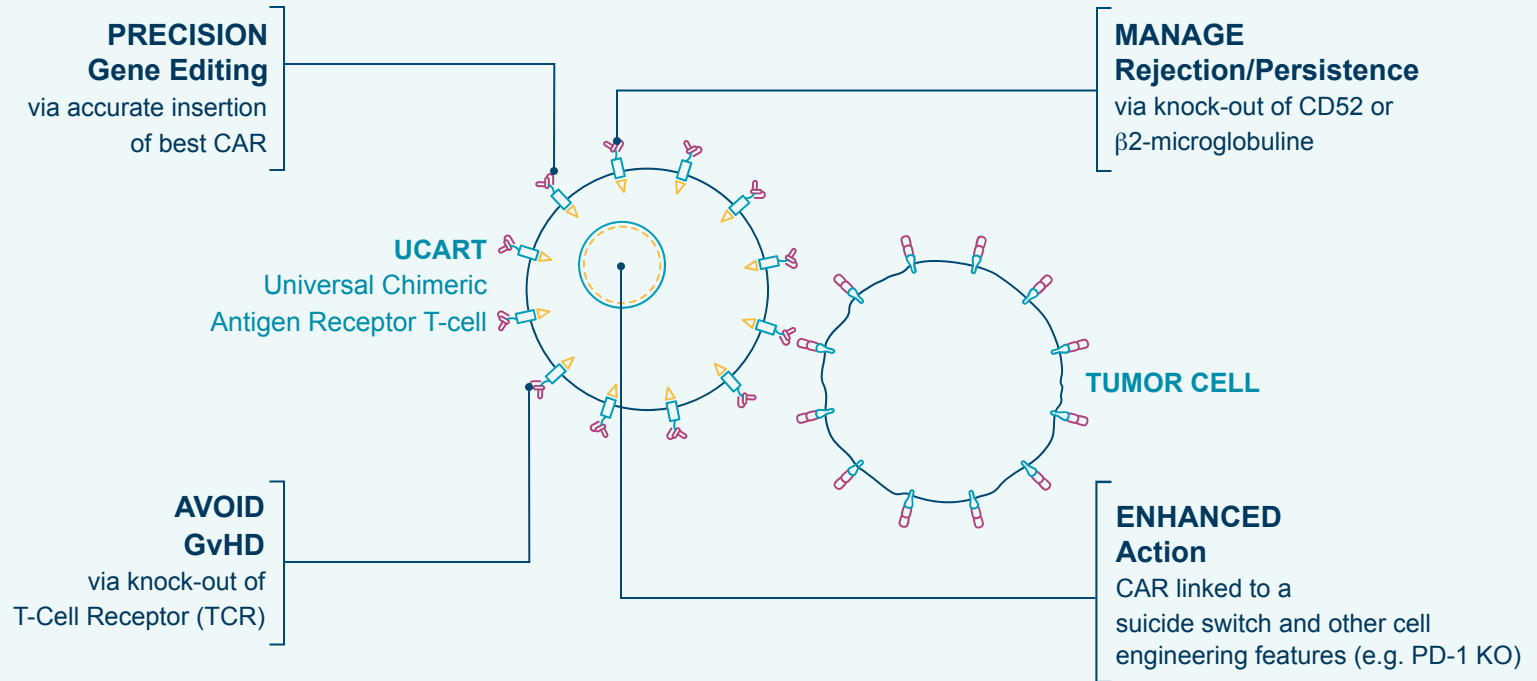
## EFFICIENCY

TCR- $\alpha$  can be knocked-out with over 95% efficacy for engineered CAR T-cells (ensures yield)

Editing genes allows disabling a functional gene, correcting a gene, or replacing or inserting a DNA sequence at a chosen location in a genome.

TALEN® has been successfully used in the clinic to solve key challenges with allogeneic CAR-T including protection from GvHD, mitigation of rejection, chimerism and enhanced safety via a suicide switch.

# UCARTs – FIRST & BEST-IN-CLASS ALLOGENEIC CAR T-CELLS



# PARTNERSHIPS WITH INDUSTRY LEADERS

## Development & commercialization partners



**UCART19 (with Allogene)  
+ other targets**

Up to \$1.1B in development  
milestones

Royalties on sales



**15 LICENSED TARGETS**

Up to \$2.8B in development  
& sales milestones

Royalties on sales

## Equity investor



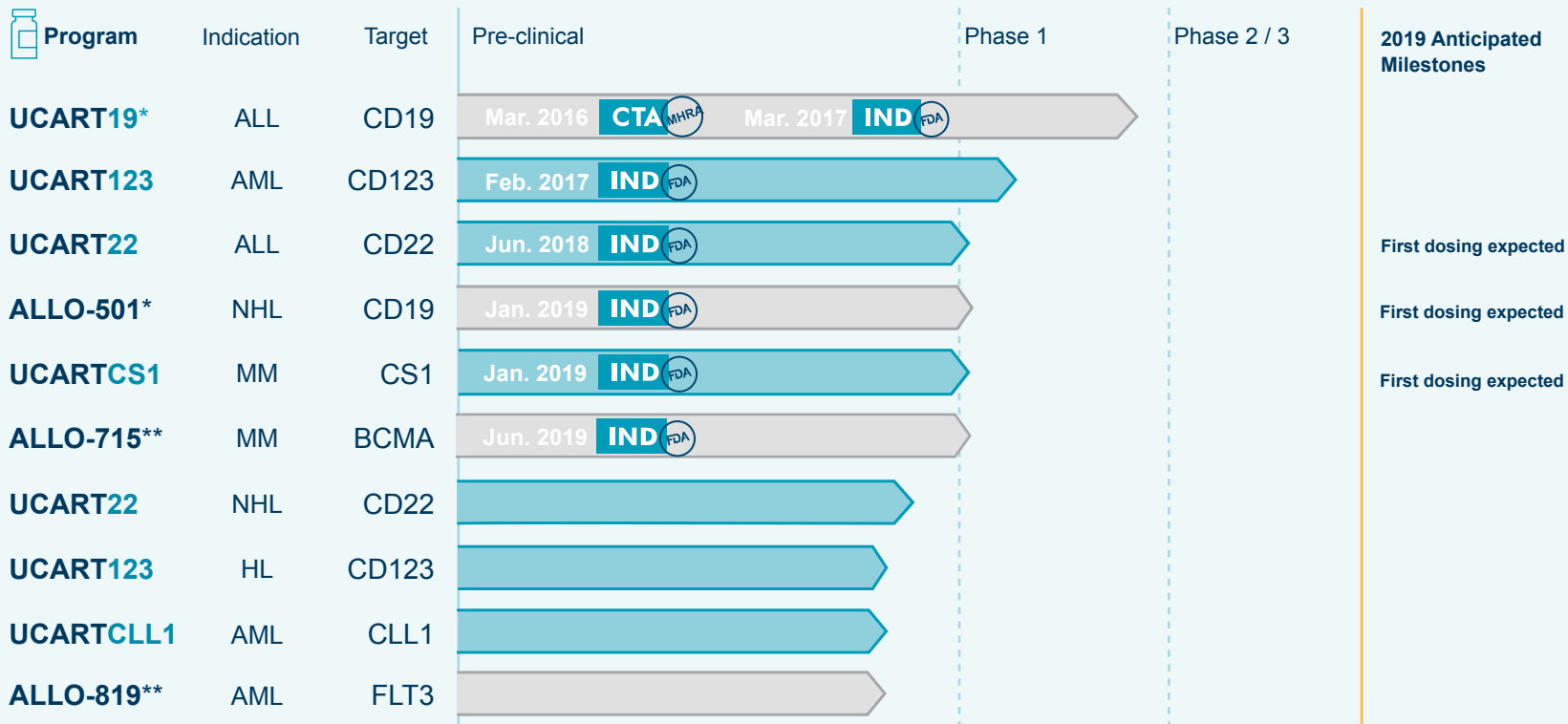
**6.57% of outstanding  
shares**

As of December 31, 2018

**Up to \$3.9B in potential milestone payments plus royalties**



# PIPELINE: INNOVATIVE CANCER THERAPIES FOR UNMET NEEDS



\* 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

Proprietary development program

Licensed development program

# PIPELINE TARGETS MULTIPLE UNMET NEEDS IN CANCER

ALL



UCART22

AML



UCART123



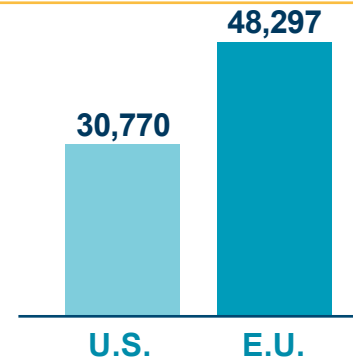
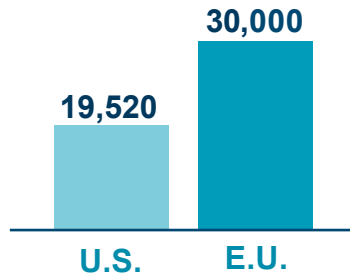
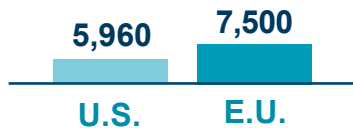
UCARTCLL1

MM



UCARTCS1

## Incidence rates per year



## Survival data



**20%**

5 years OS\* in adults

<6 months median disease-free survival in pediatric patients



**27%**

5 years OS in adults

6% 5 years OS in adults >55 years old



**50%**

5 years OS in adults

43-83 months median OS for stages 2-3



\* Overall Survival

# UCART19\*: DESIGN OF PHASE 1 STUDIES IN R/R\*\* ALL\*\*\*

CD19 is a validated target expressed in B-cell malignancies

## Adult ALL (CALM study)

### PRIMARY OBJECTIVE

Evaluate safety, tolerability, maximum tolerated dose (MTD) and regimen

### SECONDARY OBJECTIVES

Objective remission rate at Day 28. Duration of response, time to remission, progression-free survival



ONGOING



DL1\*\*\*\*



DL  
2



DL3

## Pediatric ALL (PALL study)

### PRIMARY OBJECTIVE

Evaluate safety at a fixed dose in patients aged between 6 months and 18 years old

### SECONDARY OBJECTIVES

Determine the ability to achieve molecular remission at Day 28



ONGOING



DL fixed



\* UCART19 is exclusively licensed to Servier and under a joint clinical development program between Servier and Allogene

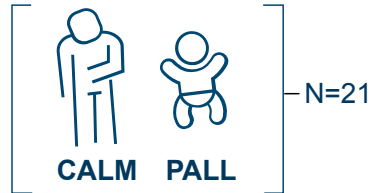
\*\* Relapsed/Refractory

\*\*\* Acute Lymphoblastic Leukemia

\*\*\*\* Dose Level

# UCART19\*: PHASE 1 R/R ALL – DATA\*\* PRESENTED AT ASH 2018

## Safety:



- ✓ **14%** Grade 3-4 Cytokine Release Syndrome
- ✓ **0%** Grade 3-4 neurotoxicity
- ✓ **0%** Grade 3-4 skin Graft vs Host Disease

## Efficacy:

- 82% CR/CRi rate in FCA\*\*\*-treated patients
- 67% overall CR/CRi rate
- 71% of these patients were MRD-
- Redosing with UCART19 resulted in cell expansion and MRD- status in 2/3 patients
- Peak expansion observed mostly at Day 14



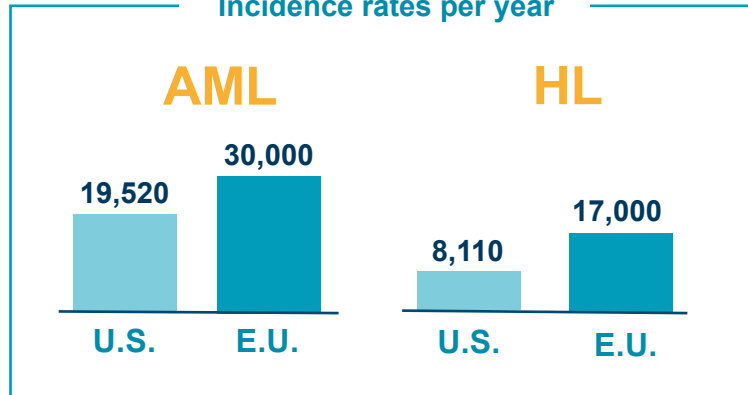
\* UCART19 is exclusively licensed to Servier and under a joint clinical development program between Servier and Allogene

\*\* Pooled data

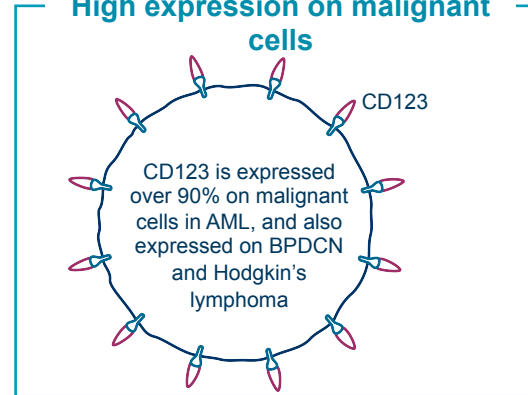
\*\*\* Lymphodepletion regimen consisting of fludarabine, cyclophosphamide and an anti-CD52 mAb

# CD123 TARGET: RATIONALE FOR THERAPY

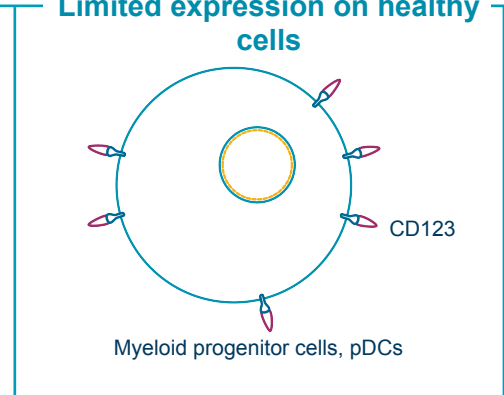
Incidence rates per year



High expression on malignant cells



Limited expression on healthy cells



# UCART123 – PHASE 1 STUDY IN AML

## Patient characteristics

**Age and fitness:** R/R AML  
65 years and older, unfit patients

**Mutation status:**  
genetically complex

**Progression:** rapid  
progression following relapse

## Dose escalation (mTPI\*) phase (R/R AML)



**R/R AML**  
Up to 18  
patients



**ONGOING** at  
Weill Cornell  
MD Anderson  
Moffitt  
Dana-Farber

28 days between the first 2 patients for each dose\*\*, then 14 days for subsequent patients



DL1



DL2



DL3

## Expansion Phase



**TOTAL**  
N=64-144

Expected  
in 2020



**R/R AML  
PATIENTS**  
N=18-37



**FIRST LINE AML PATIENTS**  
ELN\*\*\* Adverse genetic group  
N=46-107



\* Modified Toxicity Probability Interval Design

\*\* 42 days if aplasia

\*\*\* European Leukemia Net

# UCART123 – PRECLINICAL RATIONALE IN AML

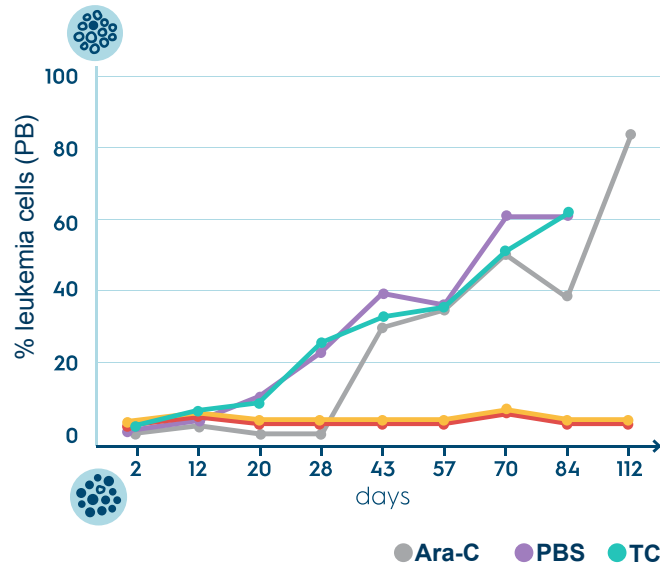
## Development rationale:

**High expression:** blasts,  
independent of mutation status

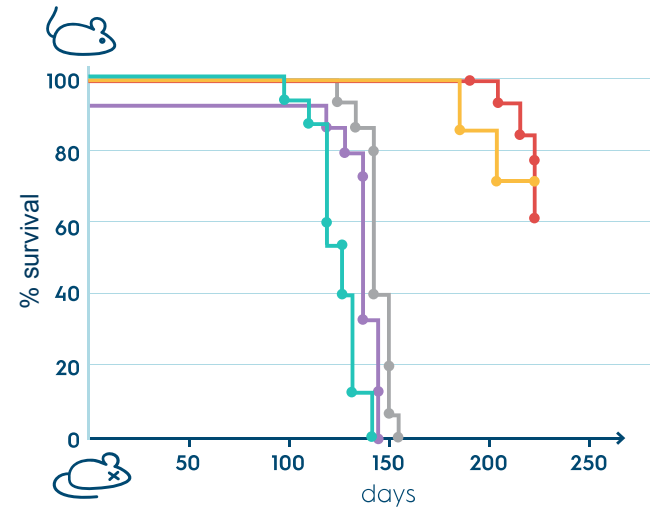
**Unmet need:** high relapse rate and  
poor survival in R/R patients

**Validated target:** CD123 - clinically  
validated in autologous CAR T-cell trials

## Elimination of AML cells

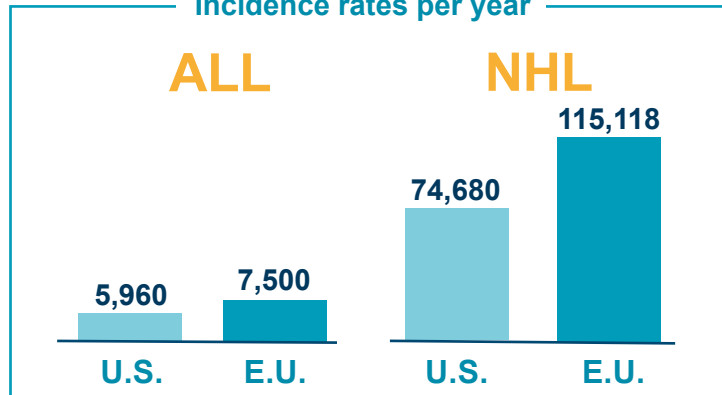


## Dose-dependent enhanced survival

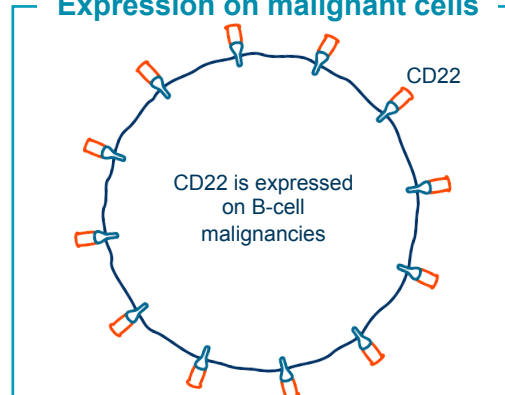


# CD22 TARGET: RATIONALE FOR THERAPY

Incidence rates per year



Expression on malignant cells



Potential in disease space

**Relapses** following a CAR T-cell therapy, with malignant cells expressing CD22

**B-ALL patients** expressing CD22

**Potential combination** therapy approach



# UCART22 – PHASE 1 TRIAL DESIGN IN ALL

## Patient characteristics

**Age and fitness:**  
R/R B-ALL < 65 years

**CD19- & CD19+ ALL**  
high CD22 expressing B-malignant cells

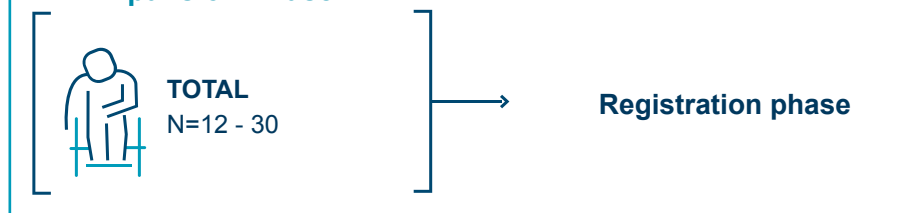
Offers a therapeutic solution to patients who cannot receive, or relapsed, after autologous CD19 CAR T-cell therapy

## Dose escalation (mTPI) phase

28 days between the first 2 patients for each dose, then 14 days for subsequent patients



## Expansion Phase



# UCART22 – PRECLINICAL RATIONALE FOR ALL

## Development rationale:

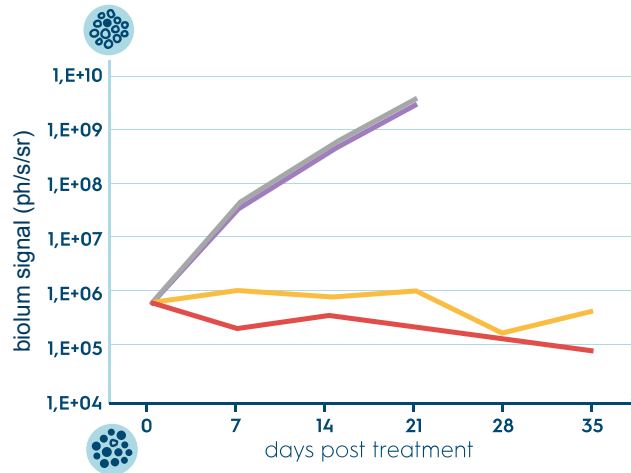
**CD22 expression:** in CD19  
CD19 negative blasts

**Unmet need:** high relapse rates (CD19-) after  
CAR-T treatment, poor survival in R/R patients

**Validated target**  
in ALL and NHL

**Expandable market:** potential  
expansion into first-line ALL

## Control of tumor progression



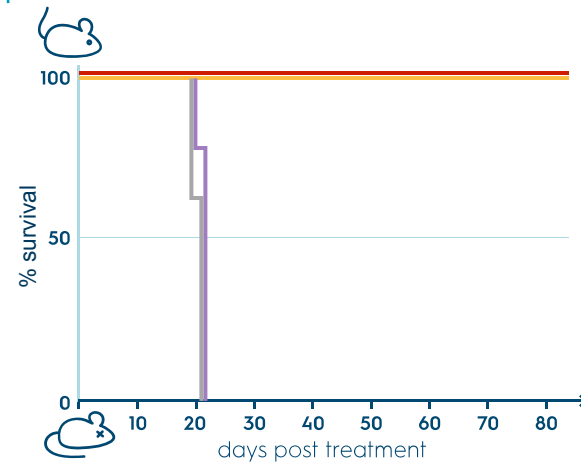
● Vehicle

● DKO/NT 10x10<sup>6</sup> cells

● UCART22 3x10<sup>6</sup>

● UCART22 10x10<sup>6</sup>

## Enhanced survival



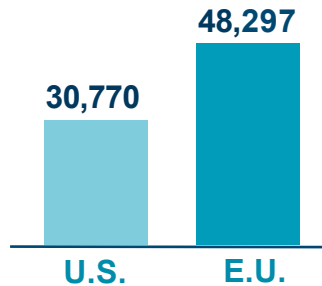
## UCART22

- Is highly efficient at eradicating tumors in vivo
- Result in increased survival in mouse model

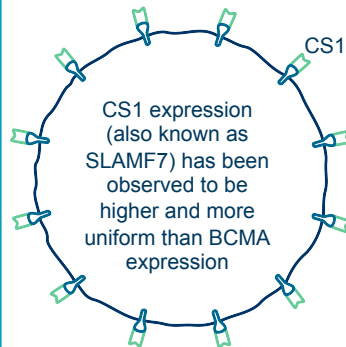
# CS1-SLAMF7 TARGET: RATIONALE FOR THERAPY

## Incidence rates per year

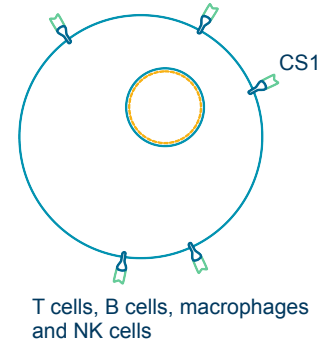
**MM**



## High expression on malignant cells



## Limited expression on healthy cells



## Monoclonal antibody 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: **5.5% CR rate and 35% partial remissions**

# UCARTCS1 – PHASE 1 TRIAL DESIGN IN MULTIPLE MYELOMA

## Patient characteristics

**Age and fitness:**  
R/R MM patients < 65 years

## Dose escalation (mTPI\*) phase

28 days between first 2 patients, then 14 days between each consecutive patient



**R/R MM**  
Up to 18 patients



To start at MD  
Anderson



DL1



DL2



DL3



## Expansion Phase

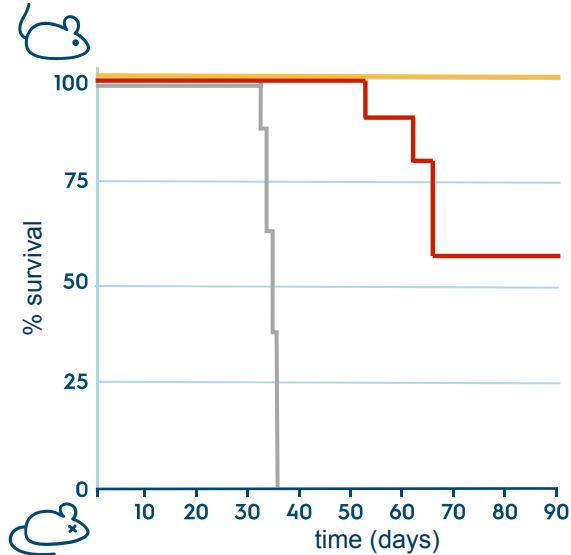


**TOTAL**  
N=12-30

Registration phase

# UCARTCS1 – PRECLINICAL RATIONALE IN MULTIPLE MYELOMA

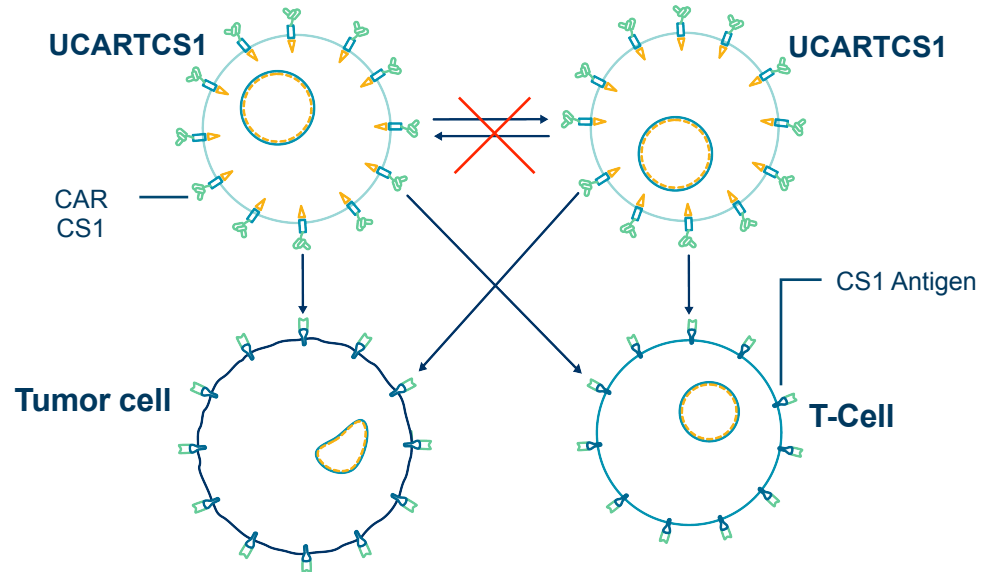
## Dose-dependent enhanced survival



Day -10: tumor cells injection    Day 0: treatment

● Vehicle    ● UCARTCS1 3x10<sup>6</sup>    ● UCARTCS1 10x10<sup>6</sup>

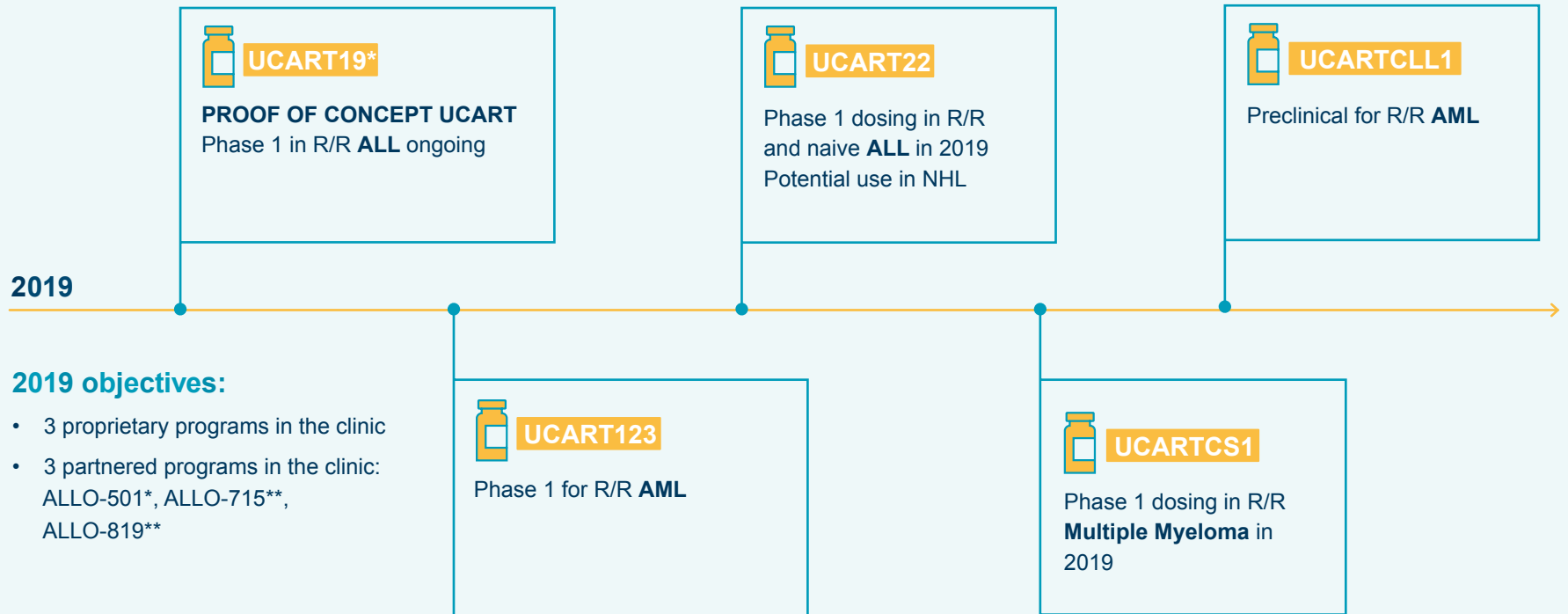
## Knock-Out of CS1 on CAR T-cells to suppress cross T-cell reaction between UCARTCS1



### Preclinical evidence:

- Strong anti-tumor effect in mice
- Potential engraftment enhancement

# BUILDING THE FUTURE OF ALLOGENEIC CAR T-CELL THERAPY



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\*\* Product candidates exclusively licensed to Allogene

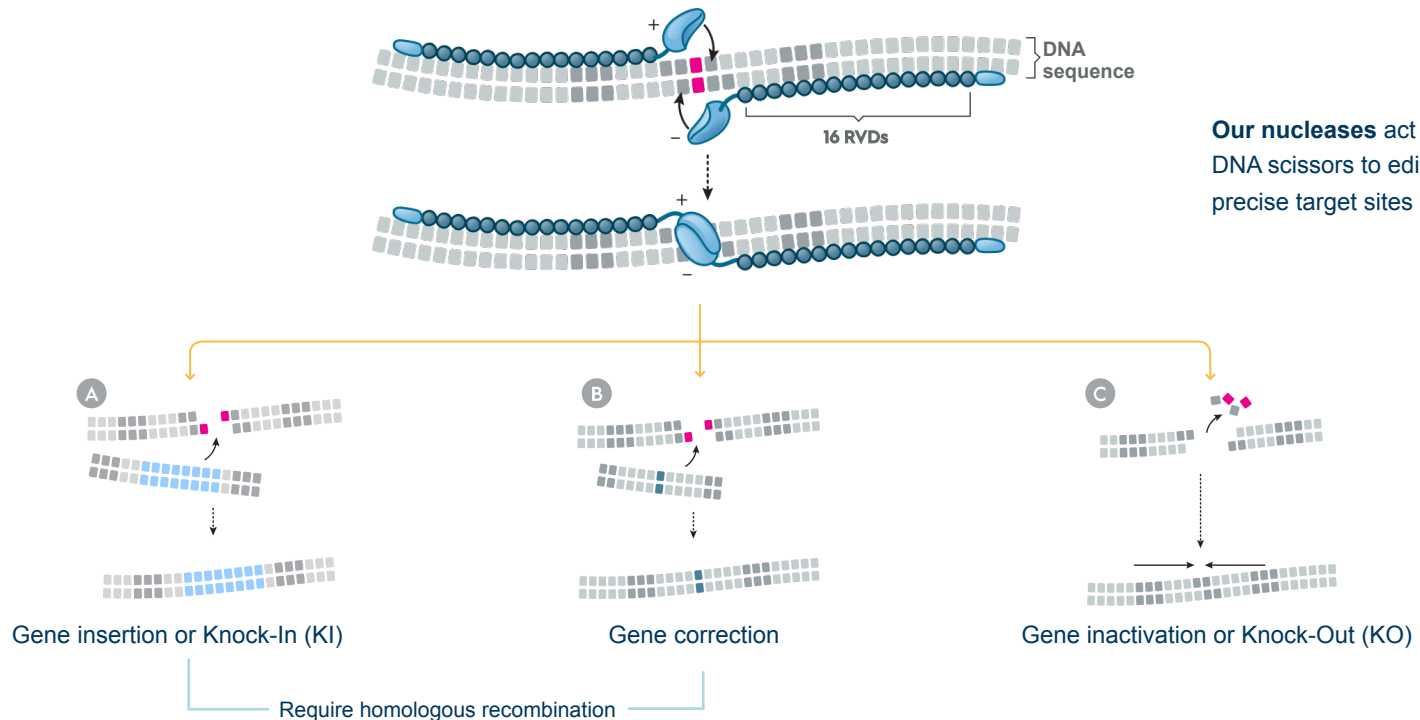
# TALEN® GENE EDITING – ADVANTAGES

## TALEN®

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

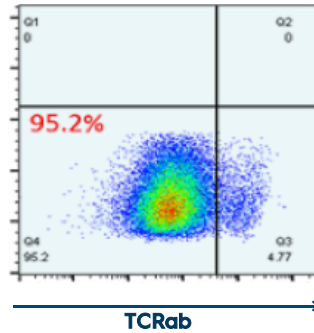
Releases DNA ends **accessible to homologous recombination** to perform gene insertions and corrections

Over 25 years of building a **strong patent portfolio** with umbrella patents on gene editing



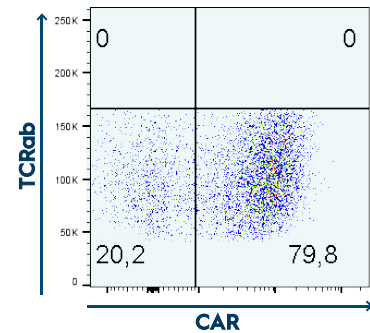
# OPTIMIZING YIELD THROUGH HIGHEST GENE EDITING EFFICIENCY

## High Knock-Out and Knock-In efficiency and specificity



### 95.2% single targeted gene Knock-Out

- TRAC Knock-Out
- High Specificity
- Prevents GvHD



### ~80% single gene integration

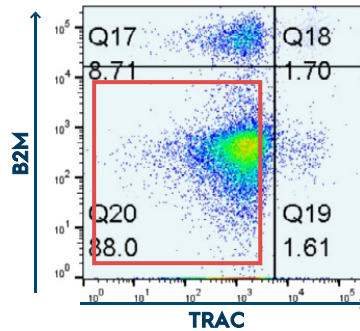
- CAR Knock-In at TRAC Locus
- High specificity
- Enables efficiency

Enables efficiency & protection from GvHD



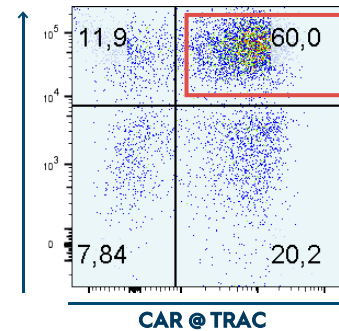
# POWER OF TALEN® GENE EDITING: MULTIPLEXING GENE REPLACEMENT

Multiple advantages from combined Knock-Out, Knock-In



**88% double targeted gene Knock-Out**

- TCR and B2M
- B2M Knock-Out exposes cells to potential killing by NK cells – which is prevented as shown



**60% double targeted gene insertion**

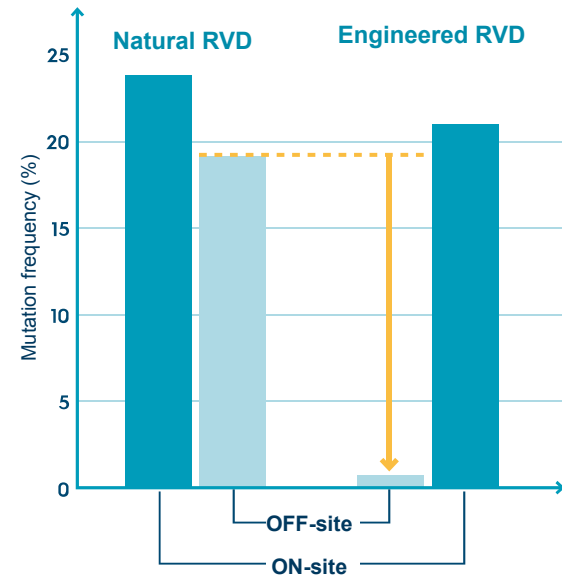
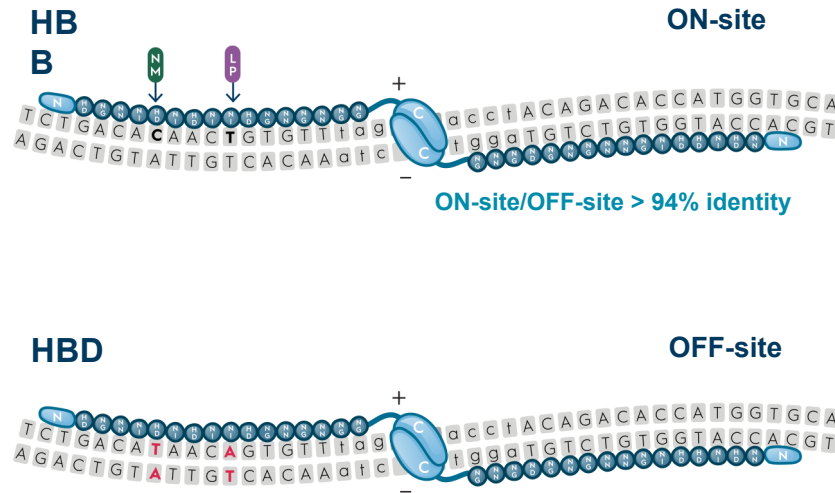
- CAR insertion at TCR
- NK inhibitor at B2M
- Provides protection from NK cell-mediated rejection

**Provides protection from GvHD and avoids rejection**

# WITH TALEN® WE CONTROL OFF-TARGET CLEAVAGE

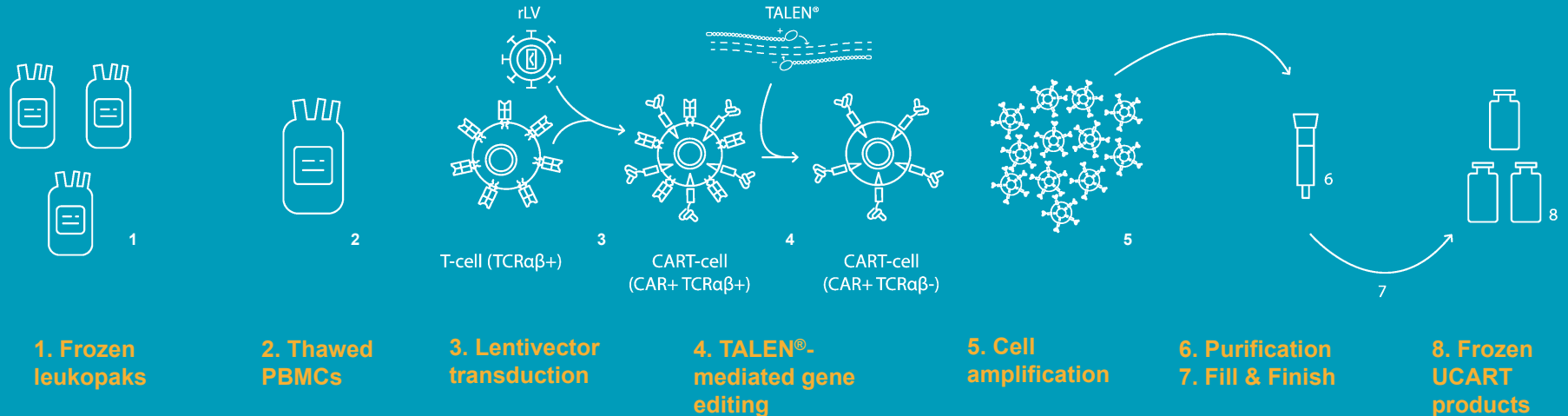
## Discrimination between ON and OFF-site prevents OFF-site cleavage

Utilization of engineered RVDs to discriminate HBB\* and HBD\*\* loci preventing unwanted OFF-site cleavage



\* HBB - Hemoglobin subunit beta  
\*\* HBD - Hemoglobin subunit delta

# UCART MANUFACTURING



- More than 5 years of experience in allogeneic CAR T manufacturing
- Validated gene editing technology for cell manufacturing
- 5 UCART product candidates manufactured so far
- Full QC system in place, 3 wholly-controlled product candidates cleared for 4 clinical trials by the U.S. Food and Drug Administration

# BUILDING 2 STATE-OF-THE-ART PLANTS TO SECURE AUTONOMY

## SMART – Starting MATERIAL Realization for CAR-T products

- ~14,000 sqft in-house manufacturing in Paris, France
- Clinical Starting Materials
- Operational "go-live" targeted in 2020

## IMPACT – Innovative Manufacturing Plant for Allogeneic Cellular Therapies

- ~82,000 sqft facility located in Raleigh, NC
- Production of clinical and commercial UCART products
- Operational "go-live" targeted in 2021

# ANTICIPATED 12-MONTH MILESTONES

## 12 months

### Clinical programs:

**UCART19\***: Phase 1 updates in R/R ALL in 2019

**UCART123**: Phase 1 for R/R AML  
Expansion phase expected in 2020

**UCART22**: Expect Phase 1 first patient dosing in R/R ALL in 2019

**UCARTCS1**: Expect Phase 1 first patient dosing in R/R MM in 2019

**ALLO501\*** : Expect Phase 1 first patient dosing in R/R NHL in 2019

**ALLO715\*\*** : Expect IND in 2019

### Manufacturing:

Focusing on refinements to improve efficiency and capacity to support future commercial launch of **UCART** products

Internalizing large parts of our proprietary manufacturing chain for clinical starting material:

**SMART** plant in Paris, France

Building a proprietary GMP, commercial scale manufacturing facility in 2019:

**IMPACT** plant in Raleigh, North Carolina

### Gene editing:

Explore applications into new areas: solid tumors and outside oncology space



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\*\* Product candidates exclusively licensed to Allogene

# CELLECTIS HIGHLIGHTS



## INDUSTRY LEADER IN GENE EDITING & ALLOGENEIC CAR T (UCART) TECHNOLOGY

- First clinical proof-of-concept: **UCART19** treated the first pediatric ALL patient in June 2015
- Innovative gene editing (TALEN®) platform: to generate best-in-class allogeneic CAR T-cells
- Bringing innovative off-the-shelf therapies to a broader market, without treatment delays



## BEST-IN-CLASS MANUFACTURING

- Scalable, efficient, greater consistency and potency
- Two facilities being built to ensure manufacturing autonomy



## PARTNERSHIPS WITH LEADERS: UP TO \$3.9B IN POTENTIAL MILESTONES PLUS ROYALTIES

- **UCART19** – Licensed to Servier (U.S. rights to Allogene) and other undisclosed targets
- 15 licensed targets to Allogene and other licensed targets to Servier



## ROBUST PROPRIETARY PIPELINE

- **UCART123** – Phase 1 AML ongoing; dose escalation in AML in 2019; *wholly-controlled asset*
- **UCART22** – Phase 1 first dosing in ALL in 2019; *wholly-controlled asset*
- **UCARTCS1** – Phase 1 first dosing MM in 2019; *wholly-controlled asset*
- **UCARTCLL1** – Preclinical development for AML; *wholly-controlled asset*



## FINANCIAL POSITION:

- Cash through 2021
- ~69.5% ownership of CLXT\*



\* As of March 31, 2019

# THE COLLECTIS GROUP



~69.5%\* ownership



- NASDAQ: CLLS
- EURONEXT GROWTH: ALCLS
- \$425M\*\* cash as of March 31, 2019
- Expected to fund operations through 2021
- Based in Paris, France & New York, USA
- Patient focused

- NASDAQ: CLXT
- \$85.7M cash as of March 31, 2019
- Based in Minnesota, USA
- Consumer focused
- High value asset

Gene editing is the link



\* As of March 31, 2019

\*\* Including \$85.7M of cash, cash equivalents and current financial assets from Calyxt for plant activities

# THANK YOU

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