

# Allogene:

## Leading the Next Revolution in Cell Therapy

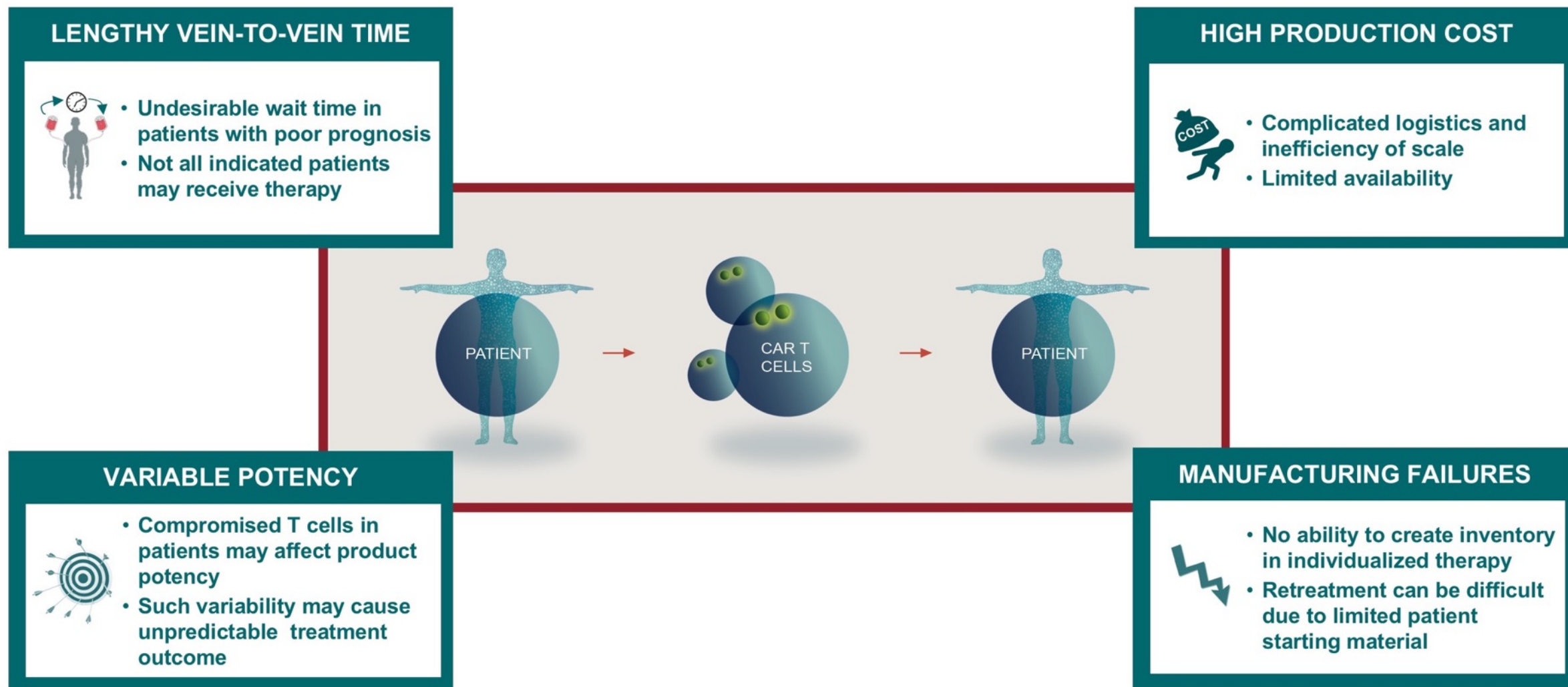
May 2019

# Forward-Looking Statements

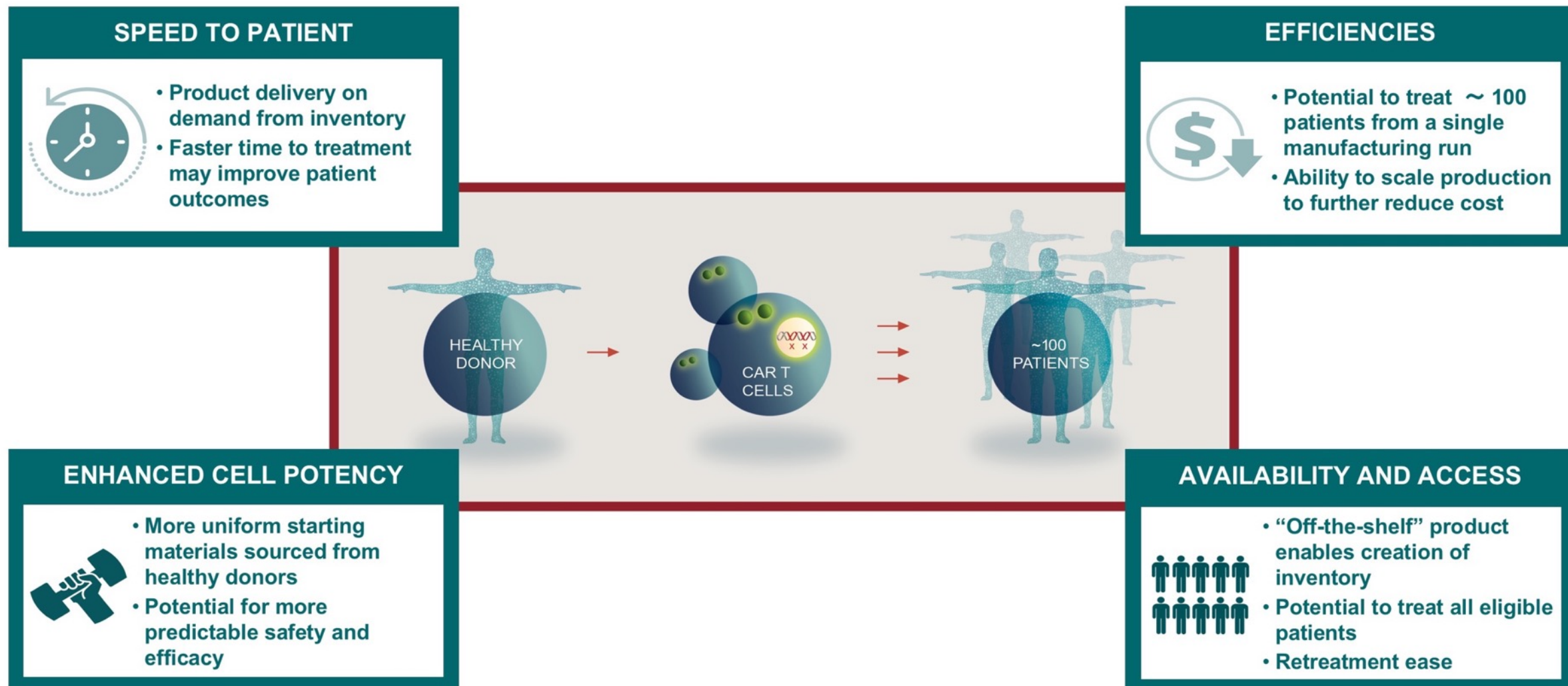
To the extent statements contained in this Presentation are not descriptions of historical facts regarding Allogene Therapeutics, Inc. (“Allogene,” “we,” “us,” or “our”), they are forward-looking statements reflecting management’s current beliefs and expectations. Forward-looking statements are subject to known and unknown risks, uncertainties, and other factors that may cause our or our industry’s actual results, levels or activity, performance, or achievements to be materially different from those anticipated by such statements. You can identify forward-looking statements by words such as “anticipate,” “believe,” “could,” “estimate,” “expect,” “intend,” “may,” “plan,” “potential,” “predict,” “project,” “should,” “will,” “would” or the negative of those terms, and similar expressions that convey uncertainty of future events or outcomes. Forward-looking statements contained in this Presentation include, but are not limited to, statements regarding: (i) the success and timing of our product development activities and initiating clinical trials, (ii) the success and timing of our collaboration partner’s ongoing and planned clinical trials, (iii) our ability to obtain and maintain regulatory approval of any of our product candidates, (iv) our plans to research, discover and develop additional product candidates, including by leveraging next generation technologies and expanding into solid tumor indications, (v) our ability to establish manufacturing capabilities, and our and our collaboration partner’s ability to manufacture our product candidates and scale production, and (vi) our ability to meet the milestones set forth herein. Various factors may cause differences between Allogene’s expectations and actual results as discussed in greater detail in Allogene’s filings with the Securities and Exchange Commission (SEC), including without limitation in its Form 10-Q for the period ended March 31, 2019 filed with the SEC.

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# Autologous CAR T: Learning from the First Revolution



# Allogeneic CAR T Therapy: The Next Potential Breakthrough



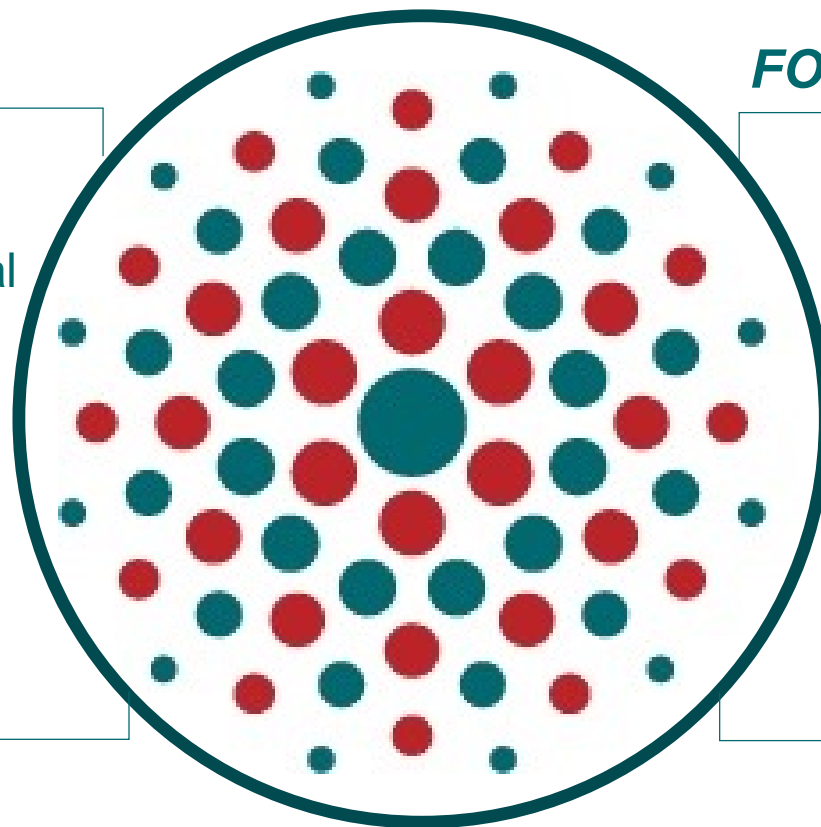
# Allogene: Leading the Future of AlloCAR T™ Cell Therapy

## ***UNIQUE EXPERIENCE***

Deep understanding of CAR T manufacturing needs and notable success piloting a CAR T to approval

## ***FOCUSED ALLOGENEIC PLATFORM***

Technology platform focused 100% on bringing AlloCAR T therapy to patients



## ***STRONG FOUNDATION***

Strong balance sheet, expansive portfolio and knowledgeable team across all key functions

## ***PATH TO APPROVAL***

Experience in designing CAR T studies to potentially accelerate AlloCAR T™ development



# Allogene Today: Creating the Future of AlloCAR T™ Cell Therapy



# The Allogene Leadership Team

**Arie Beldegrun, M.D., FACS**  
Executive Chairman & Co-Founder



**David Chang, M.D., Ph.D.**  
President, CEO & Co-Founder



**Eric Schmidt, Ph.D.**  
Chief Financial Officer



**Alison Moore, Ph.D.**  
Chief Technical Officer



**Christine Cassiano**  
Chief Communications Officer



**Barbra Sasu, Ph.D.**  
Chief Scientific Officer



**Susie Jun, M.D., Ph.D.**  
Chief Development Officer



**Veer Bhavnagri**  
General Counsel



**David Tillett, Ph.D.**  
Head of Quality



# Allogene's Strategy: Focused Development of AlloCAR T™ Cell Therapy

DIFFERENTIATION	NEAR-TERM	FAST-FOLLOW	LONG-TERM
<p>Build state-of-the-art gene engineering and cell manufacturing capabilities</p> <p><i>(Sustainability)</i></p>	<p>Capitalize on validated target and first-mover advantage in anti-CD19 AlloCAR T™ candidates</p> <p><i>(Leadership)</i></p>	<p>Expand leadership position within hematologic indications including Multiple Myeloma and AML</p> <p><i>(Advantage)</i></p>	<p>Leverage next generation technologies and expand into solid tumor indications with high unmet need</p> <p><i>(Innovation)</i></p>



# Current Manufacturing Capabilities & Planned Expansion

## Current South San Francisco Facility

- Manufacturing process development & optimization
- Analytic methods for in-process characterization & improvement
- Quality Assurance and Quality Control support

## Planned East Bay Area Facility (Newark, CA)

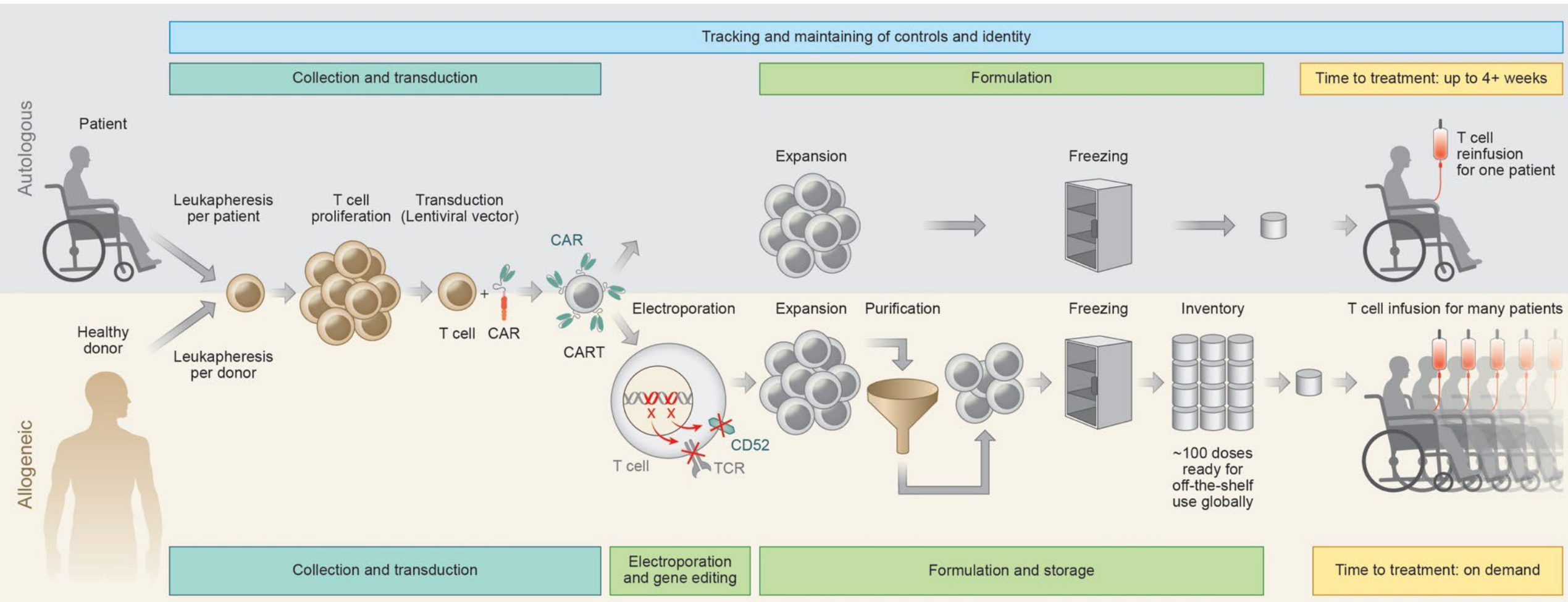
- 118,000 sq./ft facility planned
- In-house manufacturing capability build underway:
  - GMP manufacturing for clinical supply
  - Potential commercial launch upon approval

## Current CMO Support

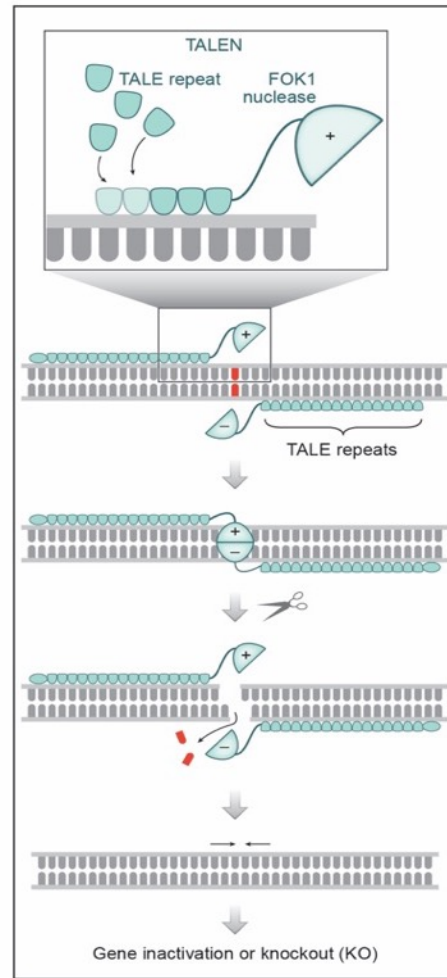
- Dedicated purpose built GMP suite
- Clinical supply manufacturing, formulation & release



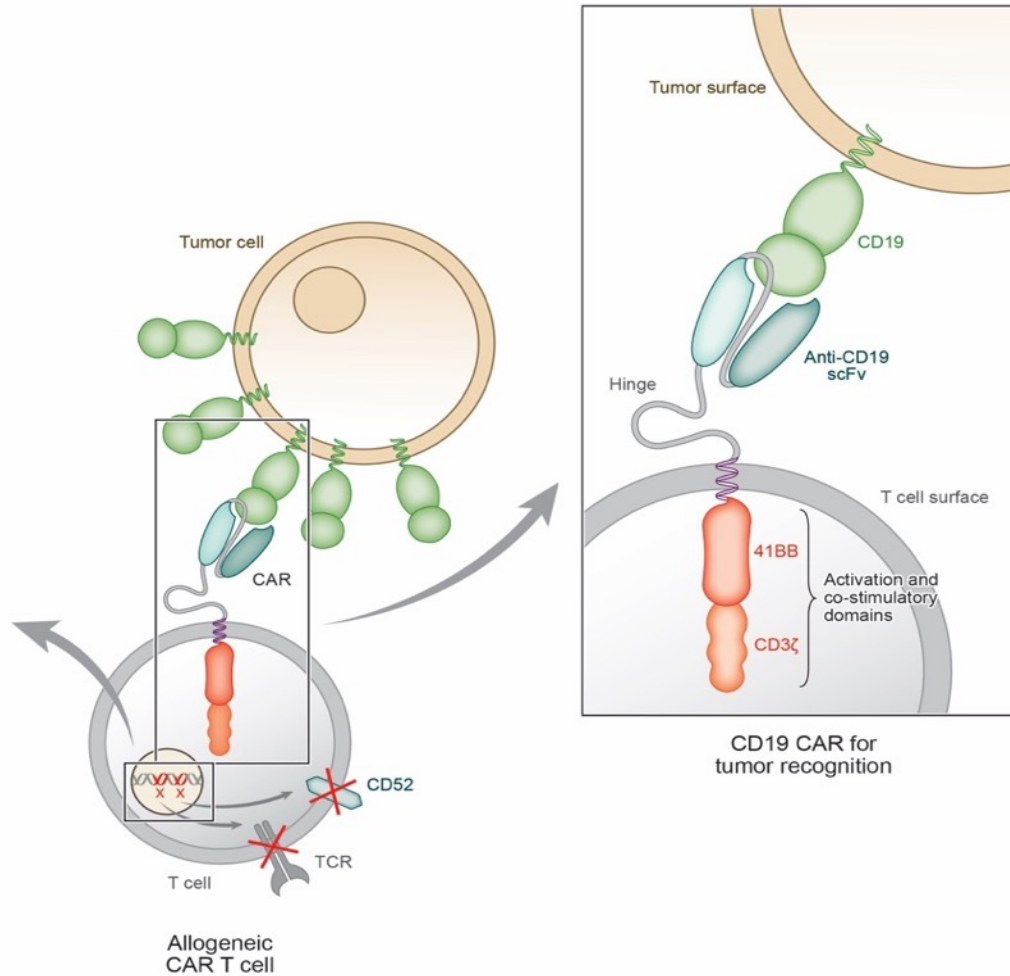
# AlloCAR T™ Cells Will Be Available On Demand



# UCART19: The First AlloCAR T™ in Clinical Development



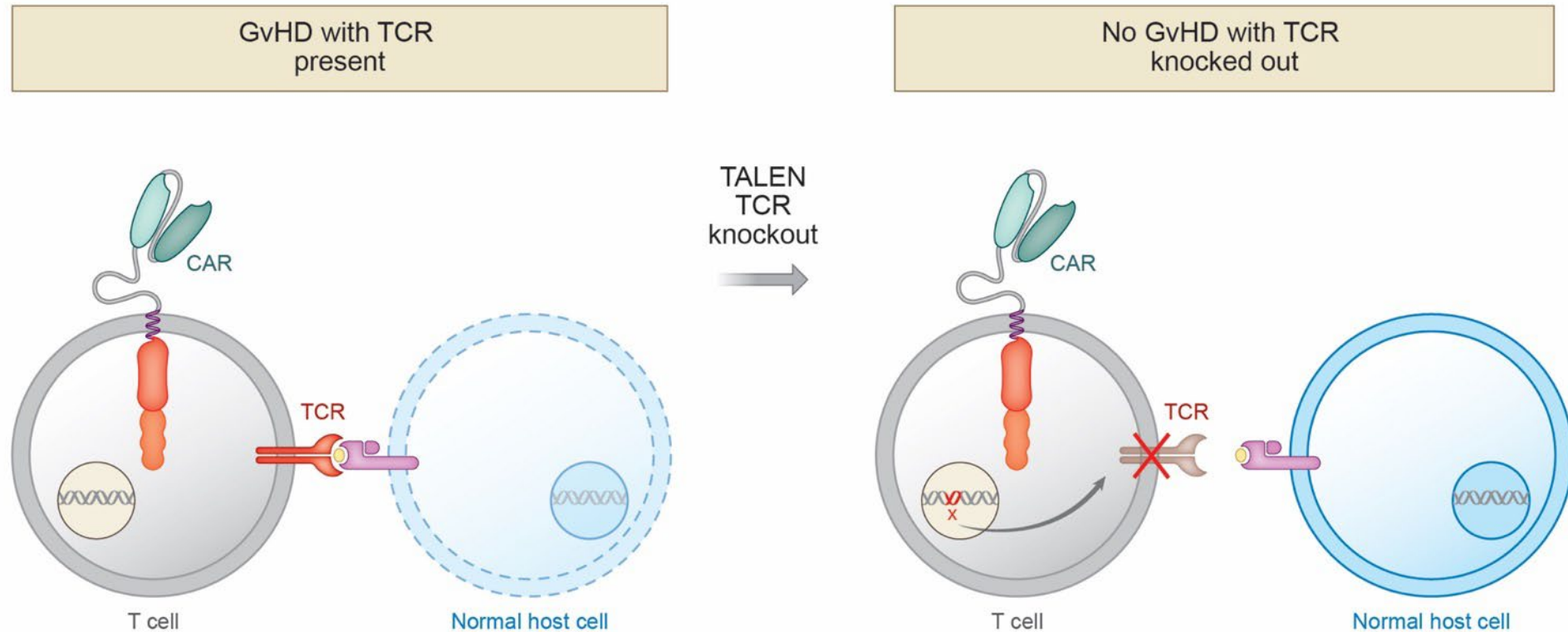
Gene editing  
TALEN® Nuclease



TALEN® is a Collectis gene editing technology

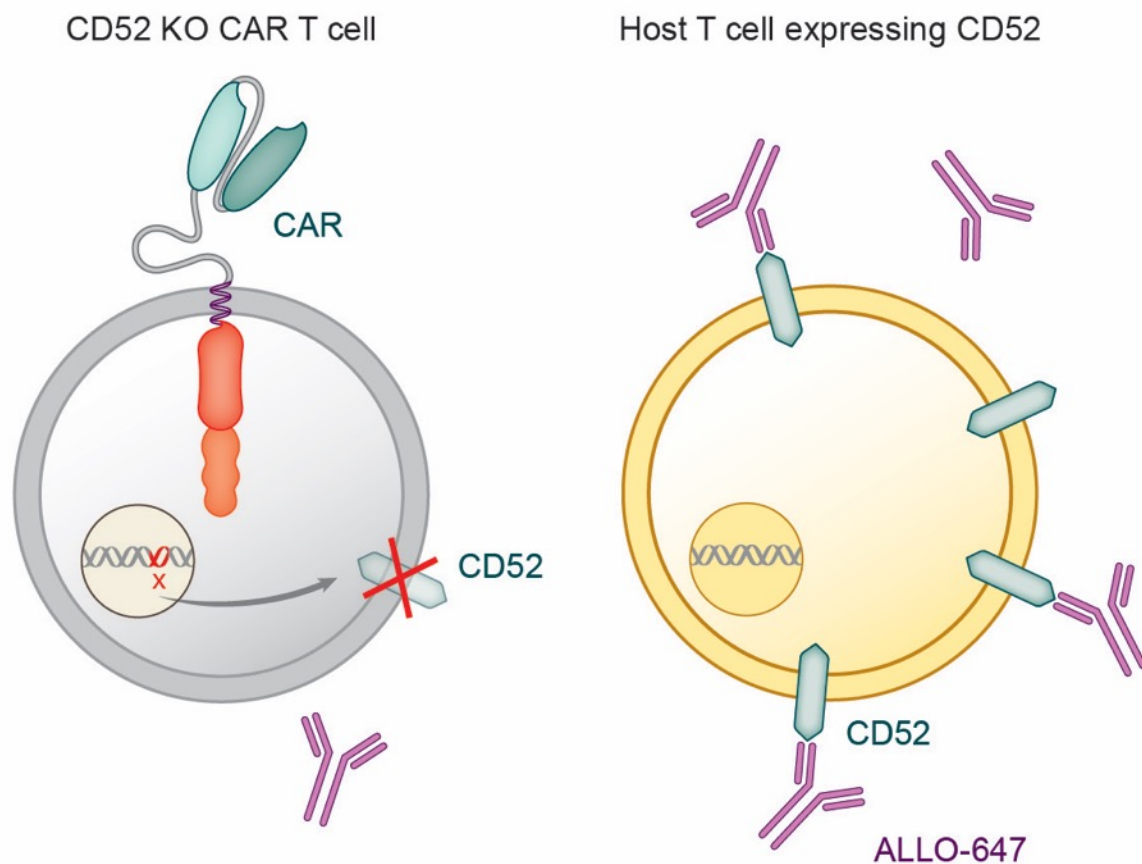


# Controlling Graft-vs-Host Disease (GvHD) Reaction



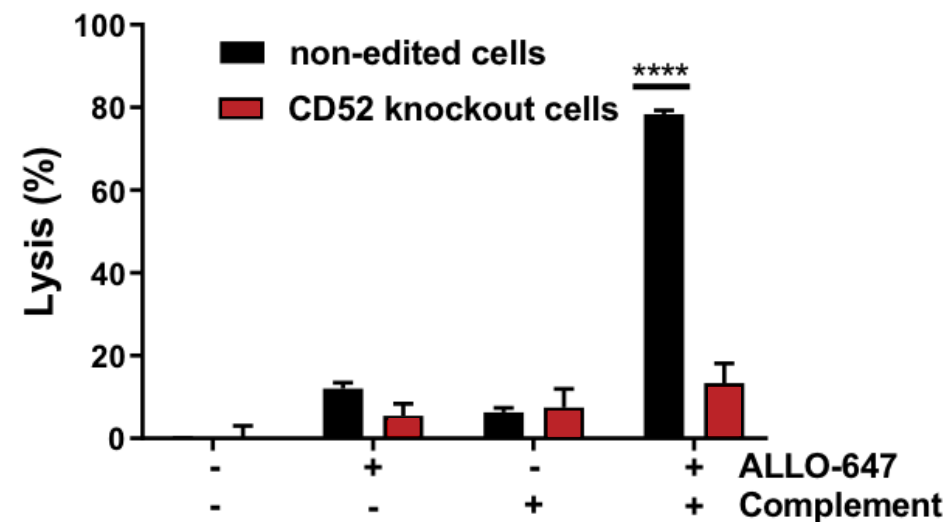
- GvHD: a potentially serious complication where allogeneic cells (“the graft”) attack the patient’s healthy cells (“the host”)
- Risk of GvHD can be reduced by inactivating T cell receptors (TCR)
- Mild cases of Grade 1 acute GvHD reactions limited to skin observed with UCART19 in ongoing clinical studies (ASH 2018)

# Creating a Window of Persistence



Allogeneic CAR T cells lacking CD52 will not be eliminated by ALLO-647 (anti-CD52 mAb)

Anti-CD52 mAb (ALLO-647) intended to reduce the likelihood of the patient's immune system from rejecting AlloCAR T™ cells



BCMA CAR T cells knocked out for CD52 are resistant to ALLO-647 in a complement-dependent cytotoxicity assay



# Deep AlloCAR T™ Pipeline Targeting Vast Array of Tumor Types

CATEGORY	PROGRAM	PRE-CLINICAL	PHASE 1	PHASE 2/3 <sup>1</sup>
Hematological Malignancies	UCART19 (CD19/ALL) <sup>2</sup> (Servier Sponsored)	<div></div>		
	ALLO-501 (CD19/NHL) <sup>2</sup>	<div></div>		
	ALLO-715 (BCMA/MM)	<div></div>		
	ALLO-819 (FLT3/AML)	<div></div>		
	CD70 (Hematological Malignancies)	<div></div>		
Solid Tumors	CD70 (RCC)	<div></div>		
	DLL3 (SCLC)	<div></div>		
Lymphodepletion Agent	ALLO-647 (Anti-CD52 mAb) <sup>3</sup>	<div></div>		

<sup>1</sup> Phase 3 may not be required if Phase 2 is registrational

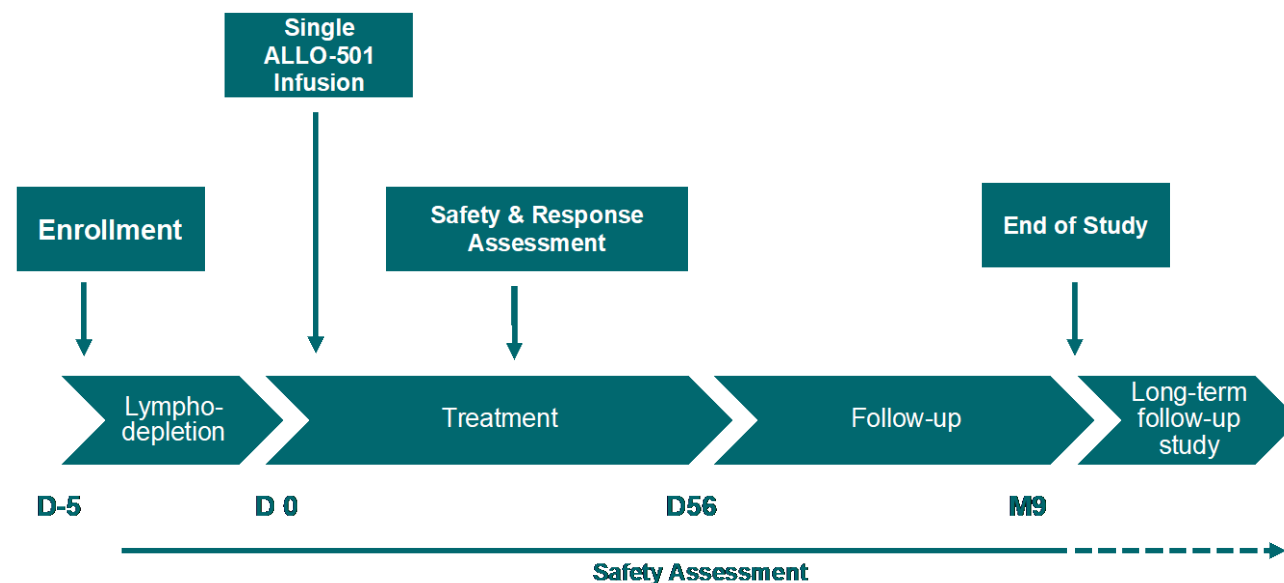
<sup>2</sup> Servier holds ex-US commercial rights

<sup>3</sup> ALLO-647 intended to enable expansion and persistence of allogeneic CAR T product candidates

# ALLO-501 ALPHA Study Targeting CD19 in R/R NHL

## ALLO-501 and ALLO-647 Phase 1 Study Overview (Allogene-Sponsored)

- Initiated 1H 2019
- Eligible patients with relapsed/refractory large B-cell lymphoma or follicular lymphoma and:
  - Failed at least two prior lines of therapy
  - No prior anti-CD19 therapy
  - Absence of pre-existing donor (product)-specific anti-HLA antibodies
- Objectives:
  - Primary: Safety, tolerability and recommended P2 doses for ALLO-501 and ALLO-647
  - Secondary: Anti-tumor activity, ALLO-501 cellular kinetics, ALLO-647 PK, immunogenicity and host lymphocyte reconstitution
- Dose-escalation of ALLO-501: 40 to 360 x 10<sup>6</sup> CAR+ cells in 3+3 design
- Up to 24 patients



### Treatment:

- Starting cell dose: 40 X 10<sup>6</sup> CAR+ cells

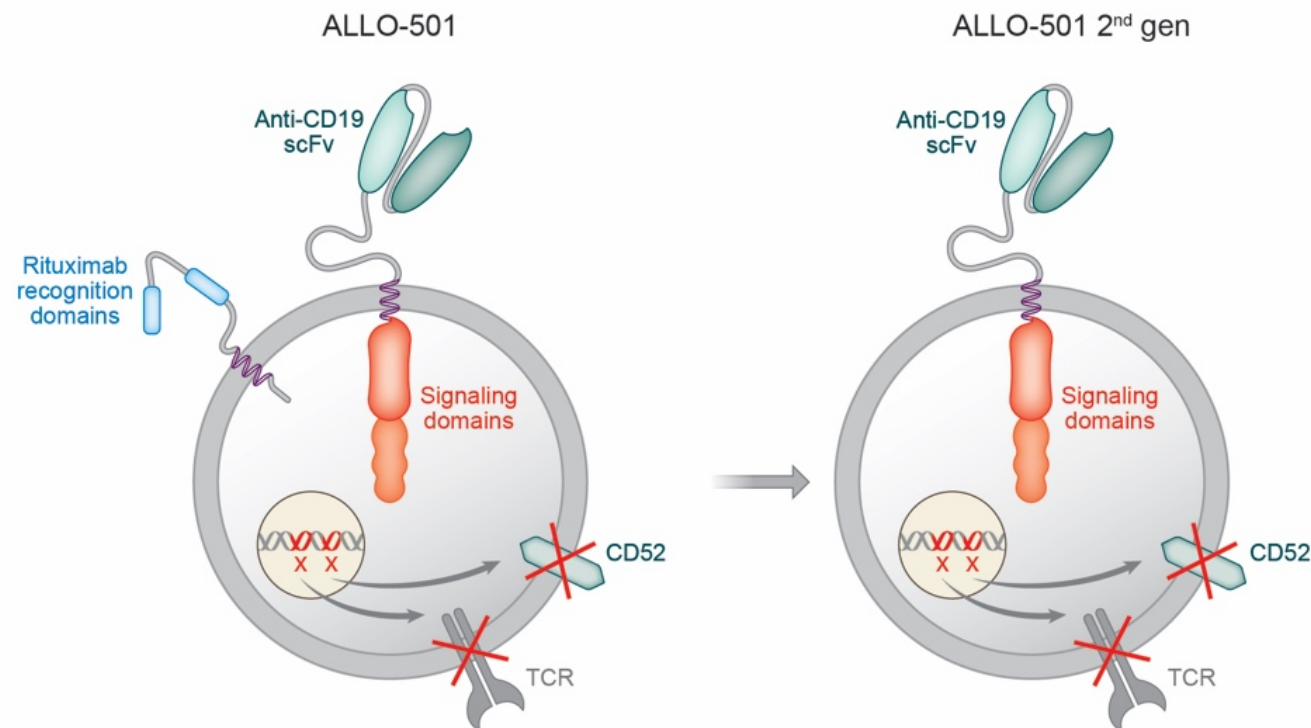
### Lymphodepletion:

- ALLO-647: 13 mg/d x 3 days
- Fludarabine: 30 mg/m<sup>2</sup>/d x 3 days
- Cyclophosphamide: 300 mg/m<sup>2</sup>/d x 3 days

# ALLO-501.1: The Next Generation of ALLO-501

## ALLO-501.1

- ALLO-501 shares the same construct as UCART19, including a rituximab recognition domain safety switch
- Second-generation construct is devoid of the rituximab recognition domain, eliminating the need for rituximab screening
- Second generation ALLO-501 expected to be introduced prior to the start of the Phase 2 portion of the ALPHA study



# UCART19 PALL & CALM Studies Targeting CD19 R/R ALL

## UCART19 ALL Pediatric (PALL) and Adults (CALM) Study Overview *Servier Sponsored*

- Eligible patients with CD19+ B-ALL and:

- Morphological or MRD+
- Failed previous treatment options

- Objectives:

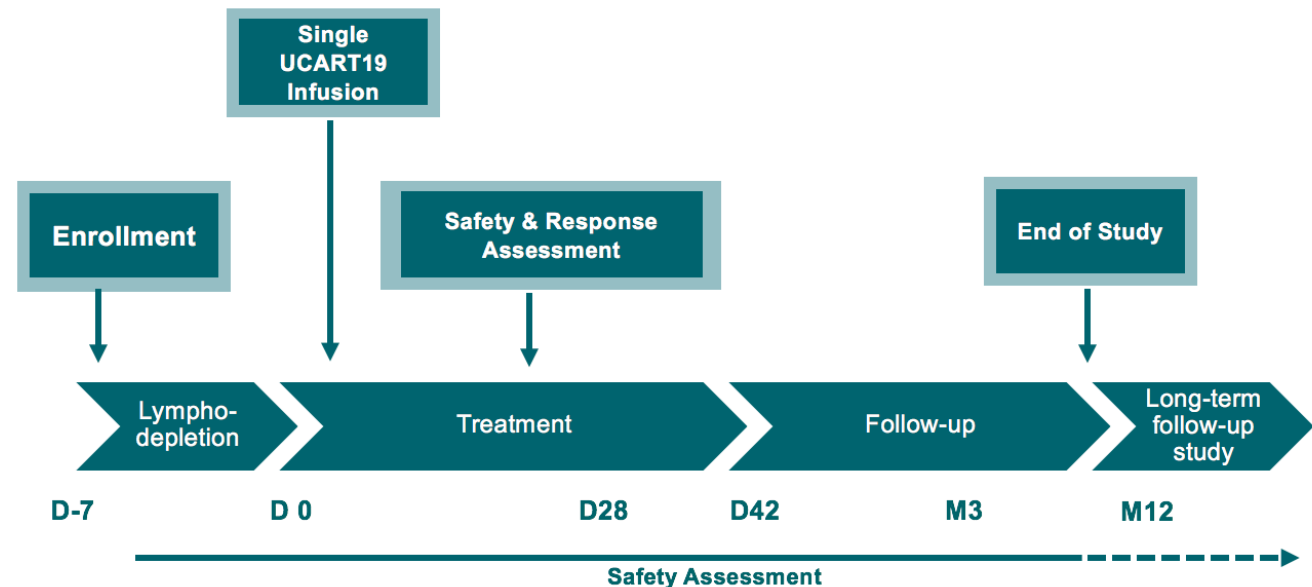
- Primary: Safety and tolerability
- Secondary: Anti-leukemic activity
- Exploratory: UCART19 expansion and persistence

- PALL ongoing:

- ✓ n= 7 treated with  $2 \times 10^7$  total cells

- CALM dose escalation ongoing:

- ✓ n= 6 treated at DL1 ( $6 \times 10^6$  total cells)
- ✓ n= 6 treated at DL2 (6 to  $8 \times 10^7$  total cells)
- DL3 ( $1.8$  to  $2.4 \times 10^8$  total cells) ongoing



- Fludarabine: 90 mg/m<sup>2</sup> for adults; 150 mg/m<sup>2</sup> for pediatrics
- Cyclophosphamide: 1500 mg/m<sup>2</sup> for adults; 120mg/kg for pediatrics
- Anti-CD52 mAb: 1 mg/kg both adults and pediatrics

PALL/CALM ASH 2018

# UCART19: Manageable AE Profile in Phase 1 Studies



<b>N=21</b>	<b>G1 n (%)</b>	<b>G2 n (%)</b>	<b>G3 n (%)</b>	<b>G4 n (%)</b>	<b>G5 n (%)</b>	<b>All grades n (%)</b>
<b>AEs related to UCART19</b>						
<b>Cytokine release syndrome</b>	4 (19.0)	12 (57.1)	2 (9.5)	1* (4.8)	-	19 (90.5)
<b>Neurotoxicity events</b>	7 (33.3)	1 (4.8)	-	-	-	8 (38.1)
<b>Acute skin graft-versus-host disease **</b>	2 (9.5)	-	-	-	-	2 (9.5)
<b>AEs related to lymphodepletion and/or UCART19</b>						
<b>Viral infections †</b>	1 (4.8)	2 (9.5)	4 (19.0)	1 (4.8)	-	8 (38.1)
<b>Prolonged cytopenia***</b>	-	-	-	6 ‡ (28.5)	-	6 (28.5)
<b>Neutropenic sepsis</b>				1 (4.8)	1* (4.8)	2 (9.5)
<b>Febrile neutropenia/ septic shock</b>					1 (4.8)	1 (4.8)
<b>Pulmonary hemorrhage</b>					1‡ (4.8)	1 (4.8)

## ASH 2018

n: number of patients with at least one AE by worst grade

\* 1 DLT at DL1 related to UCART19: G4 CRS associated with G5 neutropenic sepsis (death at D15 post-infusion)

\*\* GvHD confirmed by biopsy in 1 out of 2 cases

\*\*\* Persistent Grade 4 neutropenia and/or thrombocytopenia beyond Day 42 post UCART19 infusion, except if >5% bone marrow blasts

‡ 1 DLT at DL2 related both to UCART19 and LD: G4 prolonged cytopenia associated with infection and pulmonary hemorrhage (death at D82 post-infusion)

† Viral infections: CMV, ADV, BK virus, metapneumovirus



# UCART19: 82% CR/CRi with FCA Lymphodepletion Regimen

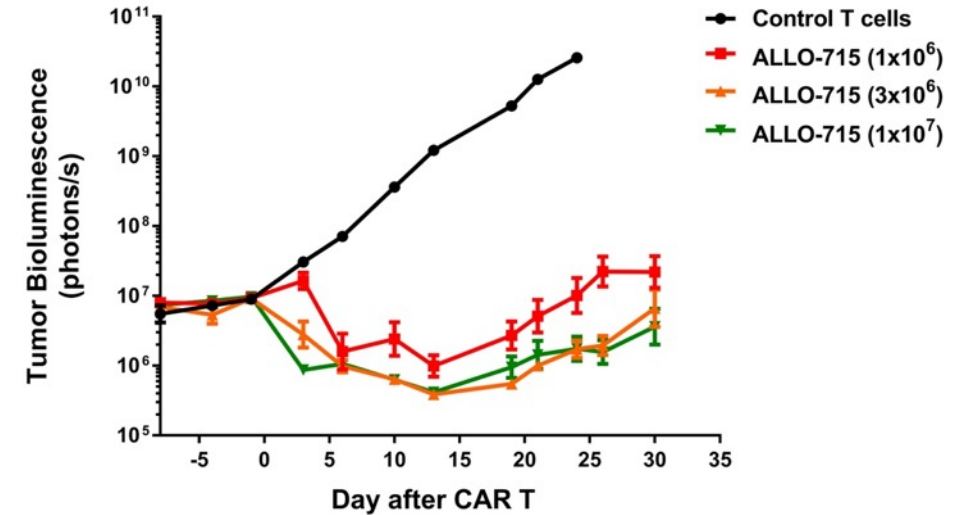
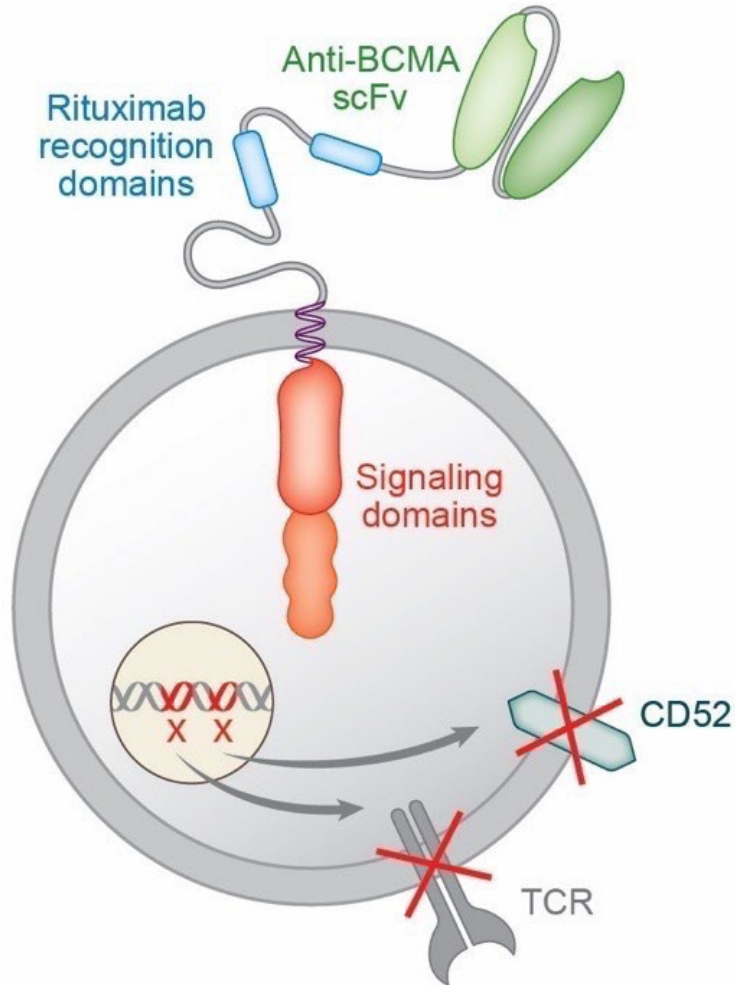


Trial	Patients Enrolled & Treated	CR/CRi with FCA	CR/CRi with FC only	CR/CRi Overall
PALL	7	100% (6/6)	0% (0/1)	86% (6/7)
CALM	14	73% (8/11)	0% (0/3)	57% (8/14)
Pooled	21	82% (14/17)	0% (0/4)	67% (14/21)

ASH 2018 ; FCA: Fludarabine, cyclophosphamide & alemtuzumab (anti-CD52 mAb); FC: Fludarabine & cyclophosphamide

- UCART19 expansion observed in 15/17 patients with FCA and 0/4 patients with FC only
- Allogene will use its Proprietary anti-CD52 mAb (ALLO-647) for AlloCAR T™ Programs

# ALLO-715: BCMA AlloCAR T<sup>TM</sup> for Multiple Myeloma (MM)



ALLO-715 showed activity *in vitro* against myeloma cell lines and *in vivo* in xenograft models

- IND Submitted 1H 2019
- Phase 1 clinical trial initiation expected in 2019
  - Open label, multi-center, dose escalation study in r/r MM
- Pre-clinical study published in *Molecular Therapy* validates the potential for an AlloCAR T to treat MM

# CD70 for Renal Cell Carcinoma (RCC)

**CD70 is the ligand for the co-stimulatory receptor CD27**

- Normal CD70 expression is limited to activated lymphocytes and APCs

**CD70 expression<sup>1</sup>:**

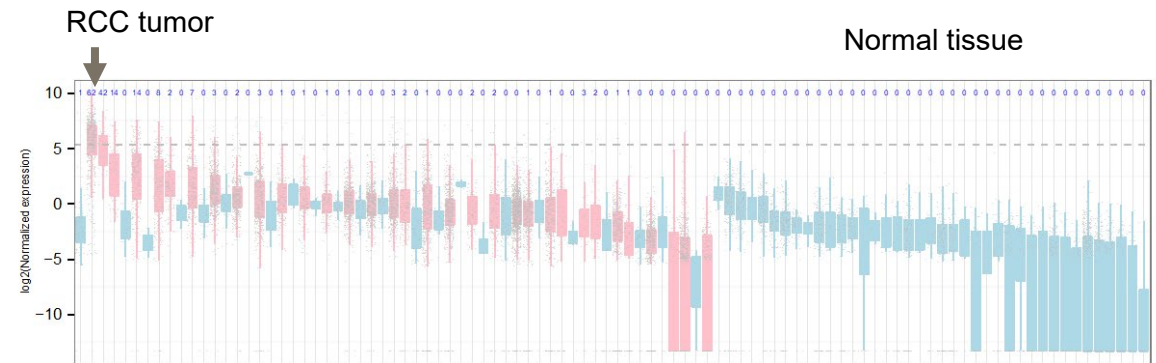
- RCC tumor samples (80-100%)
- AML (96%)
- DLBCL (71%), MM (63%), CLL (50%),
- GBM (35%)

**Lead CARs chosen from several Abs targeting different regions of the protein**

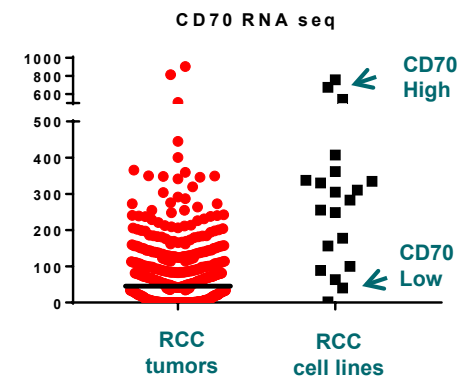
- Candidates screened to show long-lived activity in low-expressing cell lines similar to disease level expression

**Pre-clinical data presented at AACR 2019; candidate to be selected for IND-enabling studies**

## CD70 Expression High in RCC and Low in Normal Tissues



## CD70-Low Cell Line Models Match Median Expression in Tumors

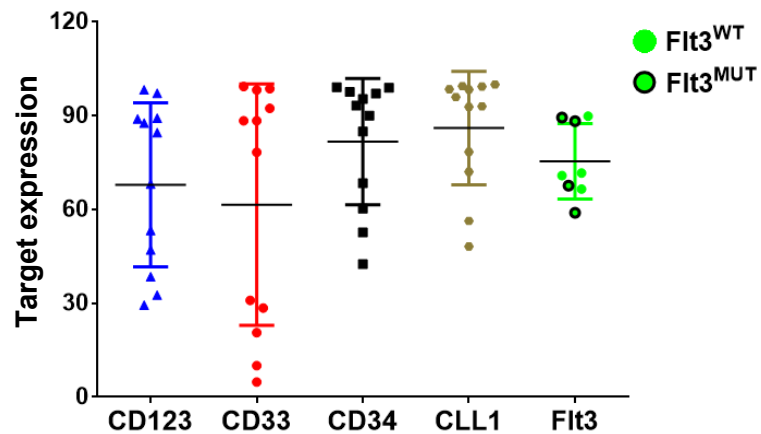


# ALLO-819: FLT3 CAR T for Acute Myeloid Leukemia (AML)

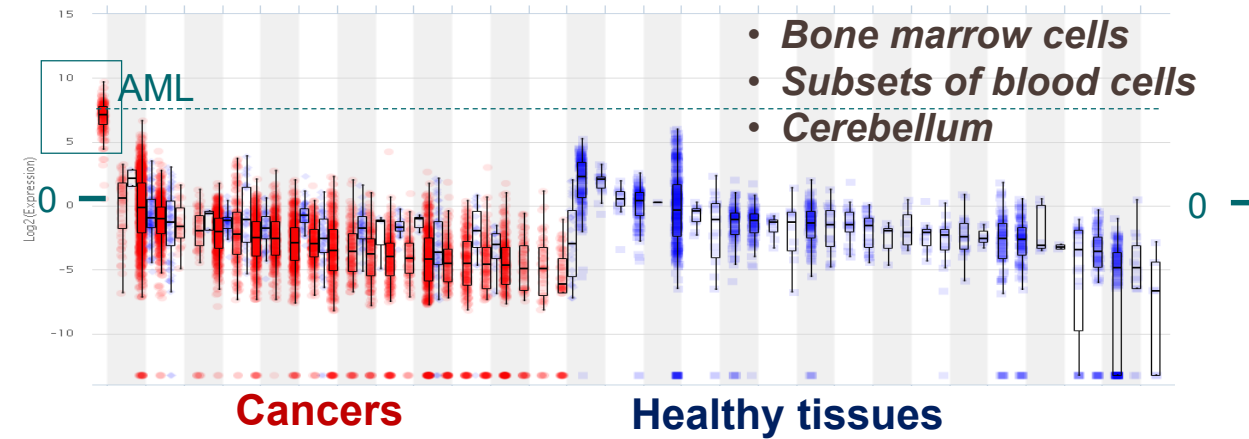
**AML is a high unmet medical need with limited treatment options**

- Cancer of hematopoietic progenitor cells most common in adults
- Lower survival rate of all hematological malignancies (5-year OS < 28%)
- Majority of patients relapse, novel therapies are urgently needed

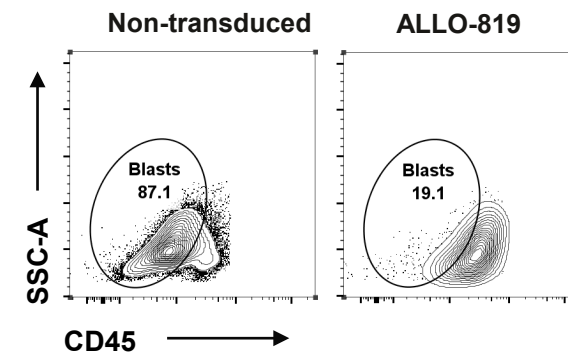
**FLT3 is Present on a High Proportion of Primary AML Samples**



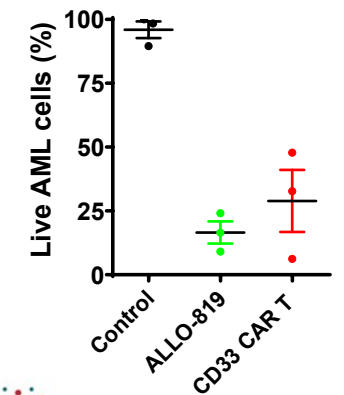
**FLT3 - Most Favorable RNA Expression Profile of 4 Most Commonly Investigated AML Targets but May Have Some Normal Tissue Liabilities**



**ALLO-819 Depletes Primary AML Blasts Ex Vivo**



- Primary AML cells vs. TCR KO CAR Ts, 1:1 (E:T); 48-h killing assay



# DLL3 for Small Cell Lung Cancer (SCLC)

## DLL3 reported to have a role in tumorigenesis

- Outside of the developing embryo, minimal to no surface expression in normal tissue

## DLL3 expression<sup>1</sup>:

- Small cell lung cancer (80%)
- Low grade gliomas (90%) & GBM (70%)
- Bladder (57%) & Prostate (24%)
- Testicular cancer (90%)

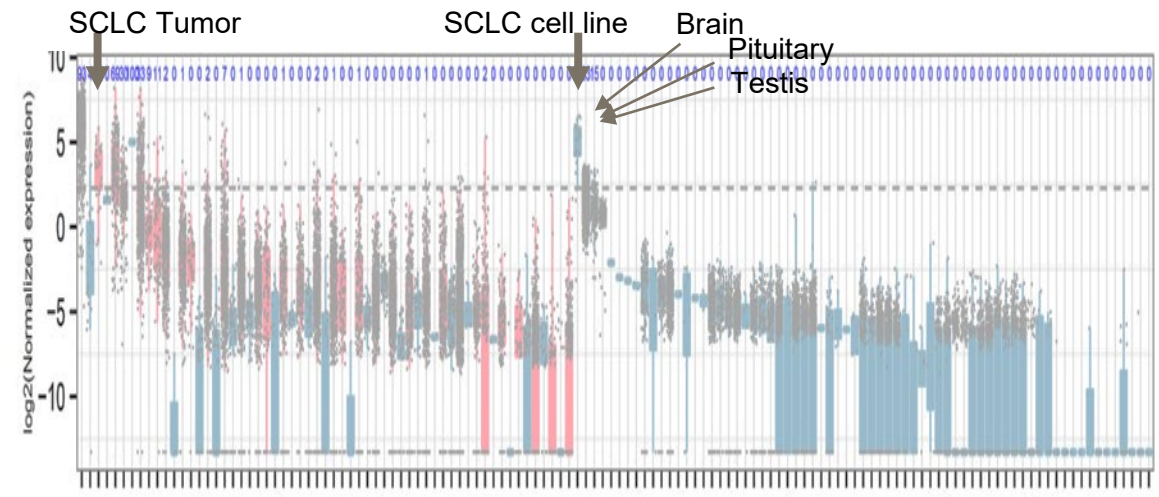
## Candidate CARs chosen from several Abs targeting different regions of the protein

- Two protein domains identified with superior CAR T activity

## Toxicology program ongoing

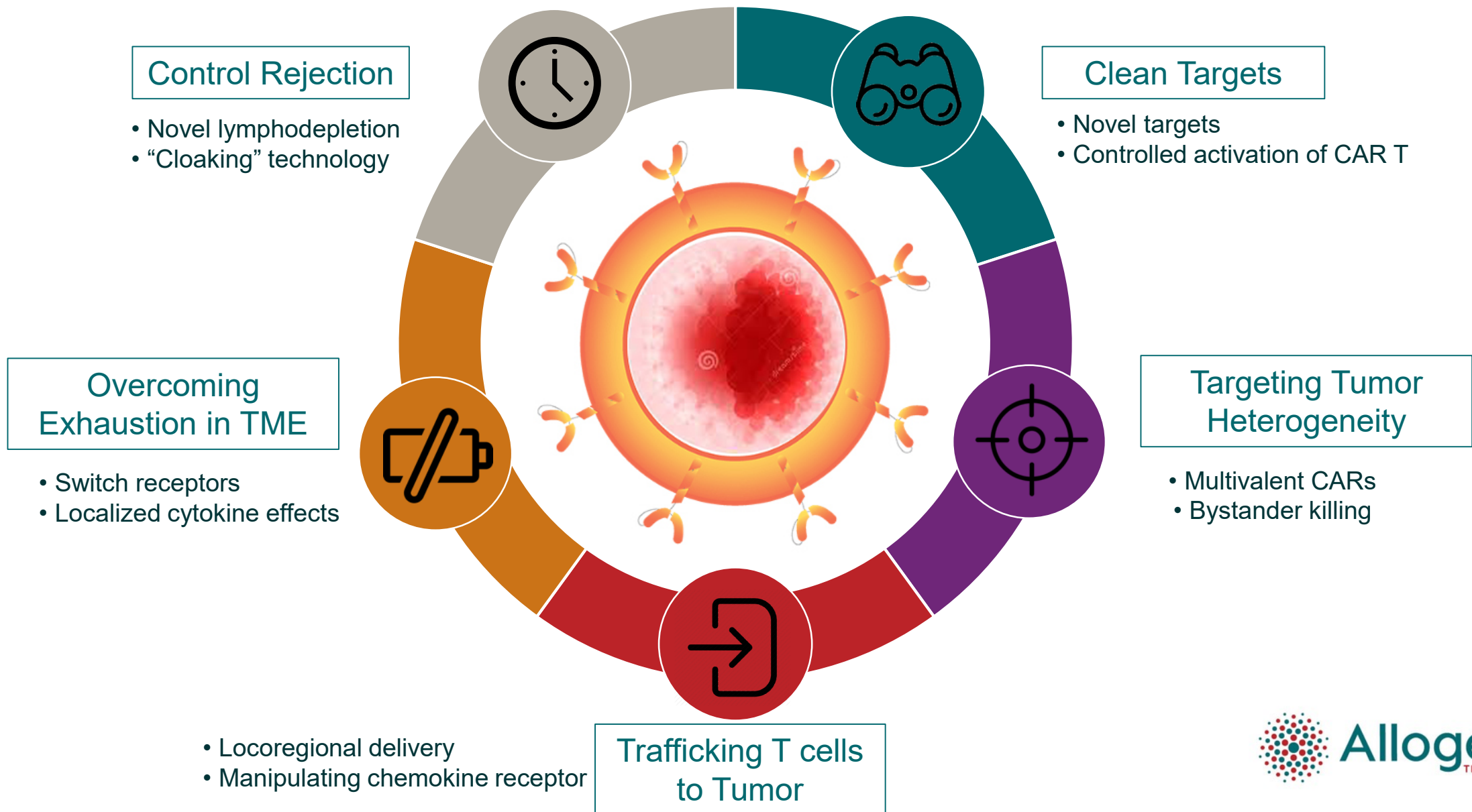
- Investigating toxicity using mouse cross-reactive CARs

## DLL3 RNA Expression High in Tumor and Normal Tissue





# Engineering a Future for AlloCAR T™ in Solid Tumors



# The 2019 Path Forward: Allogene-Sponsored Program Milestones

