

Allogene:

Leading the Next Revolution in Cell Therapy

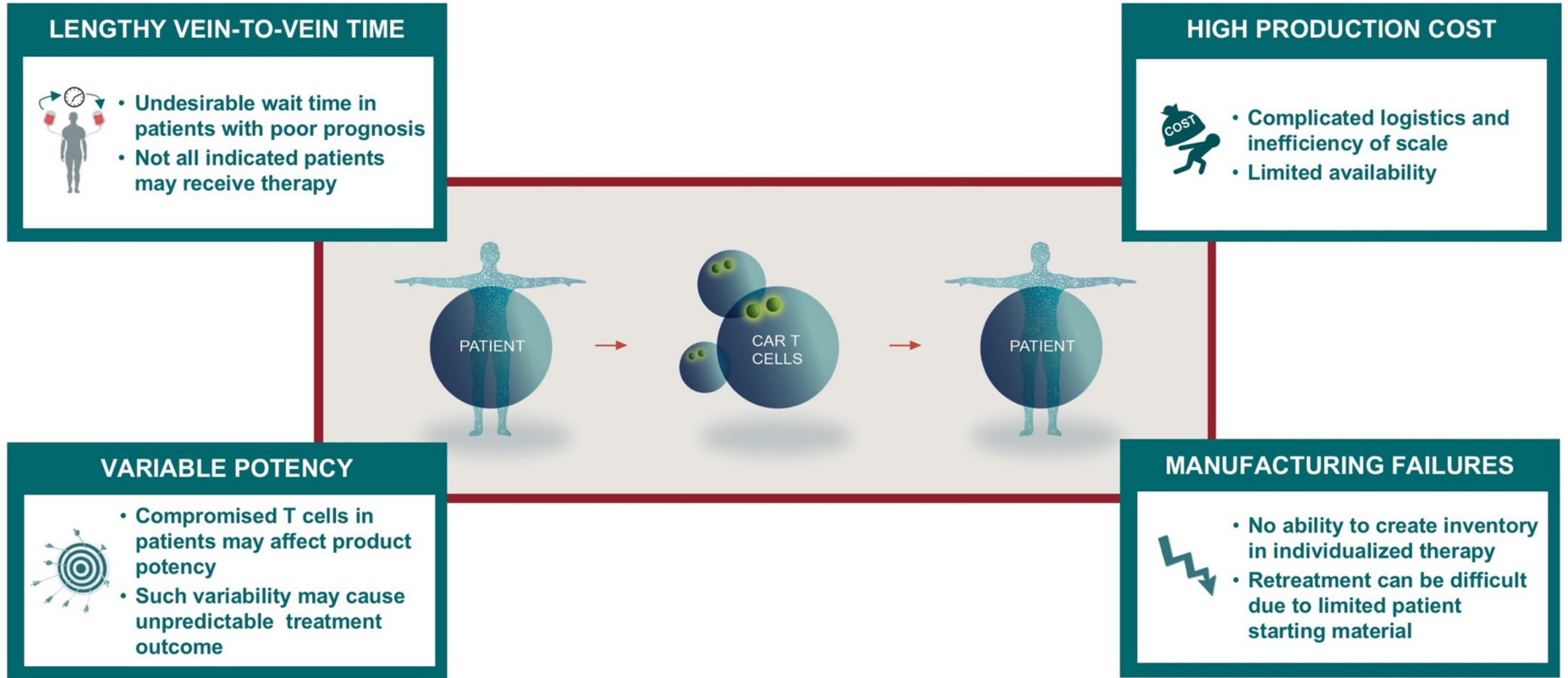
June 2019

Forward-Looking Statements

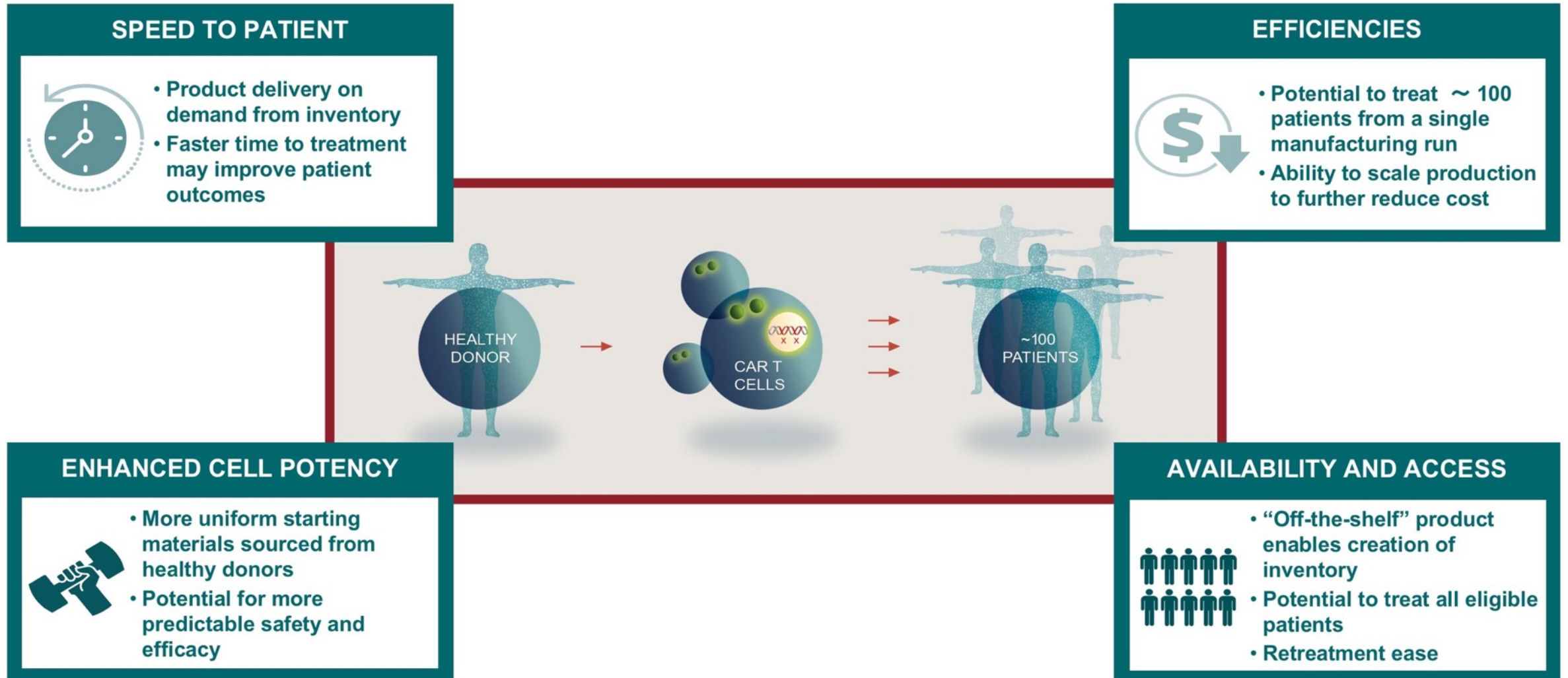
To the extent statements contained in this Presentation are not descriptions of historical facts regarding Allogene Therapeutics, Inc. (“Allogene,” “we,” “us,” or “our”), they are forward-looking statements reflecting management’s current beliefs and expectations. Forward-looking statements are subject 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.

Except as required by law, we undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise. This Presentation shall not constitute an offer to sell or the solicitation of an offer to buy securities, nor shall there be any sale of securities in any state or jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such state or jurisdiction.

Autologous CAR T: Learning from the First Revolution



Allogeneic CAR T Therapy: The Next Potential Breakthrough



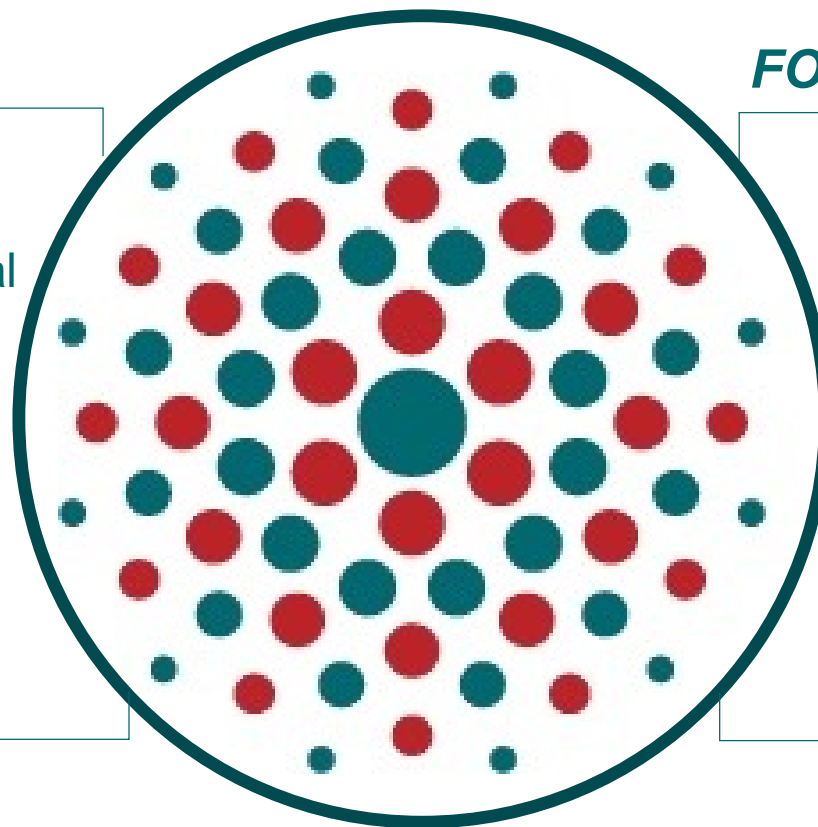
Allogene: Leading the Future of AlloCAR T™ Cell Therapy

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)

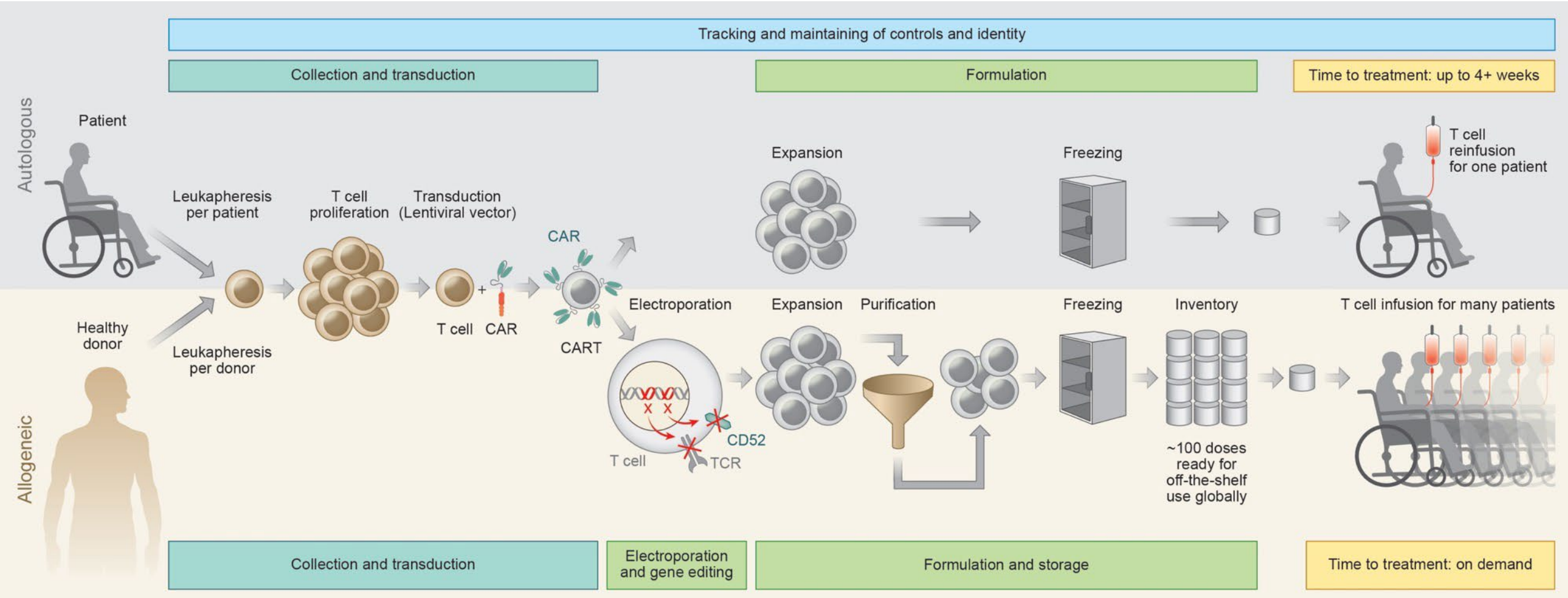
- 118,000 sq./ft facility planned
- In-house manufacturing capability build underway:
 - GMP manufacturing for clinical supply
 - Potential commercial launch upon approval

Current CMO Support

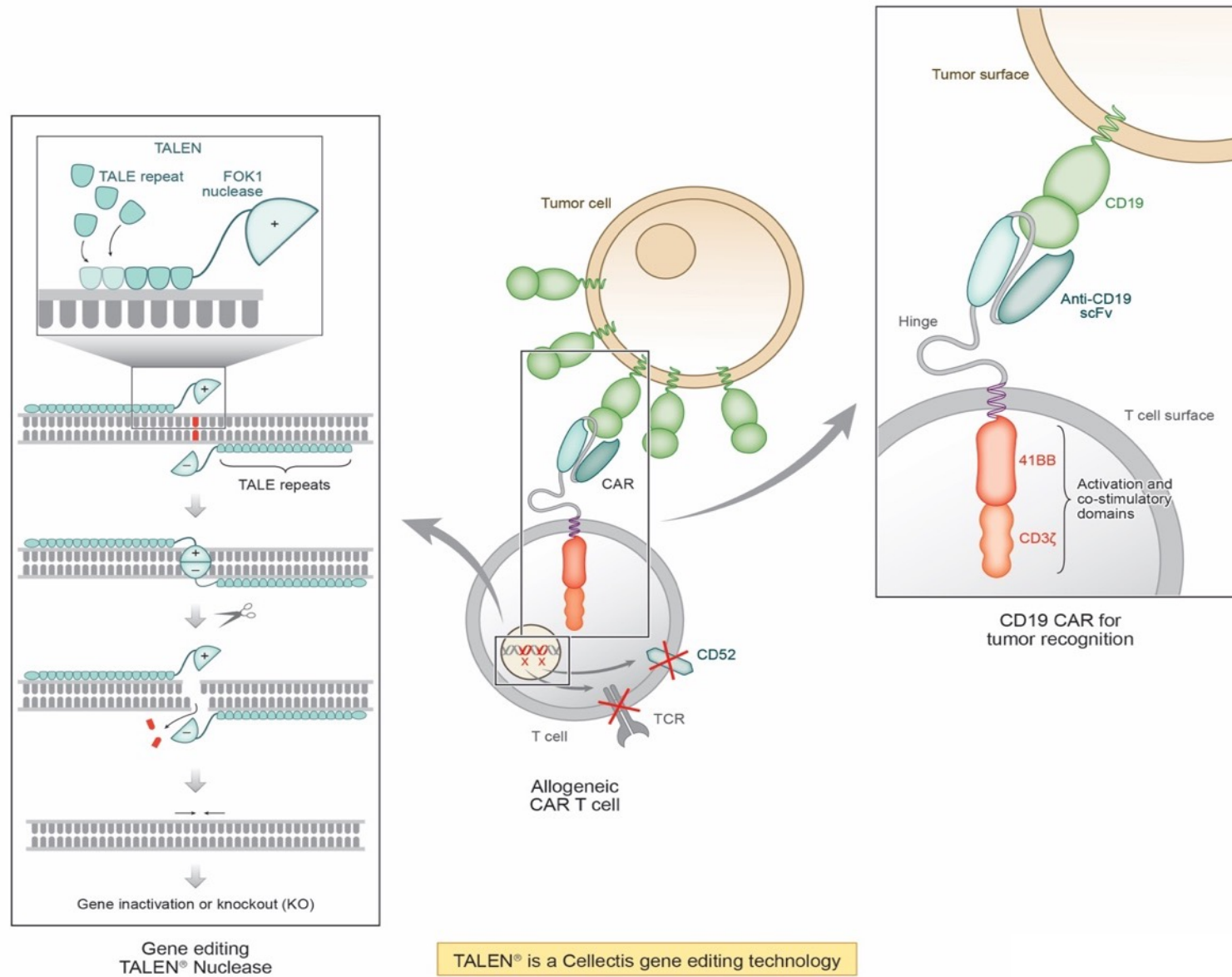
- Dedicated purpose built GMP suite
- Clinical supply manufacturing, formulation & release



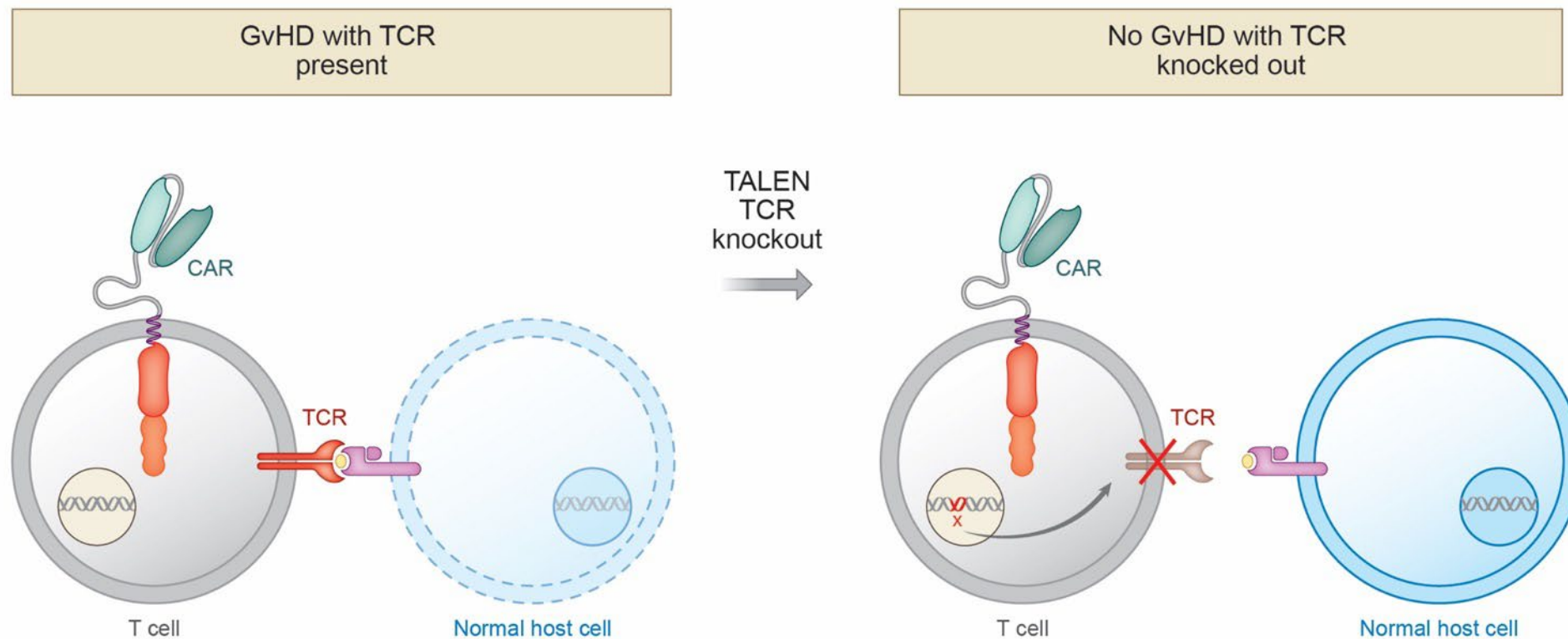
AlloCAR T™ Cells Will Be Available On Demand



UCART19: The First AlloCAR T™ in Clinical Development

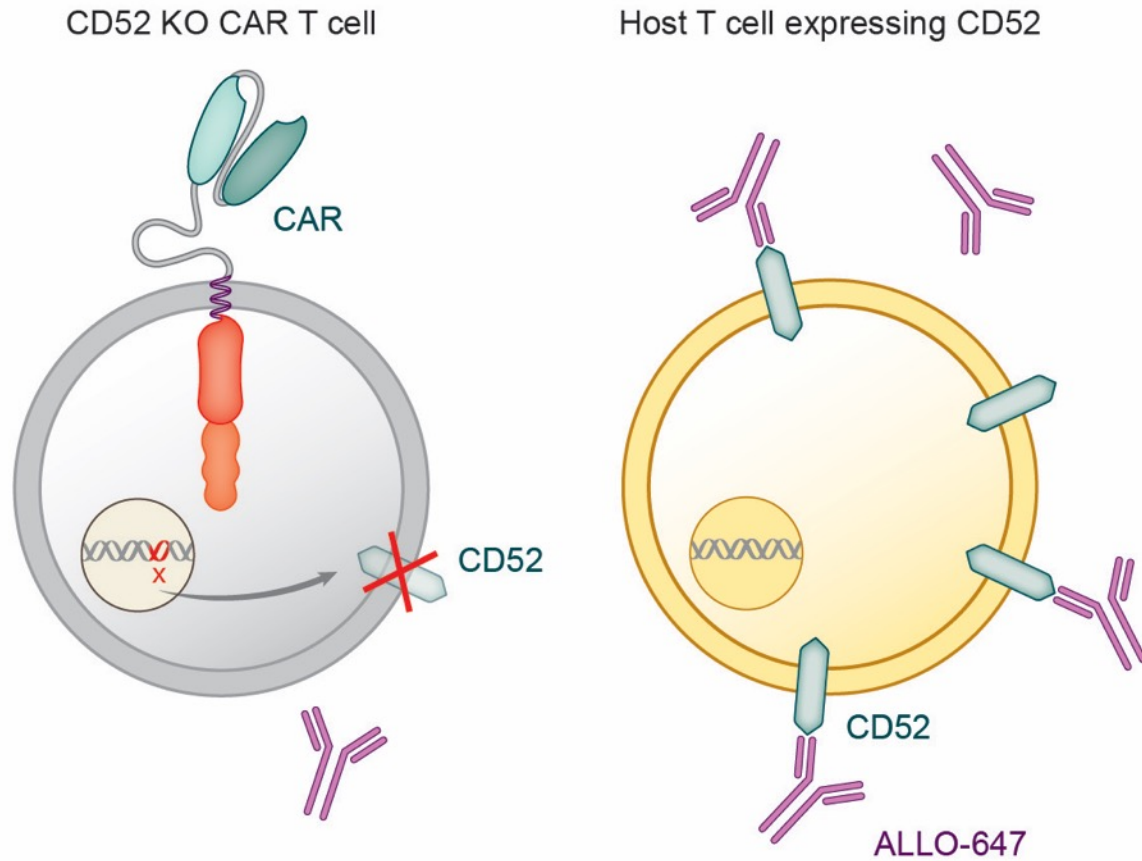


Controlling Graft-vs-Host Disease (GvHD) Reaction



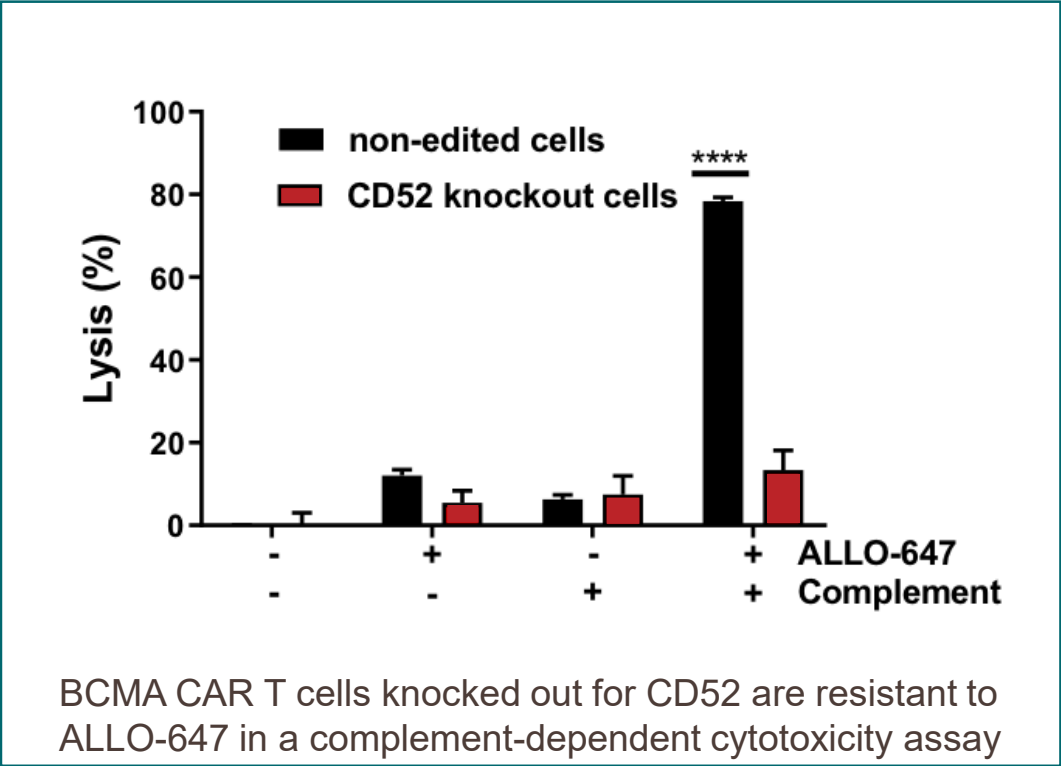
- GvHD: a potentially serious complication where allogeneic cells (“the graft”) attack the patient’s healthy cells (“the host”)
- Risk of GvHD can be reduced by inactivating T cell receptors (TCR)
- Mild cases of Grade 1 acute GvHD reactions limited to skin observed with UCART19 in ongoing clinical studies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

Creating a Window of Persistence



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

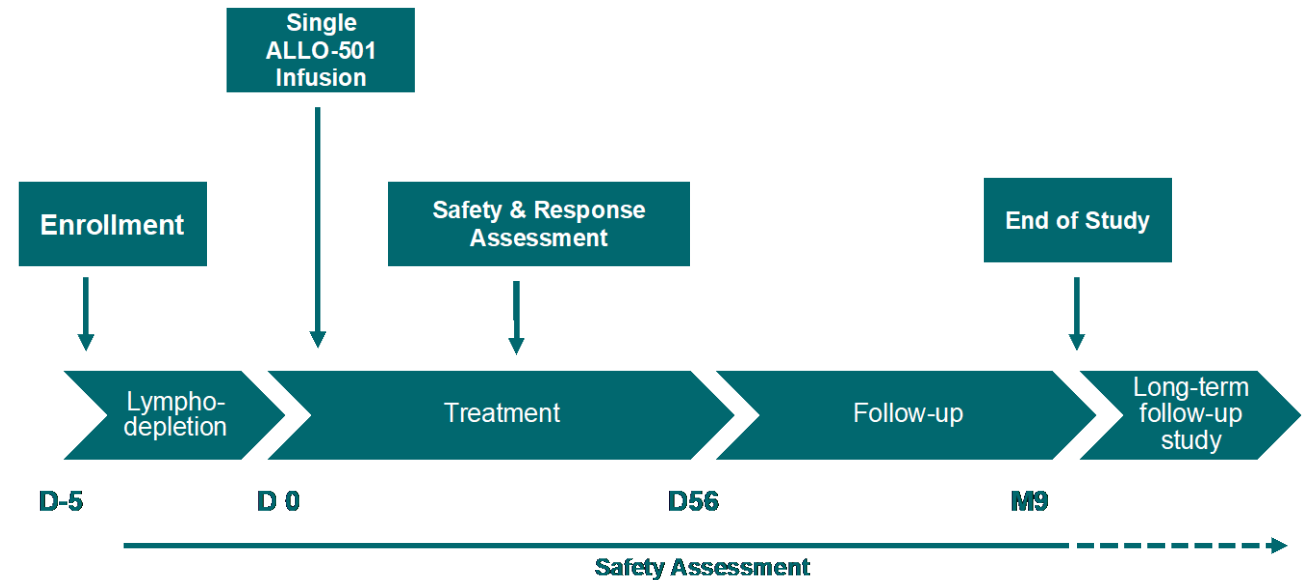
Anti-CD52 mAb (ALLO-647) intended to reduce the likelihood of the patient's immune system from rejecting AlloCAR T™ cells



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 10⁶ CAR+ cells in 3+3 design
- Up to 24 patients



Treatment:

- Starting cell dose: 40 X 10⁶ CAR+ cells

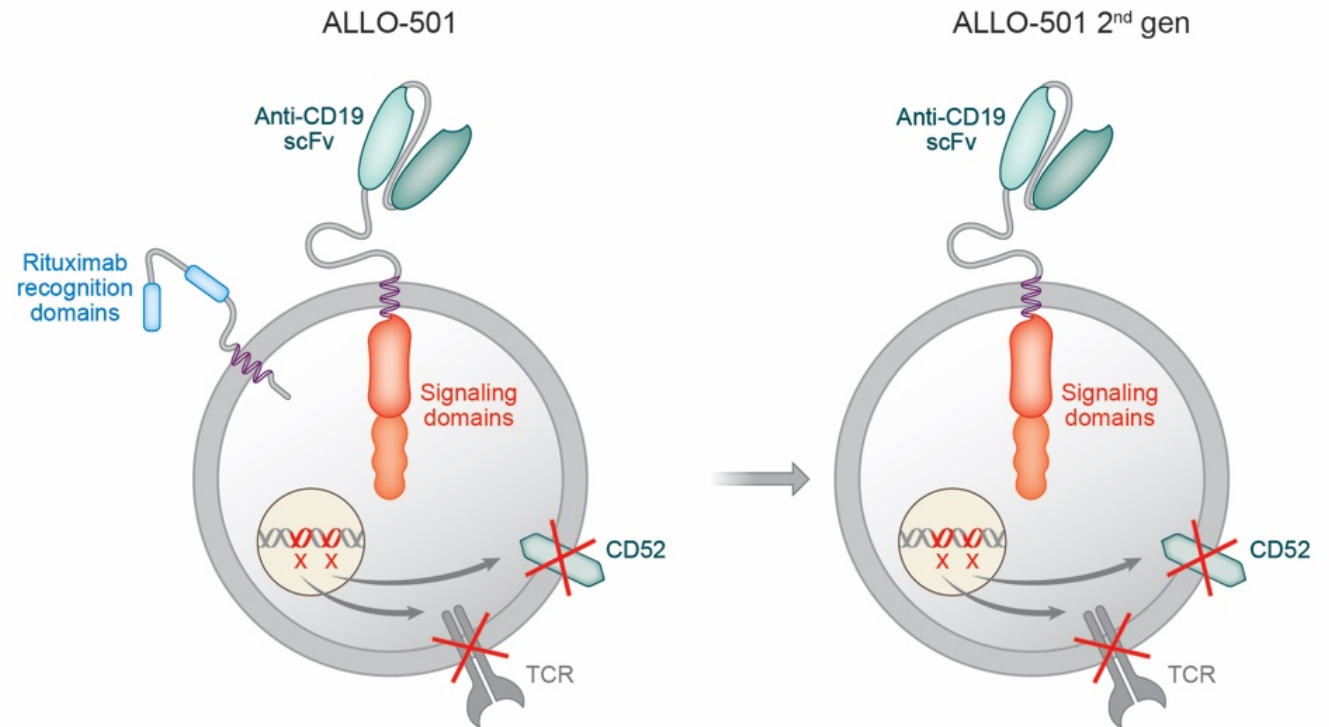
Lymphodepletion:

- ALLO-647: 13 mg/d x 3 days
- Fludarabine: 30 mg/m²/d x 3 days
- Cyclophosphamide: 300 mg/m²/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

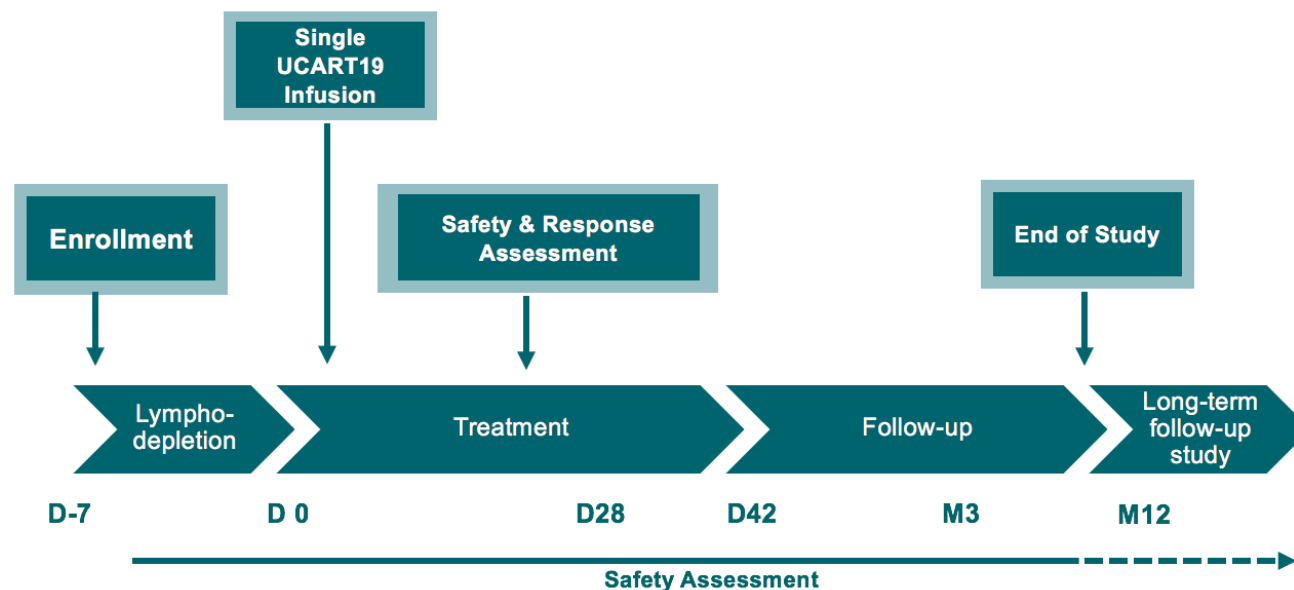


UCART19 PALL & CALM Studies Targeting CD19 R/R ALL



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 2×10^7 total cells
- CALM dose escalation ongoing:
 - ✓ n= 6 treated at DL1 (6×10^6 total cells)
 - ✓ n= 6 treated at DL2 (6 to 8×10^7 total cells)
 - DL3 (1.8 to 2.4×10^8 total cells) ongoing



- Fludarabine: 90 mg/m² for adults; 150 mg/m² for pediatrics
- Cyclophosphamide: 1500 mg/m² 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



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

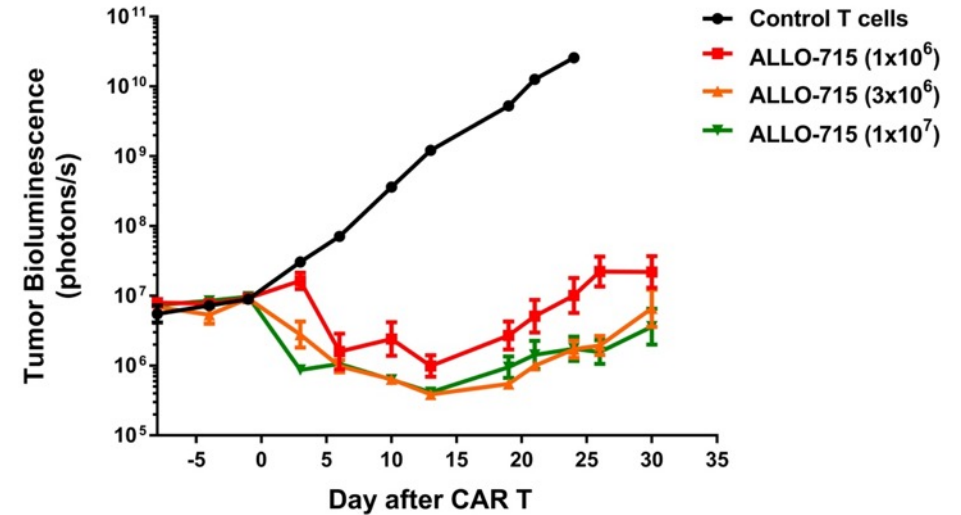
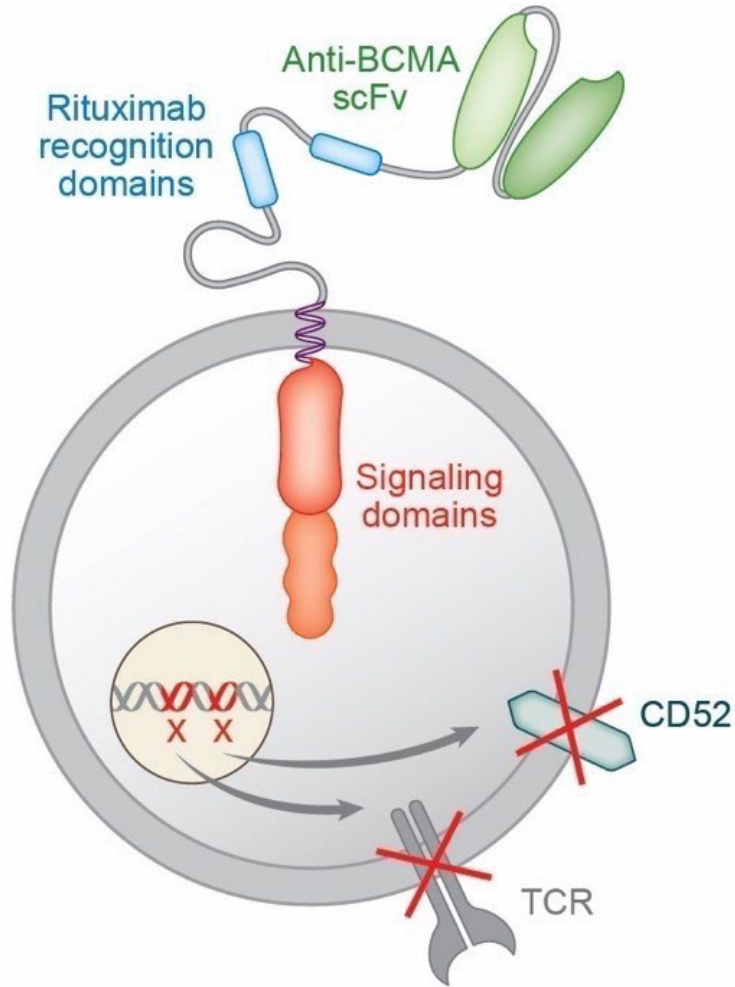


Trial	Patients Enrolled & Treated	CR/CRi with FCA	CR/CRi with FC only	CR/CRi Overall
PALL	7	100% (6/6)	0% (0/1)	86% (6/7)
CALM	14	73% (8/11)	0% (0/3)	57% (8/14)
Pooled	21	82% (14/17)	0% (0/4)	67% (14/21)

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 TTM for Multiple Myeloma (MM)



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

- IND Accepted 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 expression¹:

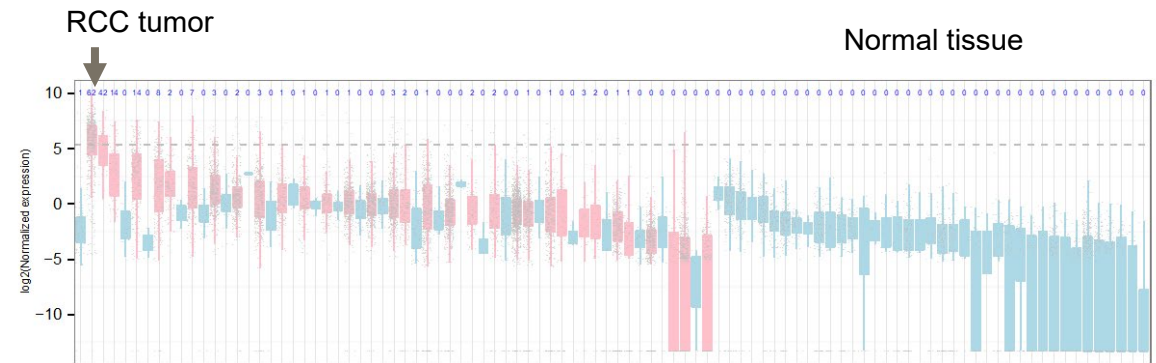
- RCC tumor samples (80-100%)
- AML (96%)
- DLBCL (71%), MM (63%), CLL (50%),
- GBM (35%)

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

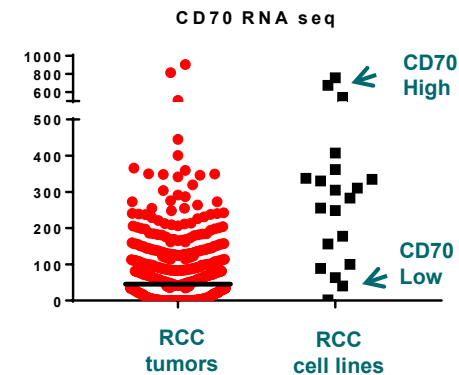
- Candidates screened to show long-lived activity in low-expressing cell lines similar to disease level expression

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

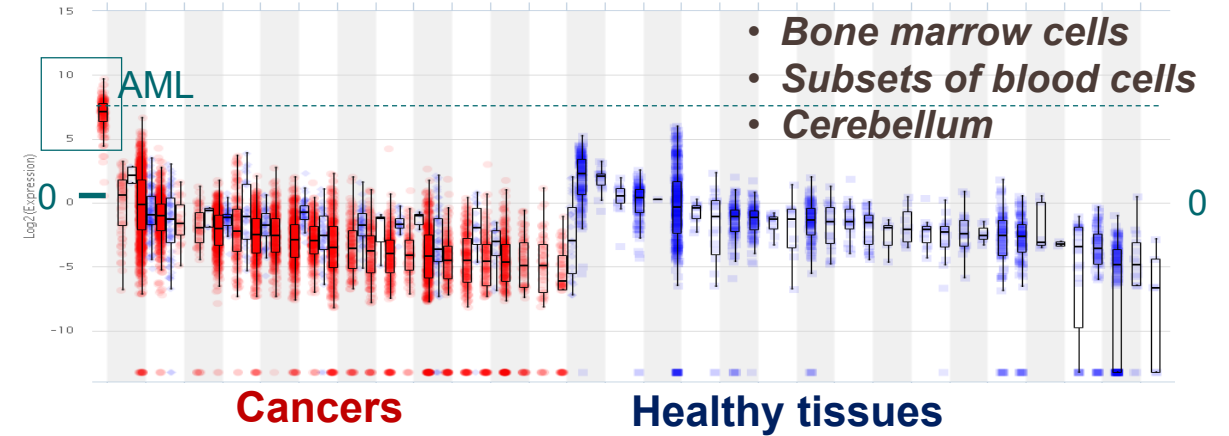


ALLO-819: FLT3 CAR T for Acute Myeloid Leukemia (AML)

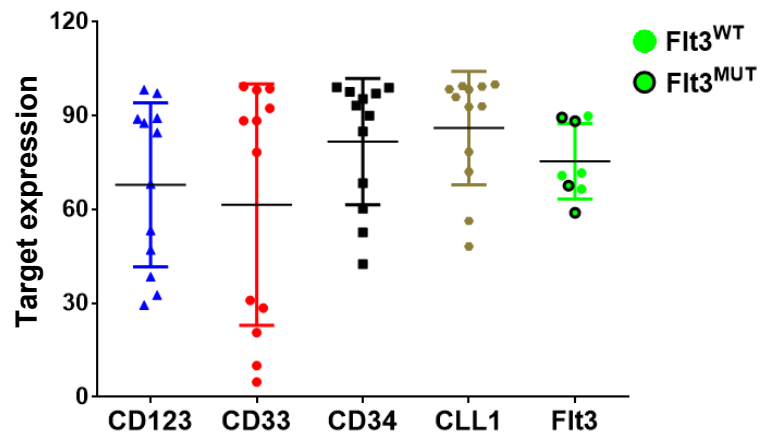
AML is a high unmet medical need with limited treatment options

- 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

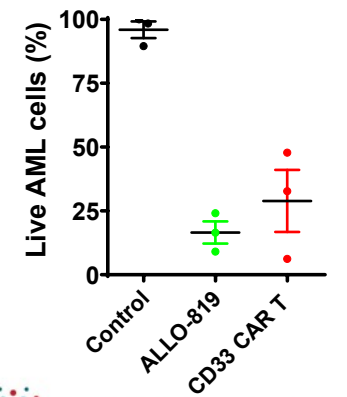
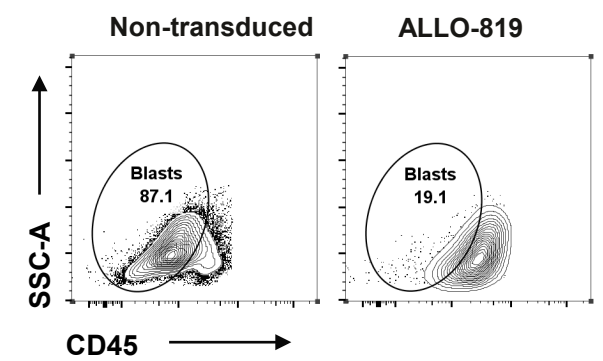
FLT3 - Most Favorable RNA Expression Profile of 4 Most Commonly Investigated AML Targets but May Have Some Normal Tissue Liabilities



FLT3 is Present on a High Proportion of Primary AML Samples



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 expression¹:

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

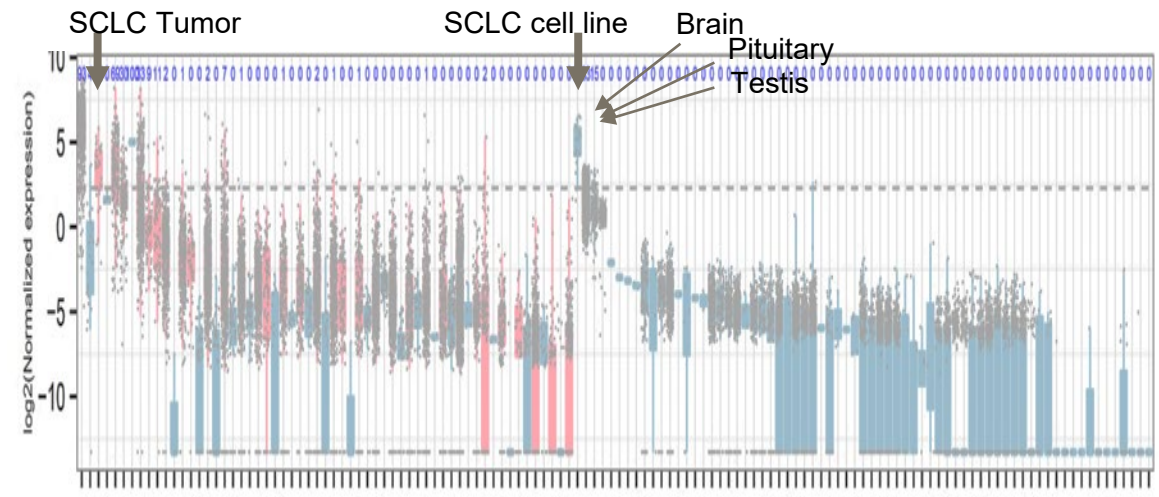
Candidate CARs chosen from several Abs targeting different regions of the protein

- Two protein domains identified with superior CAR T activity

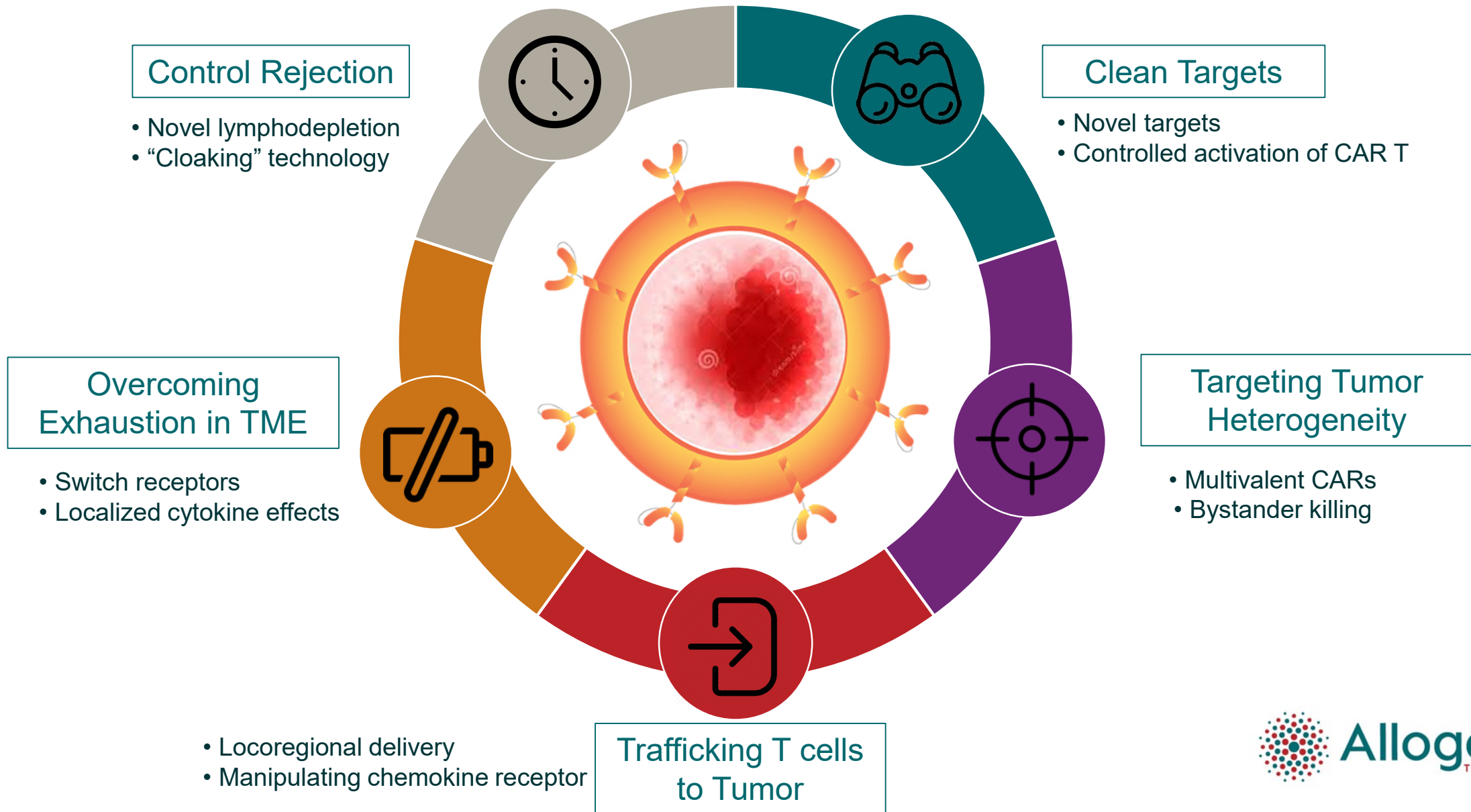
Toxicology program ongoing

- Investigating toxicity using mouse cross-reactive CARs

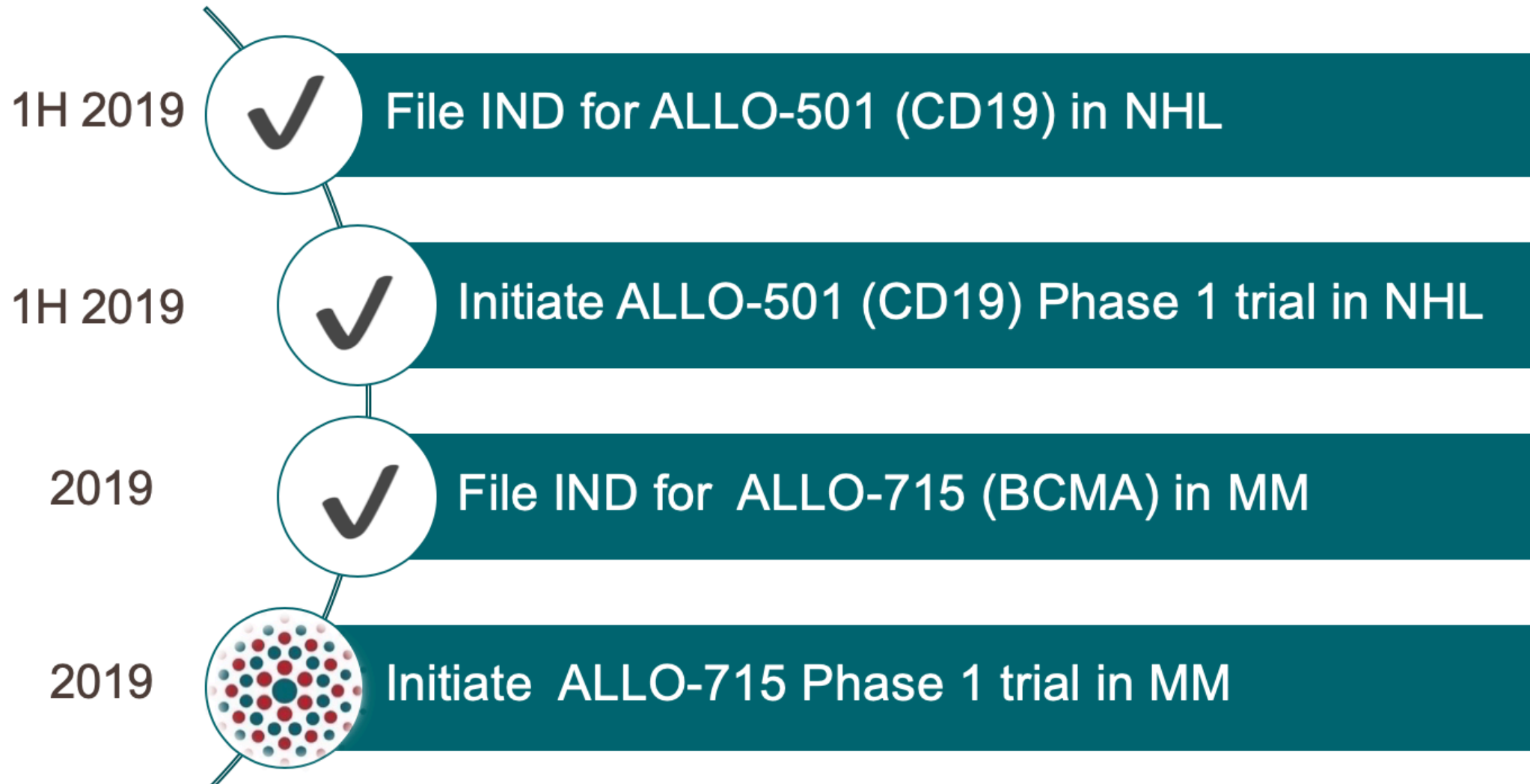
DLL3 RNA Expression High in Tumor and Normal Tissue



Engineering a Future for AlloCAR T™ in Solid Tumors



The 2019 Path Forward: Allogene-Sponsored Program Milestones





Allogene
THERAPEUTICS