Allogene® THERAPEUTICS

The Next Revolution in Cell Therapy

Leading Today, Defining Tomorrow

January 2022

Legal Disclaimers

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: clinical outcomes, which may materially change as more patient data become available; the timing and ability to progress clinical trials, including the timing and ability to progress to a Phase 2 clinical trial of ALLO-501A; the ability to manufacture AlloCAR T™ therapies for use in clinical trials; the results of the clinical hold investigation; the potential of next-generation technology, such as TurboCAR™; and the potential benefits of AlloCAR T™ therapy. 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 quarter ended September 30, 2021.

Caution should be exercised when interpreting results from separate trials involving separate product candidates. There are differences in the clinical trial design, patient populations, follow-up times, and the product candidates themselves, and the results from the clinical trials of autologous products may have no interpretative value on our existing or future results.

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.

Allogene: Creating the Allogeneic Cell Therapy Playbook

4 Foundational platform technologies

- AlloCAR T™
- TurboCAR™
- iPSC
- Allogeneic manufacturing

Cell Forge 1

>130 Patients treated

more patients treated with AlloCAR T™ product candidates than any other allogeneic CAR T

~300 employees

defining the field and writing the allogeneic CAR T playbook

$862 million

in cash, cash equivalents and investments as of Sept 30, 2021

1

singular focus on allogeneic cell therapy

Fully Integrated Research, Process Development, Clinical, Translational Science and Manufacturing Capabilities

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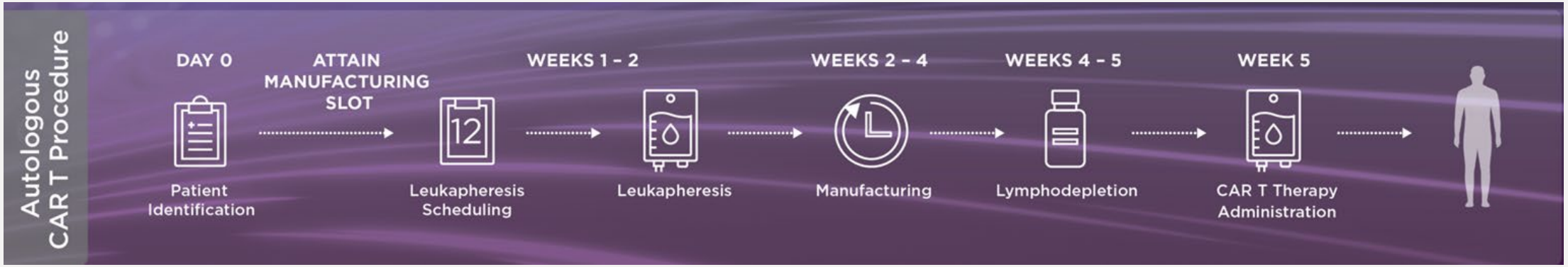
Allogeneic CAR T Value Proposition: From Process to Product

Today, CAR T is a procedure…



…Tomorrow, CAR T could be a biopharmaceutical product

* Option for additional dose

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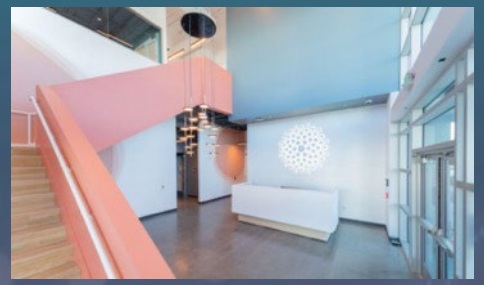
Industrializing Allogeneic Cell Therapy Production



Strength in Manufacturing Capability

- Our state-of-the-art manufacturing facility, Cell Forge 1, operational and producing GMP material
- Designed to be scalable and ready for commercialization

Strength in Product Quality

- Understanding product quality is a cornerstone objective
- Managed by specially created Attribute Science teams working with QC teams

Strength in Network Coordination

- Building Supply Chain network and relationship to enable inflow of complex starting material to Cell Forge 1.
- Coordinating complex logistics to ensure the flow of drug product out of Cell Forge 1 to clinical sites

Industry-Defining Research: Hold Lifted Across All AlloCAR T Programs

Allogene Therapeutics Announces Removal of FDA Clinical Hold Across All AlloCAR T™ Clinical Trials

- Investigation Confirmed the Chromosomal Abnormality in a Single Patient was Not Observed in Any AlloCAR T Product and Not Related to Allogene Manufacturing Process or TALEN® Gene Editing
- Clinical Trials Across the AlloCAR T Platform to Resume Dosing
- Pivotal Phase 2 Trial of ALLO-501A in Relapsed/Refractory Large B Cell Lymphoma Expected to Commence in Mid-Year 2022 Pending FDA Discussions

SOUTH SAN FRANCISCO, Calif., January 10, 2022 -- Allogene Therapeutics, Inc. (Nasdaq: ALLO), a clinical-stage biotechnology company pioneering the development of allogeneic CAR T (AlloCAR T™) products for cancer, today announced that the U.S. Food and Drug Administration (FDA) has removed the clinical hold on the Company's AlloCAR T clinical trials. Allogene previously announced on October 7, 2021 that the FDA had placed a hold on all five of the Company's Investigational New Drug Applications ("IND") based on a report of a chromosomal abnormality detected post-AlloCAR T administration in a single patient treated with ALLO-501A in the ALPHA2 study.

Abnormality occurred in the patient after the cell product was administered.

Involved regions of the T cell receptor and immunoglobulin genes known to undergo rearrangement as part of the T cell or B cell maturation process.

Broad Allogeneic Pipeline Across Heme and Solid Tumors

CATEGORY		PROGRAM	PRE-CLINICAL	PHASE 1	PHASE 2/3[2]
Hematological Malignancies	CD19	***ALPHA2*: ALLO-501A (NHL)[1]**			
		***ALPHA*: ALLO-501 (NHL)[1]**			
	BCMA	***UNIVERSAL*: ALLO-715 (MM)**			
		***UNIVERSAL*: ALLO-715 + nirogacestat(MM)[3]**			
		***IGNITE*: ALLO-605 (TurboCAR™/MM)**			
		ALLO-316 (CD70/AML)			
		ALLO-819 (FLT3/AML)			
Solid Tumors		***TRAVERSE*: ALLO-316 (CD70/RCC)**			
		ALLO-316 (Other CD70+ tumors)			
		DLL3 (SCLC)			
		8 Undisclosed Targets			
Lymphodepletion Agent		**ALLO-647 (Anti-CD52 mAb)[4]**			

[1] Servier holds ex-US commercial rights
[2] Phase 3 may not be required if Phase 2 is registrational
[3] Allogene Sponsored trial in combination with SpringWorks Therapeutics
[4] ALLO-647 intended to enable expansion and persistence of allogeneic CAR T product candidates

CD19 Program Fast Follow Strategy

Addressing Significant Challenges Inherent to Autologous Therapies

Autologous Challenges

- Securing Manufacturing Slots
- Time to Treatment
- Risk of Manufacturing Failure
- Broader Access
- Outpatient Treatment

Initial LBCL Focus

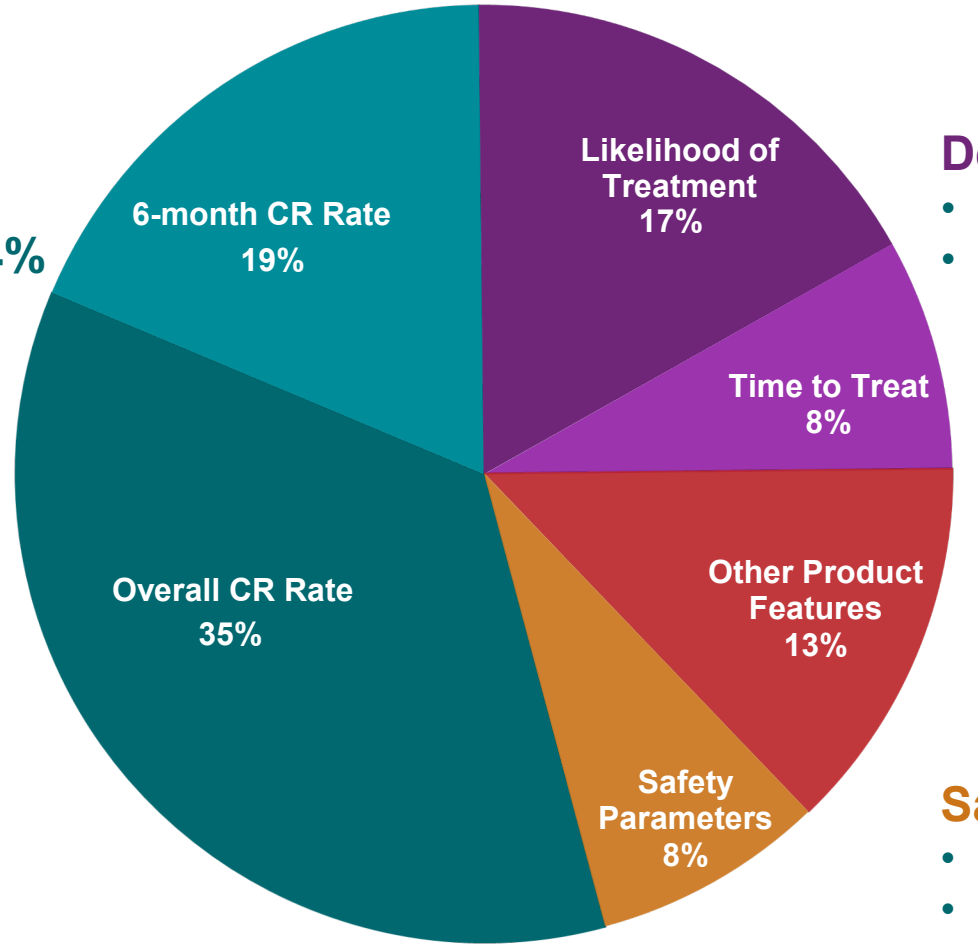
- Combination
- **1st line** high-risk
- **2nd line** transplant ineligible
- **2nd line** transplant eligible
- **3rd+ line** (relapsed/refractory)

Expanded Opportunities

- Follicular Lymphoma
- Indolent Lymphoma
- CLL
- MCL
- ALL

CD19 Program: Optimal Balance of Efficacy, Safety and Convenience

Efficacy Parameters: 54%
- Overall CR Rate
- CR Rate at Month 6



Delivery Parameters: 25%
- Likelihood Patient Receives Treatment
- Time Interval to Treatment

Other Product Attributes: 13%
- Requirement for Leukapheresis
- Time to Treatment
- Lymphodepletion Regimen

Safety Parameters: 8%
- Cytokine Release Syndrome (CRS)
- ICANS/CNS Toxicity
- Infections

Allogene Market Research: Data on File

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ALLO-501/501A: CR Rates on Par with Autologous Therapies

Consolidation 1 Intended Phase 2 Pivotal Trial in r/r LBCL (mid-2022)

Advantage of AlloCAR T Delivery Established:
- ~97% of patients treated between 2-5 days of study enrollment

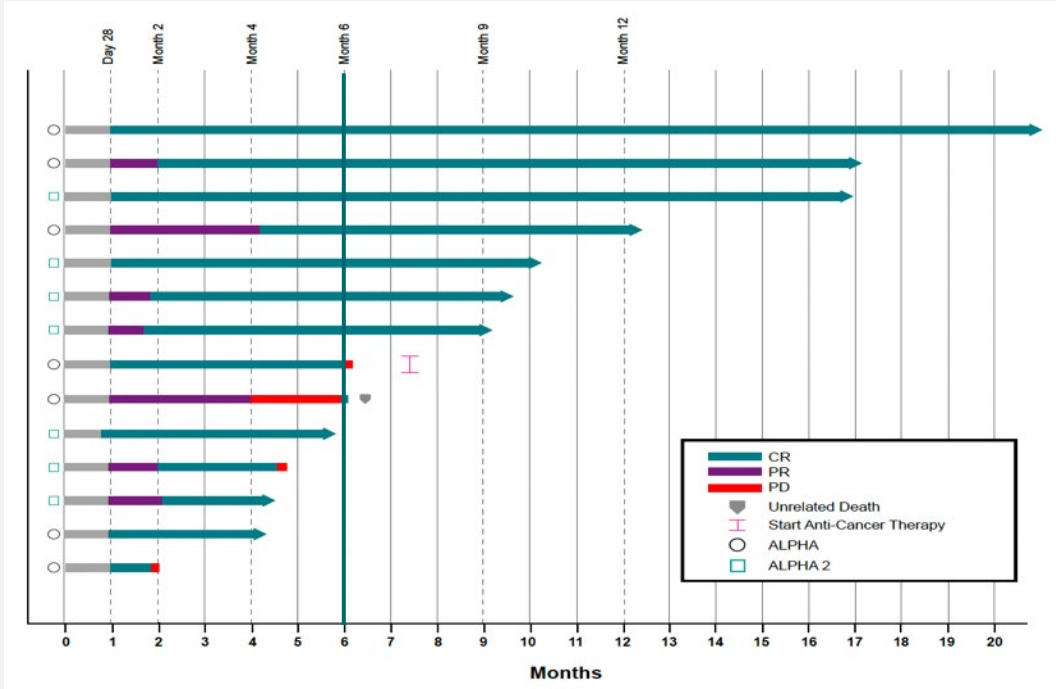
Consistent & Manageable Safety Paves Outpatient Use:
- No DLTs or GvHD
- Minimal Grade 3 ICANS or CRS
- Consolidation 1 provided superior safety across all metrics

Consolidation Provides Deep and Durable Responses

LBCL
- 56% ORR and 44% CR
- 4 PRs in Consolidation 1 converted to CR following the second administration of cells
- 6 of 7 patients who achieved CR remaining in CR

FL
- Similar improvement in efficacy and safety observed

Impact in LBCL: All Patients in CR at Month 6 Remain in Response



Durable Responses Observed with 10/14 CRs Ongoing

ASH 2021; Data Cutoff October 18, 2021

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ALLO-501/ALLO-501A Compares Favorably with Autologous CAR T

	ALLO-501 (LBCL n=11) Phase 1 Dose Escalation	ALPHA2 Consolidation 1 (n=9)	KYMRIAH®# Phase 2 Pivotal	YESCARTA®* Phase 2 Pivotal	BREYANZI®+ Phase 2 Pivotal
ORR	64%	44%	50% (label)	72% (label)	73% (label)
CR in LBCL (mITT)	46% (5/11)***	44%	32% (label)	51% (label)	54% (label)
CR in LBCL (ITT)	42% (5/12)	40%	26%	48%	43%
CR at 6 months in LBCL (mITT)	36%	38%	29%	36%	~ 40%
% enrolled** or lymphodepleted^ but did not receive intended cell product	2% (1/42)****	8% (1/12)	33% (54/165)**	9% (10/111)**	36% (95/299)^
	ALLO-501 (FL and LBCL)				
CRS (Gr 3+)	3%	0%	22%	13%	4%
Neuro Events (Gr3+)	3%	0%	12%	31%	12%
Infection (Gr3+)	24%	0%	20%	23%	19%

KYMRIAH USPI. Patient population in the label includes: 78% - primary DLBCL not otherwise specified (NOS); 22% DLBCL following transformation from Follicular Lymphoma
*YESCARTA USPI & Schuster S et al NEJM 2019. Patient population in the label includes: 76% - DLBC; 16% - Transformed Follicular Lymphoma; 8% Primary Mediastinal Large B-cell Lymphoma.
+BREYANZI USPI. Patient population in label includes: 53% - de novo DLBCL; 25% DLBCL transformed from indolent Lymphoma; 14% high-grade B-cell Lymphoma; 7% Primary Mediastinal Large B-cell Lymphoma; 1% grade 3B Follicular Lymphoma
**Percent of patients who enrolled and did not receive intended cell product including out of spec products
***CAR T naïve patients (n=29); 11 DLBCL. For CR at 6 Month 10 patients either reached Month 6 or discontinued/died or progressed. Safety population is N=38 (all patients, FL and DLBCL).
****Percent enrolled is based on total number enrolled (includes FL and LBCL) regardless of prior CAR T therapy
^Percent who underwent lymphodepletion but did not receive intended cell product including out of spec products
^^ Kymriah: estimated from Shuster, 2019, Figure 3B., Breyanzi: Abramson, ASH 2019

ALPHA/ALPHA2 Data Cutoff Date: October 18, 2021

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Preparing for Potentially First Pivotal Allogeneic CAR T Trial

Phase 1 *ALPHA* Trials

- Allogeneic Proof of Concept
- ALLO-647 Proof of Concept & Approach
- Cell Dose Identification
- Convenience/Safety
- Consolidation
- Durability
- Outpatient Potential

Pivotal *ALPHA2* Trial

- Rich Dataset to Optimize Trial Design
- Deep Understanding of Gene Engineering and Cell Manufacturing

Planned Pivotal Trial Initiation mid-2022

Building an Anti-BCMA AlloCAR T™ Franchise in Multiple Myeloma

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ALLO-715: First AlloCAR T™ To Demonstrate Feasibility in Myeloma

Multiple Strategies Ongoing to further Increase Efficacy

Phase I *UNIVERSAL* Trial Enrolled Refractory Patients

- Heavily pretreated patients
  - Median 5 prior lines of therapy
  - 100% refractory to last line
    - 91% triple refractory
    - 42% penta refractory
- Patients had advanced disease
  - 19% ISS Stage III
  - 21% extramedullary disease

"Off-the-shelf" AlloCAR Ts have potential to addresses significant unmet need in patients with rapidly progressive disease

- ~90% treated within 5 days of study enrollment
- Obviates need for bridging therapy

Manageable safety:

- No Graft vs. Host Disease (GvHD) or Grade 3 neurotoxicity; Grade 3 cytokine release syndrome (CRS) (2%), Grade 3 Infection (19%)
- Low use of tocilizumab 23% and steroids 14%

Deep and durable responses observed:

- 71% overall response rate and 46% VGPR+ at 320M cell dose
- 92% VGPR+ responses were MRD negative
- 9 of 17 patients remain in response with median duration of response at 8.3 months and ongoing

ASH 2021

VGPR+ = very good partial response or better
MRD = minimal residual disease

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Single Dose ALLO-715 Similar to Approved Autologous CAR T Therapy

Safety	ALLO-715 Ph1 (N=43)[1]	Abecma® (Ide-cel) 300/450M N=127[2]
CRS (Any / Grade ≥3)	56% / 2%	85% / 9%
Neurologic Toxicity (Any / Grade ≥3)	14% / 0%	28% / 4%
Infection (Grade ≥3)	19%	23%
Neutropenia[3] (Grade ≥3)	70%	89%

[1] ASH 2021; 2 Package Insert and Munshi, NEJM, 2021; safety data based on any subject who received cells ; [3]based on reported adverse events; for Abecma the rate of grade 3 or 4 neutropenia was 96% based on laboratory findings

Treatment Administration and Efficacy (mITT)	ALLO-715 320M & FCA (N=24)[1]	Abecma® (Ide-cel) 300/450M N=100[2]
Enrolled	48	135
Treated with target cell product[3]	43 (90%)	100 (74%)
Days to treatment initiation[4]	5	33
Required bridging therapy	0%	87%
ORR	71%	72%
VGPR+ Rate	46%	53%
CR/sCR Rate	25%	28%
MRD[5]- in VGPR+	92%	75%
Duration of Response (median)	8.3 mo and ongoing[6]	11.0 mo

[1] ASH 2021;. ; 2 Package Insert; [3] cell product that is successfully manufactured and meets release specifications; for Abecma 11 patients did not receive treatment and 24 patients received out of specification product; [4] for ALLO-715, time from enrollment to start of lymphodepletion; for Abecma, time from apheresis to cell product availability (includes 87% of patients who received bridging therapy); [5] For UNIVERSAL, MRD status is evaluated in subjects with VGPR+ ; for Abecma, MRD status is reported among subjects with CR or stringent CR; [6] 9 of 17 responding patients remain in response at the time of the data cutoff.

ASH 2021

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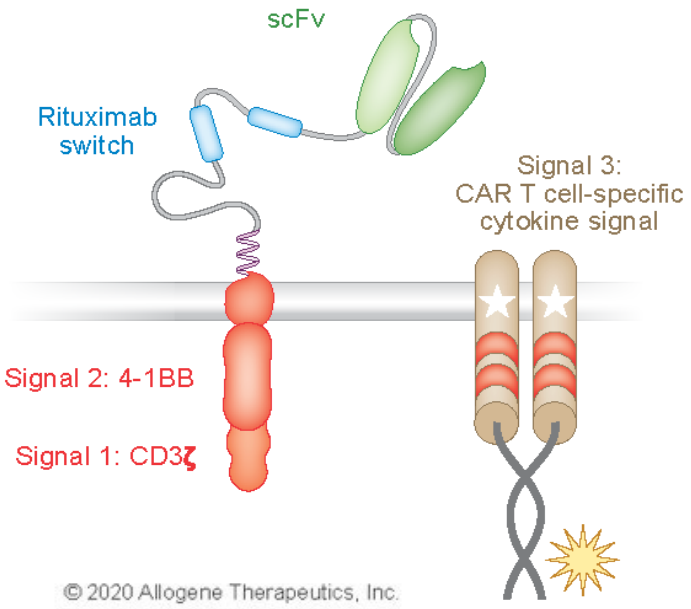
ALLO-605: First TurboCAR™ Candidate in MM



FTD Granted June 2021

- **TurboCAR™ is designed for selective cytokine signaling in CAR T cells**
  - Delivers benefit only to CAR T cells
  - Does not stimulate host immune cells which could cause systemic toxicity
- **Improved Engraftment and Persistence, and Delayed Exhaustion seen in preclinical studies**
- **Opportunities for development include:**
  - Delaying CAR T exhaustion and improving efficacy of CAR T therapies
  - Improving CAR T potency and reducing CAR T cell dose requirement

Phase 1 *IGNITE* Dose Escalation Trial Initiated Q2 2021

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Translating CAR T Success in Hematologic Cancers to Solid Tumors

2020 American Cancer Society Statistics

	Heme Malignancies	Solid Tumors
Incidence	179,000	1,600,000
Deaths	57,000	504,000

Worldwide Market for Oncology Drugs in 2018*

- All drug spend = $1.2 trillion
- Total cancer drug spend ≈ $150 billion
- Hematologic cancer drugs ≈ $31.3 billion

*IQVIA

Significant opportunity to expand benefits of CAR T therapy into largest area of unmet need

Target Selection/Validation

- CAR optimization
- Multi-targeting CARs

T Cell Fitness

- TurboCARs™
- Manufacturing improvements

Tumor Trafficking

- Combinations
- Additional engineering

Immunosuppressive TME

- Next generation TurboCARs™
- Next generation Immune Evasion

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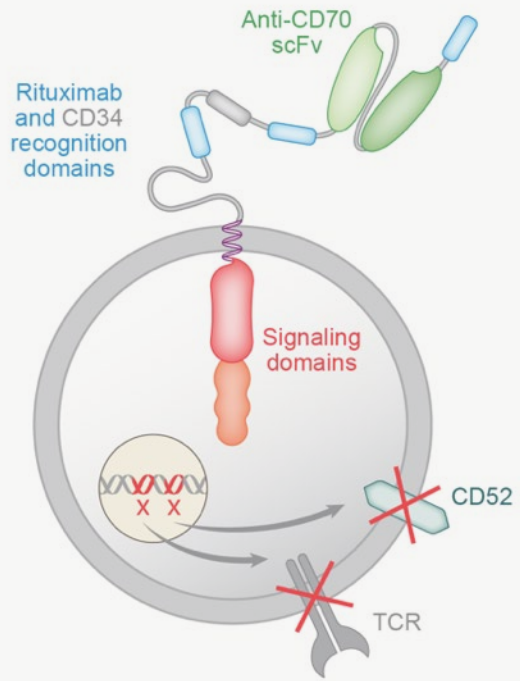
ALLO-316: AlloCAR T™ for Renal Cell Carcinoma (RCC)

First of Several Candidates Planned for Development in Solid Tumors

ALLO-316 Schematic

Minimal fratricide during manufacturing



TRAVERSE initiated in 1H 2021

Phase 1 dose escalation trial:

- Primary endpoints: Safety and tolerability
- Secondary endpoints: Anti-tumor efficacy, PK/PD

The *TRAVERSE* Trial & Beyond

CD70 selectively expressed in several cancers[1]:

- RCC (70-80%)
- AML (40-100%)
- DLBCL (71%), MM (63%), CLL (50%)
- GBM (35%)
- NSCLC (30%)
- Cervical/Ovarian (40-50%)
- Head/Neck (25%)

[1] Expert Opin Ther Targets. 2008 Mar; 12(3): 341 351. doi: 10.1517/14728222.12.3.341; *Flieswasser et al. 2019*

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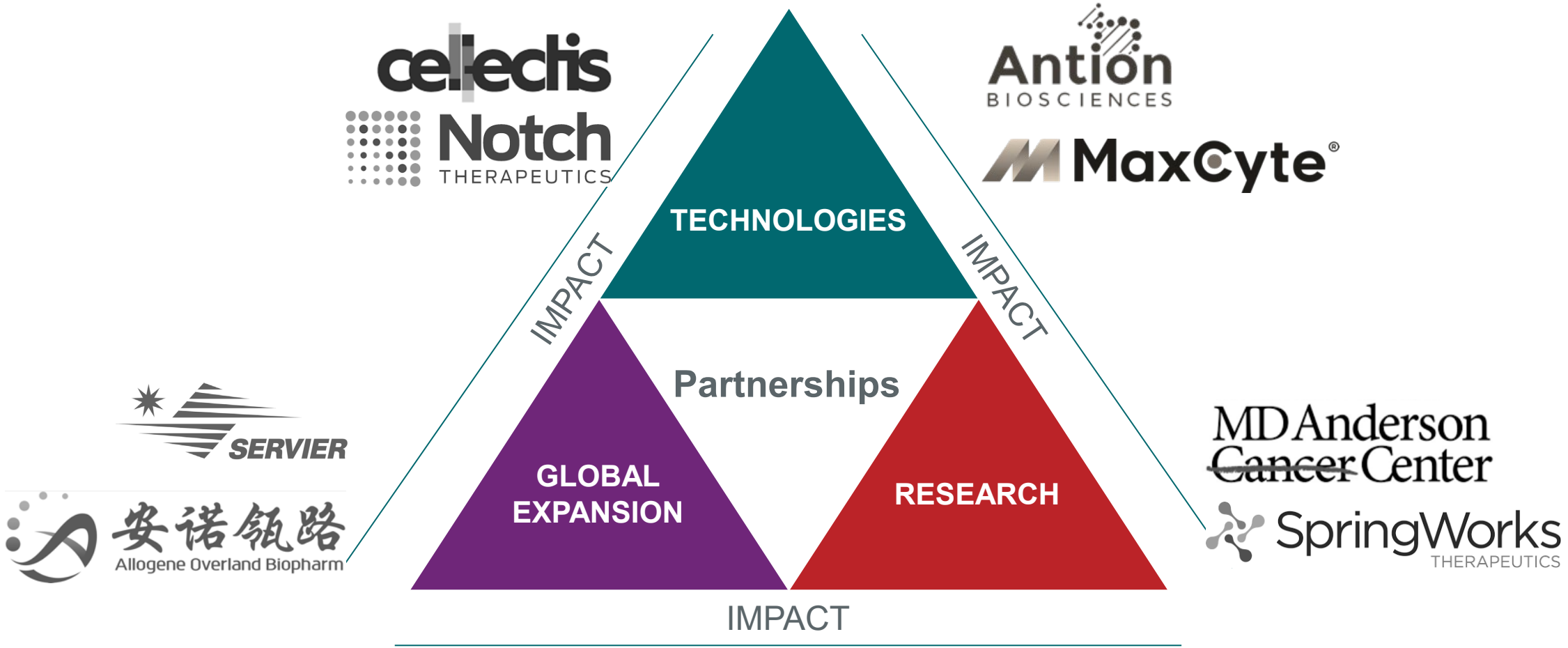
Moving the AlloCAR T™ Therapy Forward



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Regaining Momentum in 2022

- ☑ Removal of FDA clinical hold
- Resume clinical trials across AlloCAR T platform
- Initiate ALLO-501A pivotal trial in r/r LBCL
- BCMA program update

Define and lead the next revolution in cancer treatment by delivering to patients the first AlloCAR T™ products for blood cancers and solid tumors.

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The Next Revolution in Cell Therapy

Leading Today, Defining Tomorrow

Allogene therapies utilize TALEN® gene-editing technology pioneered and owned by Cellectis. ALLO-501 and ALLO-501A are anti-CD19 AlloCAR T™ therapies being jointly developed under a collaboration agreement between Servier and Allogene based on an exclusive license granted by Cellectis to Servier. Servier grants to Allogene exclusive rights to ALLO-501 and ALLO-501A in the U.S. while Servier retains exclusive rights for all other countries. Allogene has an exclusive license to the Cellectis technology for allogeneic products directed at BCMA, FLT3, DLL3 and CD70.