Allogene® THERAPEUTICS

The Next Revolution in Cell Therapy

Leading Today, Defining Tomorrow

May 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: the timing and ability to progress the ALPHA2, UNIVERSAL, IGNITE and TRAVERSE trials, including advancing to the Phase 2 portion of the ALPHA2 trial; the timing and ability to initiate the EXPAND trial for ALLO-647; clinical outcomes, which may materially change as more patient data become available; the ability to manufacture AlloCAR T™ products, including obtaining FDA agreement to use ALLO-501A manufactured at the Company's manufacturing facility for use in the ALPHA2 trial; the projection related to the number of AlloCAR T doses that can be produced at Cell Forge 1 at scale on an annual basis; the potential benefits of AlloCAR T. 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 March 31, 2022.

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.

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Allogene: Creating the Allogeneic Cell Therapy Playbook

4 Foundational platform technologies

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

Cell Forge 1

>145 Patients treated

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

~330 employees

defining the field and writing the allogeneic CAR T playbook

$733 million

in cash, cash equivalents and investments as of Mar 31, 2022

1

singular focus on allogeneic cell therapy

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AlloCAR T: Potential to Break the Bottleneck in Cell Therapy

Autologous CAR T

Personalized Therapy

Limited Manufacturing Slots
Access Only in Specialty CAR T Centers
Disease Progression During Waiting Interval
Manufacturing Failures
Bridging Therapy
Higher Cost

Single Manufacturing Run

1 Patient Per Run

AlloCAR T

Pharmaceutical Product

Single Manufacturing Run

Consistent Product
Immediate Treatment
Scalable Manufacturing
Potential for Outpatient Use
Administration in the Community Setting
Ability to Meet Patient Demand

100+ of Patients Per Run

Restricted Market Expansion/Growth

Untapped Market Potential

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Cell Forge 1: Fully-Operational Commercial-Ready Facility

Fully-Integrated Operations Technology Organization

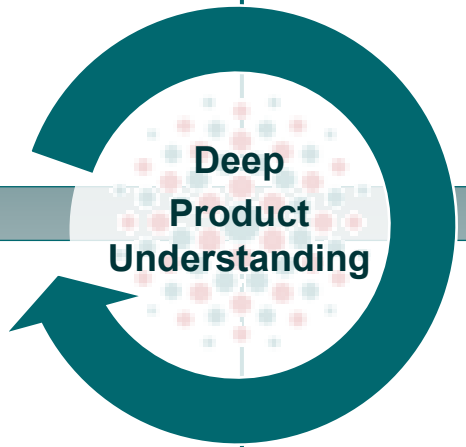
> 120
Full-time Operations Technology Staff

Process & Analytical Development

- Proven GMP Processes
- Characterized Unit Operations

Manufacturing

- 136K ft^2 modular facility
- Designed to US and international commercial cGMP standards



~ 20 K
Patients *Per Year*
Manufacturing Capacity*

Quality & Product Characterization

- Qualified Release Tests
- Internal unbiased product data analysis

Supply Chain Management

- Qualified Suppliers across all Input Materials
- Ultracold inventory and logistics in place nationally and pending in EU

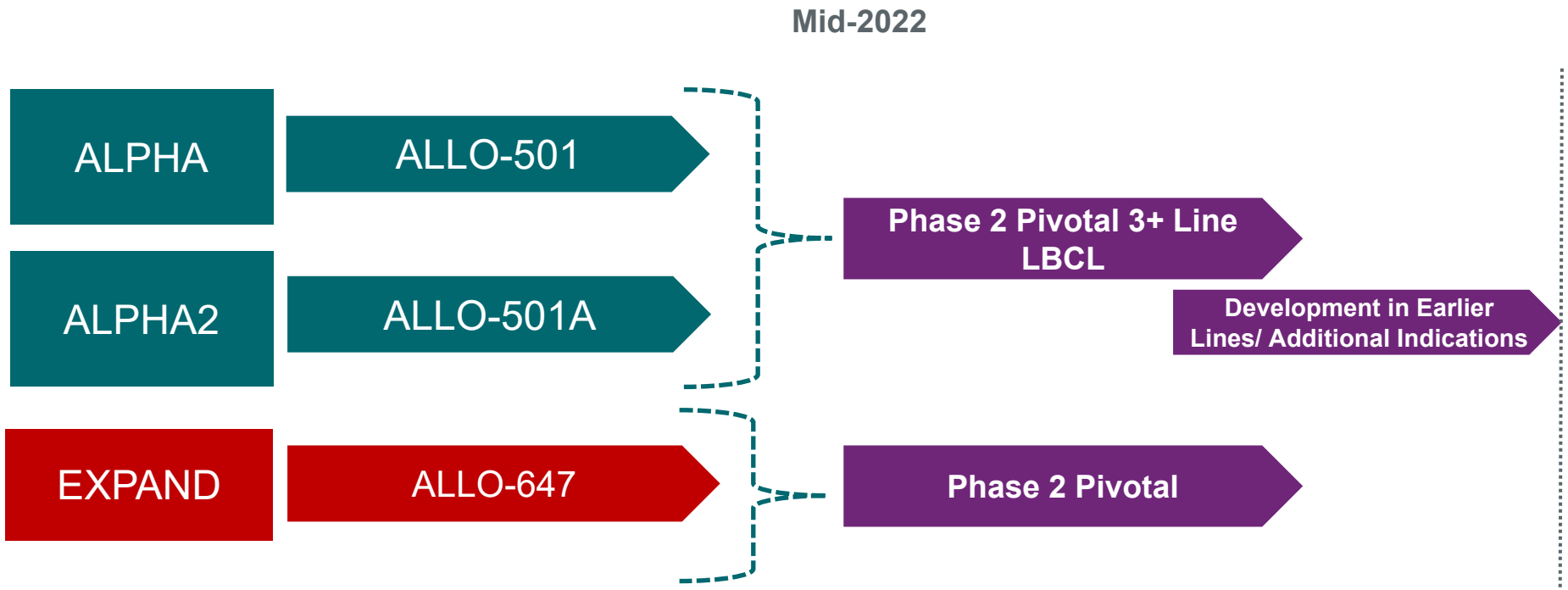
* Projection for first potential commercial asset, ALLO-501A, at scale

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]**	2022 PIVOTAL INITIATION PLANNED		
	CD19	***ALPHA*: ALLO-501 (NHL)[1]**	COMPLETED ACCRUAL; FOLLOW-UP ONLY		
	BCMA	***UNIVERSAL*: ALLO-715 (MM)**			
	BCMA	***UNIVERSAL*: ALLO-715 + nirogacestat(MM)[3]**			
	BCMA	***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		***EXPAND*: ALLO-647 (Anti-CD52 mAb)[4]**	2022 PIVOTAL INITIATION PLANNED		

[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

Planned ALLO-501A Pivotal Study – Label Expansion Potential



Objectives

- Phase 2 initiation mid-2022
- Planned development into earlier lines of LBCL
- Additional indication opportunities for franchise expansion
- ALLO-647 approval pathway in parallel

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ALLO-501/ALLO-501A: Durable Complete Responses

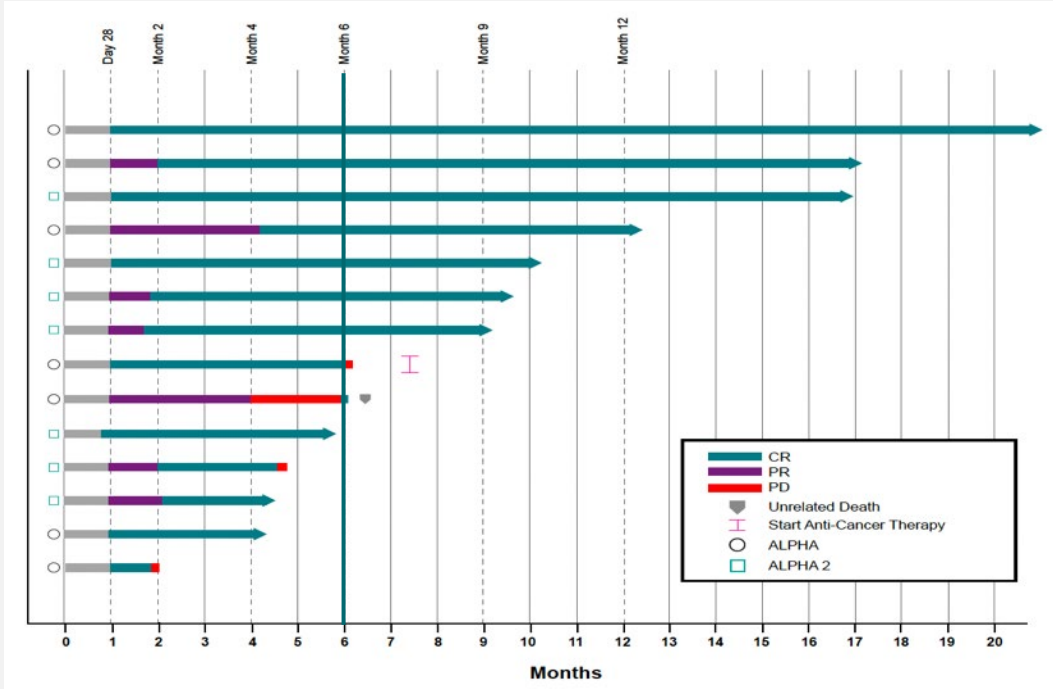
Intended Phase 2 Pivotal Trial in r/r LBCL (mid-2022)

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
- No GvHD
- Minimal Grade 3 ICANS or CRS
- Grade 3+ infection rates similar to autologous CAR T trials

ALLO-501/501A: Deep and Durable Responses in LBCL
- Durable Responses Observed with 10/14 CRs Ongoing
- All patients who achieved a CR at month 6 remained in CR

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



ASH 2021; Data Cutoff October 18, 2021

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

	ALLO-501 (LBCL n=11) Phase 1 Dose Escalation	ALLO-501A 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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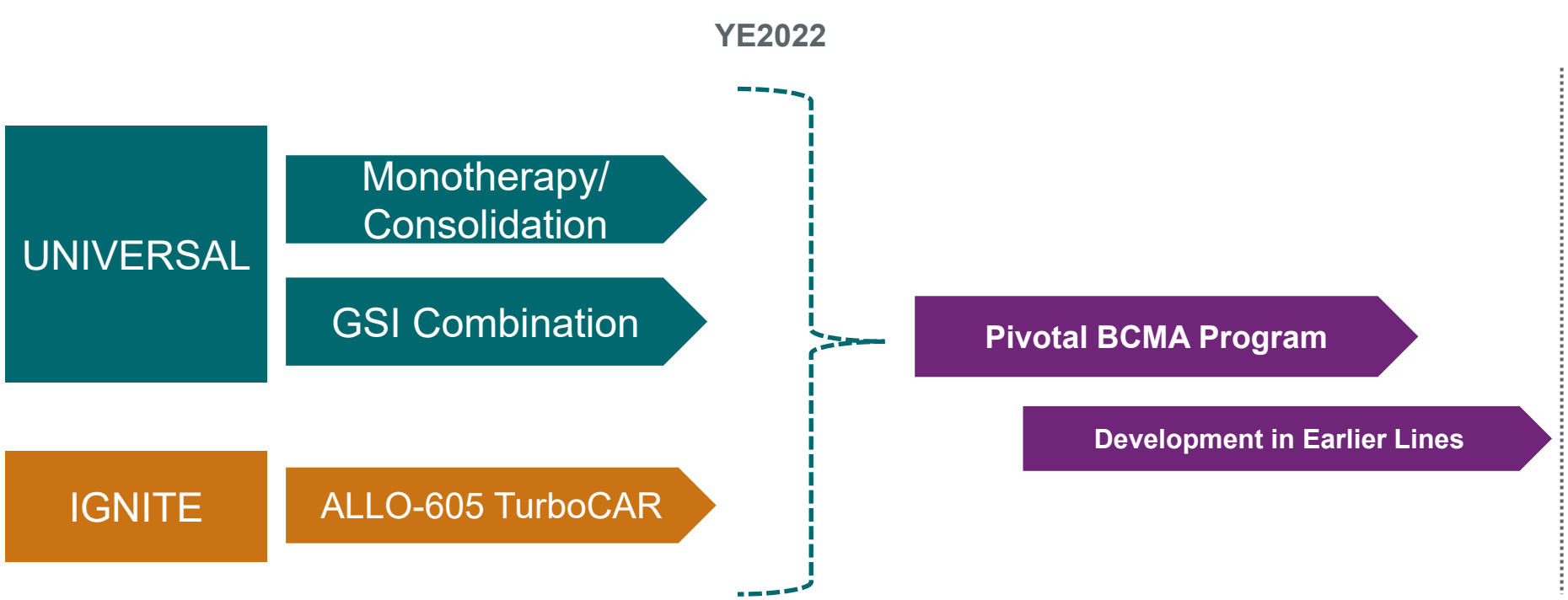
Positioning BCMA Program for Success



Objectives

- Optimize Lymphodepletion
- Evaluate each option
- Test potential second dose
- Compare clinical & translational outcomes
- Lead BCMA program designation by YE22

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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

Single Dose ALLO-715 Data Indicates Potential to Address Patient Need

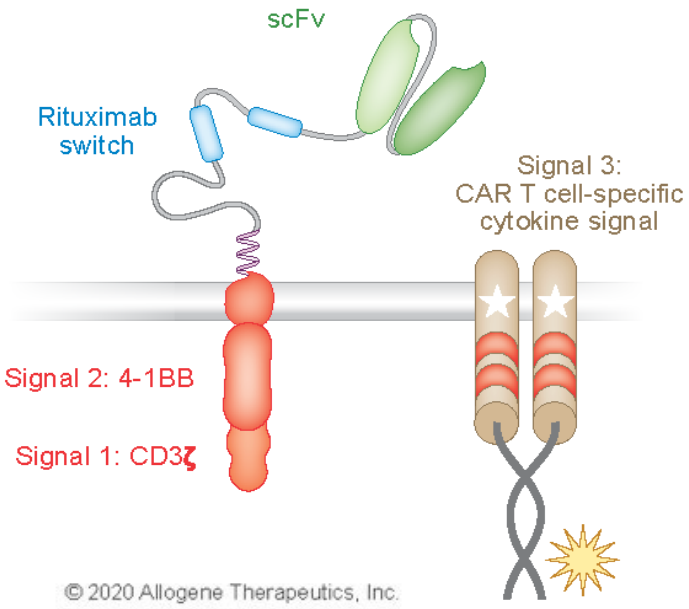
Safety	ALLO-715 Ph1 (N=43)[1]	Abecma® (Ide-cel) 300/450M N=127[2]	Carvykti (Cilta-cel) 500k-1M N=97
CRS (Any / Grade ≥3)	**56% / 2%**	85% / 9%	95% / 5%
Neurologic Toxicity (Any / Grade ≥3)	**14% / 0%**	28% / 4%	26% / 11% (23% / 5% ICANS)
Infection (Any / Grade ≥3)	**30% / 19%**	70% / 26%	59% / 27%
Neutropenia[3] (Grade ≥3)	**70%**	89%	96% / 95%
Grade 5 Adverse Events[4]	**7%**	6%	9%

[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; for Carvykti, based on Usmani, ASCO 2021; [4] For Carvykti and Abecma, based on USPI.

Treatment Administration and Efficacy (mITT)	ALLO-715 320M & FCA (N=24)[1]	Abecma® (Ide-cel) 300/450M N=100[2]	Carvykti (Cilta-cel) 0.5-1.0 x 10^6 N=97
Enrolled	48	135	113
Treated with any cell product[3]	**43 (90%)**	124 (92%)	97 (86%)
Treated with in-spec cell product[3]	**43 (90%)**	100 (74%)	80 (71%)
Days to treatment initiation[4]	**5**	33	32
Required bridging therapy	**0%**	87%	75%
ORR (mITT)	**71%**	72%	98%
VGPR+ Rate (mITT)	**46%**	53%	95%
CR/sCR Rate (mITT)	**25%**	28%	78%
MRD[5]- in VGPR+	**92%**	75%	92%
Duration of Response (median)	**8.3 mo and ongoing[6]**	11.0 mo	21.8 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; for Carvykti, 16 patients did not receive Carvykti due to progressive disease and 17 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.

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

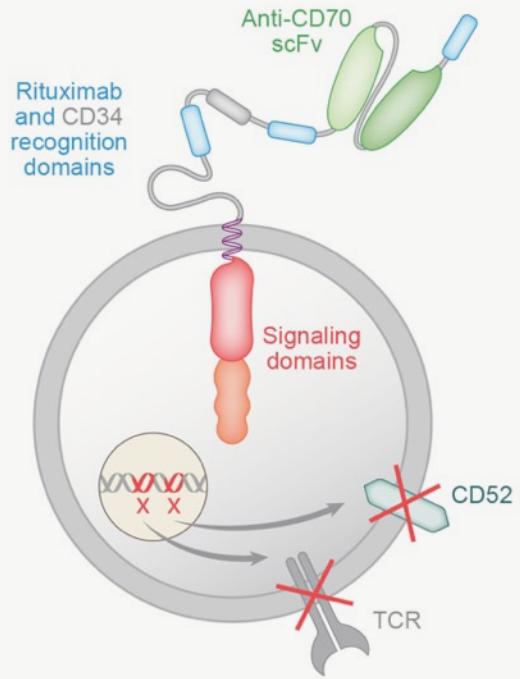
Phase 1 *IGNITE* Dose Escalation Trial Initiated Q2 2021

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 Phase 1 Trial

- **Phase 1 dose escalation trial (currently in DL2)**
- **Establish Foundation in Solid Tumors**

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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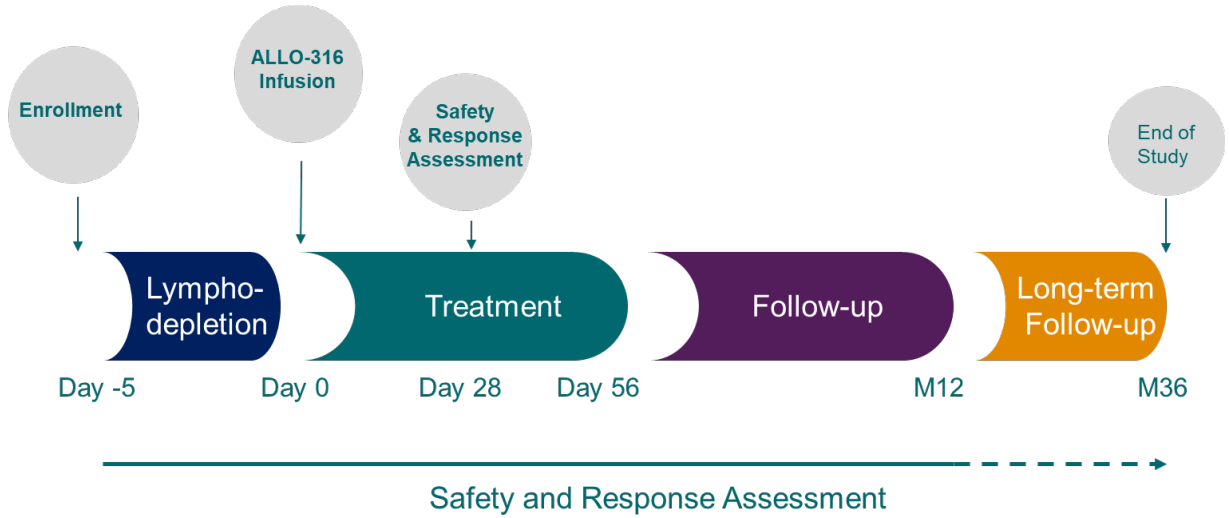
TRAVERSE: Moving AlloCAR T™ into Solid Tumors (RCC)

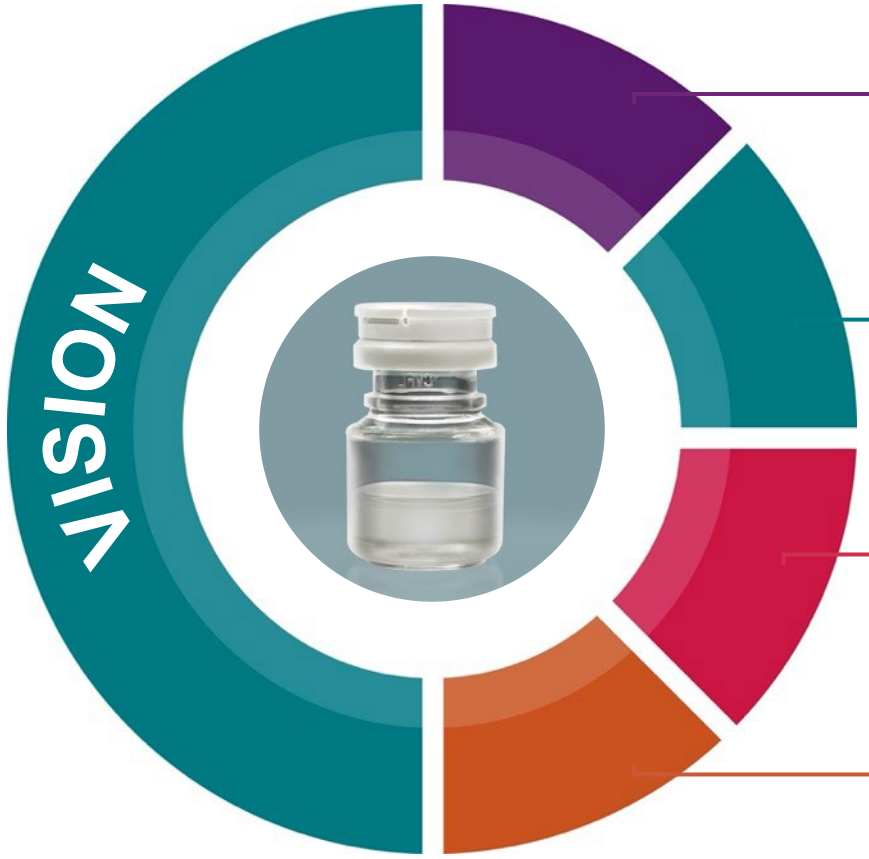
- Key Objectives:
  - Establish safety and tolerability
  - Determine the recommended cell dose
  - Investigate lymphodepletion sparing conditioning
- Endpoints
  - Primary: Safety and Tolerability
  - Secondary: Anti-tumor Activity, PK/PD
- Design: Dose Escalation
  - 3+3 design
  - Test up to 4 cell doses 40M to 360M cell



	DL1	DL2	DL3	DL4*
Cell Dose (CAR+ T cells)	40 x 10^6	80 x 10^6	120 x 10^6	360 x 10^6

- Conditioning Regimen (Day -5, -4, -3)
  - Fludarabine 30 mg/m^2
  - Cyclophosphamide 300 mg/m^2
  - ALLO-647 10 mg/day

Regaining Momentum in 2022



- ☑ Removal of FDA clinical hold (Q1 2022)
- ☑ Resume trials across AlloCAR T platform (Q1 2022)
- Initiate ALLO-501A pivotal trial in r/r LBCL (mid-2022)
- CD19 and BCMA program updates (late 2022)

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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Allogene: Delivering on the Promise of AlloCAR T

Platform / Capabilities

- **Leader in allogeneic execution** with over 140 patients dosed across 5 clinical trials and team with unmatched experience in cell therapy
- **Integrated operations technology team** and fully-operational GMP facility with projected capacity of ~20K patients annually
- **Proprietary approaches** to overcoming rejection demonstrating deep and durable responses

Heme Franchise

- **CD19 Program** initiate ALLO-501A pivotal Phase 2 in LBCL mid-2022
- **BCMA Program** Phase 1 ALLO-715 data and patient need suggests growing potential; Full BCMA program update, including ALLO-605, 2H22
- **Deep pipeline** includes ALLO-819 (FLT3) and ALLO-316 (CD70) for AML and T Cell malignancies and next-gen product candidates
- **IPSC-technology platform** for deriving T cell products from Notch Therapeutics

Solid Tumor Franchise

- **CD70 Program** with ALLO-316 in Phase 1 for RCC with potential expansion into other solid tumors
- **AlloCAR T targeting DLL3** advancing toward IND for SCLC
- **Additional solid tumor targets** for major indications at varying stages of preclinical readiness
- **Multiple innovative technologies** designed to enhance target specificity, augment cell potency, and address solid tumor microenvironment

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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.