Allogene® THERAPEUTICS

The Next Revolution in Cell Therapy

Leading Today, Creating Tomorrow

July 2020

Legal Disclaimers

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Caution should be exercised when interpreting results from separate trials involving separate product candidates. There are differences in the clinical trial design, patient populations, 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: Leading the Future of AlloCAR T™ Cell Therapy

People

- Highly experienced management team
- ~200 employees

Pipeline

Upcoming 2020 Data Milestones

- ALLO-715: R/R MM (Q4 2020)

Pipeline Updates

- ALLO-715 + nirogacestat (MM)
- ALLO-316 (CD70/AML & RCC)
- ALLO-605 (TurboCAR™/MM)

Allogene THERAPEUTICS
(Nasdaq: ALLO)

Partners

SERVIER
cellectis
Notch THERAPEUTICS
SpringWorks THERAPEUTICS

Capital

- $553M in cash and investments as of 3/31/2020
- $596M in net proceeds from June 2020 equity offering

Why We Believe Allogeneic Cell Therapy Will Lead the Revolution

Access

- Potential to treat all eligible patients
- Repeat dosing, if needed
- No need for complex logistics

Cost

- Scalable and efficient manufacturing
- Potential to treat 100+ patients from a single manufacturing run
- Lower ancillary costs of care

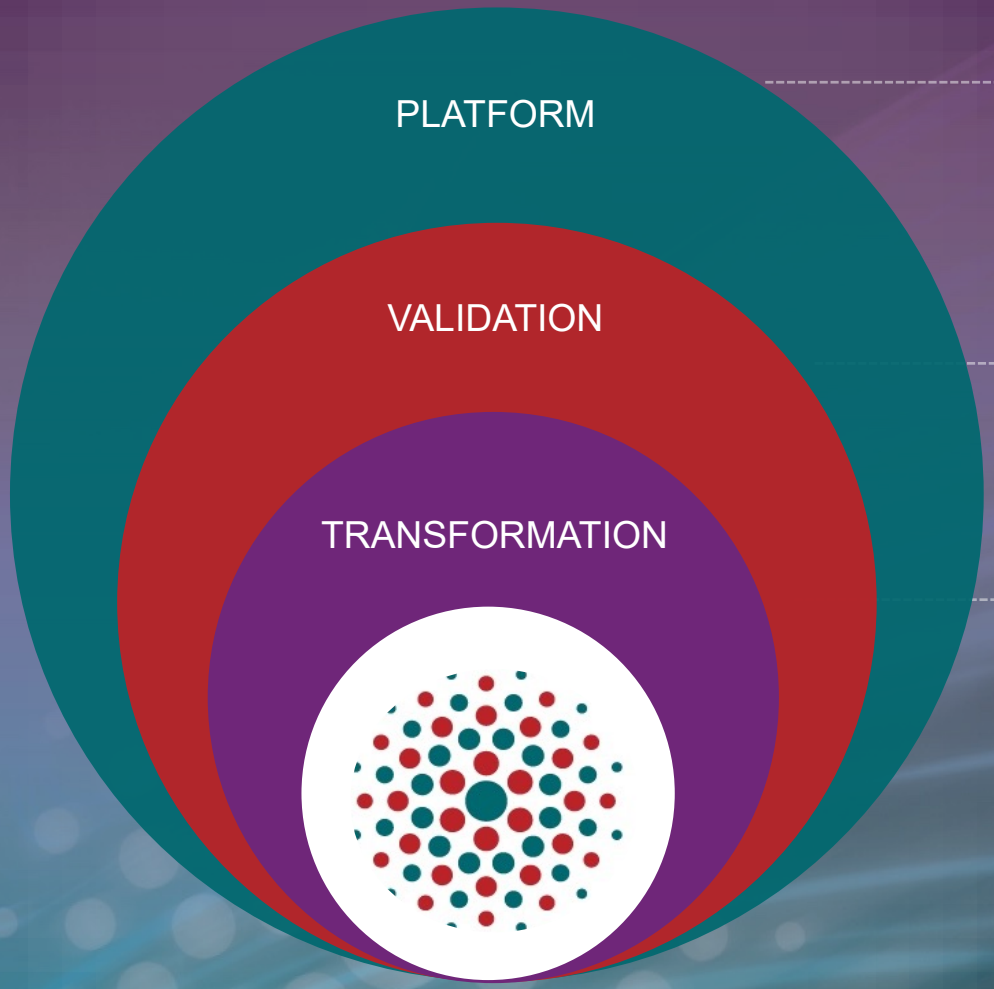
Speed/Reliability

- “Off the shelf” for on demand treatment
- Less product variability, made from healthy T cells

Innovation

- Multiplex gene engineering/editing capabilities
- Opportunity for product optimization

The AlloCAR T™ Platform for Today and Tomorrow



Establish industry leading AlloCAR T platform

- TALEN® gene editing technology
- Proprietary lymphodepletion
- State-of-the-art manufacturing

Rapid development across robust AlloCAR T portfolio

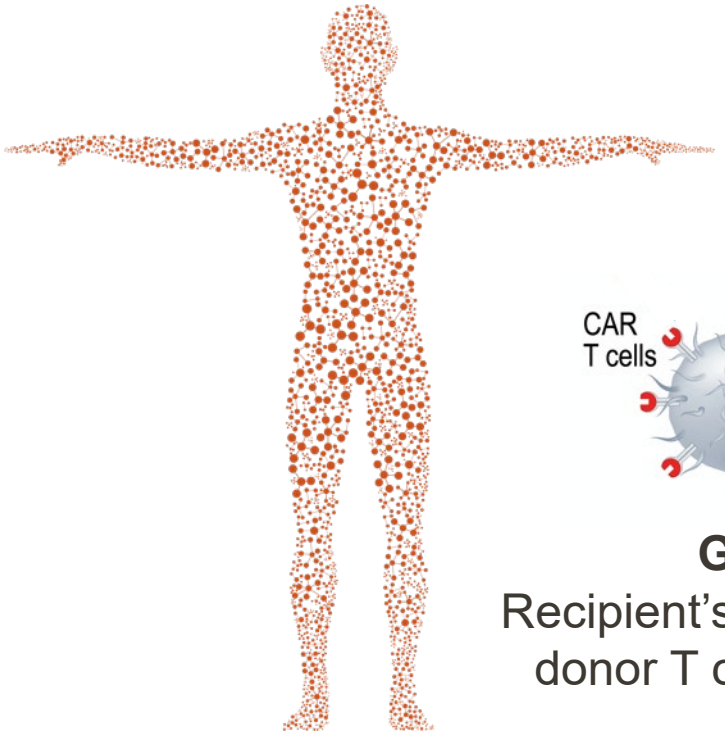
- 4 Clinical & 16 Preclinical programs across both hematological and solid tumor indications

Pre-clinical next generation technologies

- TurboCAR™: Improved T cell fitness
- Immune evasion: Enhanced expansion/persistence
- Solid tumors: CAR optimization and target selection
- iPSCs: Renewable cell source

Allogene THERAPEUTICS

Defying Immunity: Overcoming GvHD and Graft Rejection

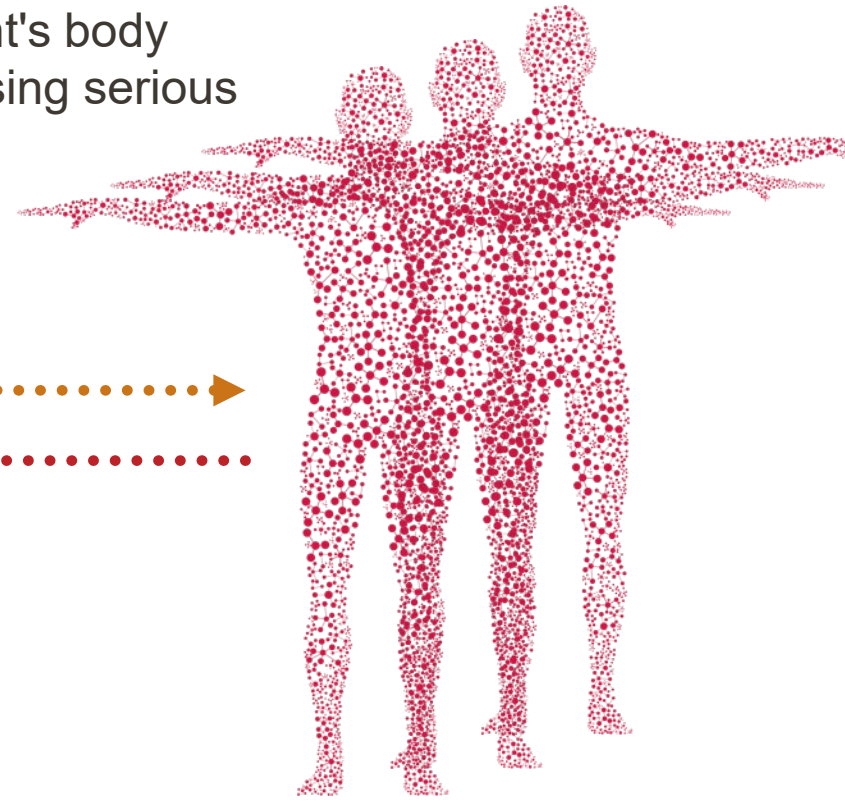


GvHD

Donor T cells view the recipient's body tissues as foreign and attack causing serious or fatal side effects

Graft Rejection

Recipient's immune system detects donor T cells as foreign and kills donor T cells



Allogeneic cell therapy engages the fundamental immunological process of Self vs. Non-Self recognition

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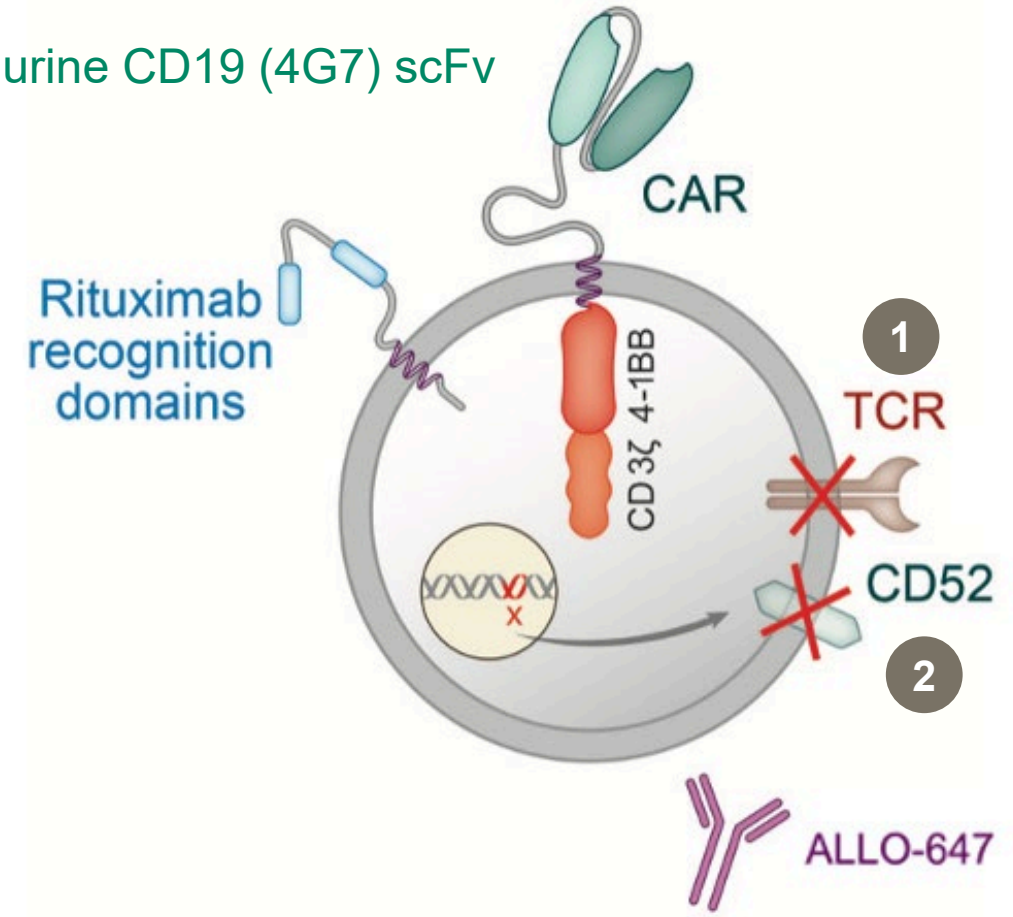
ALLO-501: Two Gene Edits Directed at Controlling GvHD and Graft Rejection



1. TALEN-mediated TRAC KO eliminates TCRα expression to minimize risk of GvHD

2. TALEN-mediated CD52 KO allows selective lymphodepletion with ALLO-647

TALEN® is a Cellectis gene editing technology

Allogene THERAPEUTICS

Deep AlloCAR T™ Pipeline Targeting Vast Array of Tumor Types

CATEGORY		PROGRAM	PRE-CLINICAL	PHASE 1	PHASE 2/3[1]
Hematological Malignancies	CD19	UCART19 (ALL)[2]			
	CD19	ALLO-501 (NHL)[2 3]			
	CD19	ALLO-501A (NHL)[2 3]			
	BCMA	ALLO-715 (MM)			
	BCMA	ALLO-715 + nirogacestat (MM)[5]			
	BCMA	ALLO-605 (TurboCAR™/MM)			
		ALLO-316 (CD70)			
		ALLO-819 (FLT3/AML)			
Solid Tumors		ALLO-316 (CD70/RCC)			
		DLL3 (SCLC)			
		Multiple Undisclosed Targets			
Lymphodepletion Agent		ALLO-647 (Anti-CD52 mAb)[4]			

[1] Phase 3 may not be required if Phase 2 is registrational

[2] Servier will hold ex-US commercial rights. Servier is the sponsor of the UCART19 trials

[3] Allogene is the sponsor of the ALLO-501 and ALLO-501A trial

[4] ALLO-647 intended to enable expansion and persistence of allogeneic CAR T product candidates

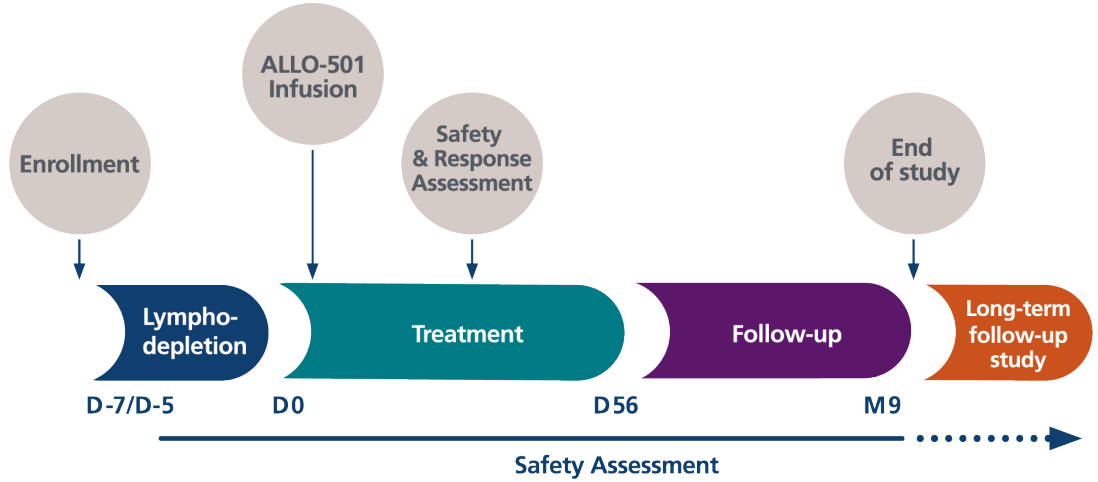
[5] Allogene sponsored trial in combination with SpringWorks Therapeutics; Initiation expected 2H 2020

ALPHA Study (NCT03939026) Design and Endpoints
Phase 1, Open-label, Multicenter Dose Escalation Study

Primary Endpoints
- Safety and dose-limiting toxicity of ALLO-647/Flu/Cy followed by ALLO-501

Key Secondary Endpoints
- Overall response rate
- ALLO-501 cell kinetics
- ALLO-647 PK

Key Eligibility Criteria
- R/R LBCL or FL
- At least 2 prior lines of therapy, including an anti-CD20 monoclonal antibody
- ECOG 0 or 1
- Prior autologous CAR T allowed if tumor remains CD19+
- Patients with Donor Specific Antibodies and rituximab > 15ng/ml were excluded



	DL1	DL2	DL3
Cell Dose	40 x 10^6 CAR$^+$ T cells	120 x 10^6 CAR$^+$ T cells	360 x 10^6 CAR$^+$ T cells

- Lymphodepletion Regimens
  - LD1: Flu/Cy and ALLO-647 13 mg/d x 3 days
  - LD2/LD3: Flu/Cy and ALLO-647 30 mg/d x 3 days (concomitant/staggered)

Fludarabine (Flu): 30 mg/m2/d x 3 days **Cyclophosphamide (Cy)**: 300 mg/m2/d x 3 days

ALPHA Phase 1 Patient Characteristics

	Number (%) of patients			
	40 x 10^6 DL 1 (N=4)	120 x 10^6 DL 2 (N=10)	360 x 10^6 DL 3 (N=8)	All Patients (N=22)
Median Age, years (range)	57 (42, 67)	70 (37, 73)	54 (34, 67)	63 (34, 73)
Male	3 (75%)	8 (80%)	6 (75%)	17 (77%)
Lymphoma Subtypes				
Diffuse Large B-cell Lymphoma †	3 (75%)	5 (50%)	6 (75%)	14 (64%)
Follicular Lymphoma	1 (25%)	5 (50%)	2 (25%)	8 (36%)
Current Disease Stage (per Lugano 2014) #				
Stage III	1 (25%)	5 (50%)	2 (25%)	8 (36%)
Stage IV	2 (50%)	5 (50%)	6 (75%)	13 (59%)
FL(IPI) Score 3-5	1 (25%)	6 (60%)	5 (63%)	12 (55%)
Prior Treatments				
Median Number (range)	2 (2-4)	4 (3-4)	5 (3-8)	4 (2-8)
Hematopoietic Stem Cell Transplant	2 (50%)	4 (40%)	3 (38%)	9 (41%)
Autologous CAR T cell	-	1 (10%)	3 (38%)	4 (18%)

- Heavily pretreated patients with advanced-stage disease
- 14 (64%) of patients were chemo refractory*
- 4 patients received prior AutoCAR T
  - 2 had short-lasting PR as best response and 2 had PD as best response with AutoCAR T
- Analyses sets:
  - Efficacy: N=19
  - Safety: N=22

† Not otherwise specified, transformed FL, high-grade B cell lymphoma (double and triple hit), DLBCL coexistent with FL of any grade
# 1 patient with stage II disease treated at DL1
* Defined as best outcome of SD or PD following last therapy, or progression within 12 months following Hematopoietic Stem Cell Transplant

Data Cutoff Date: May 11, 2020

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ALLO-501 and ALLO-647 Demonstrate Manageable Safety Profile

AE of Interest ‡	Grade 1 n (%)	Grade 2 n (%)	Grade 3 n (%)	Grade 4 n (%)	Grade 5 n (%)	All grades n (%)
Cytokine Release Syndrome *	2 (9%)	4 (18%)	1 (5%)	-	-	7 (32%)
ICANS *	-	-	-	-	-	-
Graft-versus-Host Disease	-	-	-	-	-	-
Infection	5 (23%)	4 (18%)	2 (9%)†	-	-	11 (50%)
Infusion Reaction #	1 (5%)	9 (41%)	1 (5%)	-	-	11 (50%)
Neutropenia	-	1 (5%)	7 (32%)	7 (32%)	-	15 (68%)

- No DLT, GvHD
- Manageable CRS
- ALLO-501 toxicity not dose-proportional
- Median duration of hospitalization from D0: 7 days

Serious Adverse Events (time to resolution) ‡

- **4 patients (18%):**
  - Gr2 pyrexia (2 days) and Gr2 CMV reactivation (6 days)
  - Gr3 rotavirus infection (15 days) and Gr3 hypokalemia (2 days)
  - Gr3 febrile neutropenia (2 days) and Gr3 hypotension (2 days)
  - Gr3 upper GI hemorrhage (<1 day) and Gr3 CMV reactivation (25 days)

* ASTCT Lee, 2019. ICANS: Immune Effector Cell-Associated Neurotoxicity Syndrome
† CMV reactivations and Rotavirus infection
# attributed to ALLO-647

‡ Number of patients with AE regardless of attribution unless otherwise indicated, occurring from the start of study drug up to subsequent anti-cancer therapy (for patients reporting more than one AE within a preferred term, only one AE with the maximum grade is reported).

Data Cutoff Date: May 11, 2020

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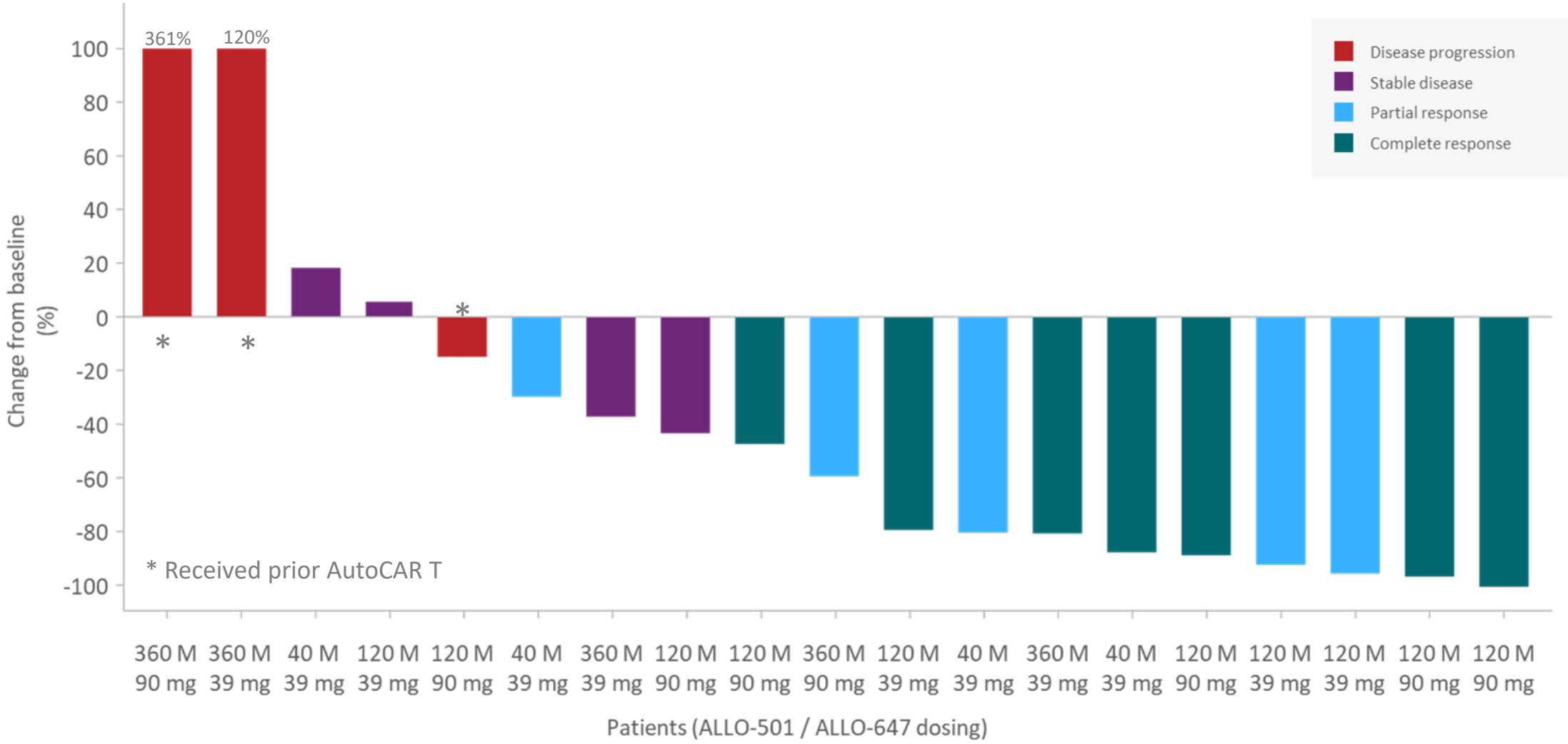
Phase 1 ALPHA Best Overall Response

Cell Dose and LD regimen	39mg ALLO-647			ALL 39mg ALLO-647 (N = 11)	90mg ALLO-647		All 90mg ALLO-647 (N=8)	All Patients (N=19) Rate (95%CI)
	40 x 10^6 CAR$^+$ cells (N=4)	120 x 10^6 CAR$^+$ cells (N=4)	360 x 10^6 CAR$^+$ cells (N=3)		120 x 10^6 CAR$^+$ cells (N=6)	360 x 10^6 CAR$^+$ cells (N=2)		
ORR, n (%)	3 (75%)	3 (75%)	1 (33%)	7 (64%)	4 (67%)	1 (50%)	5 (63%)	12/19 (63%) (38%, 84%)
CR , n (%)	1 (25%)	1 (25%)	1 (33%)	3 (27%)	4 (67%)	0 (0%)	4 (50%)	7/19 (37%) (16%, 62%)

Median follow-up time: 3.8 months (range: 0.7 - 6.1)

Lugano 2014; Data Cutoff Date: May 11, 2020

Reduction in Tumor Size Observed with ALLO-501



* Received prior AutoCAR T

Data Cutoff Date: May 11, 2020

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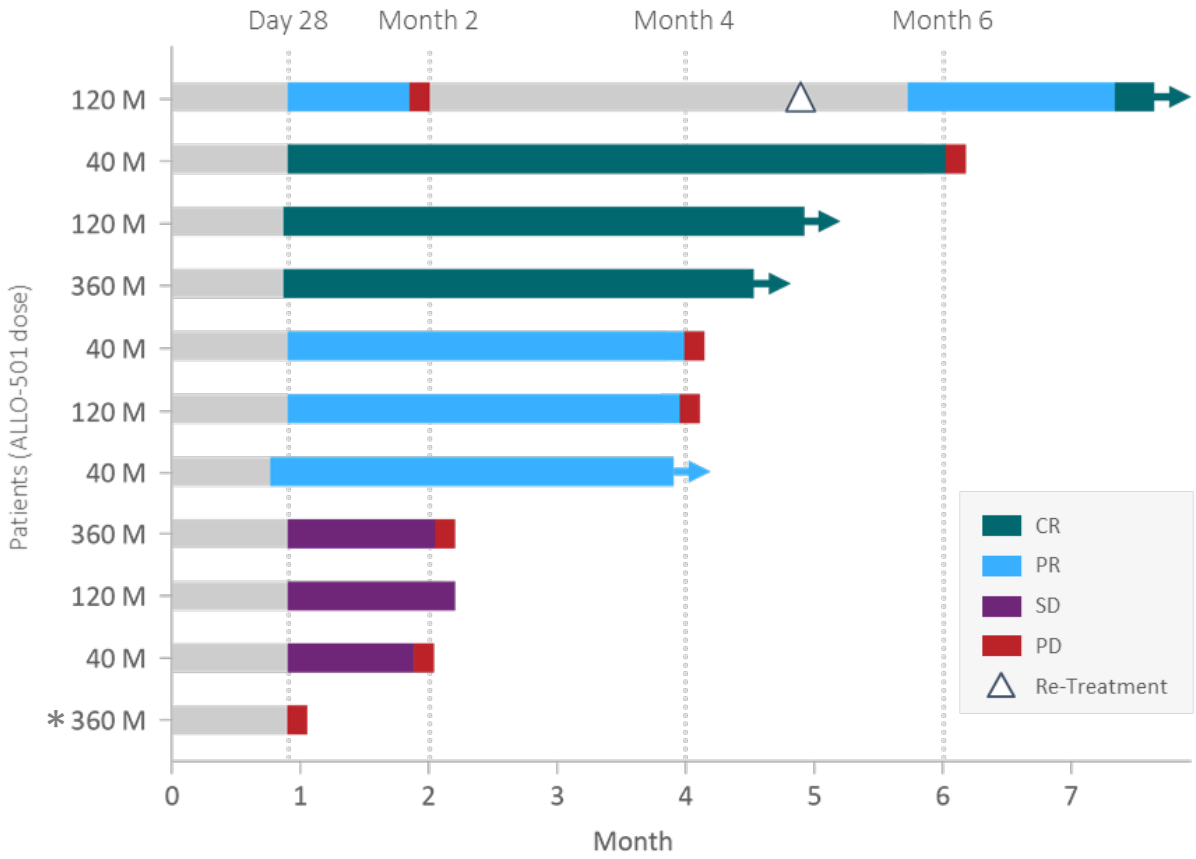
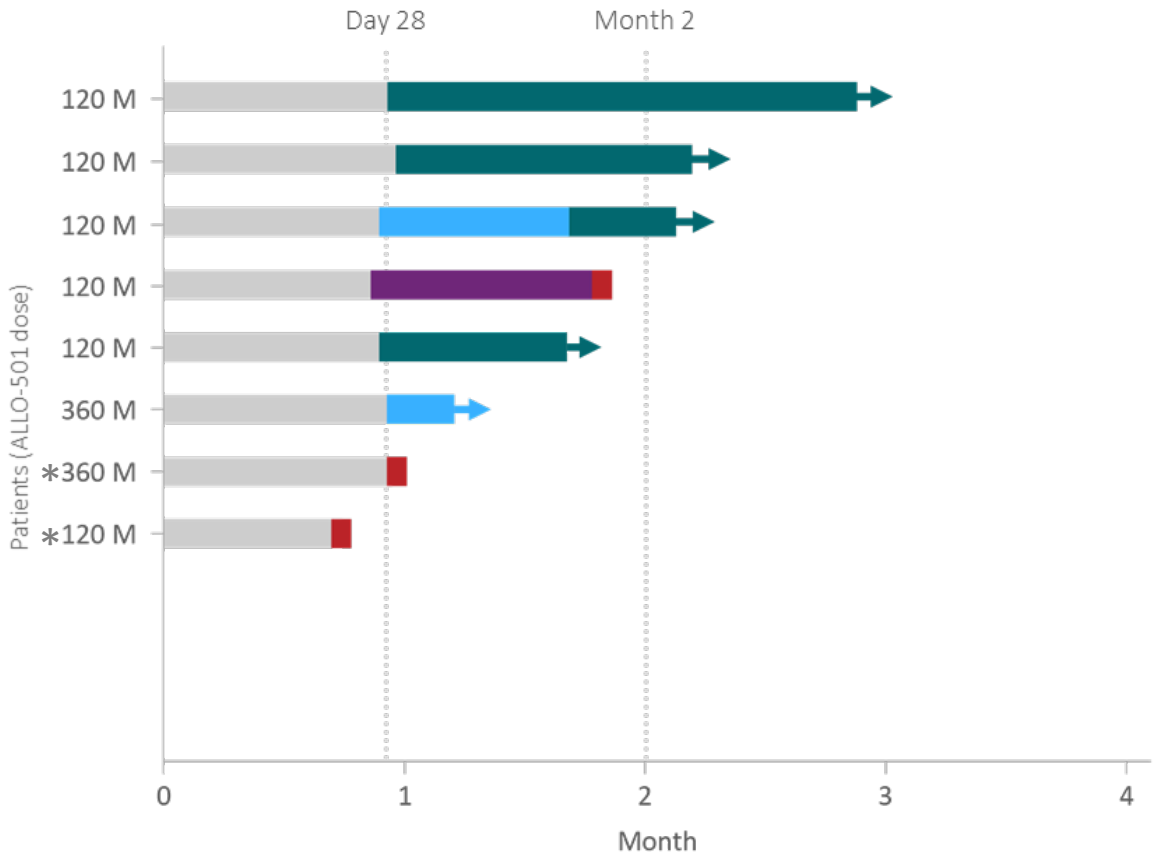
Nine of Twelve Responders Remain in Response



ALLO-647: 39 mg

Median follow up: 4.3 months (1.0, 6.1)



ALLO-647: 90 mg

Median follow up: 1.9 months (0.7, 2.6)

One patient who progressed after a PR was re-dosed with ALLO-501 (120 x 10^6) and Flu/Cy/90mg ALLO-647 and achieved a CR

* Received prior AutoCAR T

Data Cutoff Date: May 11, 2020

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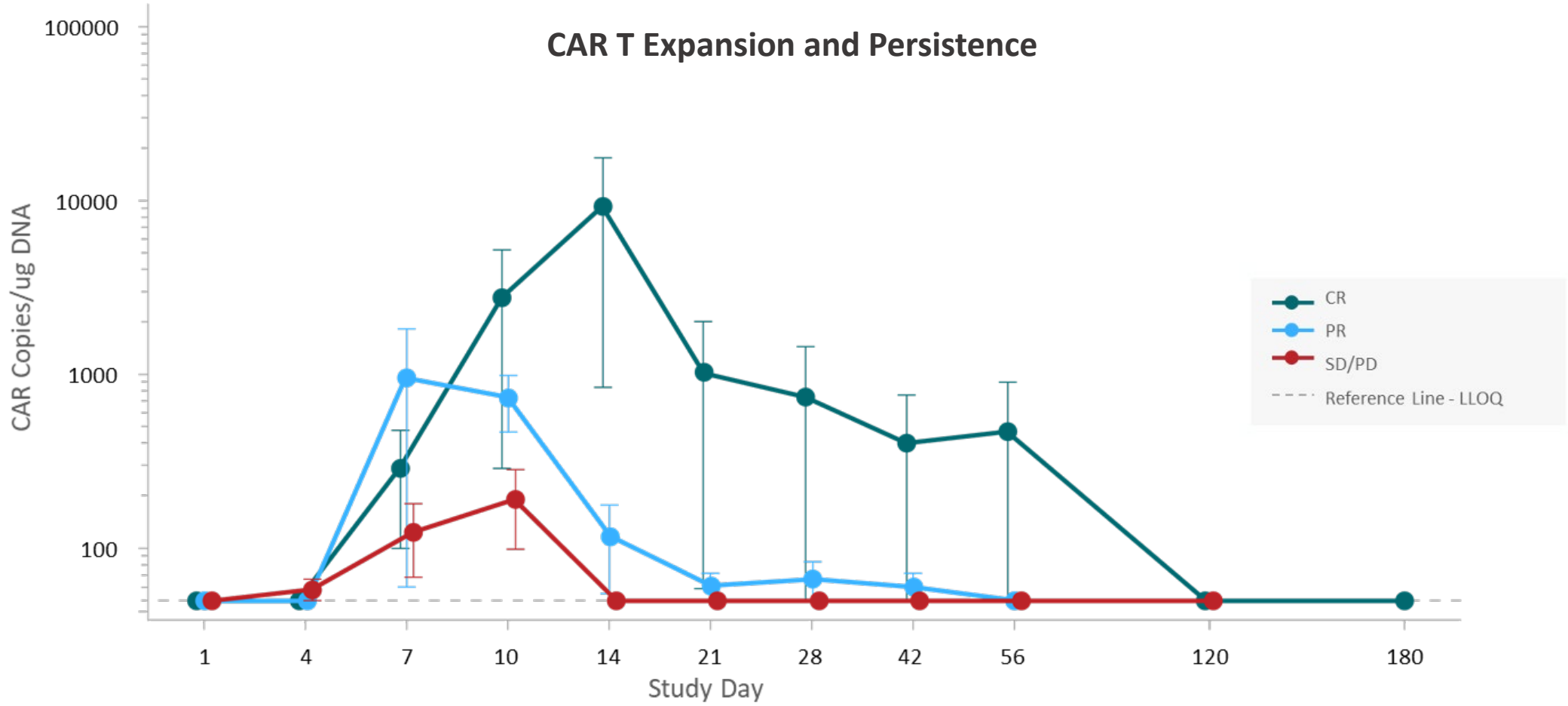
AlloCAR T Cell Expansion Is Associated with Clinical Response



CR	6	5	5	6	6	6	6	2	2	1	1
PR	4	4	4	4	4	4	4	4	3		
SD/PD	6	6	6	6	6	6	5	2	2	1	

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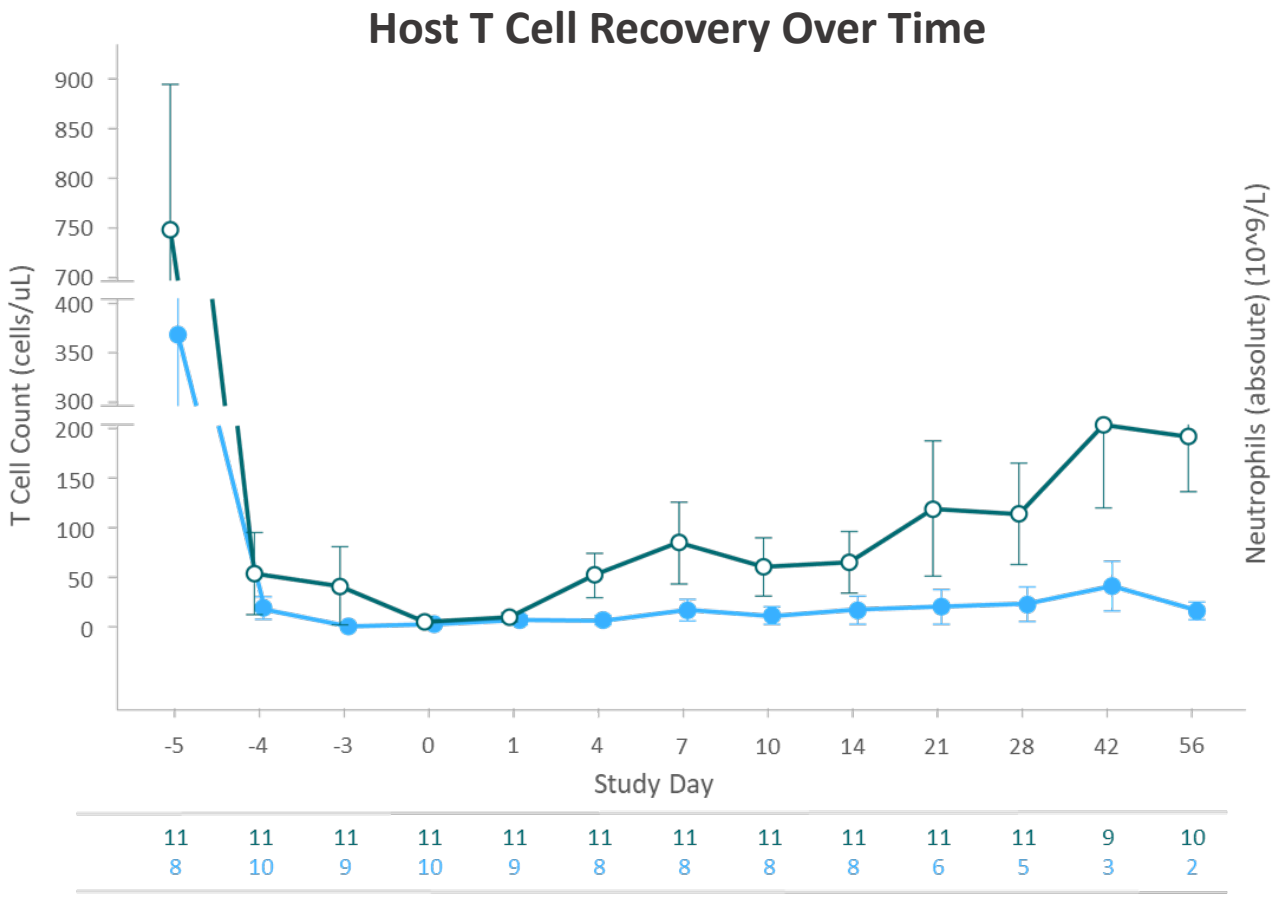
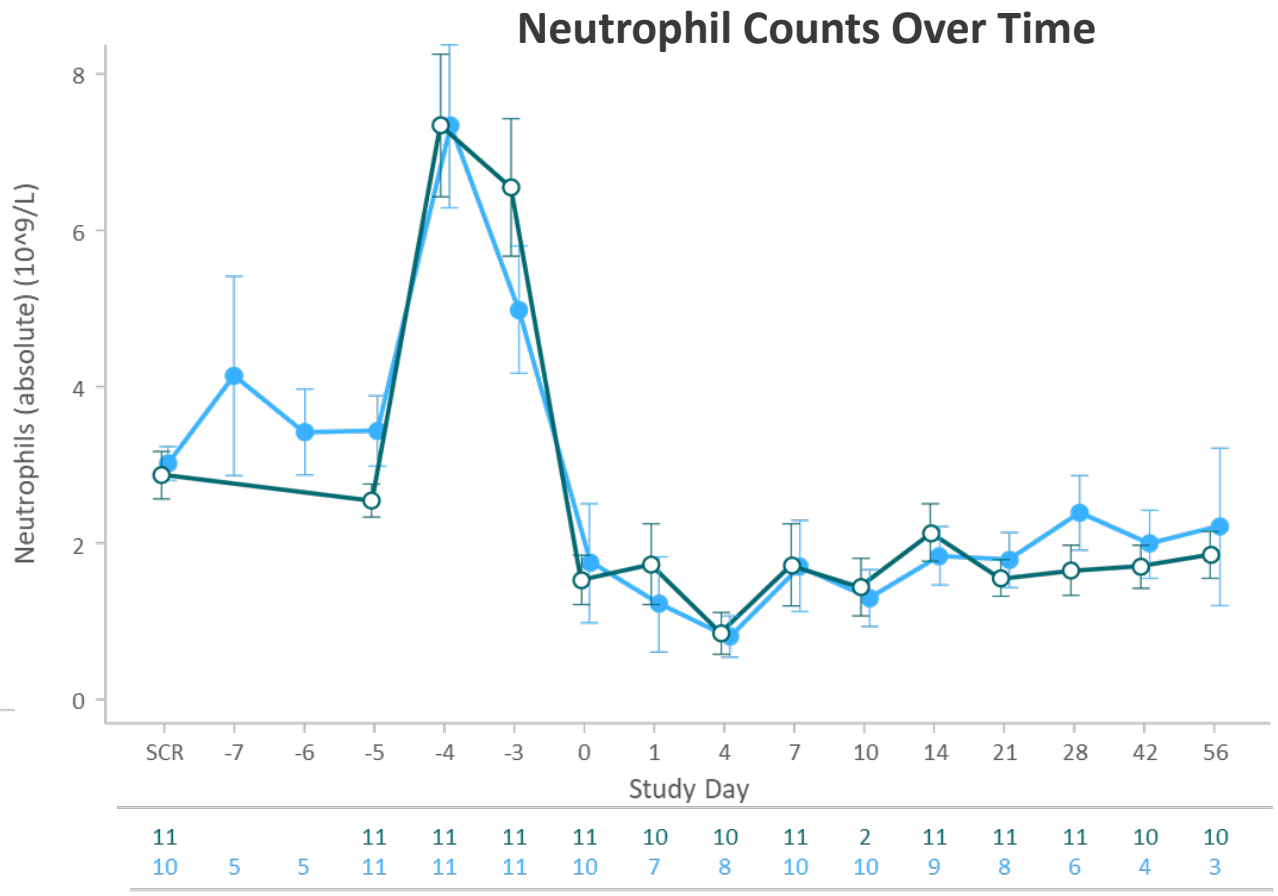
ALLO-647 Mediates Selective Lymphodepletion





ALLO-647 (39 mg)
ALLO-647 (90 mg)

- No difference in neutrophil kinetics between ALLO-647 treatment groups
- Median time to Platelet >=100K is 8 days for 90mg ALLO-647 dose cohort

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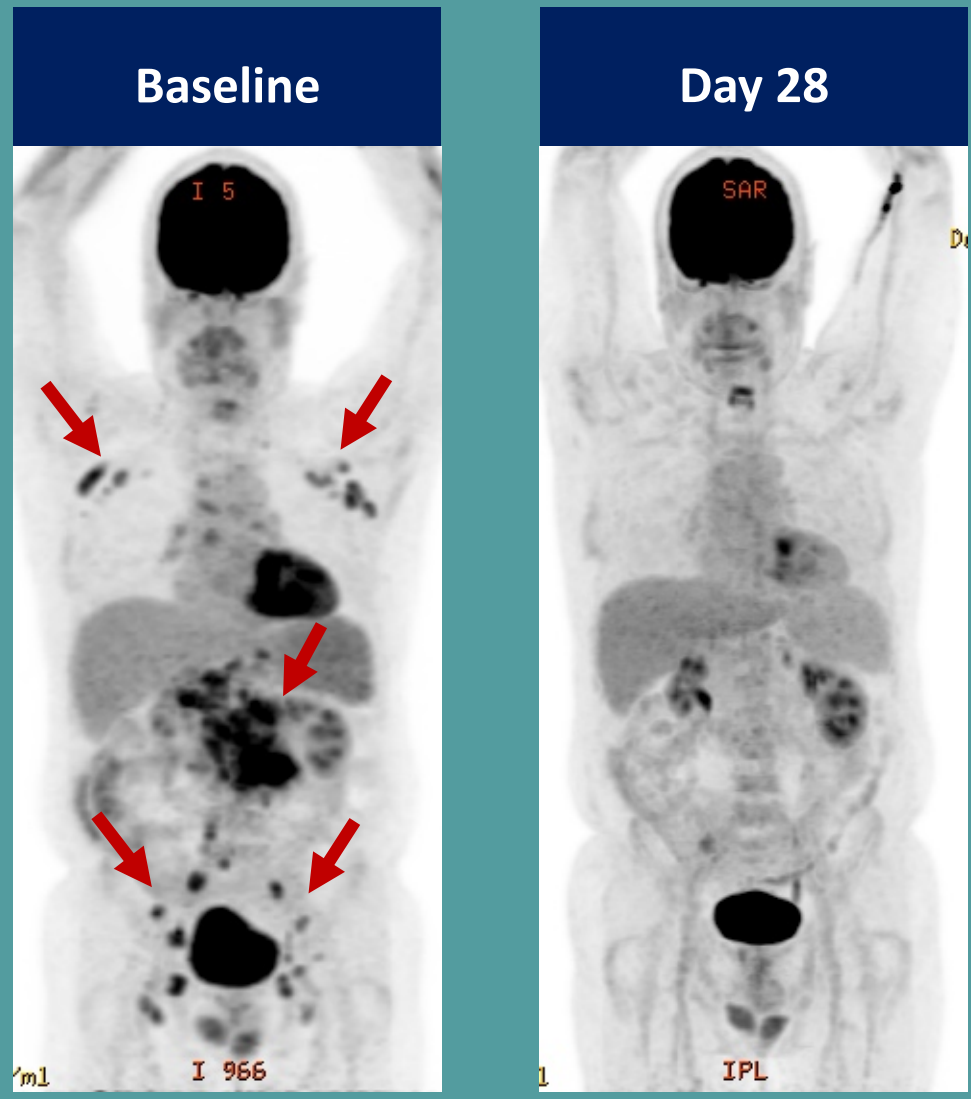
ALLO-501 Patient Case Study

- **120 x 10^6 CAR^+ T cells after Flu/Cy + 39mg ALLO-647**
- 70-year-old male with follicular lymphoma
- FLIPI 4, stage 4 (bone marrow infiltration), splenic involvement
- Primary refractory with 4 prior lines of therapy (best outcome)
    1. R-Benda x 4 cycles (PD)
    2. R-CHOP x 2 cycles (SD)
    3. R-Len x 2 cycles (PD)
    4. Copanlisib x 2 cycles (SD)
- Safety:
  – ALLO-647-related: Gr1 pyrexia

Patient remains in CR at Month 4



Courtesy of Sattva Neelapu

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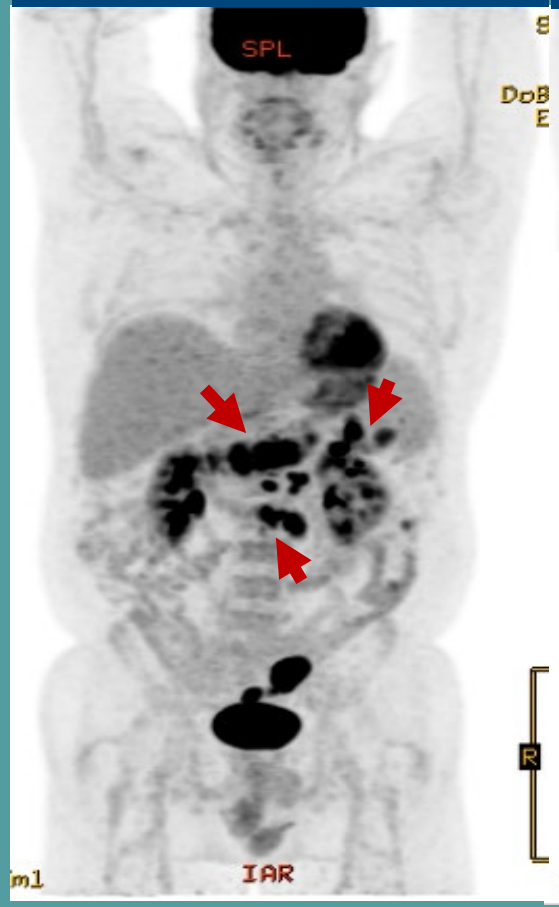
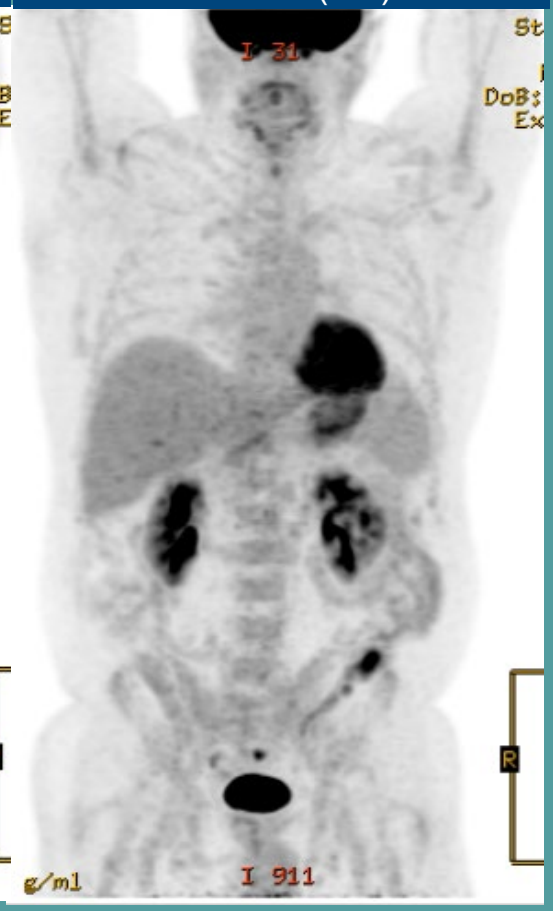
ALLO-501 Patient Case Study 2: Redosing after Disease Progression

First ALLO-501 Treatment

Baseline

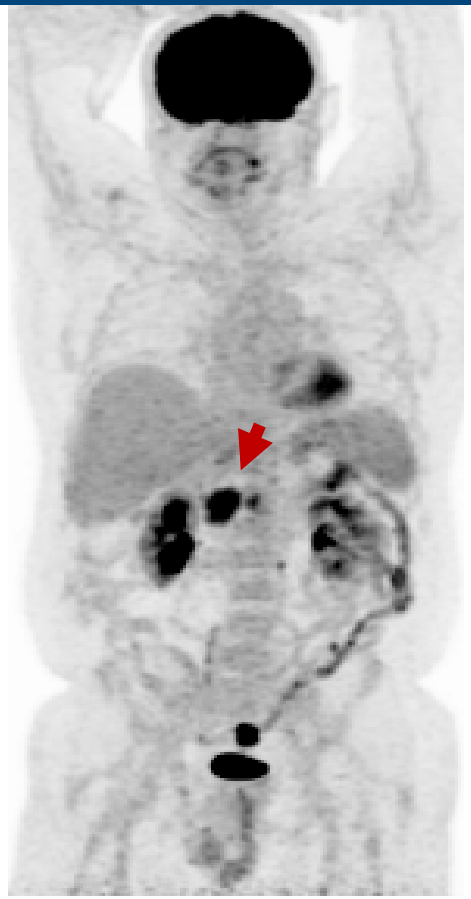


1 Month (PR)

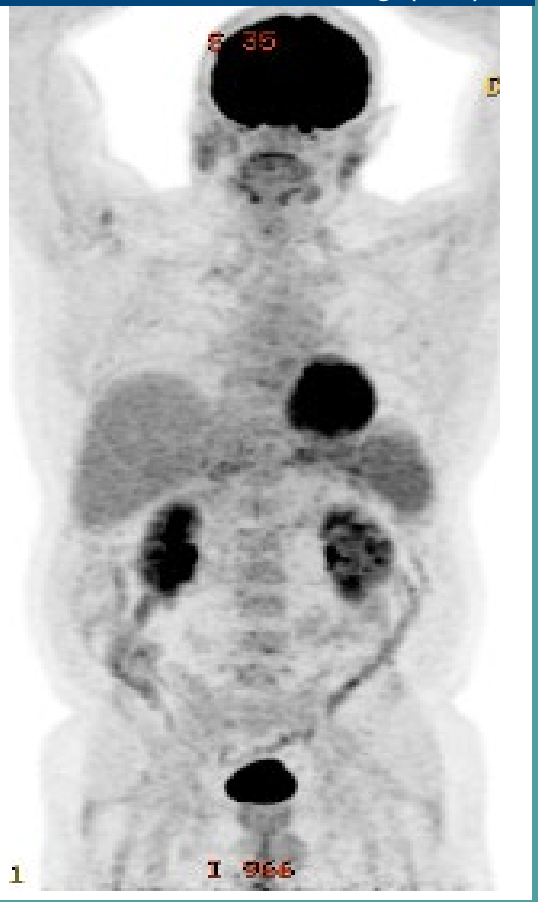


Month 2 PD: ALLO-501 Redosing

Recurrence



2 months Post-Redosing (CR)



Courtesy of Sattva Neelapu

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ALLO-501 ALPHA Phase 1 *CAR T Naïve* Efficacy Data

Initial Responses Comparable to Autologous CAR T Therapies

Cell Dose and LD regimen	ALLO-501 ALLO-647 39mg Patients (N=10)	ALLO-501 ALLO-647 90mg Patients (N=6)	All ALLO-501 Ph1 (N=16)	Autologous Ph1 Trials in NHL*	Autologous Ph2 Trials in NHL**
ORR, n (%)	7 (70%)	5 (83%)	12 (75)%	64-80%	50-73%
CR, n (%)	3 (30%)	4 (67%)	7 (44%)	56-60%	32-53%

** Kymriah and liso-cel trials include FL and MCL patients; ASH 2015; Schuster, NEJM, 2019; Abramson, ASH 2019*

*** Yescarta, Kymriah FDA labeling information and Abramson ASH 2019; Based upon mITT analyses*

ALPHA Data Cutoff Date: May 11, 2020

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Initial ALPHA Safety Data Compare Favorably to Autologous Therapies*

AE of Interest (≧Gr3)	ALLO-501 Ph1 (N=22)	axi-cel Ph2* (N=101)	tisa-cel Ph2* (N=111)	liso-cel Ph2* (N=269)
Cytokine Release Syndrome	**5%**	13%	23%	2%
ICANS	**-**			
Neurologic Events		31%	18%	10%
Graft-versus-Host Disease	**-**	-	-	-
Infection	**9%**	23%	25%	12%
Neutropenia	**64%**	93%	81%	60%
Infusion Reaction	**5%****	-	-	-

ALLO-501 safety profile increases potential outpatient opportunity

** Neelapu NEJM 2017, Schuster NEJM 2019, and Abramson ASH 2019*

*** Attributed to ALLO-647*

ALLO-501 Compares Favorably Across Other Criteria

Study	ALLO-501	Autologous Therapies*		
Product manufactured for all patients	**100%**	1-7% manufacturing failure		
Time to Treatment	**5 days** *Enrollment to treatment*	**axi-cel**	**tisa-cel**	**liso-cel**
		17 days *Leukapheresis to cell delivery*	54 days *Enrollment to treatment*	Not reported
Patients not treated	**4%**	9%	34%	Not reported
Ease of re-dosing	**Yes**	May require re-manufacturing		

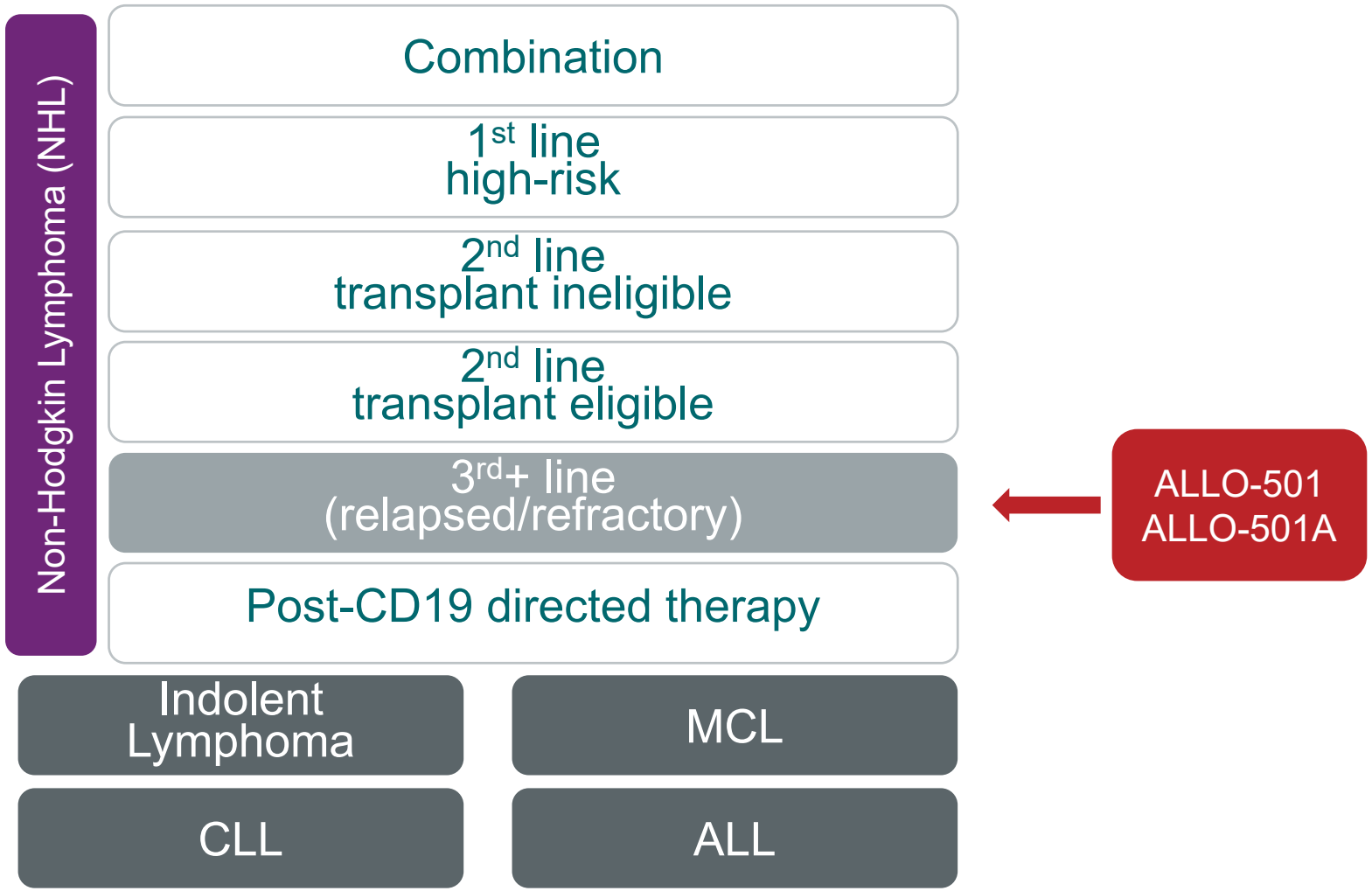
Almost all enrolled patients were treated with ALLO-501

** Neelapu NEJM 2017, Schuster NEJM 2019, and Abramson ASH 2019*

Key Questions for the ALLO-501 ALPHA Study

- ☑ Can ALLO-501 be successfully manufactured?
- ☑ Can ALLO-501 be safely administered without causing clinically relevant Graft vs. Host Disease?
- ☑ Can ALLO-647 be safely administered and allow a sufficient window of lymphodepletion to allow ALLO-501 expansion and persistence?
- ☑ Can ALLO-501 provide complete responses across multiple histologies?
- ONGOING Can ALLO-501 provide durable responses?

Starting Point for ALLO-501/501A Development in NHL and other B-Cell Malignancies



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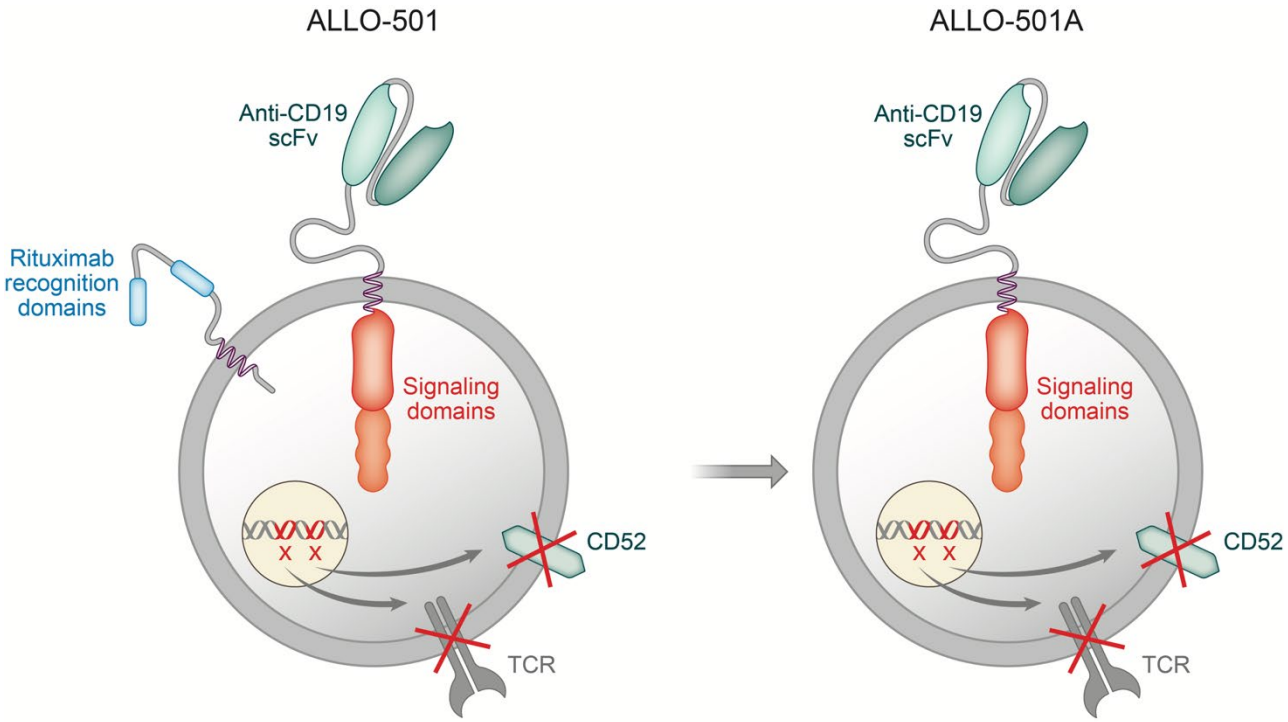
Path to a Pivotal Trial: Next Generation ALLO-501A in R/R NHL

- **ALLO-501A**
  - Next generation anti-CD19 AlloCAR T intended for Phase 2 Development
  - Eliminates the rituximab recognition domains in ALLO-501, which we believe will allow for use in a broader patient population, including those NHL patients with recent rituximab exposure
  - Abbreviated Phase 1 Trial initiated in Q2 2020



Servier holds ex-US rights to ALLO-501A

Deep AlloCAR T™ Pipeline Targeting Vast Array of Tumor Types

CATEGORY		PROGRAM	PRE-CLINICAL	PHASE 1	PHASE 2/3[1]
Hematological Malignancies	CD19	UCART19 (ALL)[2]			
	CD19	ALLO-501 (NHL)[2 3]			
	CD19	ALLO-501A (NHL)[2 3]			
	BCMA	ALLO-715 (MM)			
	BCMA	ALLO-715 + nirogacestat (MM)[5]			
	BCMA	ALLO-605 (TurboCAR™/MM)			
		ALLO-316 (CD70)			
		ALLO-819 (FLT3/AML)			
Solid Tumors		ALLO-316 (CD70/RCC)			
		DLL3 (SCLC)			
		Multiple Undisclosed Targets			
Lymphodepletion Agent		ALLO-647 (Anti-CD52 mAb)[4]			

[1] Phase 3 may not be required if Phase 2 is registrational

[2] Servier will hold ex-US commercial rights. Servier is the sponsor of the UCART19 trials

[3] Allogene is the sponsor of the ALLO-501 and ALLO-501A trial

[4] ALLO-647 intended to enable expansion and persistence of allogeneic CAR T product candidates

[5] Allogene sponsored trial in combination with SpringWorks Therapeutics; Initiation expected 2H 2020

Bringing the Benefits of AlloCAR T to Patients with Multiple Myeloma

- Anti-BCMA platform therapy
- Initial data from UNIVERSAL trial in R/R MM expected Q4 2020

- Combination Study expected start 2H 2020
- Potential Increase Anti-Tumor Efficacy

TurboCAR™ is designed to recapitulate cytokine signaling selectively in CAR T cells and turbocharge potency and durability of engineered cells

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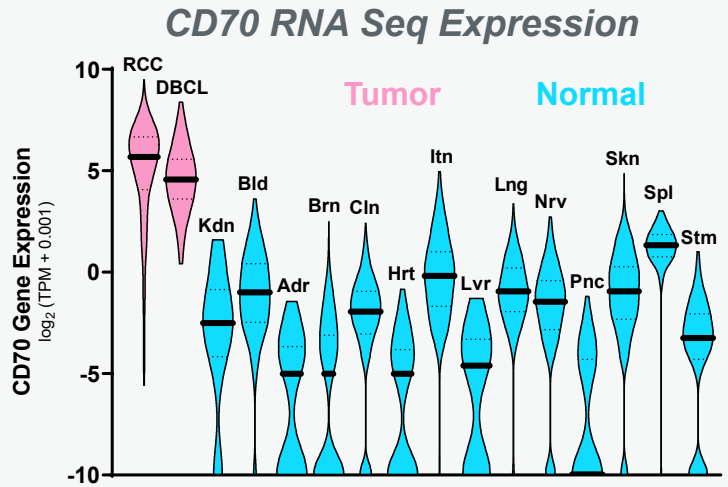
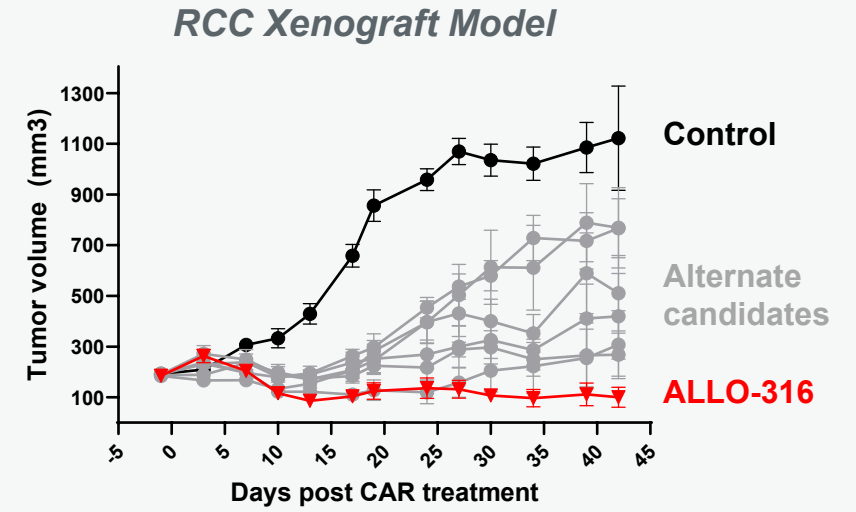
ALLO-316 (anti-CD70): The Next AlloCAR T Clinical Candidate

- ALLO-316 is an anti-CD70 AlloCAR T candidate for renal cell carcinoma (RCC) as well as several hematological malignancies
- CD70 expression[1]:
  - RCC (80-100%)
  - AML (96%)
  - DLBCL (71%), MM (63%), CLL (50%)
  - GBM (35%)
  - CD70 is also expressed on activated T cells
- CD70 in RCC:
  - High prevalence with limited 'off tumor' expression
  - Good expression in metastatic disease
- ALLO-316 is associated with minimal or no fratricide
- IND Submission expected by YE 2020



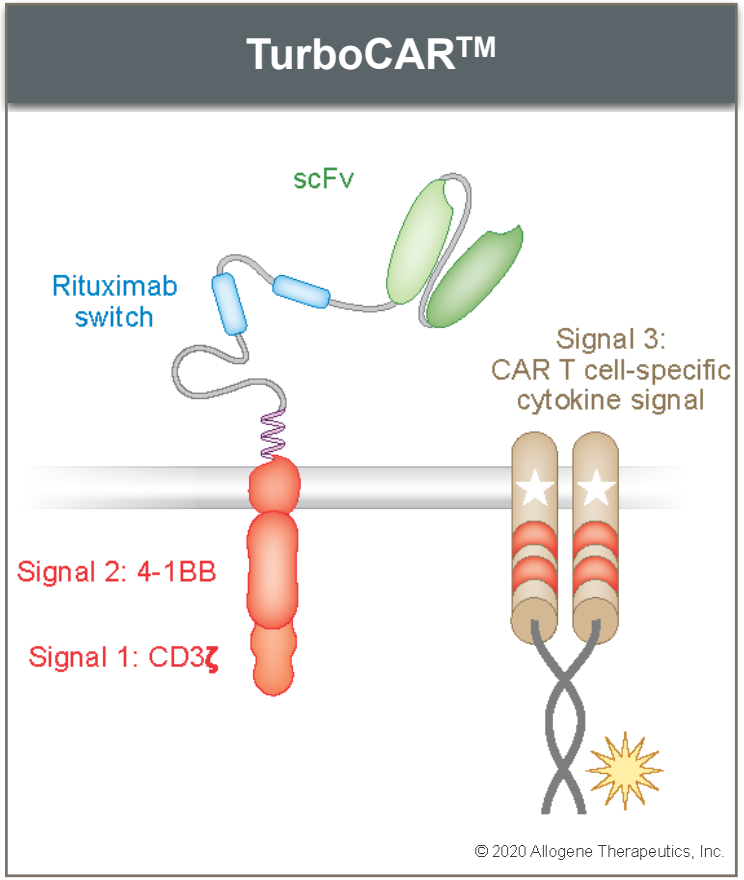


[1] Expert Opin Ther Targets. 2008 Mar; 12(3): 341–351. doi: 10.1517/14728222.12.3.341

Allogene THERAPEUTICS

TurboCAR™: Turbocharging CAR T Cells

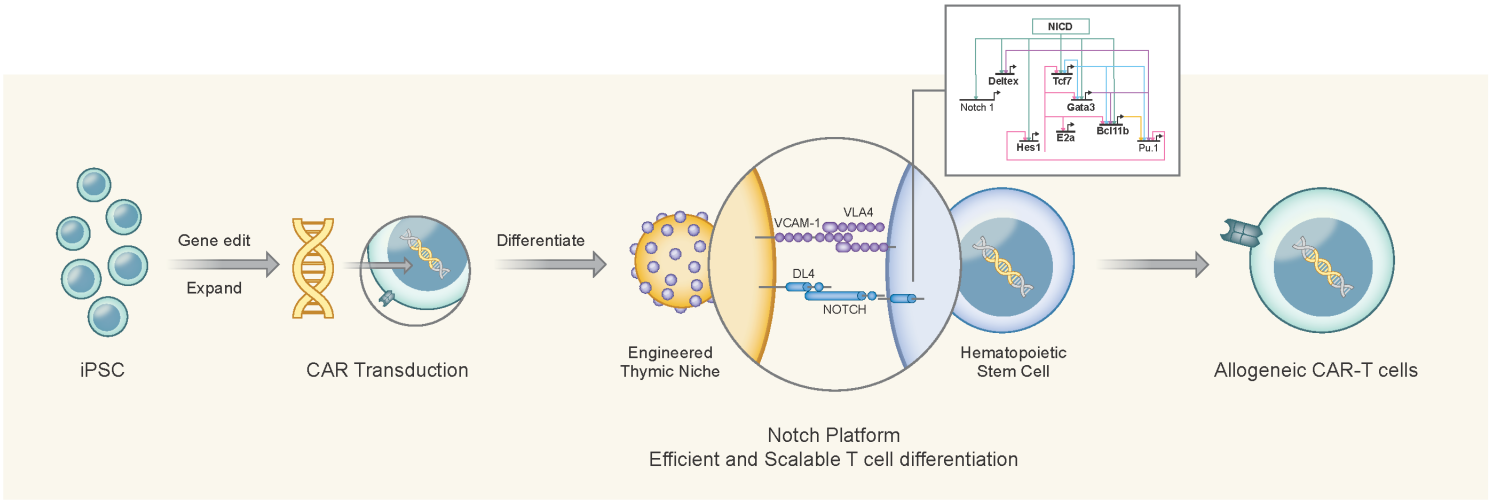
- Cytokine stimulation can increase the potency and durability of engineered T cells
- TurboCAR™ is designed to recapitulate cytokine signaling selectively in CAR T cells
  - Minimizes systemic toxicity
  - Does not stimulate host immune cells which could reject CAR
  - Delivers survival benefit selectively to CAR T cells
- Opportunities for development include
  - Improving the efficacy of CAR T cells
  - Reducing CAR T cell dose requirement
  - Overcoming exhaustion to enable CAR T therapies for solid tumors



Allogene THERAPEUTICS

iPSCs: The Road to a Renewable Cell Source

Notch Therapeutics Collaboration



- We believe the **Notch proprietary platform** supports scalable, feeder cell-free manufacturing of mature T cells and CAR T engineered cells
- Induced pluripotent stem cells (iPSC) cells can be engineered at the stem cell stage and clonal cell bank can be created

- Exclusive worldwide license agreement to develop iPSC AlloCAR™ products for initial application in NHL, leukemia and MM
- Notch is a recognized leader in the differentiation of iPSCs into T Cells
- Allogene has 25% equity position in Notch

Allogene THERAPEUTICS

Creating State-of-the-Art AlloCAR T Manufacturing Capabilities

Current South San Francisco Facility

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

East Bay Area Facility (Newark, CA)

- In-house manufacturing capability build underway:
  - GMP manufacturing expected to be ready in 2021
- Potential supply for commercial launch upon approval

Current CMO Support

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

Allogene is Creating The AlloCAR T™ Platform for Tomorrow

Improving T Cell Fitness

- TurboCARs™
- Manufacturing improvement
- Site-specific integration

Preventing Graft Rejection

- Enhanced lymphodepletion
- Immune evasion

Induced Pluripotent Stem Cells (iPSCs)*

- Potential renewable starting cell source
- Master cell bank of engineered iPSCs
- Proprietary T cell differentiation technology

Expanding Target Repertoire

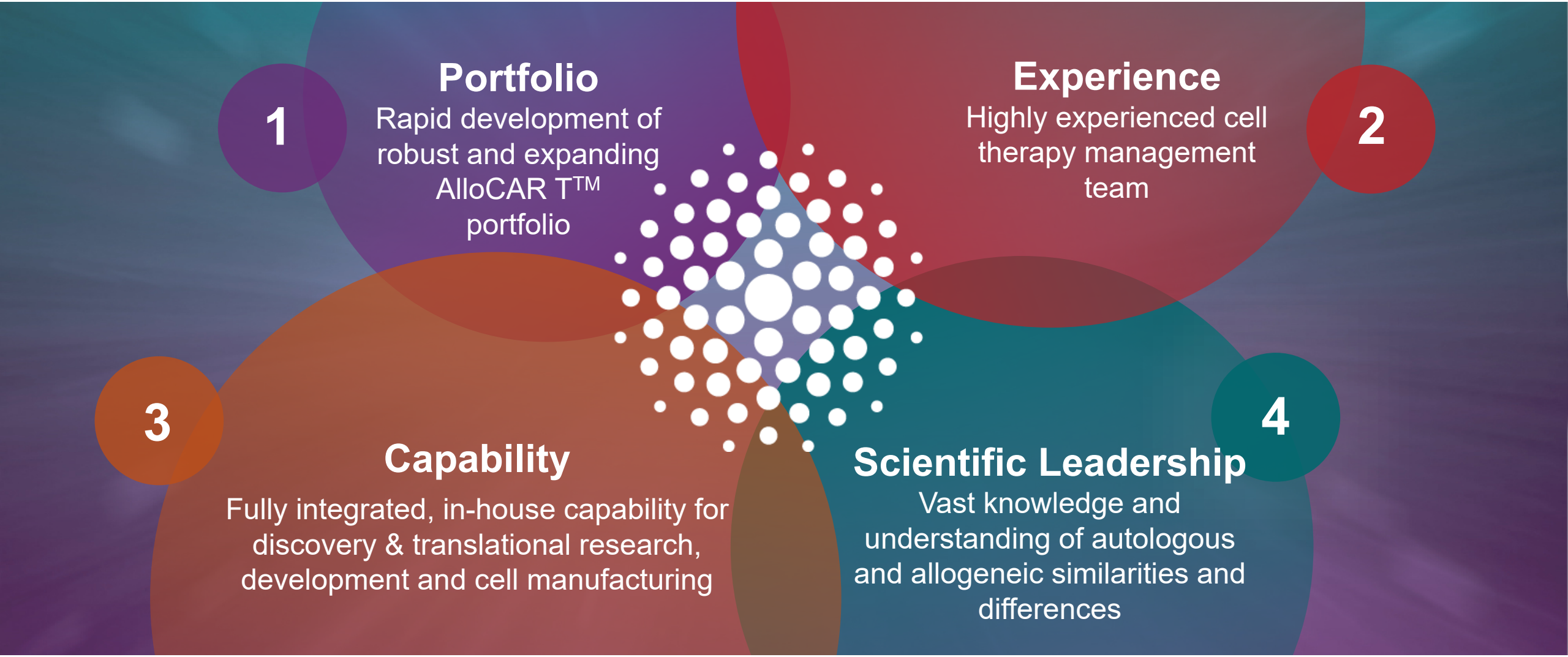
- Target selection/validation
- CAR optimization
- Multi-targeting CARs

In collaboration with Notch Therapeutics

2020 Clinical Milestone Progress

Q2 2020	✓ Initial Phase 1 ALLO-501 ALPHA trial data
Q2 2020	✓ Initiate ALLO-501A ALPHA2 clinical trial
2H 2020	Initiate ALLO-715 + nirogacestat (GSI) combination trial
Q4 2020	Initial Phase 1 ALLO-715 UNIVERSAL trial data
YE 2020	File IND for ALLO-316 (anti-CD70 CAR)

Allogene: Leading Today, Creating Tomorrow in Allogeneic Cell Therapy



Allogene THERAPEUTICS

Allogene® THERAPEUTICS

The Next Revolution in Cell Therapy

Leading Today, Creating Tomorrow

ALLO-501 is an anti-CD19 allogeneic CAR T (AlloCAR T™) therapy being jointly developed under a collaboration agreement between Servier and Allogene based on an exclusive license granted by Cellectis to Servier. ALLO-501 uses Cellectis technologies. Servier grants to Allogene exclusive rights to ALLO-501 in the U.S. while Servier retains exclusive rights for all other countries.