

Redefining the Future of CAR T

Doing What No Autologous Treatment Has Done Before

April 2024

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Forward-looking statements contained in this Presentation include, but are not limited to, statements regarding intentions, beliefs, projections, outlook, analyses or current expectations concerning, among other things: ALPHA3 being a pivotal trial; the design of ALPHA3; the potential of ALPHA3 to be groundbreaking and to leapfrog other CAR Ts, disrupt the current CAR T market and make cures possible for more patients at an earlier stage, eroding need in later line, and growing the entire class; the ability to administer cema-cel in community cancer centers and thereby potentially expand CAR T sites of care and commercial opportunity; use of a Foresight Diagnostics test in ALPHA3 and its anticipated sensitivity; the potential for cema-cel's safety profile to further improve in patients with no radiological evidence of disease; the potential outcomes of ALPHA3; the pace, timing and extent to which we may initiate or enroll patients in our clinical trials or release data from such trials including the ALPHA2, ALPHA3 and TRAVERSE trials; the timing of filing Investigational New Drug applications relating to ALLO-329 and the progress and success of such clinical program: statements related to the CD19 CAR T market and our other clinical programs: statements related to the new Phase 1 cohort of ALPHA2, including expected enrollment timing and expected timing for data; clinical outcomes, which may materially change as more patient data become available; the design and potential benefits of our Dagger® technology including the ability to enhance engraftment, expansion and persistence of AlloCAR TTM cells, and the expected benefits therefrom, or the ability to treat autoimmune disease, and our plans to deploy the DaggerTM technology; the potential for our product candidates to be approved; the potential benefits of AlloCAR T products; the ability of our product candidates to treat various stages and types of cancers including hematological and solid tumors or to treat autoimmune disease; our belief that our 2024 platform vision represents a paradigm shifting approach to CAR T; the potential ability of our diagnostic and treatment algorithm to address emerging safety findings; our expectation that our cash runway extends into 2026; the modes of action or the biologic impacts of our product candidates including the engraftment, expansion, persistence and efficacy of allogeneic CAR T cells, the incidence, severity and manageability of side effects of allogeneic CAR T therapies; the extent to which our clinical trials will support regulatory approval of our product candidates; the potential for off-the-shelf CAR T products; the ability of our manufacturing facility to meet US and international commercial cGMP standards and its potential manufacturing capacity; and other statements related to future events or conditions. Various factors may cause material differences between Allogene's expectations and actual results, including, risks and uncertainties related to; our ability to successfully implement our strategic prioritization to restructure resources; unintended consequences from the prioritization and restructuring; changes in the macroeconomic environment or industry that impact our business; competition; risks related to third-party performance; our product candidates are based on novel technologies, which makes it difficult to predict the time and cost of product candidate development and obtaining regulatory approval; the limited nature of the Phase 1 data from our clinical trials and the extent to which such data may or may not be validated in any future clinical trial; our ability to maintain intellectual property rights necessary for the continued development of our product candidates, including pursuant to our license agreements; our product candidates may cause undesirable side effects or have other properties that could halt their clinical development, prevent their regulatory approval or limit their commercial potential; the extent to which the Food and Drug Administration disagrees with our clinical or regulatory plans or the import of our clinical results, which could cause future delays to our clinical trials or require additional clinical trials; we may encounter difficulties enrolling patients in our clinical trials, including the ALPHA3 trial; there is no guarantee that Foresight will successfully develop an MRD assay for use as a companion diagnostic with cema-cel, and without a companion diagnostic the prospects for cema-cel could be materially and negatively impacted; we may not be able to demonstrate the safety and efficacy of our product candidates in our clinical trials, which could prevent or delay regulatory approval and commercialization; challenges with manufacturing or optimizing manufacturing of our product candidates or any companion diagnostic for use with our product candidates; and our ability to obtain additional financing to develop our product candidates and implement our operating plans. These and other risks are discussed in greater detail in Allogene's filings with the SEC, including without limitation under the "Risk Factors" heading in its Annual Report on Form 10-K for the year ended December 31, 2023. Caution should be exercised when interpreting results from separate trials involving separate product candidates, including comparing Allogene's clinical data to autologous CAR T data. 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. 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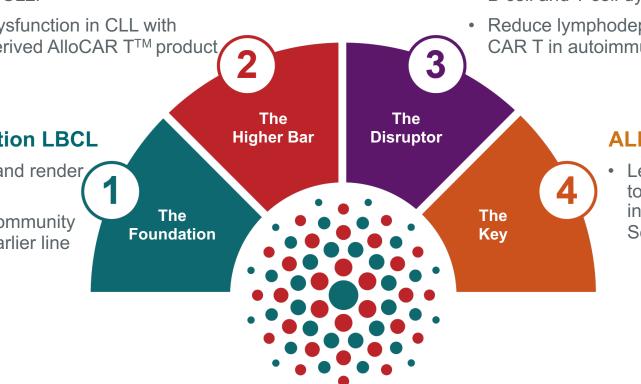
2024 Platform Vision: Paradigm Shifting Approach to CAR T

Cema-cel in r/r CLL

- Capture the growing unmet medical need in CLL post-BTKi/BCL2i
- Address T cell dysfunction in CLL with healthy-donor derived AlloCAR T[™] product

Cema-cel in 1L Consolidation LBCL

- Boost cure rates in Frontline and render later-line treatment obsolete
- Make cema-cel available in community cancer centers where most earlier line patients seek care



ALLO-329 in Autoimmune

- Next-generation AlloCAR T[™] product to address both B cell and T cell dysfunction in autoimmune diseases
- Reduce lymphodepletion to remove a key barrier of CAR T in autoimmune indications

ALLO-316 in RCC

 Leverage the Dagger[®] technology to advance AlloCAR T[™] product into the most elusive frontier -Solid Tumor

The Source: Scale for Future Demand at Cell Forge 1

Strategically leverage a wholly owned, state-of-the-art AlloCAR T[™] product manufacturing facility



AlloCAR T[™] Product Competitive Edge: ALPHA3 Pivotal Trial in 1L Consolidation for LBCL

The Allogene Advantage: First Mover with Potential to Change Standard of Care

Right Time

- · On demand product with potential to safely and powerfully consolidate remission
- Sensitive and specific MRD assay to identify the right patients

Right Approach

- Immediately available "off-the-shelf" product that eliminates the need for leukapheresis and complex delivery logistics
- Minimize the burden to patients, and caregivers, with treatment that is accessible at community cancer centers

Right Treatment

- Most patients treated of any allogeneic with Ph1 data comparable to approved autologous CAR Ts
- One-time treatment that has the potential to safely eradicate residual disease
- Intervene before the inevitable disease recurrence, immediately after 6 cycles of R-CHOP as "Cycle 7"
- Safety and efficacy of CAR T potentially improved in low disease burden setting
- · Treat only the patients who need it

START UP ACTIVITIES UNDERWAY



ALPHA3 in 1L Consolidation

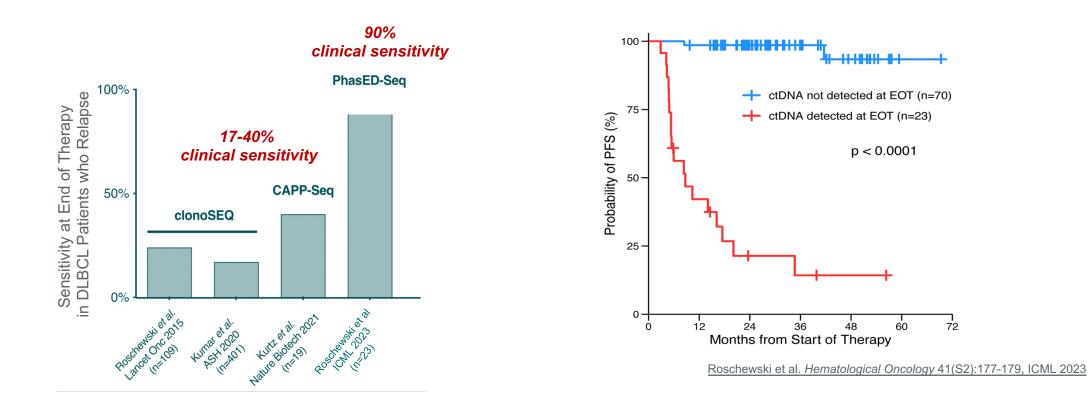
Total Potentially-Addressable U.S. Market Opportunity

~7,700 Patients/Year

>\$3B Revenue¹



Breakthrough: Foresight's End of 1L Therapy Landmark MRD Assay Allows Identification of LBCL Patients Whose Disease Will Recur



In pooled analysis of 5 prospective 1L DLBCL cohorts, end of therapy landmark PhasED-Seq accurately stratified patients:

- Among patients (n=23) who are MRD positive, ~90% and progression events within 36 months
- Among patients (n=70) who are MRD negative, only 2 had PFS events of CNS recurrence and death from non lymphoma



Ph1 Cema-cel Data Are Foundational for the ALPHA3 Trial

Median Time From Enrollment to Treatment

	All Alloy (n=33)	FCA90 Alloy (n=12)	KYMRIAH ^{®1} Phase 2 Pivotal	YESCARTA ^{®2} Phase 2 Pivotal	BREYANZI ^{®3} Phase 2 Pivotal
ORR	58%	67%	50% (label)	72% (label)	73% (label)
CR in LBCL (mITT)	42%	58%	32% (label)	51% (label)	54% (label)
CR at 6 months in LBCL (mITT)	30%	42%	29%	36%	~ 40%
CRS (Gr 3+)	0%	0%	22%	13%	4%
Neuro Events (Gr3+)	6%	0%	12%	31%	12%
Infection (Gr3+)	15%	8%	20%	23%	19%
Enrolled who did not receive intended cell product	n=3	n=1***	33%**	9%**	36%^

¹ KYMRIAH USPI and Schuster S et al NEJM 2019. Patient population in the label includes: 78% - primary DLBCL not otherwise specified (NOS); 22% DLBCL following transformation from Follicular Lymphoma

²YESCARTA USPI and Neelapu, NEJM 2017. Patient population in the label includes: 76% - DLBC; 16% - Transformed Follicular Lymphoma; 8% Primary Mediastinal Large B-cell Lymphoma.

³ BREYANZI USPI and Abramson, Lancet, 2020. 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

***After enrollment, one subject was found to have CNS involvement and was excluded

^Percent who underwent lymphodepletion but did not receive intended cell product including out of spec products

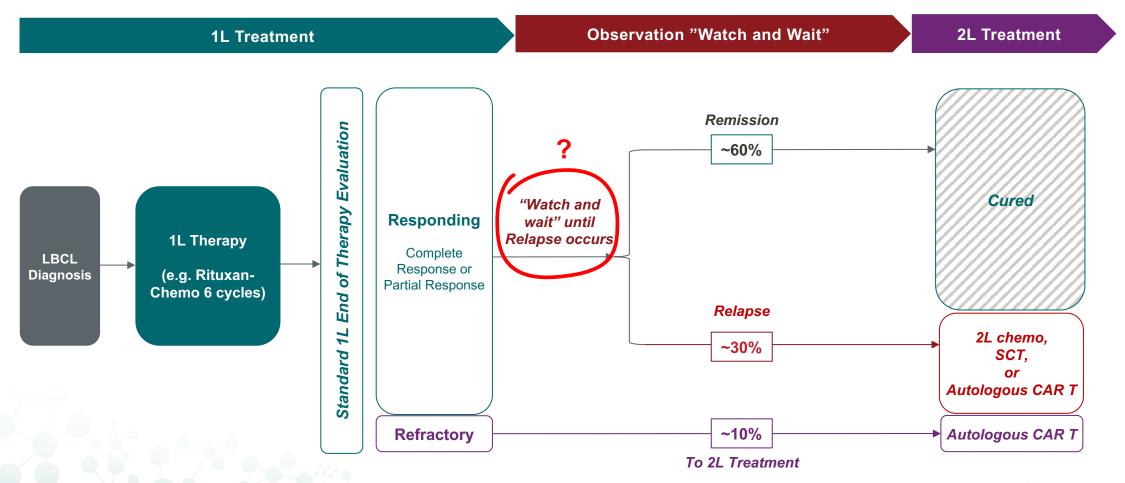
FOR ILLUSTRATIVE PURPOSES ONLY: no head-to-head clinical trial has been conducted. Differences exist between trial designs and subject characteristics, and caution should be exercised when comparing data across studies.

ALPHA/ALPHA2 Data Cutoff Date: April 20, 2023, ICML 2023



Current Standard of Care Leaves Patients with a "Watch and Wait" Approach

40% of Patients Will Progress After 1L Treatment¹

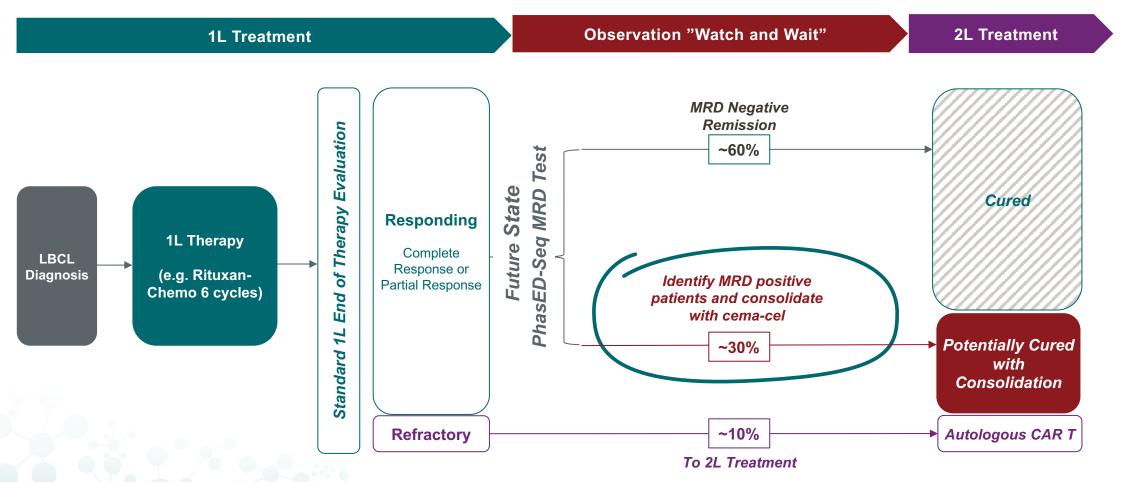




¹Tilly H, Morschhauser F, Sehn LH, Friedberg JW, et al. Polatuzumab Vedotin in Previously Untreated Diffuse Large B-Cell Lymphoma. N Engl J Med. 2022;386(4):351-363.

Potential Future: Changing the Standard of Care

40% of Patients Will Progress After 1L Treatment¹

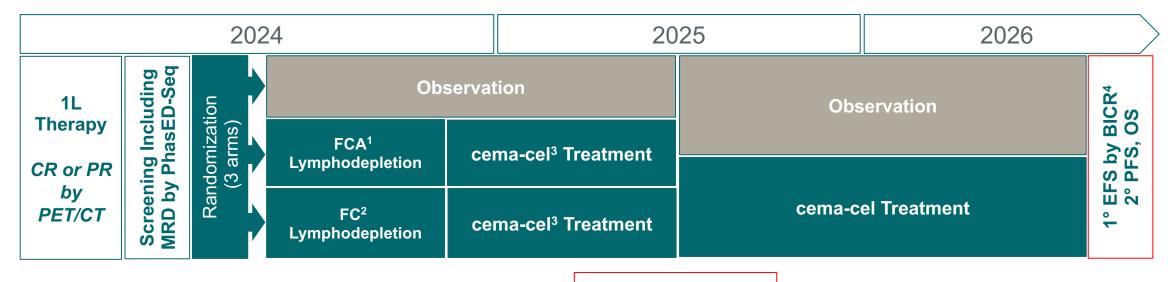




ALPHA3 Pivotal Design is Seamless and Efficient

Study Startup Underway, Trial Expected to Begin Mid-2024

- All LBCL potentially eligible: no upfront risk assessment (e.g., IPI score, double-hit, HGBCL)
- Approximately 230 patients randomized between observation and treatment
- Expected median time to EFS in observation arm ~8 months



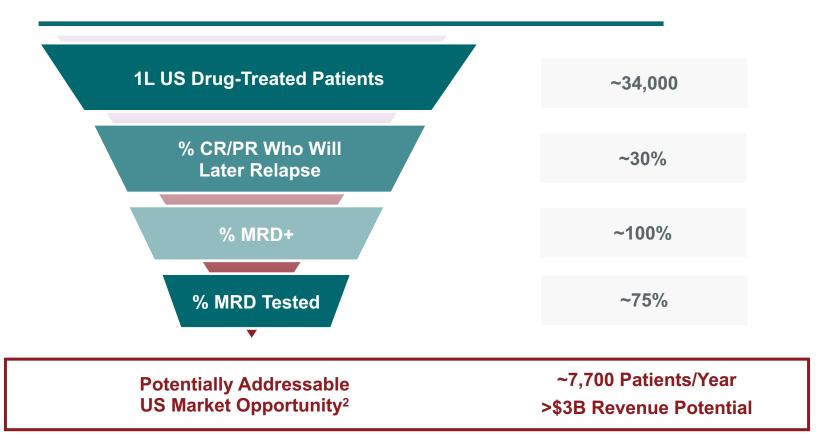
Interim Analysis: LD regimen selection

1. FCA: Fludarabine 30 mg/m2/day, Cyclophosphamide 300 mg/m2/day, ALLO-647 30 mg/day, administered daily x 3 days

- 2. FC: Fludarabine 30 mg/m2/day, Cyclophosphamide 300 mg/m2/day, administered daily x 3 days
- 3. Cema-cel dose: 120 million CAR+ cells
- 4. BICR: Blinded independent central review



ALPHA3: \$3B+ US Market Opportunity to Transform LBCL Treatment



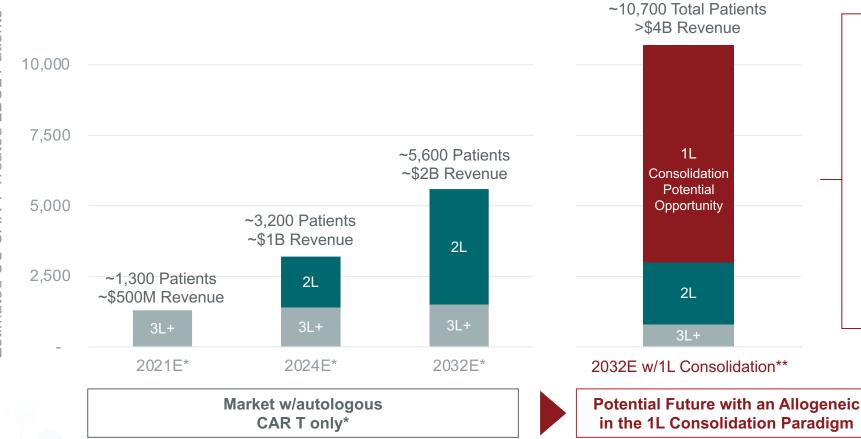
1L Consolidation Potential US Market Opportunity Sizing¹

¹Sources: Epidemiology 2032 projections for US market rounded based on Decision Resources (© 2022 DR/Decision Resources, LLC. All rights reserved. Reproduction, distribution, transmission or publication is prohibited), % suitable for observation based on POLARIX study, %MRD+ based on Foresight Diagnostics data, %MRD-tested based on primary market research and advisory board feedback ²Market revenue opportunity calculation uses general assumption of \$400K/pt based on autologous CAR T pricing for illustrative purposes only; Allogene has not made any pricing decisions for any AlloCAR T[™] product at this time



ALPHA3: Potential to Dramatically Transform the LBCL Market

Projected US CAR T-Treated Patients in LBCL by Line of Therapy



Allogeneic CAR T in 1L consolidation could disrupt the current CAR T market, making cures possible for more patients at an earlier stage, eroding need in later line, and growing the entire class

*Source: CAR T class sales projections for US market rounded based on Decision Resources (© 2022 DR/Decision Resources, LLC. All rights reserved. Reproduction, distribution, transmission or publication is prohibited) and general \$400K/patient CAR T revenue assumption

**Sources: Based on CAR T 2032 class sales projections for US markets rounded based on Decision Resources; adjusted to reflect additional \$7B revenue potential for 1L Consolidation market opportunity, with 25% of that eroding 2L CAR T sales and 2/3L ratio held constant based on Allogene assessmen



AlloCAR T[™] Product Competitive Edge: ALPHA2 Trial in r/r CLL

The Allogeneic Advantage: The Only Competition is Cancer Itself

Right Time

- Growing need for effective treatment post-Bruton tyrosine kinase inhibitors (BTKi) and B-cell lymphoma 2 inhibitor (BCL2i) therapies
- Potential to get closer to the efficacy bar set in r/r LBCL

Right Approach

- Eliminate the need for leukapheresis and complex delivery logistics
- Offers improved accessibility or scale and can reach patients where they are treated to address a large population

Right Treatment

- Effective one time-time treatment that has the potential for a lasting remission
- Healthy donor derived allogeneic CAR T product doesn't rely on patient's cells where T cell dysfunction and high circulating leukemic cells pose manufacturing and potential safety challenges

ENROLLING

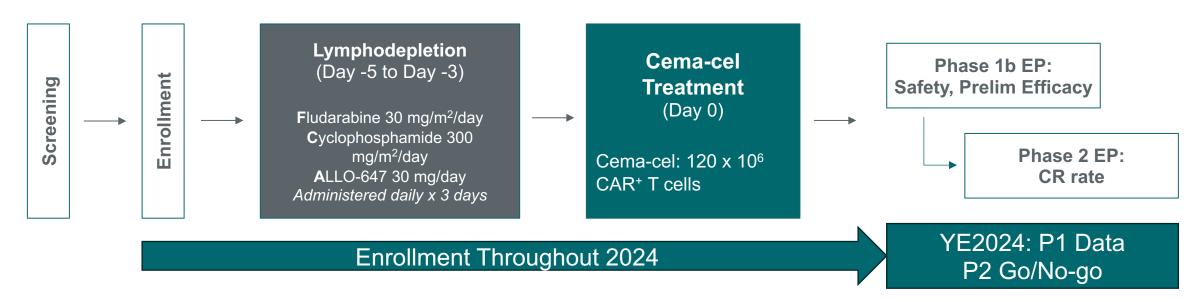


ALPHA2 in r/r CLL Potential U.S. Market Opportunity

> ~7,500 Patients/Year >\$3B Revenue¹



ALPHA2 CLL Cohort Enables Rapid Start and Enrollment



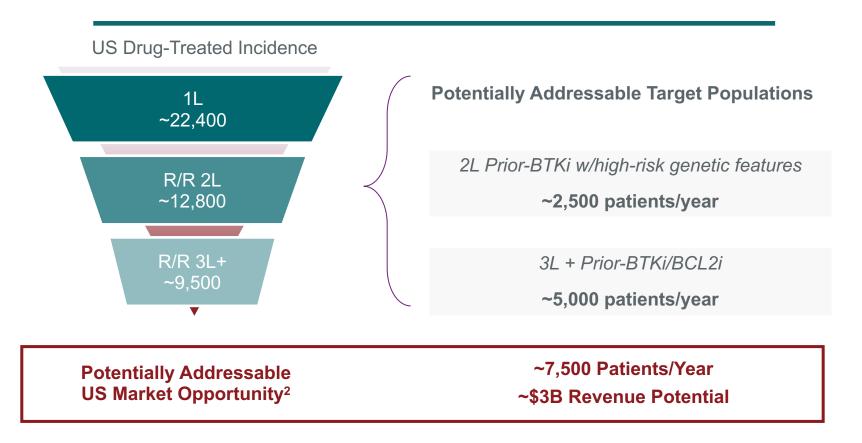
CLL/SLL Ph1b plan designed to characterize safety and preliminary efficacy by YE2024

- Builds on RP2D established in Ph1a
- Leverages current US trial sites and high investigator interest
- Includes both 2L patients with high-risk genetic features who have received BTKi and 3L patients who have received BTKi and BCL2i
- Expected to begin enrolling in Q1 2024 with transition to Ph2 planned by YE 2024/1H 2025



Potential to Meet the Needs of a Large Patient Population in Need

CLL/SLL Potential US Market Opportunity Sizing¹



¹Sources: Epidemiology 2032 projections for US market rounded based on Decision Resources (© 2022 DR/Decision Resources, LLC. All rights reserved. Reproduction, distribution, transmission or publication is prohibited), 2L Addressable Population based on 65% receiving 1L BTKi and 30% of patients with del(17p)/TP53 mutation to represent high-risk genetic features, 3L Addressable Population based on 45% of 3L patients having received BTKi/BCL2i and 65% of 4L patients

2Market revenue opportunity calculation uses general assumption of \$400K/pt based on autologous CAR T pricing for illustrative purposes only; Allogene has not made any pricing decisions for any AlloCAR TTM product at this time



AlloCAR T[™] Product Competitive Edge: ALLO-329 & Readying the Next Leapfrog

The Allogeneic Advantage: The Optimal Approach for Autoimmune Disease

Right Time

- Emerging clinical validation that supports immune resetting is feasible with a deep and transient depletion of lymphocytes with CAR T
- Opportunity to advance the management of autoimmune disease from chronic treatment to a one-time treatment

Right Approach

- Unique product attributes offer differentiation from a crowded landscape with near identical approaches
- Offers improved accessibility or scale and can reach patients where they are treated to address a large population

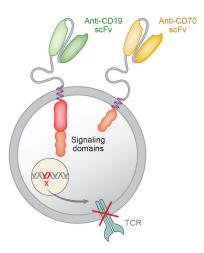
Right Treatment

- Dual target of CD19 and CD70 allows elimination of both pathogenic B and T cells that underlies autoimmunity
- Clinically validated CD70 Dagger Technology may enable reduced or eliminate lymphodepletion



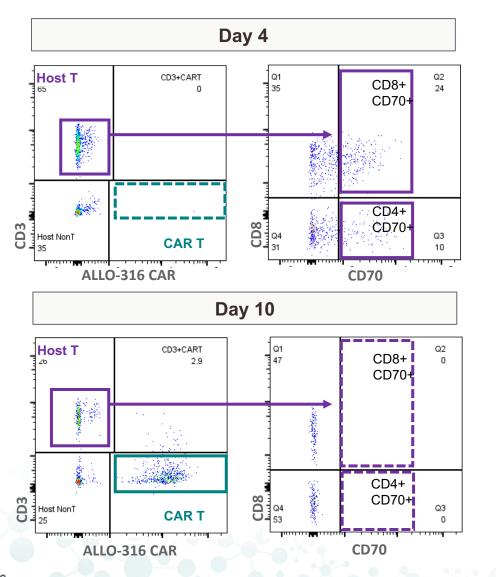
ALLO-329 in AID Potential For

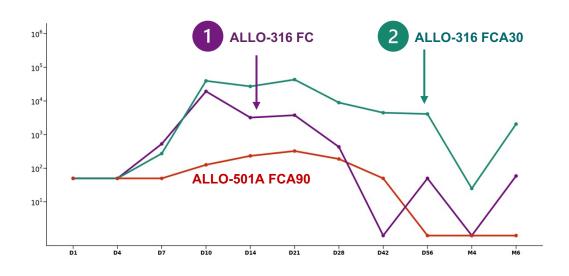
Improved Scale, Access & LD





Dagger[®] Biology: Depletes Activated CD70+ Host T Cells, Preventing Rejection and Supporting CAR T Expansion and Persistence





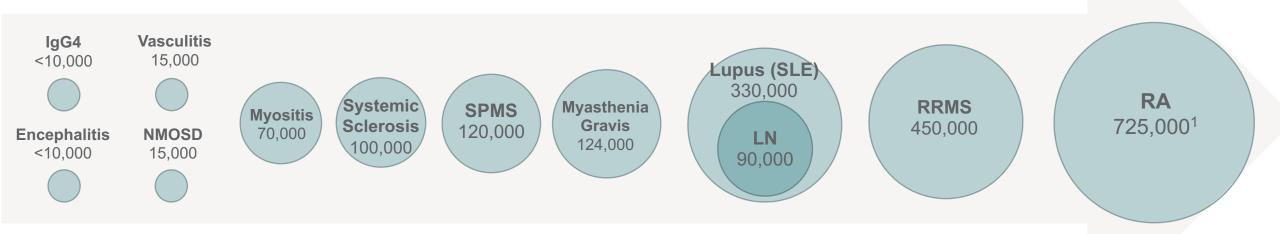
- 2 Log increase in peak expansion over ALLO-501A likely driven by FC and CD70 Dagger[®] effect
- 2

Sustained expansion/persistence likely driven by FCA and CD70 Dagger[®] effect



Emerging Clinical PoC for CAR T Suggests an Expansive Market Opportunity

Estimated US Diagnosed Prevalence for Select Autoimmune Diseases

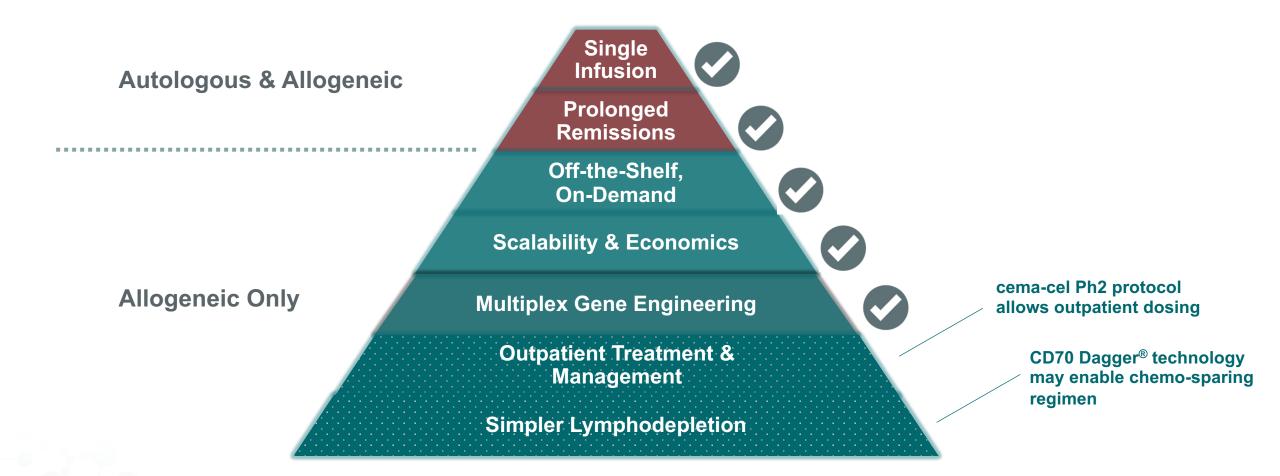


Every 1% of this US-Only Patient Population ~20,000 Patients

¹Eligible for biologics; >2M total diagnosed



AlloCAR T[™] Product Profile is Commensurate with Broad Autoimmune Opportunity





ALLO-329 Phase 1: Design Underway to Be Immediately Competitive

Autoimmune Disease Trial Next Steps

IND enabling manufacturing process and analytic assay development underway

2

IND submission and Ph1 trial projected in 1H 2025

Potential clinical POC in autoimmune indications by YE 2025

3

AlloCAR T[™] Product Competitive Edge: TRAVERSE Trial in RCC

The Allogeneic Advantage

Right Time

- Growing clinical validation from Ph1 trial that different targets can be safely deployed to treat solid tumors with CAR T
- Advances in gene editing and engineering allows opportunity to design CAR T to address the need in solid tumor

Right Approach

- · Identifying the right patient through CD70 expression level in tumors
- Optimizing CAR T expansion to maximize efficacy
- Addressing emerging safety findings with a carefully designed management algorithm

Right Treatment

- Most advanced CAR T program in RCC with already established proof of concept for ALLO-316 in CD70 positive RCC (30% ORR)
- Unique biology of targeting CD70 allows effective means to enhance CAR T expansion and persistence, a key to efficacy

ENROLLING



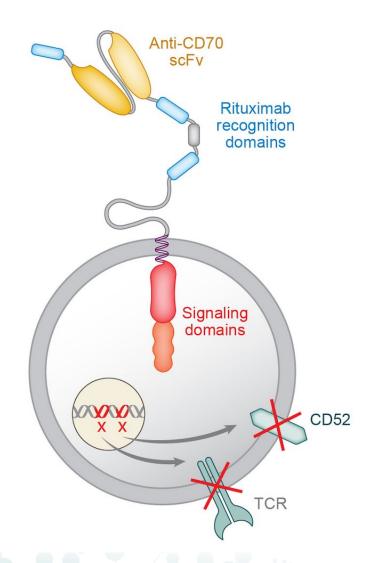
TRAVERSE in ccRCC Potential WW Market Opportunity

~12,000 Patients/Year¹ >\$4.5B Revenue Potential²

¹Sources: Epidemiology 2032 projections for G7 markets rounded based on Decision Resources (© 2022 DR/Decision Resources, LLC. All rights reserved. Reproduction, distribution, transmission or publication is prohibited) ²Market revenue opportunity calculation uses general assumption of \$400K/patient based on autologous CAR T pricing for illustrative purposes only; note that Allogene has not made any pricing decisions for any AlloCAR TTM product at this time



ALLO-316: A Potentially Best-In-Class Candidate for RCC



Post-ICI/TKI RCC Represents An Open Field of Unmet Need

 Belzutifan approved in post-ICI/TKI setting with ORR 22% and mPFS <6mo¹

TRAVERSE Phase 1 Shows Encouraging Activity in CD70+ RCC

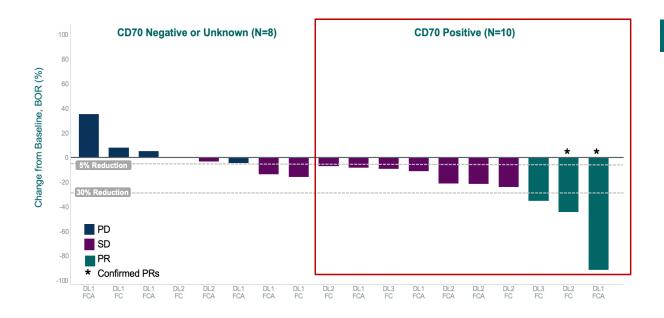
• 30% ORR, 100% DCR in patients with established CD70+ expression²

The Dagger[®] Effect of CD70 CAR Enhances CAR T Expansion

- In in vitro assays, ALLO-316 eliminates alloreactive host T cells before being rejected
- In Phase 1 study, ALLO-316 showed robust cell expansion and persistence, attributable to the Dagger[®] effect of CD70 CAR
- In some patients, the remarkable CAR T expansion and persistence was accompanied by hyperinflammatory response



ALLO-316 Clinical Efficacy Correlated to CD70 Expression Status

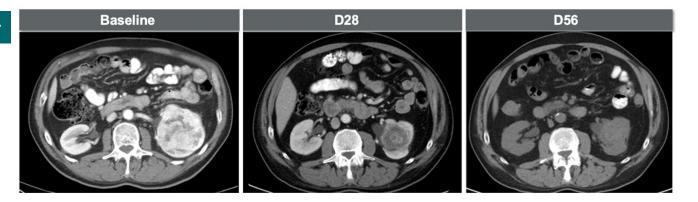


Response Rates Correlate with CD70 Expression

- All Patients Evaluable for Efficacy: 17% ORR and 89% disease control rate (DCR)
- CD70+ Patients: 30% ORR and 100% DCR

A Significant Tumor Reduction Observed in Primary Tumor

- 70-year-old male with RCC metastatic to adrenal and bone, refractory to axitinib and pembrolizumab
- Stable Disease with 45% decrease in size of primary left kidney tumor





TRAVERSE Trial Next Steps

- Continue advancing scientific innovation underlying Dagger® technology
 - Optimize CAR T cell expansion and persistence
 - Maximize the potential of allogeneic CAR T in solid tumors
 - Mitigate treatment-associate inflammatory response
- Q2 2024: Algorithm update relating to the new "safety key" protocol
- 2024: Establish Phase 2 regimen in ongoing TRAVERSE trial
- 2024+: Expand into addressable indications:
 - Other CD70+ solid tumor
 - Hematologic indications, including LBCL and T cell leukemia/lymphoma



Delivering on Scalability to Keep Pace with Expanding Opportunities

- Key personnel across Process Development, Supply Chain, Quality & Mfg
- 140K ft2 Modular Facility designed to US and International Commercial cGMP Standards
- Qualified Suppliers Across all Input Materials
- End-to-end capabilities include PBMC processing, CAR T production, filling, in-house Quality Control and inventory management
- Ultracold Inventory and Logistics in Place in US and Pending in EU









1 Leukopak ~300 doses



2024 Platform Vision: Paradigm Shifting Approach to CAR T

 1Q: Cema-cel in 1L LBCL (Pivotal) ✓ ALPHA3 start-up activities initiated 				1H: ALLO-329 in AutoimmunePhase 1 planned		
	a-cel in r/r CLL (nort in ALPHA2 ir			1H: Cema-cel in r/r CLLPivotal P2 trial initiation		
Q1	Q2	Q3	Q4			
		2024		2025		
Q2: ALLO-316 in RCCPh1 Safety Algorithm update				 Mid-year: Cema-cel in 1L LBCL (Pivotal) Selection of LD Regimen in ALPHA3 		
			Cema-cel in 1L LBCL (P trial initiation	o		
			YE: ALLO-316 in ITRAVERSE trial			
			YE: Cema-cel in rPh 1 data planne			

Financial Runway Extended into 2026



THE ONLY COMPETITION IS DISEASE ITSELF



Redefining the Future of CAR T

DOING WHAT NO AUTOLOGOUS TREATMENT HAS DONE BEFORE





Allogene's investigational oncology products utilize TALEN[®] gene-editing technology pioneered and owned by Cellectis. ALLO-501 and cemacabtagene ansegedleucel (previously known as ALLO-501A) are anti-CD19 AlloCAR T[™] products that were 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 cemacabtagene ansegedleucel in the U.S. Allogene has an exclusive license to the Cellectis technology for allogeneic products directed at BCMA, FLT3, DLL3, CD70 and Claudin 18.2 for oncology.

Pipeline Designed to Maximize Greatest Opportunity

Target	Program	Trial	Study Population	Discovery	IND- enabling	Phase 1	Phase 2 ¹	Approved	Designation	Next Milestone
HEMATO	HEMATOLOGIC MALIGNANCIES									
CD19 (Key Program)	cemacabtagene ansegedleucel (cema-cel)	ALPHA3	1LConsolidation LBCL	•						Start-up activities initiated
CD19	cema-cel	ALPHA2	3L LBCL	•			-*		FTD RMAT	Deprioritized
CD19	cema-cel + ALLO-647 ²	EXPAND	3L LBCL	•					FTD (ALLO-647)	Deprioritized
CD19 (Key Program)	cema-cel	ALPHA2	r/r CLL	•						Enrolling
BCMA	ALLO-715	UNIVERSAL	5+ Line MM	•		-*			RMAT ODD	Reviewing manufacturing process
BCMA	ALLO-605 ³	IGNITE	5+ Line MM	•		- 🕷			FTD ODD	Reviewing manufacturing process
CD70	ALLO-316		Various	•	- 🗰					
FLT3	ALLO-819		AML							
SOLID TUMORS										

CD70 (Key Program)	ALLO-316	TRAVERSE	ccRCC	• FTD	Cohort expansion 2024
CD70	ALLO-316		Other Solid	•	
DLL3	ALLO-213		SCLC	•	
Claudin 18.2	ALLO-182		Gastric & Pancreatic	•	

AUTOIMMUNE DISEASE

CD19/ CD70 (Key Program)	ALLO-329	Various	•		Frial initiation IH 2025
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¹Phase 2 designed to be registrational; ²ALLO-647 (anti-CD52 mAb) is intended to enable expansion and persistence of certain allogeneic CAR T product candidates; ³TurboCAR[™]

