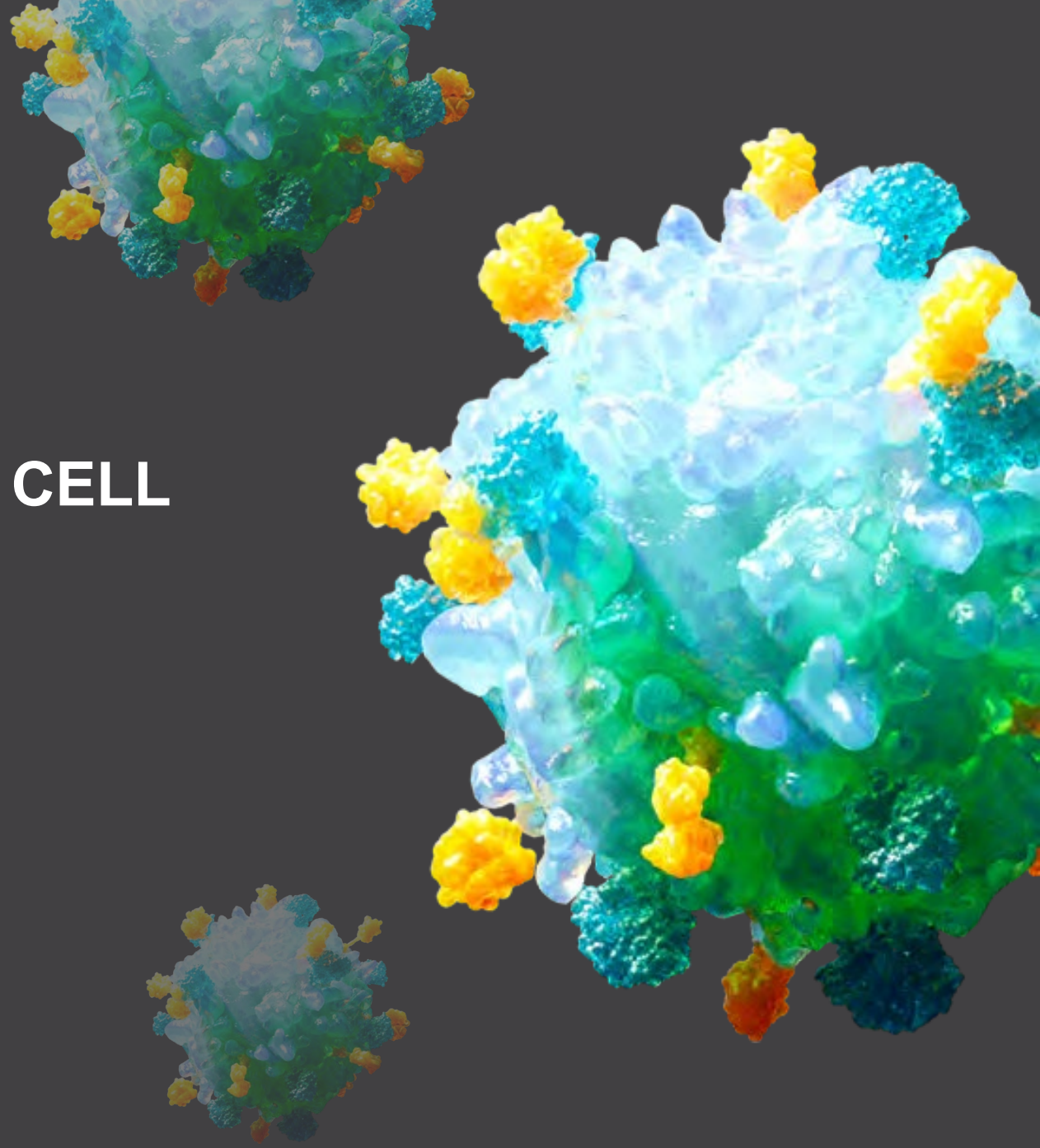
ATARA BIO®

UNLEASHING THE PROMISE OF CELL THERAPY FOR CANCER AND AUTOIMMUNE DISEASES

SEP 9, 2024

Nasdaq: ATRA



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Atara Biotherapeutics is Focused on Natural T-Cell Biology with a Differentiated, Off-the-Shelf Approach

Atara Overview

- Company founded in 2012
- Headquartered in Thousand Oaks, CA with ~165 employees
- First company to obtain regulatory approval for an allogeneic T-cell immunotherapy with EBVALLO™
- Novel platform leverages the unique biology of Epstein-Barr virus (EBV) T cells, a type of alpha beta T cell
- Capability to leverage this platform to treat a range of serious diseases through selective addition of chimeric antigen receptors (CARs)

Atara's Allogeneic CAR T Programs

B-cell Driven Autoimmune Diseases

ATA3219

CD19 CAR:
Lupus Nephritis and Severe Systemic Lupus Erythematosus Study Initiation Expected Q4 2024; Initial Clinical Data Expected Mid-2025

Hematological Malignancies

ATA3219

CD19 CAR:
Initial NHL Ph1 Data Expected Q1 2025

ATA3431

CD19/20 CAR:
IND Targeted for H2 2025

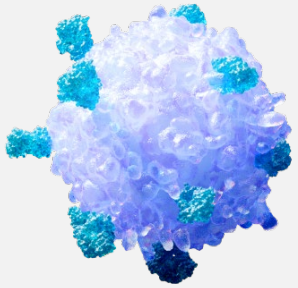
Innovating Next-Gen CAR T Leveraging the Only Allogeneic T-cell Platform With an Approved Product

Allogeneic EBV T-Cell (EBVALLO™)

Healthy Donor Cells

Manufacturing

EBV TCR

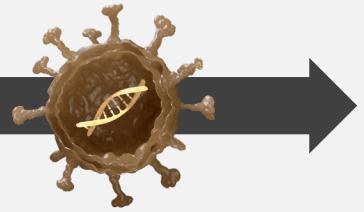


EBV T Cell

- ✓ No gene editing of the TCR or MHC
- ✓ Minimal HLA matching (only 2 of 10 alleles)
- ✓ No lymphodepletion
- ✓ Favorable safety profile in 600+ patients with outpatient experience
- ✓ Robust manufacturing with biologic-like COGM

Next-gen Allogeneic CAR T

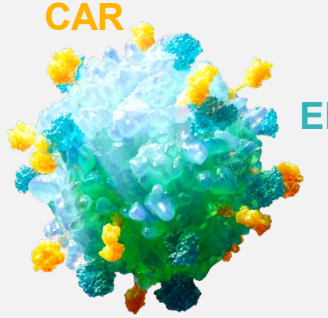
Chimeric Antigen Receptor



Viral Vector

CAR

EBV TCR



EBV CAR T Cell

- ✓ Retain features of EBV T cells
- ✓ Does not require complex gene edits
- ✓ Leverages novel CD3ζ signaling domain
- ✓ CAR-targeted activity – can be modified to express single or dual targets

EBV = Epstein-Barr Virus; HLA = Human Leukocyte Antigen; CAR = Chimeric Antigen Receptor; TCR = T-cell Receptor; MHC = major histocompatibility complex

Tab-cel® (Ebvallo™) is approved in the European Union

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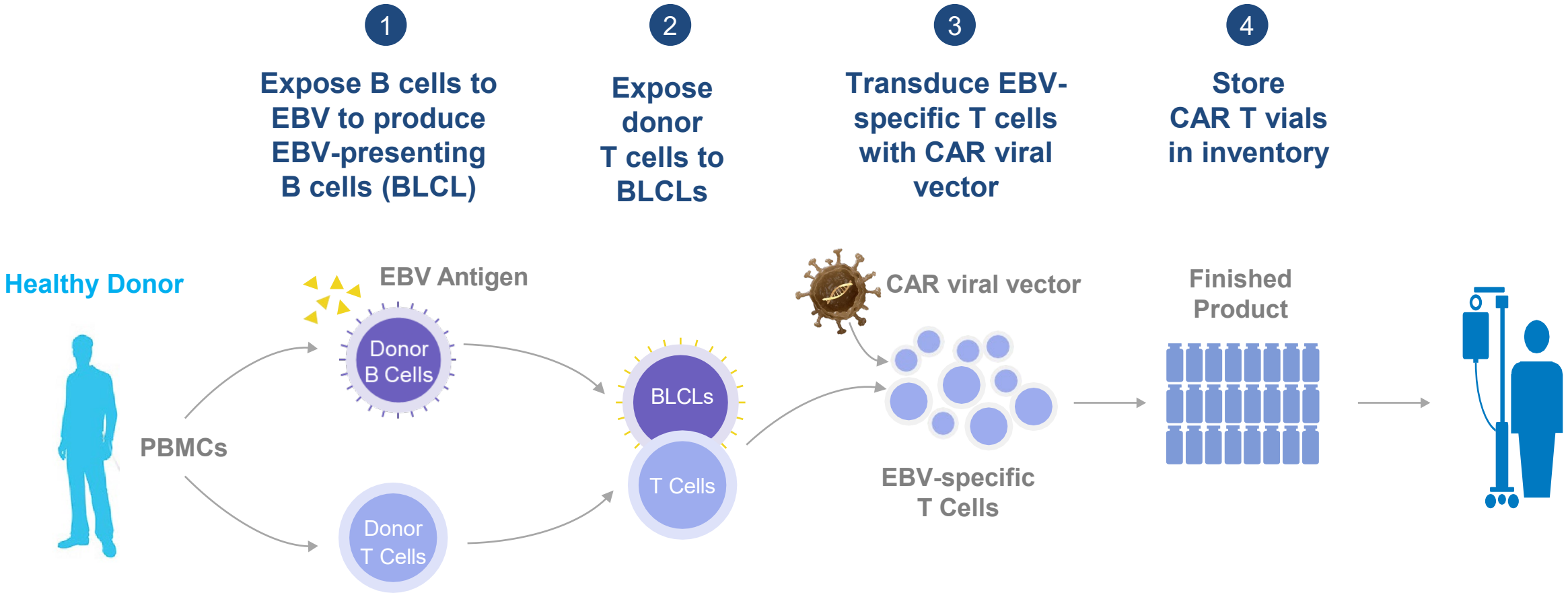
Atara's Allogeneic CAR-T Manufacturing Process Leverages Our Commercial Manufacturing Process for Tab-cel



EBV = Epstein-Barr Virus; PBMC = peripheral blood mononuclear cell; BLCL = B lymphoblastoid cell line

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Atara's Allogeneic CAR T Platform Designed to Improve Patient Journey and Expand Access Versus Autologous Cell Therapies

Current Autologous CAR T Patient Journey

Apheresis	Lymphodepletion	CAR T Treatment	Post Infusion Monitoring
• Time consuming, extra logistics, requirement to stop treatment	• Chemotherapy side effects • Infection risk • Safety risks in women of child-bearing age • Genotoxic • Added cost and complexity	• 2-5 weeks-long process to engineer and deliver autologous CAR T cells • 30+ minute infusion	• 1-2 weeks inpatient monitoring at hospital • Cytokine release syndrome • Neurotoxicity

Atara T Cells Offer Unique Potential Advantages in the Allogeneic Field (as evaluated in tab-cel & ATA188 clinical development studies)

Off-the-Shelf (No Patient Apheresis)	No Lymphodepletion	5-10 Minute Infusion	1-2 Hours Monitoring

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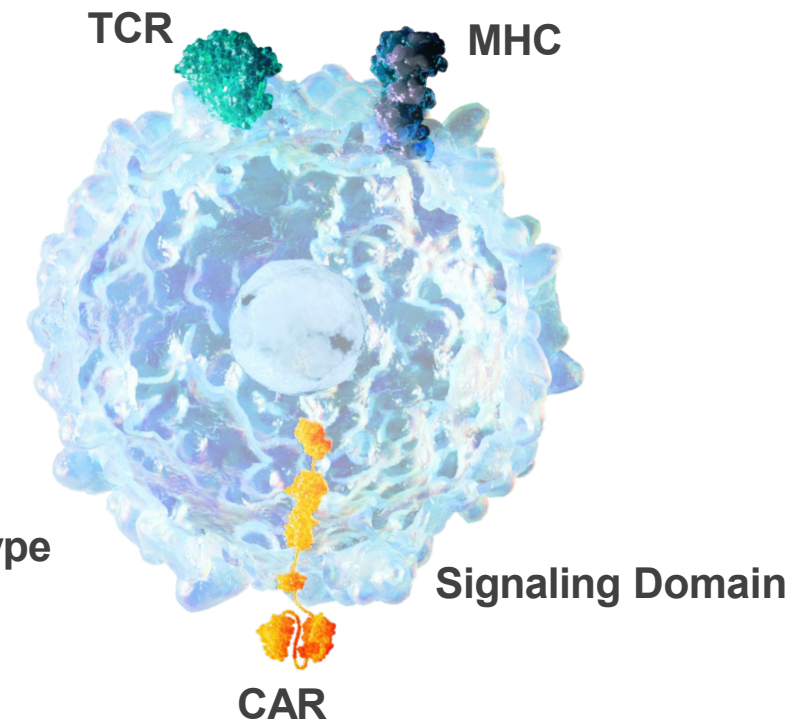
Allogeneic Requires a Different Approach to Overcome Key Challenges

Conventional αβ CAR T



Key Challenges to Overcome

- **Graft vs Host Disease and Allorejection:** Requires genetic alterations to TCR and MHC. Deletion of MHC also increases NK-cell-mediated CAR-T destruction
- **Exhaustion and Diminished Persistence:** Redundant CAR CD28 and CD3ζ signaling can lead to over-activation and T-cell differentiation away from memory programs
- **Inflammatory Response:** Differentiated CAR-T cells exhibit more immediate expansion *in vivo,* faster time to peak T-cell concentration, and more severe cytokine-based inflammatory reactions

TCR = T-cell receptor; MHC = major histocompatibility complex; αβ = alpha beta; Graft-versus-host disease (GVHD)

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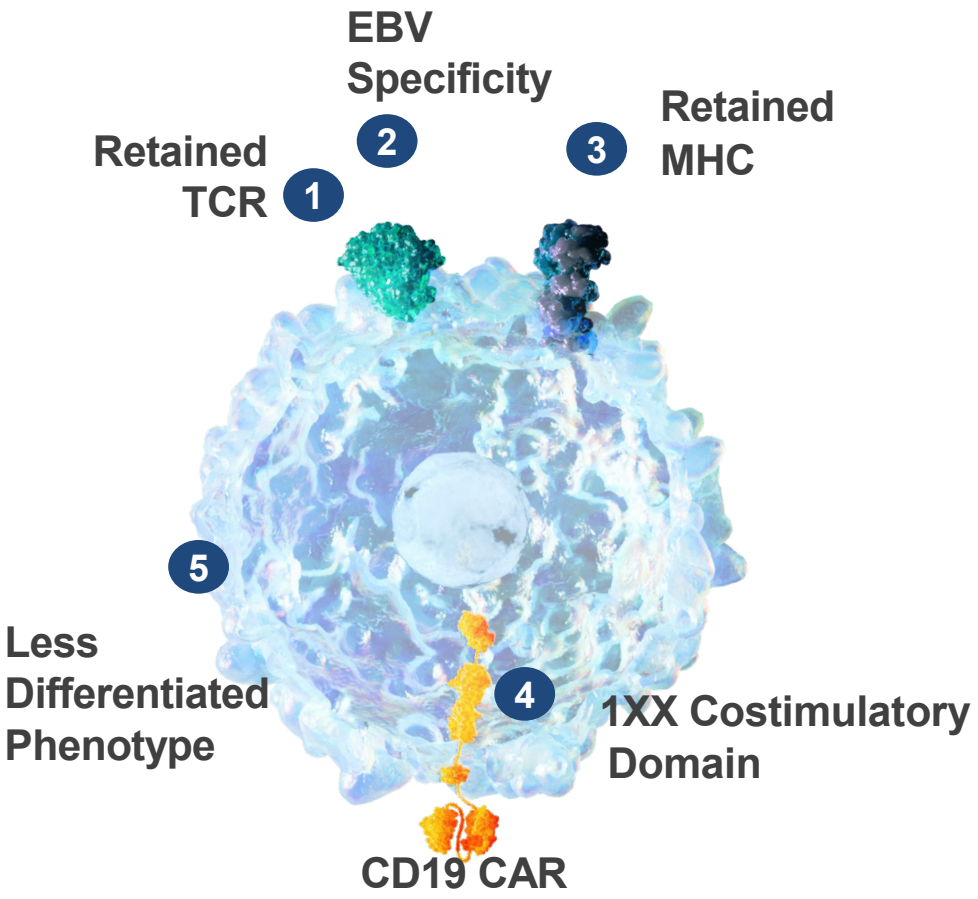
Atara's CAR T Platform Combines the Natural Biology of T Cells With the Benefits of an Allogeneic Therapy

Atara's Allogeneic CAR T Platform



ATA3219 Key Features

Graft vs Host Disease (GvHD) and Allorejection:

1. **Retained TCR:** Unedited TCR serves as a key T cell survival signal[1,2,3] contributing to functional persistence[3]
2. **EBV Specificity:** Low GvHD risk due to TCR recognition of viral antigens
3. **Retained MHC:** Partial HLA matching[4] enables allogeneic approach that avoids host versus graft rejection[5]

Exhaustion, Diminished Persistence, and Inflammatory Response:

4. **1XX Costimulatory Domain:** Novel CD3ζ signaling domain[6] optimizes potency, expansion and mitigates T-cell exhaustion while modulating activation
5. **Less Differentiated Phenotype:** αβ T-cell manufactured with less differentiated phenotype contributes to potency and moderates *in vivo* expansion of CAR-T cells, translating to potentially less severe inflammatory reactions

TCR = T-cell receptor; MHC = major histocompatibility complex; αβ = alpha beta; Graft-versus-host disease (GVHD)

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Clinical CAR T Data From Industry Leaders and Academia Reinforce Key Features of Atara's CAR T Platform in Oncology and Autoimmune Diseases

EBV Specific TCR & Retained MHC with Partial HLA Matching

Safety and persistence

Less Differentiated Phenotype

Durability and potency

1XX Costimulatory Domain

Expansion, persistence and potency

Memorial Sloan Kettering
Allogeneic EBV CD19 CAR T

Overall survival up to 3 years in post-transplant B-cell malignancy patients with favorable safety profile (0.7×10^6/kg per dose, n=12)[1]

YTB-323
Stem-enriched auto CD19 CAR T

73% CRs, 62% durable CRs at 6 months (12.5M DL2, n=30)[3]

Preliminary safety and efficacy in 3 SLE patients[4]

TAK-940
CD19 auto CAR T with 1XX

ORR 87%, CR 75% (25M DL1, n=16)[2]

1. Shahid S, Curran K et al., ASH, 2023; 2. Park, JH et al, ASH 2023; 3. Barba, P et al. Poster 439. ASH 2022 Novartis program. 4. Hernandez JC et al, ACR 2023

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ATA3219 in NHL: Opportunity To Compete With a Differentiated Profile Given Limitations With Other CD19-Targeted Therapies

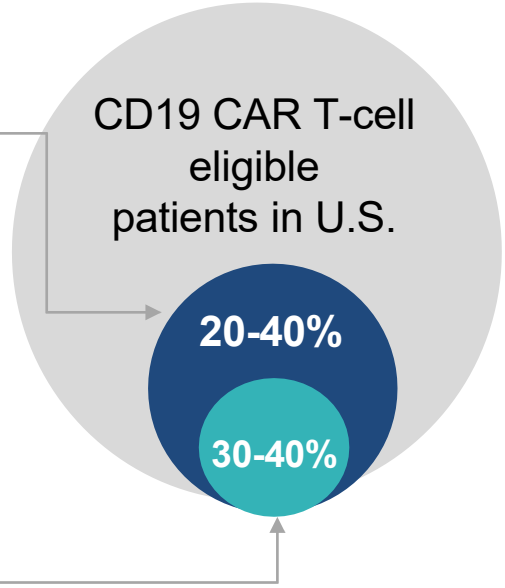
Unmet Need Despite Approved Auto CAR T

Access challenges for auto CAR T

Only ~20-40% of eligible patients receive CAR T therapy[1,2]

Durability challenges for auto CAR T

Only ~30-40% of those who receive autologous CD19 CAR T therapy have durable response at 6 months[3†]



Bispecifics & Allo CAR Yet to Deliver

Efficacy and safety challenges for bispecifics

Risk/benefit profile still challenging (CRS/ICANS), limited tissue penetration, incomplete B-cell depletion, limited durability of remission, and repeated administrations

Durability and persistence challenges for allogeneic CD19 CAR cell therapy

Limited durability of remission with no clinically superior platform

1. Geethakumari PR, et al. Curr Hematol Malig Rep. 2021;16(4):345-356. 2. Schuster SJ. The Lancet. Oncology. 2019; 20(1):2-3. 3. Atallah-Yunes SA, et al. Frontiers in Immunology. 2022; Volume 13. Note: Estimates for 2022 do not include full impact of ongoing 2nd Line CART utilization.
†Estimate derived from PIs of approved auto-CAR T; includes reported and extrapolated information.

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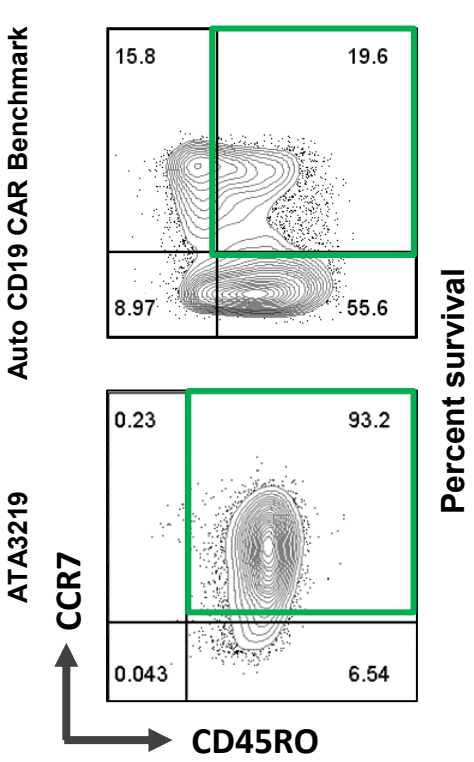
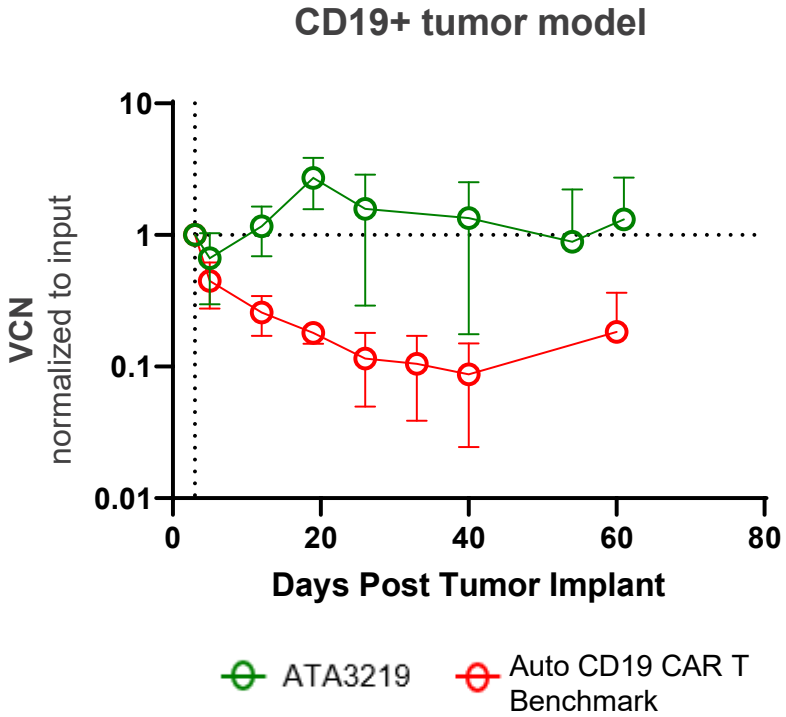
ATA3219 in NHL: Potential "Best-in-Class" Profile with Superior *In Vivo* Persistence & Efficacy Versus Commercial Auto CD19 CAR T Benchmark

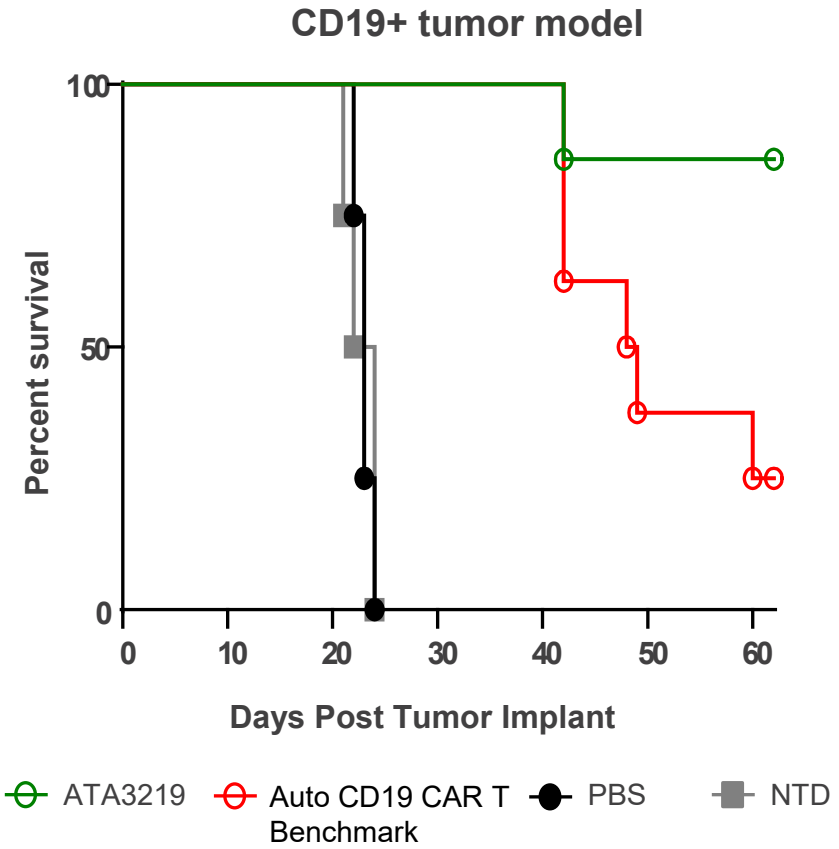
Less Differentiated T Cells for ATA3219



ATA3219 Longer Persistence versus auto CD19 CAR benchmark[1]



ATA3219 Superior Efficacy versus auto CD19 CAR benchmark[1]



1. Pham, C, et al. Abstract presented at Transplantation & Cellular Therapy (TCT) Meetings; 2023. Auto CD19 CAR T benchmark with CD28 and CD3ζ signaling domains.
Note: T-cell infusion on day 3 day after tumor implantation (day 0); infusion timepoint represented as a vertical line on the center graph.

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SLE: High Unmet Need and Opportunity for CAR T Therapy

High Unmet Need in Systemic Lupus Erythematosus (SLE)

- SLE is a chronic autoimmune inflammatory disease affecting multiple organs, with heterogeneity of clinical symptoms and disease severity making it difficult to treat[1]
- Unmet needs include uncontrollable disease, recurrent flares, need for long-term immunosuppressive treatment, increased rates of infections, damage accrual that impairs quality of life, and diminished long-term survival[2]

Targeting B Cells with CAR T Therapy to Achieve Remission

- B cells play a pivotal role in the pathogenesis of SLE[2]
- In an academic study of autologous CAR T cell therapy in lupus, 8/8 patients with >1 year post CAR T therapy follow up achieved durable, drug free remission[3]
- Lymphodepletion free approaches needed to minimize toxicities, logistical complexities, hospitalization, costs, and enable increased CAR T access for autoimmune patients

ATA3219: Designed to achieve deep B-cell depletion and immune system reset in lupus

1. Katarzyna, PB. et al. Current treatment of systemic lupus erythematosus: a clinician's perspective. Rheumatol Int 43, 1395–1407 (2023).; 2. Yemil Atisha-Fregoso et al. Meant to B: B cells as a therapeutic target in systemic lupus erythematosus. J Clin Invest. 2021; 3. Mueller et al, ASH 2023.

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The Goal of CAR T Mediated B-Cell Depletion Is Drug-Free and Long-Term Responses for SLE Patients

B- cell depletion

CAR T penetrates deep into tissues and rapidly depletes pathogenic CD19+ B cells

Immune system reconstitution

Immunological “reset” and reconstitution of naïve B cells lacking the autoreactive B-cell clones

Achieve remission

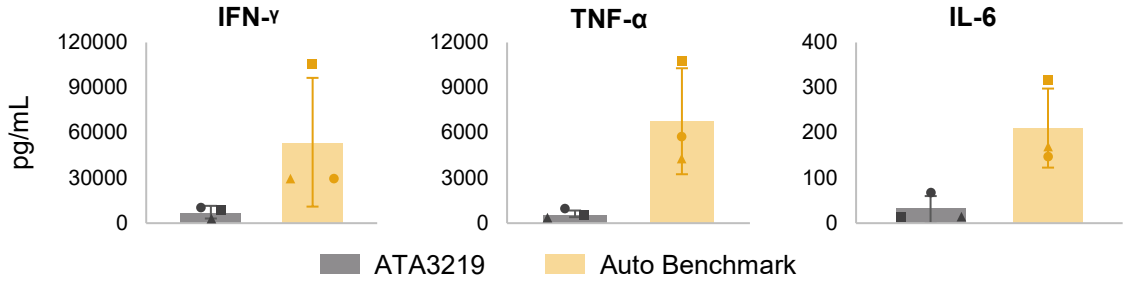
Reversal of disease and ability to achieve stable, long-term drug-free remission

ATA3219 Is Designed to Have a Best-in-Class CAR T Profile in Multiple Autoimmune Diseases

Atara's Differentiated T-Cell Platform + **Allogeneic** = **Potential for Enhanced Efficacy, Tolerability and Patient Access**

- Partial HLA matching
- EBV specific TCR with favorable safety in 600+ patients
- Memory phenotype
- 1XX costim domain
- αβ T cells
- Tab-cel clinical data demonstrates efficacy in cell therapy treatment with no LD

- Off-the-shelf availability simplifies treatment
- Scaled-up manufacturing to address large populations
- No apheresis
- Lower COGS
- Healthy starting cells



Preclinical data shows lower levels of pro-inflammatory cytokines vs autologous benchmark[1]

Atara pioneered allogeneic T-cell therapy with no lymphodepletion

1. Brito, A, et al. Poster presented at ISCT. 2024

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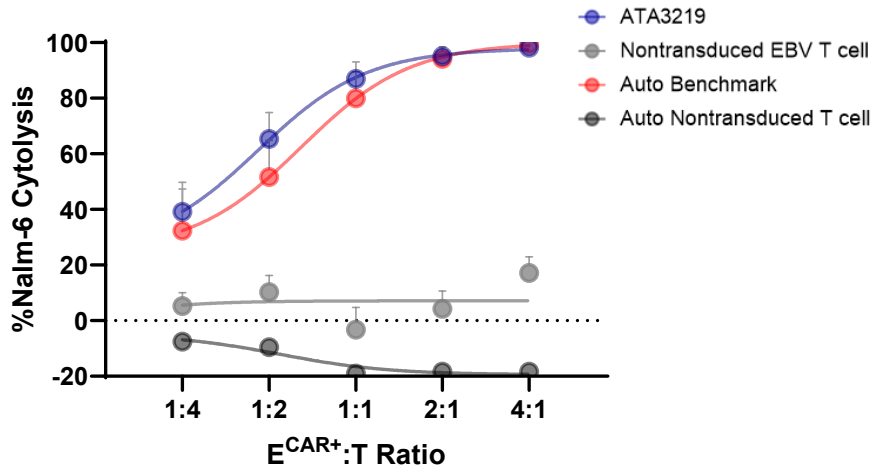
ATA3219 Maintains Comparable Cytotoxic Function With Reduced Inflammatory Cytokine Release Compared to Autologous Benchmark

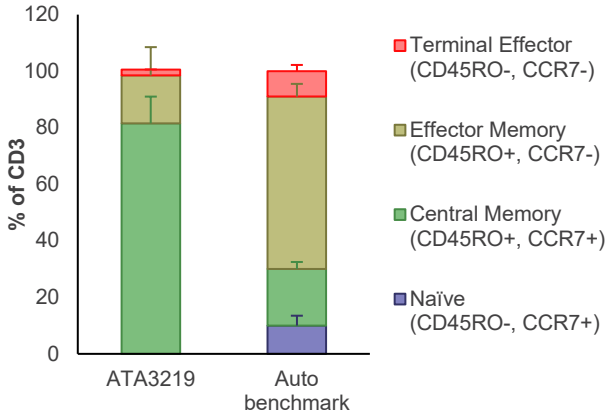
% Cytolysis

CD19-specific cytotoxic activity



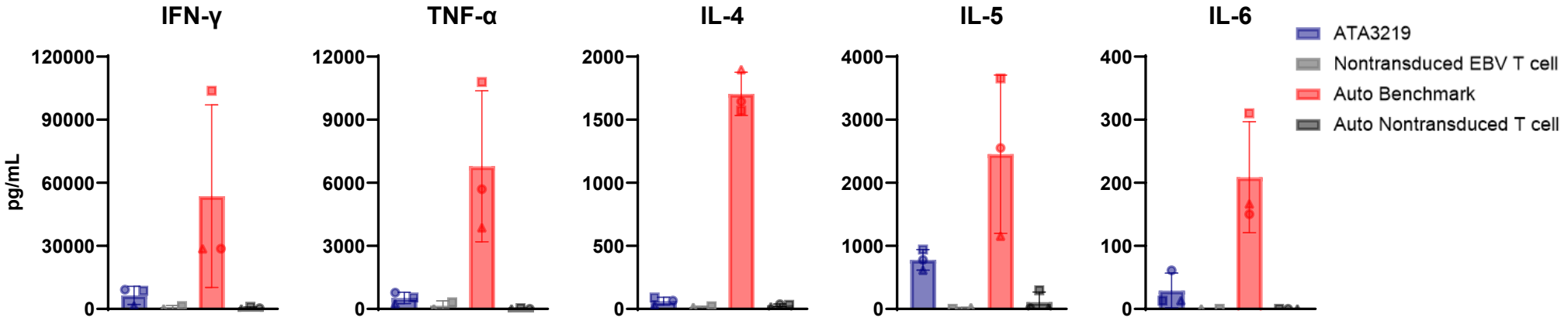
Cell phenotype

Maintained a robust central memory population



Cytokine Release

Reduced inflammatory cytokine release



ATA3219 and auto benchmark CAR T cells generated from the same three donors were co-cultured with Nalm-6 cells at a 3:1 E:T ratio for 24 hours. Supernatants were harvested and cytokine release was measured

Brito, A, et al. Poster presented at ISCT. 2024. Data represents mean and standard error of mean (SEM) across 3 different ATA3219 lots and non-transduced controls

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Rationale for No Lymphodepletion in Extrarenal SLE Cohort

EBV T Cell

- αβ **T-cell:** Same T-cell type as proven commercial autologous CAR Ts
- **Retained TCR:** T-cell survival signal contributing to persistence[1-3]
- **Specificity:** Low GvHD risk due to TCR recognition of EBV viral antigens
- **Tab-cel data:** Expansion and persistence without LD[4]

Partial HLA Matching

- **Retained MHC:** Partial HLA matching limits host versus graft rejection[5]
- **Atara platform data:** Favorable safety profile seen in 600+ patients treated without lymphodepletion

Additional Features

- **1XX costimulatory domain:** Optimizes potency and expansion and mitigates exhaustion[6]
- **Less differentiated phenotype:** Contributes to potency and durability of clinical response
- **ATA3219 data:** Less inflammatory cytokines in pre-clinical model versus benchmark autologous CD19 CAR T[7]

Achieving immune reset without lymphodepletion could improve tolerance and facilitate patient access

LD = lymphodepletion; HLA = human leukocyte antigen

1. Tanchot et al, Science 1997. 2. Myers et al, Trends Immunology 2017. 3. Polic et al, PNAS 2001. 4. Atara clinical experience; Prockop et al, JCI 2020.
5. Atara Data on file ATA129-EBV-302 Ph3 (DCO 9OCT2023). 6. Feucht et al, Nature Medicine, 2018. 7. Brito, A, et al. Poster presented at ISCT. 2024.

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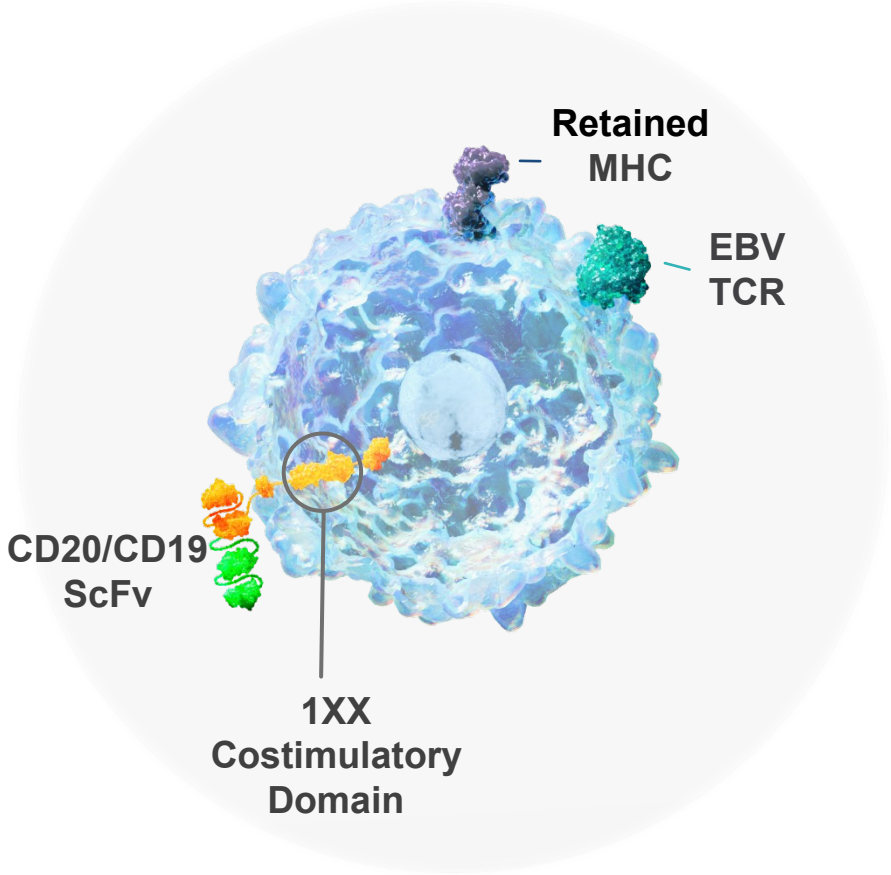
ATA3431: Off-the-Shelf Allogeneic CD19/CD20 CAR T Program Progressing Toward IND Submission in H2 2025



- Targeting CD19 and CD20 **reduces probability of relapse** due to CD19 antigen loss, hypothesized to be a major cause of treatment resistance or disease relapse after CD19 CAR T treatment
- Targeting CD19 and CD20 provides **potential incremental efficacy benefit** and 1XX co-stimulation for **enhanced persistence**
- Autologous CD19/CD20 dual CAR Ts have shown **promising efficacy** and **safety** in clinical trials (IMPT-314; C-CAR039[1])
- ATA3431 preclinical data demonstrates a competitive profile based on **potent** antitumor activity, **long-term** persistence, and **superior** tumor growth inhibition

Positive preclinical data presented at American Society of Hematology meeting in December 2023[2]

1. Li, P, et al. C-CAR039, a Novel Anti-CD20/CD19 Bi-Specific CAR T-Cell Therapy Shows Deep and Durable Clinical Benefits in Patients with Relapsed or Refractory (r/r) B-Cell Non-Hodgkin Lymphoma (B-NHL) in Long Term Follow up. ASH 2023. 2. Cha, S et al. Poster 4800. ATA3431: Allogeneic CD19/CD20 Bispecific CAR EBV T Cells for the Treatment of B-Cell Malignancies. ASH 2023.

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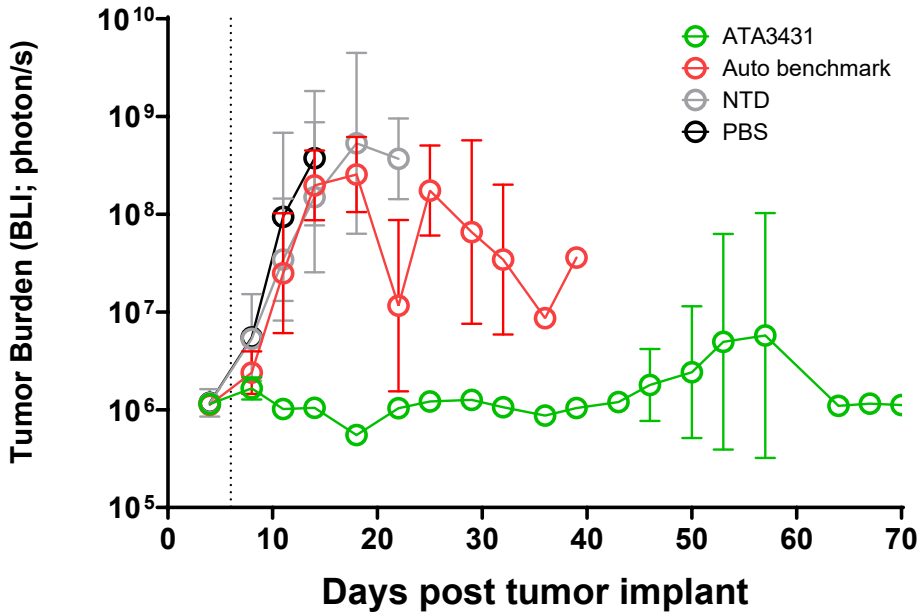
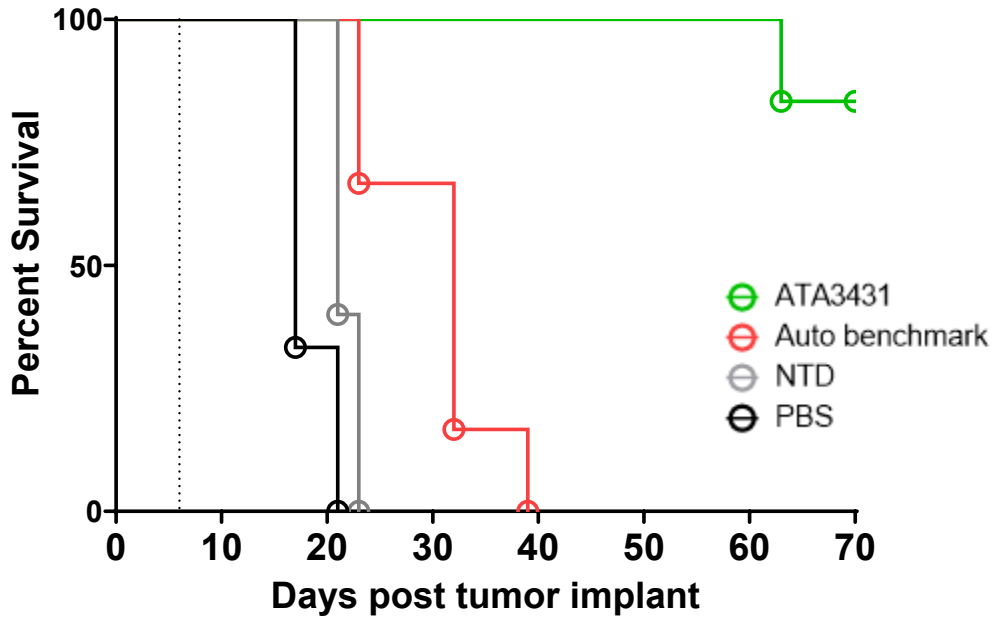
ATA3431: Compelling Proof-of-Concept and Competitive Profile

Greater Anti-Tumor Efficacy vs CD19/CD20 Autologous Benchmark

Challenging CD19^{low} / CD20^{+} Raji model





ATA3431 progressing toward IND submission in H2 2025

Cha, S et al. Poster 4800. ATA3431: Allogeneic CD19/CD20 Bispecific CAR EBV T Cells for the Treatment of B-Cell Malignancies. ASH 2023.

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Differentiated Allogeneic T-Cell Immunotherapy Pipeline

Program	Indication	Target	Preclinical	Phase 1	Phase 2	Phase 3	Registration	Next Milestone
ATA3219 (Oncology)	Non-Hodgkin's Lymphoma (NHL)	CD19						**Q1 2025:** Initial NHL Ph 1 clinical data expected
ATA3219 (Autoimmune)	Lupus Nephritis (LN)	CD19						**Mid-2025:** Initial LN Ph 1 clinical data expected
	Systemic Lupus Erythematosus (SLE) without lymphodepletion							**Mid-2025:** Initial SLE Ph 1 clinical data expected
ATA3431	B-cell malignancies	CD19/CD20						IND targeted for **H2 2025**
	Autoimmune disease							
Tab-cel® or Ebvallo™ (tabelecleucel)	RR EBV+ PTLD following HCT and SOT*	EBV		ALLELE Study			EU Approved	BLA Accepted: PDUFA **Jan 15, 2025**
	Multi-Cohort (Label-Expansion): EBV+ cancers(1)	EBV		EBVision Study				Ongoing enrollment
ATA188	Progressive MS	EBV(2)			EMBOLD Study			Evaluating strategic options following completion of the study

Excluding Ebvallo™ in EU, these investigational agents are not approved by any regulatory agencies and efficacy and safety have not been established
EBV+ PTLD: Epstein-Barr Virus Associated Post-Transplant Lymphoproliferative Disease; RR: rituximab relapsed/refractory; HCT: allogeneic hematopoietic cell transplant; SOT: solid organ transplant; NHL: non-Hodgkin's lymphoma
Atara has entered into an agreement with Pierre Fabre to commercialize tab-cel® for EBV+ cancers worldwide
*Indication pursued as monotherapy for treatment of adult and pediatric patients two years of age and older with Epstein-Barr virus positive post-transplant lymphoproliferative disease (EBV+ PTLD) who have received at least one prior therapy. For solid organ transplant patients, prior therapy includes chemotherapy unless chemotherapy is inappropriate
Other programs: EBV vaccine and other hematological malignancies and solid tumor AlloCAR T programs
(1) Phase 2 multi-cohort initiated in Q3 2020, with possible indications including EBV+ PTLD with CNS involvement, front-line treatment in EBV+ PTLD including front line with CNS involvement, EBV+ PID/AID LPD, and other potential EBV-associated diseases
(2) Targeted antigen recognition technology; Phase 2 Randomized Controlled Trial

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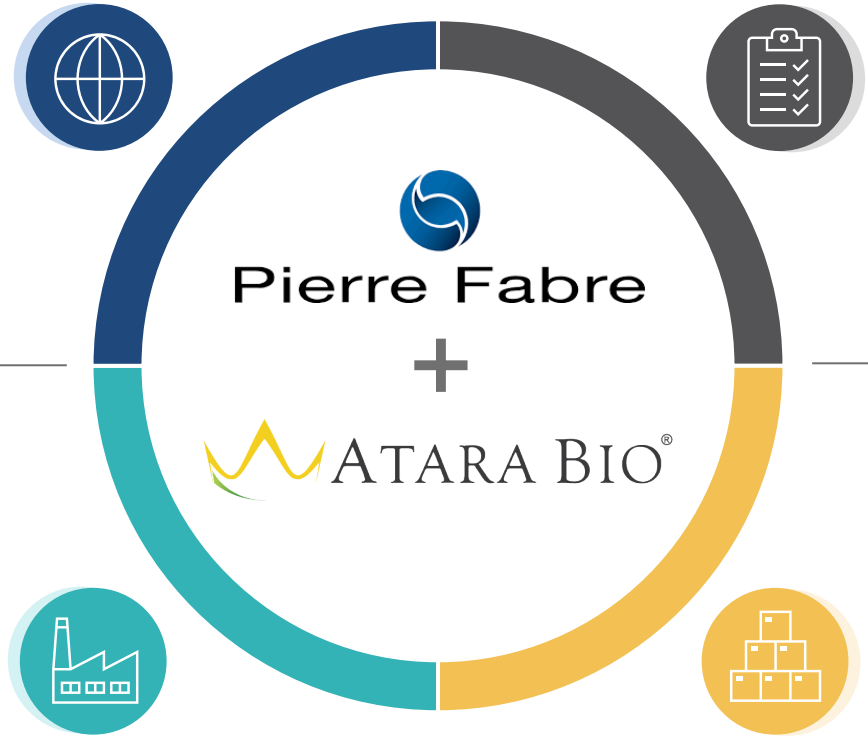
Expanded Global Tab-cel® Partnership With Pierre Fabre Laboratories

Pierre Fabre Laboratories license for tab-cel global development, manufacturing and commercialization, with **up to $640M** in potential consideration and **significant double-digit tiered royalties**

Substantially all tab-cel **clinical, regulatory and manufacturing activities planned to transfer to Pierre Fabre Laboratories** at time of BLA transfer



Atara received **~$27M** following closing and **$20M** following the positive pre-BLA meeting. Atara also received **$20M** from the BLA acceptance with the potential to receive an additional **$60** million milestone payment upon BLA approval

Pierre Fabre Laboratories to **reimburse Atara for tab-cel global development costs** through BLA approval, and **purchase manufactured tab-cel inventory** through BLA transfer

Partnership will expand reach of tab-cel's life-saving potential to patients worldwide and provide future revenues for Atara

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Tab-cel BLA Accepted With Priority Review and a PDUFA Target Action Date of January 15, 2025

The BLA is supported by pivotal and supportive data covering more than 430 patients treated with tab-cel across multiple life-threatening diseases

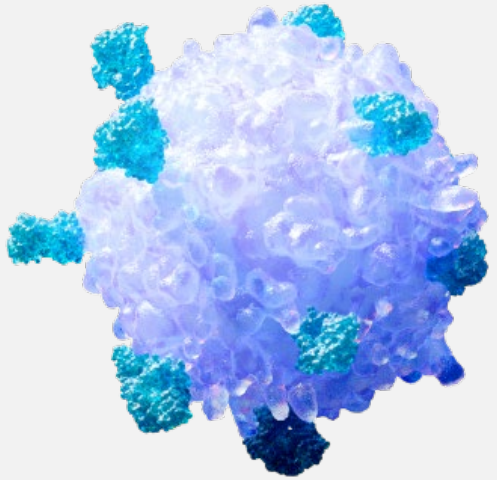
- The latest pivotal ALLELE study data demonstrated a statistically significant 48.8% Objective Response Rate ($p<0.0001$) and favorable safety profile consistent with previous analyses

Unique approach to address rare and highly fatal cancer

- FDA Breakthrough Therapy Designation
- Orphan Drug Designation
- R/R EBV+ PTLD patients face a poor prognosis with median survival of only weeks to months
- No approved treatment options available

Attractive Ultra-Rare Disease Market

- Few hundred patients per year in both U.S. and EU markets
- Potential label-expanding EBVision multi-cohort Phase 2 study enrolling
- Significant pricing potential with >$500M in estimated peak sales



ORR – Objective Response Rate; DOR – Durability of Response; OS – Overall Survival

*Indication pursued as monotherapy for treatment of adult and pediatric patients two years of age and older with Epstein-Barr virus positive post-transplant lymphoproliferative disease (EBV+ PTLD) who have received at least one prior therapy. For solid organ transplant patients, prior therapy includes chemotherapy unless chemotherapy is inappropriate

THANK YOU

Nasdaq: ATRA

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