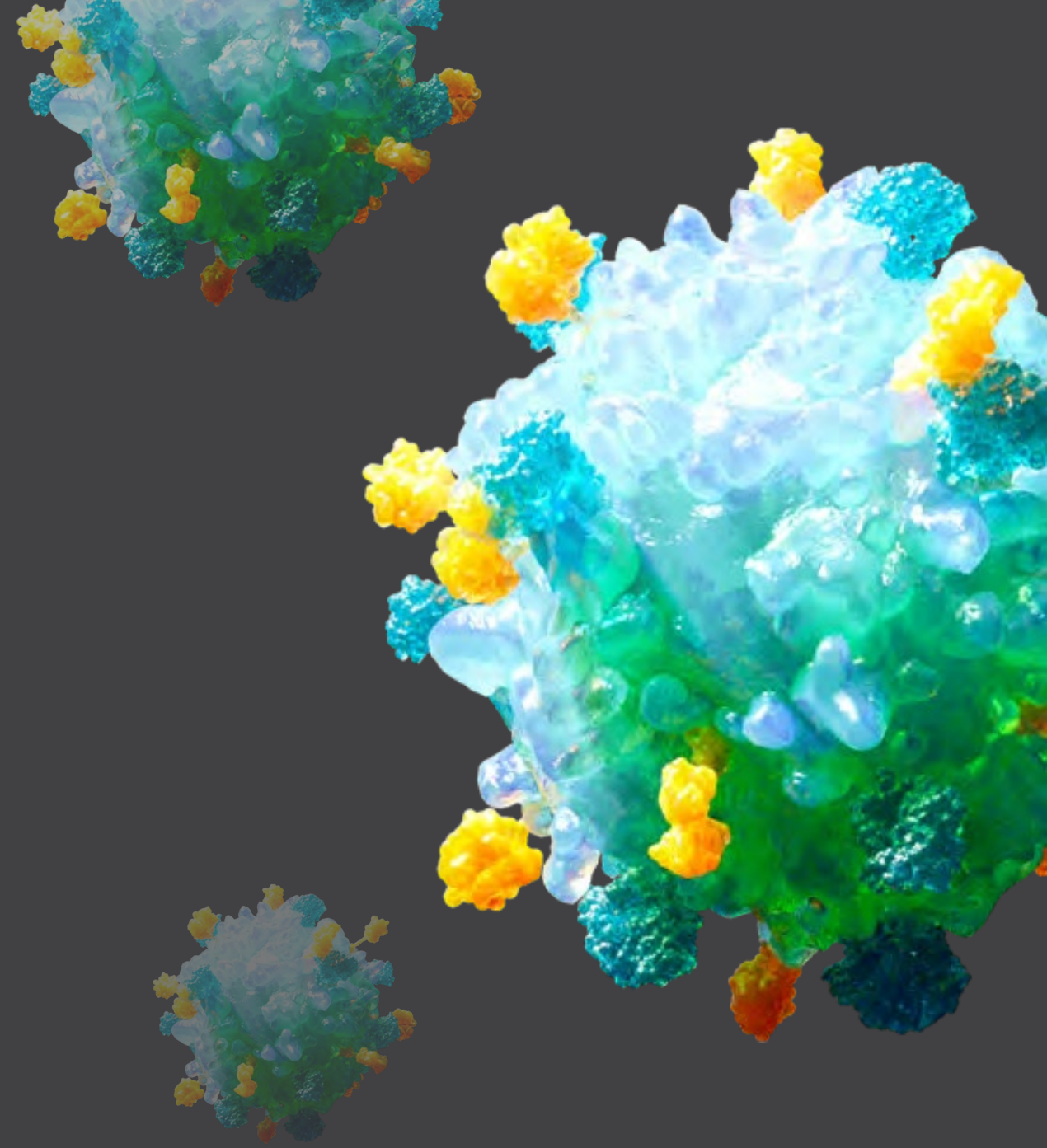
ATARA BIO®

INVESTOR PRESENTATION
Q4 AND FULL YEAR 2023

MARCH 28, 2024

Nasdaq: ATRA



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ATARA IS THE FIRST TO DELIVER ON THE TRANSFORMATIVE POTENTIAL OF ALLOGENEIC T-CELL THERAPY

First Company to Obtain Regulatory Approval for an Allogeneic T-cell Immunotherapy

Ebvallo™ approved by EMA in December 2022
Tab-cel® U.S. BLA submission expected in Q2 2024
Executed expanded global tab-cel partnership with Pierre Fabre in December 2023

Near-Term Milestones With ATA3219, Differentiated Allogeneic CD19 CAR T Cell Incorporating Clinically-Validated Technologies

IND cleared in lupus nephritis with initial clinical data anticipated H1 2025
Study initiated in relapsed/refractory B-cell NHL with initial clinical data anticipated in Q4 2024

Cash Runway into 2027 Enables Key Pipeline Readouts

Note: Cash runway dependent upon the successful filing and approval of tab-cel BLA and other assumptions

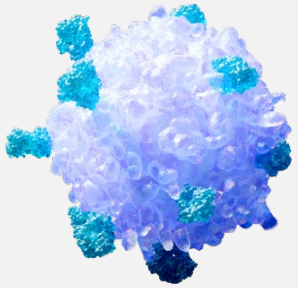
ATARA BIO®

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

Allogeneic EBV T-Cell (EBVALLO™)

Healthy Donor Cells

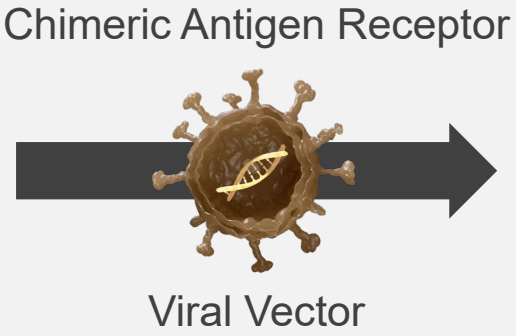
Manufacturing

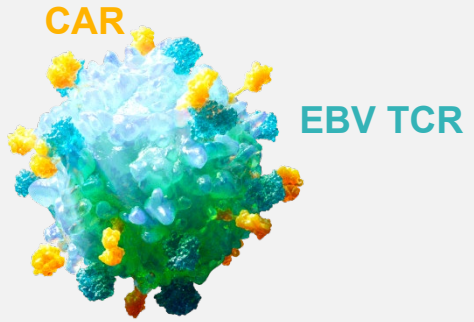


EBV T Cell

- ✓ Designed to target root cause of EBV-driven diseases
- ✓ No gene editing of the TCR or MHC
- ✓ Minimal HLA matching (only 2 of 10 alleles)
- ✓ No lymphodepletion
- ✓ Favorable safety profile with outpatient experience
- ✓ Robust manufacturing with biologic-like COGM
- ✓ Established global supply/logistics process

Next-gen Allogeneic CAR T





EBV CAR T Cell

- ✓ Retain features of EBV T cells
- ✓ Does not require complex gene edits that interfere with natural biology of T cells
- ✓ Leverages novel CD3ζ signaling domain (1XX) with more physiologic signaling
- ✓ CAR-targeted activity – can be modified to express single or dual targets and/or engineered to armor CAR

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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Differentiated Allogeneic T-Cell Immunotherapy Pipeline

Program	Indication	Target	Preclinical	Phase 1	Phase 2	Phase 3	Registration	Next Milestone
Tab-cel® or Ebvallo™ (tabelecleucel)	RR EBV+ PTLD following HCT and SOT	EBV	ALLELE Study				EU Approved	**Q2 2024:** BLA submission expected
	Multi-Cohort (Label-Expansion): EBV+ cancers(1)	EBV	EBVision Study					Ongoing enrollment
ATA3219	B-cell malignancies, including NHL	CD19						**Q4 2024:** Initial NHL Phase 1 clinical data expected
	Autoimmune disease, including Lupus Nephritis							**H1 2025:** Initial LN Phase 1 clinical data expected
ATA3431	B-cell malignancies	CD19/CD20						IND targeted for 2025
	Autoimmune disease							
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: EBV-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
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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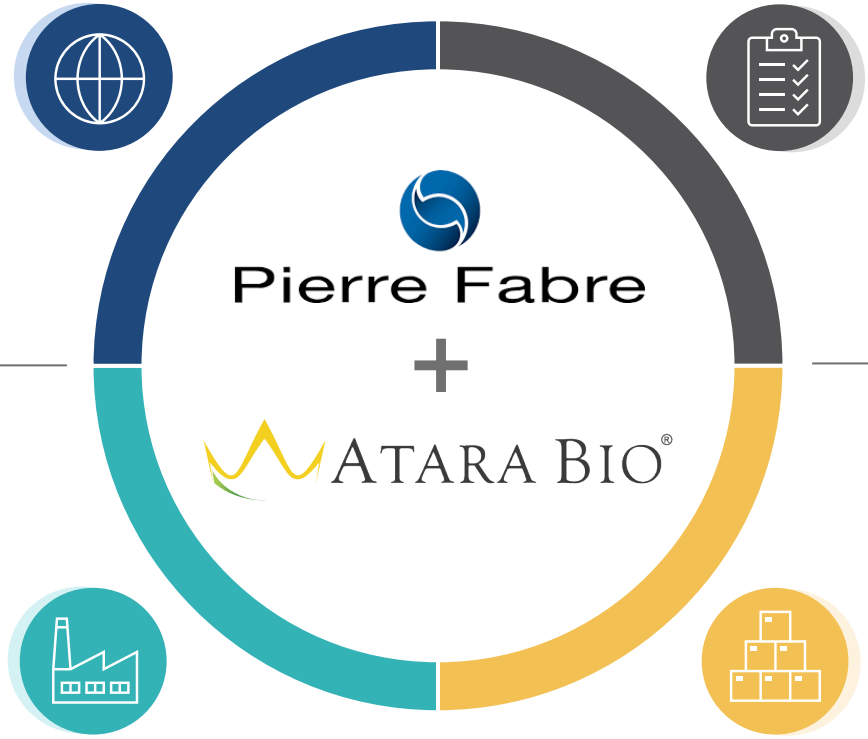
Expanded Global Tab-cel® Partnership With Pierre Fabre Laboratories

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

Atara received **~$27 million** from upfront cash and initial inventory purchases following closing and expects to receive additional **$100 million** in potential regulatory milestones through BLA approval



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

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 Submission on Track for Q2 2024 Based on Strong Clinical File and Positive Pre-BLA Meeting

Latest Phase 3 ALLELE data cut analysis in EBV+ PTLD reinforces confidence in tab-cel BLA filing package

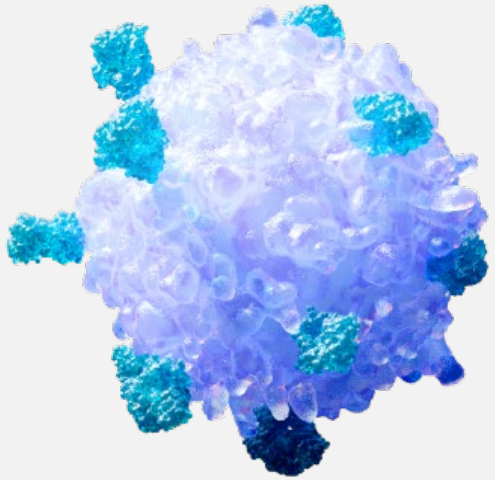
- 49% ORR ($p<0.0001$) in patient population aligned with intended U.S. label
- Favorable and consistent safety profile
- Other findings consistent with previous results, including DOR and estimated OS

Strong pivotal and supportive clinical data

- Approximately 450 patients treated with tab-cel across multiple life-threatening diseases

Unique approach to address rare and highly fatal cancer

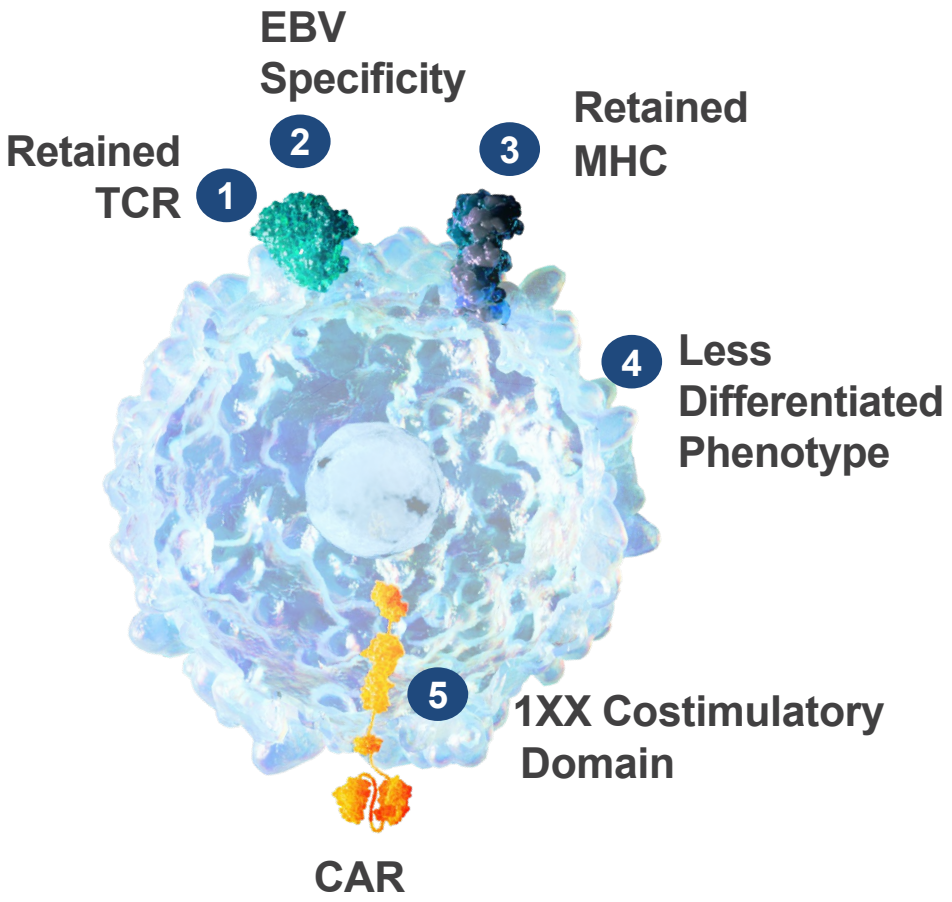
- FDA Breakthrough Therapy Designation
- Orphan Drug Designation
- R/R EBV+ PTLD patients face a poor prognosis with median survival of only weeks to months
- No approved treatment options available



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

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



Key Features

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:** Minimal HLA matching[4] enables allogeneic approach that avoids host versus graft rejection[5]
4. **Less Differentiated Phenotype:** αβ T cell manufactured with less differentiated phenotype contributes to durability of clinical response
5. **1XX Costimulatory Domain:** Novel CD3ζ signaling domain[6] optimizes expansion and mitigates T-cell exhaustion

1. Tanchot et al, Science 1997. 2. Myers et al, Trends Immunology 2017. 3. Polic et al, PNAS 2001. 4. Curran ASTCT 2020, ASH 2023; 5. Atara clinical experience; Prockop et al, JCI 2020. 6. Feucht et al, Nature Medicine, 2018

αβ = alpha beta; Graft-versus-host disease (GVHD)

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Atara's CAR T Platform is Supported by Validated Manufacturing Approach

Robust Allogeneic T-Cell Manufacturing Platform

- Process utilizes natural T-cell biology and avoids need for gene editing
- Leverages tab-cel manufacturing process, validated with approval in Europe and progressing toward BLA in U.S.
- Utilizes healthy donors which allows for reliable supply of starting material

Scalable Manufacturing Process

- Process scalability expected to achieve thousands of doses per leukopak and biologic-like cost of goods
- Clinical inventory of 4-6 lots provide ~90% to >95% patient coverage in the US/EU for NHL and Lupus

Established Global Supply and Logistics Process

- Experience distributing product to over 600 patients in US, CAN, EU and AUS
- Atara selects product from inventory within 24 hours and can deliver to the treatment site within ~3 days

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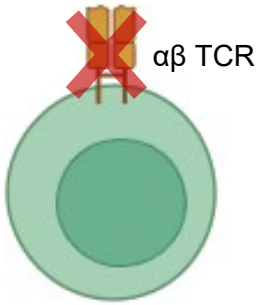
Atara's CAR T Platform Offers Unique Advantages Versus Other Allogeneic Approaches in the Field

Approaches Taken by Other Allogeneic CAR Platforms to Evade Allogeneic Immune Rejection Have Limitations

αβ T cell
Gene edited

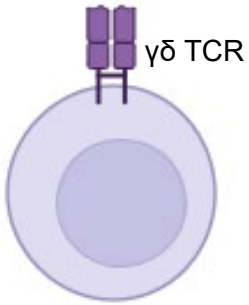


Gene Editing to Knockout TCR and Other Edits

NK cell

Lacks TCR

γδ T cell



Invariant TCR

- Aggressive lymphodepletion often required
- Gene editing and/or stealth approaches to limit alloreactivity impact expansion and persistence[1]
- Minimal expansion drives need for high cell dose
- Non-physiologic stimulation leads to T cell exhaustion[2]

	Atara EBV CAR T Cell (αβ unedited)	αβ T Cell Gene edited	NK Cell	γδ T Cell
Safety	600+ patients safely treated[3] (EBV Platform)	Lower CRS/ICANS risk than auto CAR T		
Expansion	Robust (CAR preclinical)	Moderate	Minimal	Minimal-to-Moderate
Persistence	Several Months[3] (EBV Platform)	~3-4 weeks	Suboptimal	Suboptimal
Durability	Robust (CAR preclinical)	Moderate	Suboptimal	Suboptimal

1. Wang et al, Nature CMI 2021. 2. Zhang et al, Nature Comm 2023. 3. Clinical experience with allo EBV T-cells including tab-cel and ATA188; Prockop et al, JCI, 2020; Bhat et al, ISNI 2023
αβ = alpha beta; NK = natural killer; γδ = gamma delta

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Clinical Data From Industry Leaders and Academia Reinforce Key Attributes of Atara's Allogeneic CAR T Platform

1 **Retained TCR/MHC & Minimal HLA matching**

Persistence and safety

2 **1XX Costimulatory Domain**

Expansion and persistence

3 **Less Differentiated T Cells**

Durability

Memorial Sloan Kettering

Allogeneic EBV CD19 CAR T

Overall survival up to 3 years in post-transplant B-cell malignancy patients

TAK-940

CD19 auto CAR T with 1XX

ORR 87%, CR 75% (25M DL1, n=16)[1]

YTB323

Stem-enriched auto CD19 CAR T

73% CRs, 62% durable CRs at 6 months (12.5M DL2, n=30)[2]

1. Park, JH et al, ASH 2022 and 2023. Fomer Takeda program. 2. Barba, P et al. Poster 439. ASH 2022 Novartis program.

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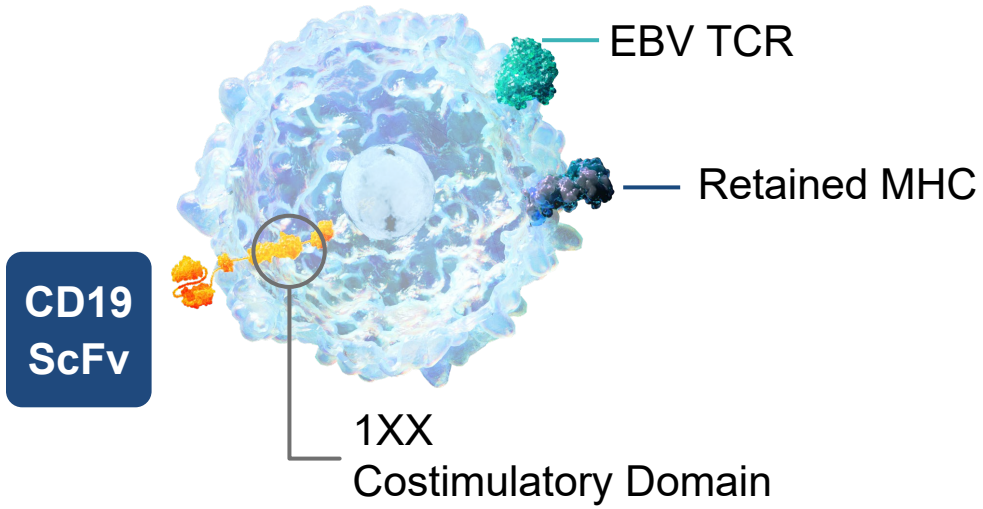
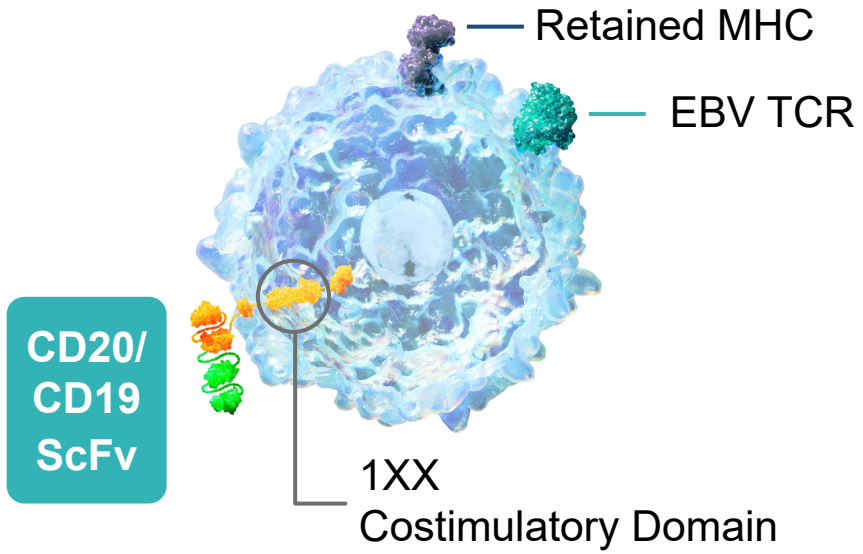
Our Allogeneic CAR T Cell Programs Incorporates Clinically Validated Technologies

ATA3219 (CD19 CAR)



Target:
CD19+ B-cell malignancies, Autoimmune

ATA3431 (CD19/20 CAR)



Target:
CD19/CD20+ B-cell malignancies, Autoimmune

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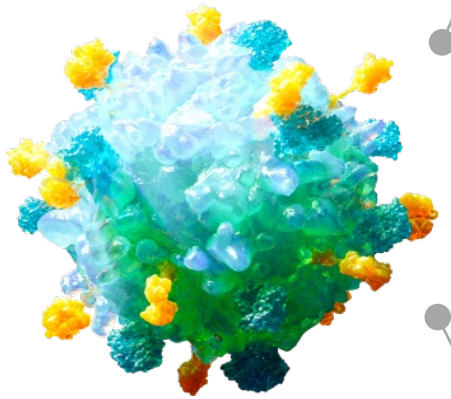
Strategic Focus on Allogeneic CAR T Programs for Heme Malignancies and Various Autoimmune Conditions



ATA3219

CD19 CAR –
Initial NHL Ph1 Data Expected Q4'24
Initial LN Ph1 Data Expected H1'25

ATA3431

CD19/20 CAR –
IND Targeted for 2025

Hematological Malignancies

Develop best-in-class allogeneic programs for NHL and B-cell malignancies

B-cell Driven Autoimmune Diseases

Establish promise of allogeneic CAR T across autoimmune diseases, starting in lupus nephritis

Significant Opportunities Remain for Atara's Allogeneic CAR T Programs in B-Cell Oncology Indications

Auto CAR T Challenges Remain

- High medical need for CD19-directed CAR T products that are reliably manufactured, available in advance of patient need, and have the persistence required to achieve durable responses
- Significant technical, operational and access challenges seen with current autologous CAR T
- Recent FDA warning identified potential risk of T-cell malignancies with CD19 auto CAR T

Allo CAR T Opportunity is Open

- Durability and persistence challenges for allo CD19 CAR cell therapy to date with no clinically superior platform
- MSK allo EBV CD19 CAR T (CD28 costimulatory domain) provides proof-of-principle for Atara's allo CAR approach with overall survival up to 3 years in post-transplant B-cell malignancy patients[1]

ATA3219 is well positioned for potential success in B-cell oncology indications

1. Curran KJ, et al. ASH 2023.

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

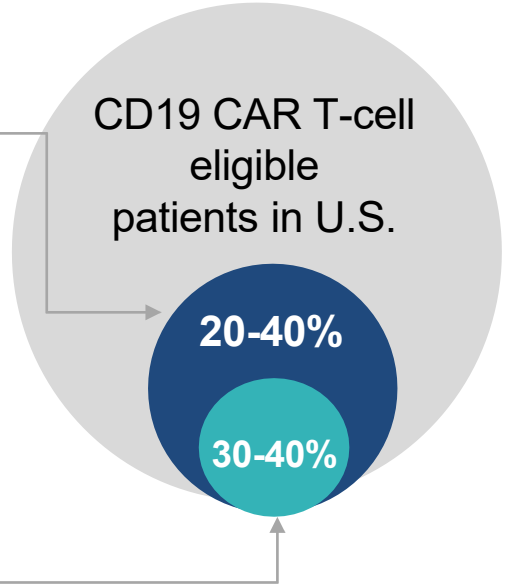
Unmet Need Despite Approved Auto CAR T

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

Products entering the market, however questions on level of adoption given risk/benefit profile

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-CART; includes reported and extrapolated information.

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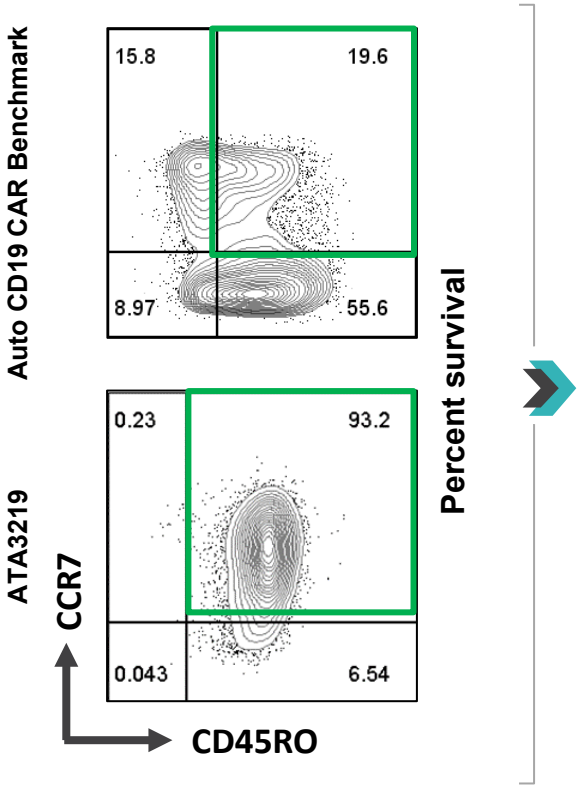
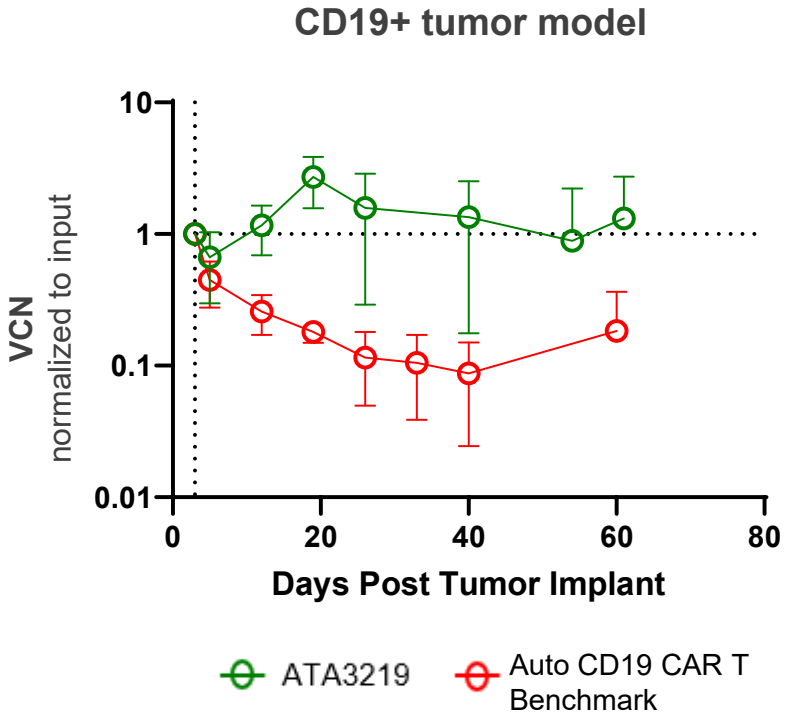
ATA3219 in NHL: Potential "Best-in-Class" Profile with Superior *In Vivo* Persistence & Efficacy Versus Commercial Auto CD19 CAR T Benchmark

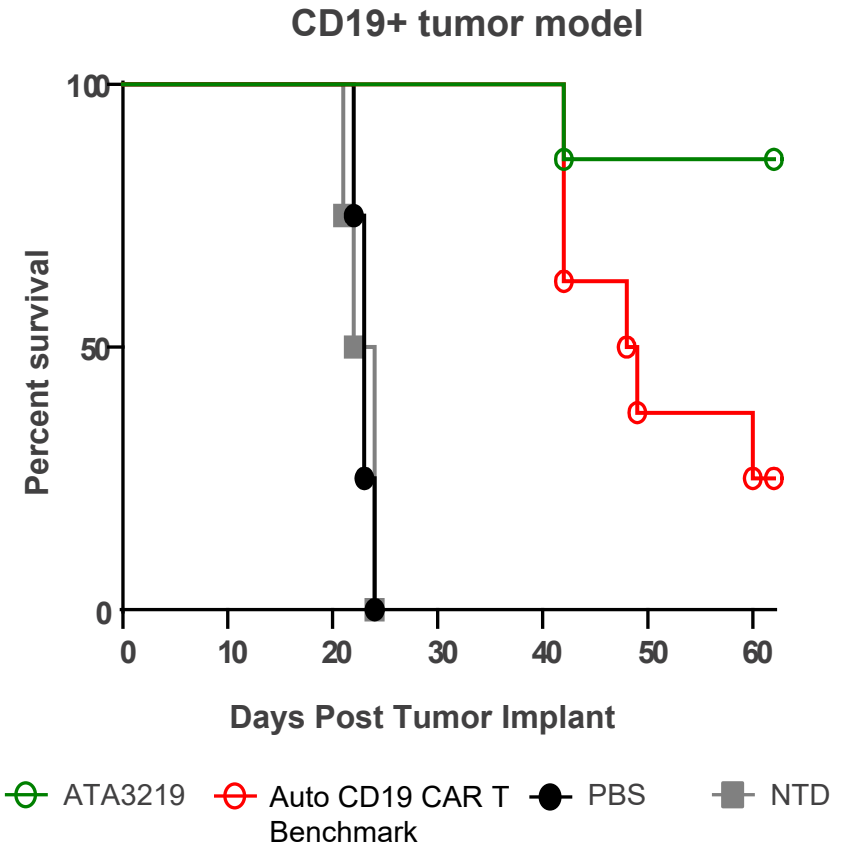
Less differentiated T Cells for ATA3219



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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ATA3219 in NHL: Phase 1 Study Designed to Establish "Proof-of-Platform" and Evaluate "Best-in-Class" Potential for Program

FIH study to evaluate platform and enable comparison with other CD19 CAR programs

- Proven CD19 CAR T sensitive populations
- Standard lymphodepletion regimen
- Allow CAR T experienced patients (LBCL)
- Enrollment across U.S. and Australia

ATA3219 in NHL: Study Overview

Study Design:

- Open-label Phase 1 dose escalation and expansion study
  - 3-6 patients treated at 4 dose levels (40, 80, 240, or 480 million CAR+ T cells)
- Retreatment may be allowed with regulatory approval

Inclusion criteria:

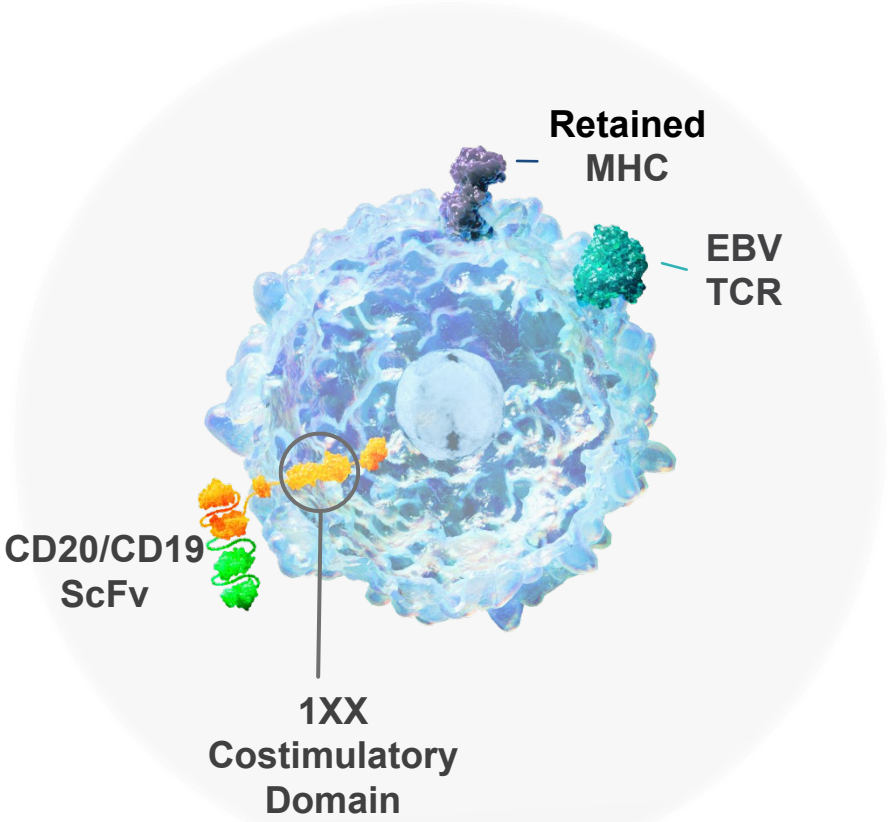
- Patients with B-cell NHL, including large B-cell lymphomas (LBCL), follicular lymphoma (FL), or mantle cell lymphoma (MCL)
- Relapsed/refractory after two prior lines of therapy

Key Endpoints:

- Primary
  - Characterize safety and tolerability
  - Determine RP2D
- Secondary
  - Characterize the PK profile
  - Evaluate preliminary efficacy
- Exploratory
  - Assess immunogenicity and other biomarkers

FIH = first in human; RP2D = recommended Phase 2 dose

ATA3431: Off-the-Shelf Allogeneic CD19/CD20 CAR T Program Progressing Toward IND Submission in 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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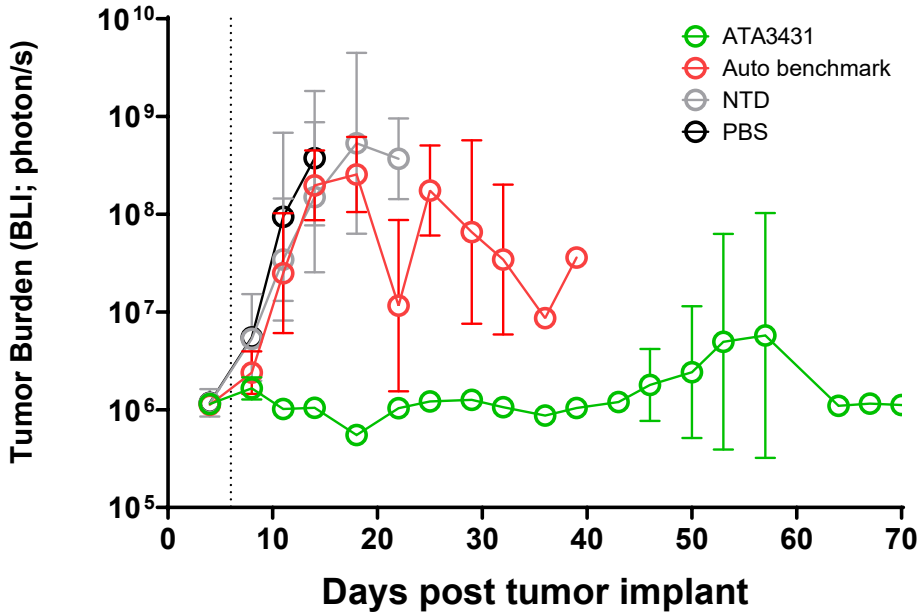
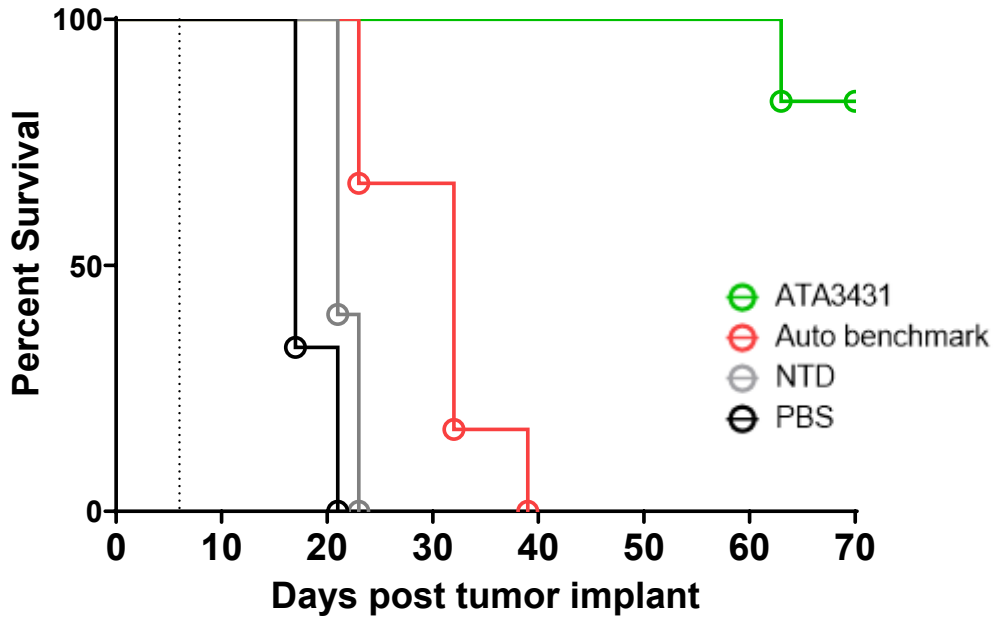
ATA3431: Compelling Proof-of-Concept and Competitive Profile

Greater Anti-Tumor Efficacy vs CD19/CD20 Autologous Benchmark

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





ATA3431 progressing toward IND submission in 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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Atara Allogeneic CAR T Programs Support Transformative Potential in Autoimmune Diseases

High Unmet Need

- High unmet medical need in multiple indications; standard of care and approved products have limited efficacy; significant scalability limitations and logistical hurdles with autologous

Proof of Concept in Lupus

- Compelling validation from autologous CAR T academic study (8/8 patients with >1 year post CAR T cell infusion attaining drug-free remission in Lupus[1]) and emerging industry data

Allo CAR T Opportunity is Open

- No allogeneic CAR product with clinical data in autoimmune disease
- Atara proven safety with allo T cells in 600 patients, including 130 with autoimmune disease (PMS)

Designed to achieve deep B-cell depletion and immune system reset in autoimmune disease

1. Mueller et al, ASH 2023.

PMS = progressive multiple sclerosis

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ATA3219 in Lupus: Phase 1 Study Designed Similar to German Case Series for Rapid Readout to Support Further Development

FIH study to determine optimal dose while establishing preliminary safety and efficacy

- Initial focus on indication with most proof points[1] with clear short-term endpoints in lupus nephritis (LN)
- Lymphodepletion and outcome measures similar to German case series[1] with opportunity to lower or eliminate

ATA3219 in Lupus: Study Overview

Study Design:

- Open-label Phase 1 dose escalation and expansion study
  - 3-6 patients treated at 3 dose levels (40, 80 or 160 million CAR+ T cells)
- Retreatment may be allowed with regulatory approval

Inclusion criteria:

- Patients with SLE, class III-IV +/- class V LN
- Refractory LN in patients having received 1 or more lines of therapy for LN[2]

Key Endpoints:

- Primary
  - Characterize safety and tolerability
  - Determine RP2D
- Secondary
  - Characterize the PK profile
  - Evaluate preliminary efficacy
- Exploratory
  - Assess immunogenicity and other lupus related biomarkers

1. Mackensen et al, 2022; Mueller et al, ASH 2023
2. Must have included mycophenolate mofetil (MMF), mycophenolic acid (MPA), or cyclophosphamide

FIH = first in human; RP2D = recommended Phase 2 dose

ATARA BIO®

Cash, Combined with Certain Anticipated Payments from the Expanded Global Partnership, Sufficient to Fund Planned Operations into 2027

$51.7 million
Cash, cash equivalents, and short-term investments as of December 31, 2023*

106.4 million
Shares Outstanding as of December 31, 2023**

Nasdaq: ATRA
Atara Biotherapeutics, Inc.

$64.2 million
Q4 2023
Total Costs and Operating Expenses

$50.4 million
Q4 2023
Net Cash Used in Operating Activities

* Does not include the approximately $27 million received in January 2024 from Pierre Fabre Laboratories from the closing of the expanded global partnership, the approximately $15 million in proceeds from issuance of pre-funded warrants received in January 2024 registered direct offering, or the approximately $10 million in proceeds from at-the-market facility (ATM) received in Q1 2024

** Does not include 4.9 million pre-funded common stock warrants outstanding as of December 31, 2023.

ATARA BIO®

THANK YOU

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