May 29, 2024

Atara Biotherapeutics Presents Preclinical Data on ATA3219, an Allogeneic CD19-Targeted CAR T Therapy for the Treatment of B-Cell Driven Autoimmune Diseases, at the ISCT 2024 Annual Meeting

ATA3219 Demonstrates Complete CD19-Specific B-Cell Depletion Against Systemic Lupus Erythematosus and Multiple Sclerosis Patient Peripheral Blood Mononuclear Cells

ATA3219 Induces Lower Levels of Pro-Inflammatory Cytokines While Maintaining Cytotoxic Potency Compared With Autologous Benchmark CD19 CAR T Cells

Results Support Clinical Evaluation of ATA3219, Including Initiation of Phase 1 Study in Lupus Nephritis and Severe Systemic Lupus Erythematosus Without Lymphodepletion Expected in Q4 2024

THOUSAND OAKS, Calif.--(BUSINESS WIRE)-- Atara Biotherapeutics, Inc. (Nasdaq: ATRA), a leader in T-cell immunotherapy, leveraging its novel allogeneic Epstein-Barr virus (EBV) T-cell platform to develop transformative therapies for patients with cancer and autoimmune diseases, today announced preclinical data supporting the potential of ATA3219, an allogeneic, anti-CD19 chimeric antigen receptor (CAR) T-cell therapy candidate for the treatment of B-cell driven autoimmune diseases. Findings demonstrate that ATA3219 maintains comparable cytotoxic function and potency while inducing lower levels of pro-inflammatory cytokines compared to autologous benchmark CD19 CAR T cells. The data will be presented in a poster session at the International Society for Cell & Gene Therapy (ISCT) 2024 Annual Meeting taking place May 29 to June 1, 2024, in Vancouver, Canada.

ATA3219 consists of allogeneic CD19-directed CAR EBV T cells that have been optimized to offer a potential best-in-class profile and off-the-shelf availability. It incorporates multiple clinically validated technologies including a modified CD3ζ signaling domain (1XX) that sustains potent effector function while modulating activation and inflammation; a less differentiated phenotype for robust expansion and persistence; and no modification of the endogenous T-cell receptor (no gene editing) as a key T-cell survival signal.

“Following exciting early clinical data with autologous CD19 CAR T in autoimmune patients, we believe there is an opportunity to further improve long-term efficacy, reduce toxicity and simplify treatment through our optimized allogeneic CD19 CAR T cells,” said Cokey Nguyen, Ph.D., Executive Vice President, Chief Scientific & Technical Officer at Atara. “We are pleased to share promising preclinical data that shows ATA3219 mediates robust B-cell depletion against SLE and multiple sclerosis patient derived immune cells. Importantly, ATA3219 is an off-the-shelf option that shows a favorable inflammatory profile that may lead

to less toxicity and improved tolerability in the clinic. We look forward to continued evaluation of ATA3219 for the treatment of non-Hodgkin's lymphoma, lupus nephritis, and in a recently announced cohort expansion for severe SLE without lymphodepletion."

The ATA3219 preclinical data demonstrate potent CD19 antigen-specific cytotoxic activity against CD19+ targets in vitro and in vivo. Data highlights comparing ATA3219 to an autologous benchmark CD19 CAR T include:

- More robust central memory cell population as a result of the 1XX co-stimulatory domain and optimized manufacturing process
- Complete CAR-mediated B-cell depletion against SLE and MS patient peripheral blood mononuclear cells with comparable potency
- Reduced inflammatory profile with decreased secretion of pro-inflammatory cytokines IFN-γ, TNF-α and IL-6, as well as T helper 2 (Th2) cytokines IL-4 and IL-5, while achieving comparable B-cell depletion

These preclinical results support advancing ATA3219 towards clinical evaluation in patients with B-cell driven autoimmune diseases.

ATA3219 is currently being investigated in a Phase 1 trial (NCT06256484) for the treatment of relapsed/refractory B-cell non-Hodgkin's lymphoma (NHL) with initial clinical data expected in the fourth quarter 2024. Additionally, ATA3219 will be evaluated in a multi-center, Phase 1, open-label, single-arm, dose-escalation study for the treatment of LN with lymphodepletion and a separate cohort in severe SLE without lymphodepletion. Initial data for LN and severe SLE without lymphodepletion is anticipated in the first half and second half of 2025, respectively.

Poster Presentation Details:
Title: ATA3219: Allogeneic CD19 CAR EBV T Cells for the Treatment of B-Cell Driven Autoimmune Diseases
Presenting Author: Alfonso Brito, M.S., Preclinical & Translational Sciences, Atara Biotherapeutics, Inc., Thousand Oaks, CA
Date & Time: Wednesday, May 29, 2024, at 7:00 - 8:30 p.m. PDT
Poster Number: 1025
Session: Poster Networking Session 1
Location: Exhibit & Poster Hall, Vancouver Convention Centre, West Building

About ATA3219

ATA3219 combines the natural biology of unedited T cells with the benefits of an allogeneic therapy. It consists of allogeneic Epstein-Barr virus (EBV)-sensitized T cells that express a CD19 CAR construct for the treatment of CD19+ relapsed or refractory B-cell malignancies, including B-cell non-Hodgkin's lymphoma and B-cell mediated autoimmune diseases including systemic lupus erythematosus (SLE) and lupus nephritis. ATA3219 has been optimized to offer a potential best-in-class profile, featuring off-the-shelf availability. It incorporates multiple clinically validated technologies including a modified CD3ζ signaling domain (1XX) that optimizes expansion and mitigates exhaustion, enrichment during manufacturing for a less differentiated phenotype for robust expansion and persistence and retains the endogenous T-cell receptor without gene editing as a key survival signal for T cells contributing to persistence.

Next-Generation Allogeneic CAR T Approach

Atara is focused on applying Epstein-Barr virus (EBV) T-cell biology, featuring experience in over 600 patients treated with allogeneic EBV T cells, and novel chimeric antigen receptor (CAR) technologies to meet the current limitations of autologous and allogeneic CAR therapies head-on by advancing a potential best-in-class CAR T pipeline in oncology and autoimmune disease. Unlike gene-edited approaches aimed at inactivating T-cell receptor (TCR) function to reduce the risk for graft-vs-host disease, Atara's allogeneic platform maintains expression of the native EBV TCR that promote in vivo functional persistence while also demonstrating inherently low alloreactivity due to their recognition of defined viral antigens and partial human leukocyte antigen (HLA) matching. A molecular toolkit of clinically-validated technologies—including the 1XX costimulatory domain designed for better cell fitness and less exhaustion while maintaining stemness—offers a differentiated approach to addressing significant unmet need with the next generation CAR T.

About Atara Biotherapeutics, Inc.

Atara is harnessing the natural power of the immune system to develop off-the-shelf cell therapies for difficult-to-treat cancers and autoimmune conditions that can be rapidly delivered to patients from inventory. With cutting-edge science and differentiated approach, Atara is the first company in the world to receive regulatory approval of an allogeneic T-cell immunotherapy. Our advanced and versatile T-cell platform does not require T-cell receptor or HLA gene editing and forms the basis of a diverse portfolio of investigational therapies that target EBV, the root cause of certain diseases, in addition to next-generation AlloCAR-Ts designed for best-in-class opportunities across a broad range of hematological malignancies and B-cell driven autoimmune diseases. Atara is headquartered in Southern California. For more information, visit atarabio.com and follow @Atarabio on X and LinkedIn.

Forward-Looking Statements

This press release contains or may imply "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. For example, forward-looking statements include statements regarding the development, timing and progress of ATA3219, including the potential characteristics and benefits of ATA3219, such as the potency and ability of ATA3219 to deplete B cells, the potential characteristics and benefits of ATA3219 as compared to other products or product candidates, including autologous products and product candidates, and the timing and progress of clinical studies of ATA3219 to treat various indications, including NHL and SLE with LN (including a cohort in severe SLE without lymphodepletion) and the potential data that could be obtained from such studies. Because such statements deal with future events and are based on Atara's current expectations, they are subject to various risks and uncertainties and actual results, performance or achievements of Atara could differ materially from those described in or implied by the statements in this press release. These forward-looking statements are subject to risks and uncertainties, including, without limitation, risks and uncertainties associated with the costly and time-consuming pharmaceutical product development process and the uncertainty of clinical success; the COVID-19 pandemic and the wars in Ukraine and the Middle East, which may significantly impact (i) our business, research, clinical development plans and operations, including our operations in Southern California and Denver and at our clinical trial sites, as well as the business or operations of our third-party manufacturer, contract research organizations or

other third parties with whom we conduct business, (ii) our ability to access capital, and (iii) the value of our common stock; the sufficiency of Atara's cash resources and need for additional capital; and other risks and uncertainties affecting Atara's and its development programs, including those discussed in Atara's filings with the Securities and Exchange Commission , including in the "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" sections of the Company's most recently filed periodic reports on Form 10-K and Form 10-Q and subsequent filings and in the documents incorporated by reference therein. Except as otherwise required by law, Atara disclaims any intention or obligation to update or revise any forward-looking statements, which speak only as of the date hereof, whether as a result of new information, future events or circumstances or otherwise.

View source version on businesswire.com:
https://www.businesswire.com/news/home/20240529973518/en/

Investor and Media Relations
Jason Awe, Ph.D.
Senior Director, Corporate Communications & Investor Relations
(805) 217-2287
jawe@atarabio.com

Source: Atara Biotherapeutics, Inc.