Atara Biotherapeutics Announces Next-Generation CAR T Discoveries and Positive T-Cell Immunotherapy Results in Patients with EBV+ PTLD Involving the CNS at 60th American Society of Hematology (ASH) Annual Meeting

December 4, 2018

- *Moffitt Cancer Center collaborators described next-generation chimeric antigen receptor T-cell (CAR T) technology that increases T cell persistence and decreases exhaustion*
- *Memorial Sloan Kettering collaborators presented positive Phase 2 clinical results for EBV-specific T cells in patients with Epstein-Barr virus associated post-transplant lymphoproliferative disorder (EBV+ PTLD) involving the central nervous system (CNS)*
- *PTLD patient treatment patterns and health outcomes are described in additional ASH presentations*

SOUTH SAN FRANCISCO, Calif., Dec. 03, 2018 (GLOBE NEWSWIRE) -- Atara Biotherapeutics, Inc. (Nasdaq: ATRA), a leading off-the-shelf, allogeneic T-cell immunotherapy company developing novel treatments for patients with cancer, autoimmune and viral diseases, today announced results presented by collaborators at the 60th American Society of Hematology (ASH) Annual Meeting. One study presents details of a next-generation CAR T technology that increases T cell persistence and decreases T cell exhaustion. Another important study presents positive Phase 2 clinical results in patients with EBV+ PTLD involving the CNS. PTLD patient treatment patterns and health outcomes are described in additional ASH presentations.

“Our highlighted ASH presentations this year demonstrate the promise of Atara’s next-generation CAR T and off-the-shelf, allogeneic T-cell immunotherapy pipeline,” said Dietmar Berger, M.D., Ph.D., Global Head of Research and Development of Atara Biotherapeutics. “Cutting-edge CAR T discoveries by our Moffitt Cancer Center collaborators may have wide applications including as a component of our CAR T programs in acute myeloid leukemia (AML) and B-cell malignancies. Our collaborating investigators at Memorial Sloan Kettering also showed promising Phase 2 clinical results for patients with EBV+ PTLD involving the CNS, a difficult-to-treat and often lethal complication of bone marrow and organ transplantation. We are encouraged by these robust results and the broad potential of our CAR T technologies and T cell immunotherapy platform.”

60th American Society of Hematology (ASH) Annual Meeting Summary:

Abstract 966: Mutation of the CD28 Costimulatory Domain Confers Increased CAR T Cell Persistence and Decreased Exhaustion
Session: 703. Adoptive Immunotherapy: Preclinical Studies to Improve Safety and Efficacy of CAR-T Cells
Oral Presentation Date and Time: Monday, December 3, 2018 at 5:45 pm PST
Location: Marriott Marquis San Diego Marina, San Diego Ballroom B
Authors: Justin C Boucher, Gongbo Li, Bishwas Shrestha, Maria L Cabral, Dylan Morrissey, Lawrence Guan, Marco L Davila
Affiliations: Moffitt Cancer Center

Abstract 4590: Adoptive Therapy with EBV-Specific T Cells for Treatment of CNS EBV Post-Transplant Lymphoproliferative Disease Arising after Hematopoietic Stem Cell Transplant or Solid Organ Transplant
Session: 723. Clinical Allogeneic and Autologous Transplantation: Late Complications and Approaches to Disease Recurrence: Poster III
Poster Presentation Date & Time: Monday, December 3, 2018 from 6:00 pm – 8:00 pm PST
Location: San Diego Convention Center, Hall GH
Authors: Susan Prockop, MD, Stephanie Suser, Ekaterina Doubrovina, MD, PhD, Hugo R. Castro-Malaspina, MD, Esperanza B. Papadopoulos, MD, James W. Young, MD, Victoria Szenes, PNP, Alison Slocum, MA, Karim Baroudy, MS and Richard J. O'Reilly, MD
Affiliations: Memorial Sloan Kettering Cancer Center
Overview:

- This poster presentation evaluated EBV-specific T-cells generated from primary and third party (tab-cel®) donors.
- Patients with EBV+ PTLD involving the CNS following allogeneic hematopoietic stem cell transplant (HCT) or solid organ transplant (SOT) who failed prior rituximab from the Phase 2 studies 95-024 (NCT00002663) and 11-130 (NCT01498484) were included in the analysis.

Abstract 4777: Treatment Patterns for Patients with Post-Transplant Lymphoproliferative Disorder Who Fail Rituximab after Allogeneic Hematopoietic Stem Cell Transplantation: Findings from a Systematic Literature Review
Session: 902. Health Services Research—Malignant Diseases: Poster III
Poster Presentation Date & Time: Monday, December 3, 2018 from 6:00 pm – 8:00 pm PST
Location: San Diego Convention Center, Hall GH
Authors: Hairong Xu, MD, PhD, Crystal Watson, MS, Shan Ashton Garib, MA, Anna Forsythe, PharmD, MSc, MBA and Arie Barlev, PharmD
Affiliations: Atara Biotherapeutics, Purple Squirrel Economics

Abstract 3556: Estimating Long-Term Survival in a Cohort of Allogeneic Hematopoietic Stem Cell Transplant Patients
Session: 902. Health Services Research—Malignant Diseases: Poster II
Poster Presentation Date & Time: Sunday, December 2, 2018 from 6:00 pm – 8:00 pm PST
Location: San Diego Convention Center, Hall GH
Authors: Stephen Palmer, MSc, Casey Quinn, PhD, MPhil, Crystal Watson, MS and Arie Barlev, PharmD
Affiliations: Centre for Health Economics, University of York, PRMA Consulting Ltd., Atara Biotherapeutics

Abstract 4596: Dual-Sensitized T-Cells Responding to EBV Blcl and Either CMVpp65 or WT-1 Peptide Pools Have Distinct or Shared HLA Restrictions That May Depend on the Presenting HLA Alleles
Session: 723. Clinical Allogeneic and Autologous Transplantation
Poster Presentation Date & Time: Monday, December 3, 2018 from 6:00 pm – 8:00 pm PST
Location: San Diego Convention Center, Hall GH
Authors: Ekaterina Doubrovina, MD, PhD, Aisha N. Hasan, MD, Susan Prockop, MD, Karim Baroudy, MS, and Richard O'Reilly, MD
Affiliations: Memorial Sloan Kettering Cancer Center

Abstract 5839: A Systematic Literature Review of Real-World Evidence in Post-Transplant Lymphoproliferative Disorder
Authors: Hairong Xu, MD, PhD, Anna Forsythe, PharmD, MSc, MBA, Arie Barlev, PharmD, Nazia Rashid, PharmD and Crystal Watson, MS
Affiliations: Atara Biotherapeutics, Purple Squirrel Economics

Abstract 5841: Younger Patients Are Impacted By Post-Transplant Lymphoproliferative Disorder: Findings from a Systematic Literature Review of Real-World Evidence
Authors: Crystal Watson, MS, Hairong Xu, MD, PhD, Anna Forsythe, PharmD, MSc, MBA, Shan Ashton Garib, MA and Arie Barlev, PharmD
Affiliations: Atara Biotherapeutics, Purple Squirrel Economics

Abstract 5840: Risk of Patients Developing Post-Transplant Lymphoproliferative Disorder within the First Year after an Allogeneic Hemopoietic Stem Cell Transplant, 2011 to 2016: A US Claims Database Analysis
Authors: Arie Barlev, PharmD, Hairong Xu, MD, PhD, Nicole Fulcher, MA, Crystal Watson, MS, Ila Sruti, MPH and Akshay Sudhindra, MD
Affiliations: Atara Biotherapeutics, IBM Watson Health

About EBV+ PTLD
Since its discovery as the first human oncovirus, Epstein-Barr virus (EBV) has been implicated in the development of a wide range of lymphoproliferative disorders, including lymphomas, and other cancers. EBV is widespread in all human populations and persists as a lifelong, asymptomatic infection. In immunocompromised patients, such as those undergoing allogeneic hematopoietic cell transplants (HCT) or solid organ transplants (SOT), EBV-associated post-transplant lymphoproliferative disorder (EBV+ PTLD) represents a life-threatening condition. The expected median survival for patients with EBV+ PTLD following HCT who have failed rituximab first line therapy is 16-56 days. In EBV+ PTLD following SOT, patients failing rituximab are considered to have increased risk for chemotherapy-induced treatment-related mortality compared to other lymphoma patients. One- and two-year survival in patients with high-risk EBV+ PTLD following SOT is estimated to be 36% and 0%, respectively.

About tab-cel® (tabelecleucel)
Atara's most advanced T-cell immunotherapy in development, tab-cel®, is a potential treatment for patients with Epstein-Barr virus (EBV) associated post-transplant lymphoproliferative disorder (EBV+ PTLD) who have failed rituximab, as well as other EBV-associated hematologic and solid tumors, including nasopharyngeal carcinoma (NPC). In February 2015, the FDA granted tab-cel® Breakthrough Therapy Designation for EBV+ PTLD following allogeneic hematopoietic cell transplant (HCT), and in October 2016, tab-cel® was accepted into the EMA Priority Medicines (PRIME) regulatory pathway for the same indication, providing enhanced regulatory support. In addition, tab-cel® has orphan status in the U.S. and EU. Tab-cel® is in Phase 3 clinical development for the treatment of EBV+ PTLD following an allogeneic hematopoietic cell transplant (MATCH study) or solid organ transplant (ALLELE study), and Atara recently initiated a Phase 1/2 study in NPC.

About Atara Biotherapeutics, Inc.
Atara Biotherapeutics, Inc. (@Atarabio) is a leading off-the-shelf, allogeneic T-cell immunotherapy company developing novel treatments for patients with cancer, autoimmune and viral diseases. Atara's most advanced T-cell immunotherapy, tab-cel ® (tabelecleucel), is in Phase 3 development for patients with Epstein-Barr virus associated post-transplant lymphoproliferative disorder (EBV+ PTLD), as well as other EBV associated hematologic and solid tumors, including nasopharyngeal carcinoma (NPC). Atara is also developing T-cell immunotherapies targeting EBV antigens believed to be important for the potential treatment of multiple sclerosis (MS). Atara's pipeline also includes next generation chimeric antigen receptor T-cell (CAR T) immunotherapies for patients with hematologic and solid tumors, autoimmune and infectious diseases. The company was founded in 2012 and is headquartered in South San Francisco, California.

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 Company's ability to advance a next-generation CAR T and off-the-shelf, allogeneic T-cell immunotherapy pipeline; the potential wide applications of the Company's collaborators' discoveries, including as a component of the Company's CAR T programs AML and B-cell malignancies; promising clinical results; and the Company's ability to realize the broad potential of its CAR T technologies and T cell immunotherapy platform. Because such statements deal with future events and are based on Atara Biotherapeutics' current expectations, they are subject to various risks and uncertainties and actual results, performance or achievements of Atara Biotherapeutics 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 those discussed in Atara Biotherapeutics' filings with the Securities and Exchange Commission (SEC), 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 Biotherapeutics 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.

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