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Atara Biotherapeutics Announces Updated Positive Interim Results from Multicenter Expanded Access Study of tabelecleucel in Patients with Rituximab-Refractory Epstein-Barr Virus (EBV) Associated Post-Transplant Lymphoproliferative Disorder (PTLD)

Clinical findings presented at 59th American Society of Hematology Annual Meeting

SOUTH SAN FRANCISCO, Calif., Dec. 11, 2017 (GLOBE NEWSWIRE) -- Atara Biotherapeutics, Inc. (Nasdaq:ATRA), a leading off-the-shelf T-cell immunotherapy company developing novel treatments for patients with cancer, autoimmune and viral diseases, today announced that the Company's collaborating investigators presented updated, positive interim results for tabelecleucel (formerly known as ATA129) from a multicenter expanded access protocol (EAP) study for patients with EBV associated cancers. The findings were reported at the ongoing 59th American Society of Hematology (ASH) Annual Meeting, taking place in Atlanta, GA, December 9-12, 2017. Tabelecleucel is Atara's off-the-shelf T-cell immunotherapy in development for the treatment of Epstein-Barr virus (EBV) associated post-transplant lymphoproliferative disorder (EBV+PTLD), as well as other EBV associated hematologic and solid tumors.

“We are gratified to see that the multicenter clinical findings in patients with EBV+PTLD are consistent with the tabelecleucel profile observed in the Phase 2 studies conducted at Memorial Sloan Kettering Cancer Center,” said Chris Haqq M.D., Ph.D., Executive Vice President of Research and Development and Chief Scientific Officer of Atara Biotherapeutics. “We look forward to initiating Phase 3 clinical studies with tabelecleucel by the end of this year, which are expected to enroll the same EBV+PTLD patient populations as presented at ASH.”

Updated efficacy findings were presented:

- In 6 patients with rituximab-refractory EBV+PTLD following solid organ transplant (SOT) the Objective Response Rate (ORR) was 83%, with 5 of 6 patients responding to treatment.
- Additionally, in 5 patients with rituximab-refractory EBV+PTLD following allogeneic hematopoietic cell transplant (HCT) an ORR of 80% was observed, with 4 of 5 patients responding to treatment.

- An additional patient with EBV+PTLD following HCT remains alive, but was not evaluable due to lack of post-baseline assessment.
- The estimated one-year overall survival for the 12 tabelecleucel treated patients with EBV+PTLD following HCT or SOT, was 90.9% [95% confidence interval (50.8%, 98.7%)].

Updated safety findings were reported for a total of 23 patients, including an additional 11 patients with other EBV associated cancers who were included in the safety analysis:

- Tabelecleucel was generally well-tolerated in this study population, which comprised quite ill, mostly immunosuppressed patients with multiple comorbidities.
- 5 patients experienced treatment-related serious adverse events (SAEs).
- One HCT patient died due to PTLD disease progression.
- Two possibly related cases of graft-versus-host disease (GvHD) in patients with EBV+PTLD following HCT were reported.
- A tumor flare was observed in one patient with EBV+ HIV-associated plasmablastic lymphoma that resolved without clinical sequelae.

Atara's collaborating investigators at Memorial Sloan Kettering Cancer Center presented updated results for ATA230, an allogeneic T-cell immunotherapy targeting antigens expressed by cytomegalovirus (CMV), from 50 post-transplant patients with refractory CMV viremia and disease, including those with disease in the CNS. The reported response rate of 64% in all patients was similar in those with CMV viremia and disease. Patients who responded to ATA230 showed improved 6-month survival of 81.3% versus 33.3% in patients who did not respond to treatment. One of the 32 patients who responded to ATA230 died of CMV disease. ATA230 was generally well-tolerated. Five patients experienced grade 4 or 5 serious adverse events deemed possibly related to ATA230.

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. Median overall survival in patients with EBV+PTLD following HCT who have failed rituximab-based first line therapy is 16-56 days. In EBV+PTLD following SOT, patients failing rituximab experience increased 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 36% and 0%, respectively.

About tabelecleucel (formerly known as ATA129)
Atara's most advanced T-cell immunotherapy in development, tabelecleucel, is a potential treatment for patients with rituximab-refractory Epstein-Barr virus (EBV) associated post-transplant lymphoproliferative disorder (EBV+PTLD), as well as other EBV associated hematologic and solid tumors, including nasopharyngeal carcinoma (NPC). In February 2015, FDA granted tabelecleucel Breakthrough Therapy Designation for EBV+PTLD following allogeneic hematopoietic cell transplant (HCT) and in October 2016, tabelecleucel was accepted into the EMA Priority Medicines (PRIME) regulatory pathway for the same indication, providing enhanced regulatory support. Atara also received positive regulatory

feedback from Health Canada in September 2017 supporting the submission of tabelecleucel for an expedited approval pathway. In addition, tabelecleucel has orphan status in the U.S. and EU. Phase 3 studies of tabelecleucel in EBV+PTLD following HCT (MATCH study) or solid organ transplant (ALLELE study) are expected to start in 2017, and a Phase 1/2 study in NPC is planned for 2018. Tabelecleucel is also available to eligible patients with EBV associated hematologic and solid tumors through an ongoing multicenter expanded access protocol (EAP) clinical study.

About CMV
In patients with weakened immune systems, including bone marrow and solid organ transplant recipients, newborns with immature immune systems and those with human immunodeficiency virus (HIV), cytomegalovirus (CMV) can cause potentially life-threatening disease or may result in blindness, brain damage, and deafness. While small molecule antiviral drugs are approved to treat and prevent CMV infection, there remains a high unmet need due to viral resistance, modest neurodevelopmental activity and adverse effects, such as toxicity and reduction in white blood cell count impairing the ability to fight other infections, with these agents.

About ATA230
ATA230, an allogeneic T-cell immunotherapy targeting antigens expressed by cytomegalovirus (CMV), has been investigated in one Phase 1 and two Phase 2 clinical studies in immunocompromised patients with CMV viremia or disease who are refractory or resistant to antiviral drug treatment in the post-transplant setting. In October 2017, Atara announced that ATA230 was granted Rare Pediatric Disease Designation by the FDA for the treatment of congenital CMV infection, and in September 2017, ATA230 received orphan drug designation in the U.S. for the treatment of CMV viremia and disease in immunocompromised patients. The European Medicines Agency (EMA) in October 2016 also issued a positive orphan drug designation opinion for ATA230 for the treatment of CMV infection in patients with impaired cell-mediated immunity. Atara intends to further evaluate ATA230 development plans with the FDA and other global health authorities following the initiation of tabelecleucel EBV+PTLD Phase 3 studies.

About Atara Biotherapeutics, Inc.
Atara Biotherapeutics, Inc. (@Atarabio) is a leading T-cell immunotherapy company developing novel treatments for patients with cancer, autoimmune and viral diseases. The Company's off-the-shelf, or allogeneic, T-cells are bioengineered from donors with healthy immune function and allow for rapid delivery from inventory to patients without a requirement for pretreatment. Atara's T-cell immunotherapies are designed to precisely recognize and eliminate cancerous or diseased cells without affecting normal, healthy cells. Atara's most advanced T-cell immunotherapy in development, tabelecleucel (formerly known as ATA129), is being developed for the treatment of patients with rituximab-refractory Epstein-Barr virus (EBV) associated post-transplant lymphoproliferative disorder (EBV+PTLD), as well as other EBV associated hematologic and solid tumors, including nasopharyngeal carcinoma (NPC). Phase 3 studies of tabelecleucel in EBV+PTLD following an allogeneic hematopoietic cell transplant (MATCH study) or solid organ transplant (ALLELE study) are expected to start in 2017, and a Phase 1/2 study of tabelecleucel in combination with Merck's anti-PD-1 (programmed death receptor-1) therapy, KEYTRUDA® (pembrolizumab), in patients with platinum-resistant or recurrent EBV associated NPC is planned for 2018. Tabelecleucel is also available to eligible patients with EBV associated hematologic and solid tumors through

an ongoing multicenter expanded access protocol (EAP) clinical study. Allogeneic ATA188 and autologous ATA190, the Company's T-cell immunotherapies using a complementary targeted antigen recognition technology, target specific EBV antigens believed to be important for the potential treatment of multiple sclerosis (MS). A Phase 1 clinical study of autologous ATA190 in patients with progressive MS is ongoing. Atara also initiated a multinational, multicenter Phase 1 allogeneic ATA188 clinical study in patients with progressive or relapsing-remitting MS in October 2017. Atara's clinical pipeline also includes ATA520 targeting Wilms Tumor 1 (WT1) and ATA230 directed against cytomegalovirus (CMV).

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 intention to start Phase 3 studies of tabelecleucel in EBV+PTLD following a hematopoietic cell transplant or solid organ transplant in 2017 and a Phase 1/2 study of tabelecleucel in combination with Merck's anti-PD-1 therapy, KEYTRUDA®, in patients with platinum-resistant or recurrent EBV associated NPC in 2018; and the Company's intention to further evaluate ATA230 development plans with the FDA and other global health authorities following the initiation of the tabelecleucel EBV+PTLD Phase 3 studies. 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 under the heading "Risk Factors" in Atara Biotherapeutics' quarterly report on Form 10-Q filed with the Securities and Exchange Commission (SEC) on November 9, 2017, including the documents incorporated by reference therein, and subsequent filings with the SEC. 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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