Press Release

Aeglea BioTherapeutics to Present Preclinical Data at 2017 Society for Immunotherapy of Cancer (SITC) Annual Meeting

AUSTIN, Texas, Nov. 02, 2017 (GLOBE NEWSWIRE) -- Aeglea BioTherapeutics, Inc. (NASDAQ:AGLE), a biotechnology company committed to developing enzyme-based therapeutics in the field of amino acid metabolism to treat rare genetic diseases and cancer, today announced that it will deliver a poster presentation about preclinical findings from an evaluation of Aeglea's AEB1102 (pegzilarginase) combined with immunomodulators at the 2017 Society for Immunotherapy of Cancer (SITC) Annual Meeting taking place November 8 – 12 in National Harbor, Maryland.

Abstracts are available online at www.sitcancer.org. Details of the poster presentation are listed below:

Title: Depleting blood arginine with AEB1102 (pegzilarginase) exerts additive anti-tumor and synergistic survival benefits when combined with immunomodulators of the PD-1 pathway
Poster Number: P255
Date: Friday, November 10
Presentation Time: 12:30 – 2 p.m. ET and 6:30 – 8 p.m. ET
Location: Gaylord National Hotel & Convention Center - *Prince George Exhibition Hall DE*

About AEB1102 in Cancer
AEB1102 (pegzilarginase) is an engineered human arginase 1 enzyme designed to degrade the amino acid arginine. Aeglea is developing AEB1102 to treat cancers which have demonstrated a metabolic dependency on arginine. Dysregulation of amino acid metabolism has been shown to be a key event in tumor growth and development. Unlike healthy cells, these tumors cells have an abnormally high appetite for certain amino acids and are unable to create their own supply, making them vulnerable to starvation through depletion of that amino acid in the blood. AEB1102 is intended to address an unmet need for the treatment of these tumor types by degrading arginine in the blood, reducing its level below the normal range to starve the tumor. Aeglea is currently conducting two Phase 1 trials in cancer patients with advanced solid tumors and the hematological malignancies acute myeloid leukemia/myelodysplastic syndrome to evaluate safety and tolerability. Data from these trials have demonstrated that AEB1102 reduces blood arginine levels, providing initial human proof of mechanism. The company plans to initiate expansion arms of the advanced solid tumor trial in small cell lung cancer, uveal melanoma and cutaneous melanoma in the fourth quarter of 2017 or the first quarter of 2018. An additional trial of AEB1102 combined with Merck's pembrolizumab is also expected to initiate in early 2018.

About Aeglea BioTherapeutics
Aeglea is a biotechnology company committed to developing enzyme-based therapeutics in the field of amino acid metabolism to treat rare genetic diseases and cancer. The company's engineered human enzymes are designed to modulate the extremes of amino acid metabolism in the blood to reduce toxic levels of amino acids in inborn errors of metabolism or target tumor metabolism for cancer treatment. AEB1102, Aeglea's lead product candidate, is currently being studied in two ongoing Phase 1 clinical

trials, in patients with advanced solid tumors and acute myeloid leukemia/myelodysplastic syndrome (AML/MDS). Additionally, Aeglea is recruiting patients into its ongoing Phase 1/2 trial of AEB1102 for the treatment of patients with Arginase 1 Deficiency. The company is building a pipeline of additional product candidates targeting key amino acids, including AEB4104, which degrades homocysteine and its oxidized form homocystine, a target for an inborn error of metabolism, as well as two potential treatments for cancer, AEB3103, which degrades cysteine, and its oxidized form cystine, and AEB2109, which degrades methionine. For more information, please visit http://aegleabio.com.

Safe Harbor / Forward Looking Statements
This press release contains "forward-looking" statements within the meaning of the safe harbor provisions of the U.S. Private Securities Litigation Reform Act of 1995. Forward-looking statements can be identified by words such as: "anticipate," "intend," "plan," "goal," "seek," "believe," "project," "estimate," "expect," "strategy," "future," "likely," "may," "should," "will" and similar references to future periods. These statements are subject to numerous risks and uncertainties that could cause actual results to differ materially from what we expect. Examples of forward-looking statements include, among others, statements we make regarding the timing and success of our current and future clinical trials, and the potential therapeutic benefits and economic value of our lead product candidate or other product candidates. Further information on potential risk factors that could affect our business and its financial results are detailed in our most recent Quarterly Report on Form 10-Q for the quarter ended June 30, 2017 filed with the Securities and Exchange Commission (SEC), and other reports as filed with the SEC. We undertake no obligation to publicly update any forward-looking statement, whether written or oral, that may be made from time to time, whether as a result of new information, future developments or otherwise.

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