Pivotal Phase 3 ARTEMIS Trial Data Demonstrates Consistent Safety and Efficacy of AR101 in Children and Adolescents with Peanut Allergy

LISBON, Portugal--(BUSINESS WIRE)--Jun. 2, 2019-- Aimmune Therapeutics, Inc. (Nasdaq: AIMT), a biopharmaceutical company developing treatments for life-threatening food allergies, today presented topline results from the pivotal European Phase 3 ARTEMIS clinical trial, which it previously announced had met its primary endpoint, demonstrating the efficacy and safety of AR101 in peanut-allergic children and adolescents after six months of dose escalation and a three-month therapeutic dosing phase. The findings from the ARTEMIS trial reinforce the consistent clinical profile of AR101, demonstrating that patients tolerated 1,000 mg of peanut protein after only nine months of treatment, which was the primary endpoint of the study. The ARTEMIS study builds on the results of the landmark PALISADE trial, which met its primary endpoint of patients tolerating 600 mg of peanut protein at 12 months. AR101 is an investigational biologic drug for use in oral immunotherapy as a treatment to reduce the frequency and severity of allergic reactions following exposure to peanuts. These data were presented here today in an oral session at the European Academy of Allergy and Clinical Immunology (EAACI) Congress 2019 in Lisbon.

The proportion of AR101-treated patients who tolerated the 1,000 mg (2,043 mg cumulative) dose of peanut protein in the double-blind, placebo-controlled food challenge (DBPCFC) was significantly higher than in the placebo group: 58% vs. 2% ($p<0.00001$). The AR101-treated patients had less severe symptoms during the exit peanut DBPCFC, compared with the placebo-treated patients.

“Results of the European ARTEMIS trial provide further clinical validation of the safety and efficacy of AR101 for children and adolescents with peanut allergy,” said Prof. Montserrat Fernández-Rivas, M.D., Ph.D., ARTEMIS investigator and Chief of the Allergy Department at Hospital Clínico San Carlos in Madrid. “Almost six out of 10 patients treated with AR101 were able to tolerate a significant dose of peanut protein, 1000 mg, which is equivalent of three to four peanuts, well beyond the amount typically involved in an accidental exposure. These findings support the ability of AR101 to reduce the frequency and severity of allergic reactions, including anaphylaxis, upon exposure to peanut in children and adolescents who face these risks on a daily basis.”

In the study, 175 subjects aged 4 to 17 years in seven European countries were randomized 3:1 to AR101 or placebo, up-dosed to 6 mg on day 1 and received dose escalations every two weeks for 20-40 weeks until the therapeutic dose of 300 mg was reached. This was followed by approximately three months of continued 300 mg/day therapeutic dosing. The primary endpoint was the ability to tolerate at least 1,000 mg of peanut protein as a single dose without dose-limiting symptoms at exit DBPCFC.

The full results from 175 patients who started the trial showed:

- 58.3% of AR101-treated patients successfully tolerated 1,000 mg of peanut protein at the exit food challenge, compared to 2.3% in placebo group ($p<0.00001$).
- 68.2% of AR101-treated patients successfully tolerated 600 mg at the exit food challenge, compared to 9.3% in the placebo group.
- 73.5% of AR101-treated patients successfully tolerated 300 mg of peanut protein at the exit food challenge, compared to 16.3% in the placebo group.

The safety profile of AR101 was consistent with previous AR101 studies with the frequency and severity of allergic reactions as expected for an oral desensitization therapy. Mild or moderate systemic allergic reactions were reported in 12.1% of AR101-treated subjects and 2.3% of placebo-treated subjects. Epinephrine/adrenaline use was reported in 6.8% of AR101 treated participants versus 2.3% of placebo, all for mild/moderate reactions and lower than reported in PALISADE. Discontinuations due to related adverse events affected 9.8% of AR101-treated subjects, with no serious adverse events reported that led to discontinuation, and no deaths or suspected unexpected serious adverse reactions (SUSARs). There were no reported cases of eosinophilic esophagitis (EoE) and no cases of severe anaphylaxis.

“The results from ARTEMIS are remarkably similar to what was observed with the highest exit challenge dose level first tested in the Phase 3 PALISADE trial. In PALISADE, 50.3% of AR101-treated patients tolerated the highest test dose of 1,000 mg of peanut protein after approximately six months of dose escalation followed by six months at a daily therapeutic dose of 300 mg compared to 2.4% of placebo patients,” said Daniel Adelman, M.D., Chief Medical Officer of Aimmune. “ARTEMIS, PALISADE and RAMSES are the only successful Phase 3 clinical trials for any food allergy and represent the largest, most clinically robust clinical dataset ever assembled of a therapeutic approach to peanut allergy. These results add to our understanding of peanut-allergic patients and how we can advance the treatment of this potentially life-threatening condition.”

Dr. Adelman continued, “With the ARTEMIS data now in hand, we remain on track to submit a Marketing

Authorization Application for AR101 to the European Medicines Agency mid-year. AR101 could become the first approved treatment for children and adolescents with peanut allergy in both the U.S. and Europe."

About ARTEMIS

The randomized, double-blind, placebo-controlled Phase 3 ARTEMIS (**AR**101 **T**rial in **E**urope **M**easuring oral **I**mmunotherapy **S**uccess) trial evaluated the efficacy and safety of AR101 in peanut-allergic patients ages 4 to 17 years who were enrolled at 18 sites in seven European countries (France, Germany, Ireland, Italy, Spain, Sweden and the United Kingdom). A total of 175 children and adolescents were randomized 3:1 to AR101 or placebo. Study participants represented a highly allergic population with a high prevalence of comorbidities who reacted to low doses of peanut protein when given a double-blind, placebo-controlled food challenge (DBPCFC) at screening. Study participants received approximately six months of dose escalation and then three months of therapeutic dosing of AR101 300 mg/day or placebo, followed by an exit DBPCFC. The primary endpoint was the patient's ability to tolerate at least a 1,000 mg single dose of peanut protein (the equivalent of approximately three to four peanut kernels) without dose-limiting symptoms when given the DBPCFC.

About Peanut Allergy

Peanut allergy is one of the most common food allergies, affecting more than 6 million people in the U.S. and Europe, and reactions to peanut are often severe and potentially life-threatening. Peanut allergy usually persists into adulthood1, 2, 3, 4 and while rare, accounts for the majority of deaths related to food allergy.5 There are no approved treatment options for peanut allergy.6 The standard of care has been a strict elimination diet and the timely administration of rescue medications in case of an allergic reaction from accidental exposure.7,8,9 Despite vigilance, accidental exposures may occur10 and cause reactions of unpredictable severity,11 leading to a lifelong risk of severe reactions.

About AR101

AR101 is a new, peanut-derived investigational oral biologic drug for use in oral immunotherapy in patients with peanut allergy. The drug, which is manufactured in accordance with current Good Manufacturing Practices (cGMP), delivers a daily dose of peanut protein with a consistent protein profile, analyzed to ensure reliable major allergen content. The amount of active ingredient in each AR101 capsule is controlled to ensure minimal variability of allergen content across doses of a given strength. AR101 is administered as an oral powder in graduated doses in pull-apart capsules or foil-laminate sachets. The contents are mixed thoroughly with a few spoonfuls of age-appropriate, unheated food of the patient's choice.

Aimmune's Biologics License Application (BLA) for AR101 was accepted for review by the U.S. Food and Drug Administration (FDA) in March 2019. The Allergenic Products Advisory Committee (APAC) of the FDA will review the BLA for AR101 at its meeting scheduled for September 13, 2019. The company plans to submit a Marketing Authorization Application (MAA) for AR101 to the European Medicines Agency in mid-2019.

About Aimmune Therapeutics

Aimmune Therapeutics, Inc., is a biopharmaceutical company developing oral treatments for life-threatening food allergies. The company's **C**haracterized **O**ral **D**esensitization **I**mmuno**T**herapy (CODIT™) approach is intended to provide meaningful levels of protection against allergic reactions resulting from exposure to food allergens by desensitizing patients with defined, precise amounts of key allergens. Aimmune's first investigational biologic product, AR101, is being developed as a treatment to reduce the frequency and severity of adverse events following exposure to peanut. The BLA for AR101 is under review by the U.S. FDA, which in 2015 granted AR101 Breakthrough Therapy Designation for the desensitization of peanut-allergic patients 4 to 17 years of age. Aimmune expects to file for marketing approval of AR101 in Europe in mid-2019. Aimmune has filed an IND application for its second product, AR201 for the treatment of egg allergy, and intends to start a randomized Phase 2 clinical trial in mid-2019. For more information, please see www.aimmune.com.

Forward-Looking Statements

Statements contained in this press release regarding matters that are not historical facts are "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Because such statements are subject to risks and uncertainties, actual results may differ materially from those expressed or implied by such forward-looking statements. Such statements include, but are not limited to, statements regarding: Aimmune's expectations regarding the potential benefits of AR101; Aimmune's expectations regarding the review of the BLA for AR101; Aimmune's expectations regarding the planned timing and filing for marketing approval of AR101 in Europe; Aimmune's expectations on the timing of initiating a phase 2 clinical trial for AR201; and Aimmune's expectations regarding potential applications of the CODIT™ approach to treating life-threatening food allergies. Risks and uncertainties that contribute to the uncertain nature of the

forward-looking statements include: Aimmune's or any of its collaborative partners' ability to initiate and/or complete clinical trials; the unpredictability of the regulatory process; the possibility that Aimmune's or any of its collaborative partners' clinical trials will not be successful; Aimmune's dependence on the success of AR101; Aimmune's reliance on third parties for the manufacture of Aimmune's product candidates; possible regulatory developments in the United States and foreign countries; and Aimmune's ability to attract and retain senior management personnel. These and other risks and uncertainties are described more fully in Aimmune's most recent filings with the Securities and Exchange Commission, including its Quarterly Report on Form 10-Q for the quarter ended March 31, 2019. All forward-looking statements contained in this press release speak only as of the date on which they were made. Aimmune undertakes no obligation to update such statements to reflect events that occur or circumstances that exist after the date on which they were made.

This press release concerns AR101, a product candidate that is under clinical investigation, and AR201, a product candidate that Aimmune expects will be under clinical investigation in 2019. Neither AR101 nor AR201 has been approved for marketing by the FDA or the European Medicines Agency (EMA). AR101 and AR201 are currently limited to investigational use, and no representation is made as to their safety or effectiveness for the purposes for which they are being investigated.

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