New Data from Phase 3 PALISADE Follow-on Study of AR101 for Peanut Allergy Show Continued Immunomodulation Through Daily Dosing Beyond One Year

--Patients tolerated as much as 2,000 mg of peanut protein with fewer adverse events --
--Favorable ongoing and notable immunological changes observed over time--

LISBON, Portugal--(BUSINESS WIRE)--Jun. 4, 2019-- Aimmune Therapeutics, Inc. (Nasdaq: AIMT), a biopharmaceutical company developing treatments for life-threatening food allergies, today announced results from ARC004, an open-label, rollover study of the landmark Phase 3 PALISADE trial, which showed that extending daily therapy with AR101 by an additional 28 weeks led to improved tolerability with lower numbers of adverse events compared to the PALISADE therapeutic dosing period, an increase in the amount of peanut that could be safely ingested, and continued immunomodulation to peanut protein in most patients. 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.

After continuing daily doses of AR101 for an additional 28 weeks, the majority of patients enrolled in the follow-on study could tolerate doses of at least 1,000 mg of peanut protein, and nearly half of all AR101-treated patients tolerated the highest 2,000 mg dose during the exit food challenge. Furthermore, patients enrolled in the study continued to see meaningful immunological changes, reinforcing the potential benefits of continued daily AR101 dosing after one year.

“The results of this follow-on study to the PALISADE trial demonstrate that AR101 can produce favourable immunological changes over time, matched by patients’ ability to tolerate higher doses of peanut protein, thus reinforcing the rationale for continued daily dosing of AR101 beyond one year,” said Katharina Blümchen, M.D., Associated Professor and consultant for Paediatric Pneumology and Allergology at the University Hospital Frankfurt, Germany.

Of the AR101-treated patients in PALISADE who entered the open-label extension study, which evaluated safety, tolerability and immunological changes of continued daily or non-daily dosing with 300 mg of AR101, 110 were assigned to the daily dosing regimen, and 104 completed the double-blind, placebo-controlled food challenge (DBPCFC) after 28 weeks. Immunologic changes to peanut protein were compared at the end of the PALISADE trial and the end of the extended dosing period using a peanut skin prick test (SPT) and measurements of peanut-specific immunoglobulin E (psIgE) and immunoglobulin G4 (Ig4), each a marker of immunologic changes occurring during the desensitization process. After 28 weeks of extended maintenance with AR101, results showed:

Ability to Tolerate Peanut Protein

- 79.8% could tolerate a 1,000 mg challenge dose.
- 49% could tolerate the highest challenge dose of 2,000 mg.

Safety

- A reduction in adverse events overall with the same participants experiencing the same types of adverse events as during the PALISADE therapeutic dosing period and reporting at least one adverse event (PALISADE 88.2% vs. ARC004 84.5%).
- The severity of adverse events (AEs) was similar across the two studies, with the majority of symptoms reported to be mild in nature (PALISADE 54.5% vs. ARC004 52.7%).
- Only 2% of patients enrolled discontinued treatment during the extended maintenance period due to AEs.

Immune System Changes to Peanut Protein

- Favorable immunological changes for the population of patients studied continued during the additional daily dosing period, as confirmed by reductions in the SPT wheal diameter and levels of psIgE and a corresponding increase in IgG4; all reflecting a continued maturation of the desensitization and immunomodulatory processes in response to AR101.
- For an individual patient, the ability to tolerate more peanut protein appeared to occur independently of the observed ongoing immunomodulation associated with continued AR101 treatment.
- Study findings are consistent with reports that for an individual patient psIgE and SPT levels are not necessarily predictive of a patient’s ability to tolerate discrete amounts of peanut.

“These findings demonstrate that AR101 treatment extended into the second year reduces adverse events, increases ability the ability to tolerate even high levels of exposure to peanut protein over time, and further

modulates the immune response to peanut in most patients," said Daniel Adelman, M.D., Chief Medical Officer of Aimmune. "Moreover, these results show that more than three out of four patients treated with AR101 over a 12-month period could potentially benefit from continued therapy, with the expectation of being able to increase their ability to tolerate higher levels of peanut protein. These results should provide some peace of mind to patients with peanut allergy and their families."

About PALISADE and the ARC004 Follow-on Study

The international, randomized, double-blind, placebo-controlled Phase 3 PALISADE (**P**eanut **Al**lergy oral **I**mmunotherapy **S**tudy of **A**R101 for **De**sensitization) trial evaluated the efficacy and safety of AR101 in patients with peanut allergy. PALISADE was conducted at 66 sites in 10 countries in North America and Europe. A total of 496 patients ages 4 to 17 were randomized 3:1 to receive AR101 or placebo along with 55 adults ages 18 to 49 who were not part of the primary analysis. To meet PALISADE's inclusion criteria, patients could tolerate no more than the 30-mg dose of peanut protein in an entry double-blind, placebo-controlled food challenge (DBPCFC), which consisted of consecutive doses of 1, 3, 10, 30 and 100 mg of peanut protein, given 20 to 30 minutes apart, as tolerated without dose-limiting symptoms. Patients enrolled in PALISADE underwent a dose escalation period of approximately 22 weeks to reach a therapeutic dose of 300 mg per day of AR101 or placebo, then continued with daily maintenance at 300 mg per day of AR101 or placebo for approximately six months. At that point, patients underwent an exit DBPCFC, which tested consecutive doses of 3, 10, 30, 100, 300, 600 and 1,000 mg of peanut protein, given 20 to 30 minutes apart, and associated with only mild symptoms. Both the entry and exit DBPCFCs used an independent, blinded assessor. Following the completion of the exit DBPCFC, patients were unblinded and eligible to rollover or crossover into the follow-on ARC004 clinical trial, as appropriate.

A subset of patients who completed the Phase 3 PALISADE trial were eligible to enter ARC004, which evaluated safety, tolerability and immunological changes of continued daily or non-daily dosing with 300 mg of AR101. Immunologic changes to peanut protein were compared at the end of the PALISADE trial and the end of the extended therapeutic period using a peanut skin prick test and measurements of peanut-specific immunoglobulin E (psIgE) and immunoglobulin G4 (Ig4).

Full results from the PALISADE trial were published in the *New England Journal of Medicine* in November 2018.1

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 adulthood2,3,4, 5 and while rare, accounts for the majority of deaths related to food allergy.6 There are no approved treatment options for peanut allergy.7 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.8,9,10 Despite vigilance, accidental exposures may occur11 and cause reactions of unpredictable severity,12 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, including anaphylaxis, 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, including the potential benefit of continued therapy; Aimmune’s expectations regarding the review of the BLA for AR101 by the FDA and APAC; 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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