



Aimmune Therapeutics is a biopharmaceutical company developing and bringing new treatments to people with potentially life-threatening food allergies.

ORAL IMMUNOTHERAPY FACT SHEET

OVERVIEW

Oral immunotherapy (OIT) is a medical therapy that helps improve tolerability to specific food allergens (a process called desensitization) to reduce the risk of severe allergic reactions, such as anaphylaxis. The process desensitizes the individual via the gradual introduction of increasing amounts of the allergenic protein of the problem food.¹

The History of OIT

Immunotherapy to address allergies has been explored by physicians and researchers for more than a century. In the early 1900s, allergies emerged as a significant public health issue, and researchers discovered that the oral administration of food allergens in regimented doses could result in gradual desensitization.² Shortly after, physicians began treating patients with allergy shots for environmental allergens such as pollen.³

Extensive Research Validates Effectiveness of OIT

Food allergies increased 50% from 1997-1999 to 2009-2011.⁴ The current standard of care for patients with food allergy is strict avoidance of the allergen. When exposure does occur, injectable epinephrine is often recommended to treat the most severe reaction, anaphylaxis,⁵ followed by a trip to a hospital emergency room. Studies of peanut, egg and milk OIT have shown desensitization in approximately 60-80% of patients.¹ The largest ever randomized, double-blind, placebo-controlled clinical trial for a peanut allergy therapy in children and teens, called PALISADE, was conducted in the U.S., Canada and Europe. Results of the study, published in the *New England Journal of Medicine* in November 2018, showed that a structured OIT approach increased tolerability and reduced the frequency and severity of allergic reactions.⁶

A Structured Approach to OIT

Using rigorous science and a structured approach called CODIT™ (Characterized Oral Desensitization ImmunoTherapy), that builds on more than a century of OIT research, Aimmune Therapeutics developed PALFORZIA™ [Peanut (*Arachis hypogaea*) Allergen Powder-dnfp]. PALFORZIA was approved by the U.S. Food and Drug Administration (FDA) in January 2020 as the first approved treatment for patients with peanut allergy. It is an oral immunotherapy indicated for the mitigation of allergic reactions, including anaphylaxis, that may occur with accidental exposure to peanut. PALFORZIA is approved for use in patients with a confirmed diagnosis of peanut allergy. Initial dose escalation may be administered to patients aged 4 through 17 years. Up-dosing and maintenance may be continued in patients 4 years of age and older. PALFORZIA is to be used in conjunction with a peanut-avoidant diet. PALFORZIA is not indicated for the emergency treatment of allergic reactions, including anaphylaxis.

PALFORZIA addresses the need for a rigorously developed and clinically-validated OIT treatment for peanut allergy. To learn more, visit www.PALFORZIA.com.

Please see additional Important Safety Information, including Boxed WARNING, on the next page.

¹ The Current State of Oral Immunotherapy: AAAAI. <https://www.aaaai.org/conditions-and-treatments/library/allergy-library/oit>. Accessed December 19, 2019. ² Deol S, Bird JA. Current opinion and review on peanut oral immunotherapy. *Human Vaccines Immunotherapeutics*. 2014; 10(10): 3017–3021. doi:10.4161/hv.32190. ³ Durham SR, Nelson H. Allergen immunotherapy: a centenary celebration. *World Allergy Organ J*. 2011; 4(6):104–106. doi:10.1097/WOX.0b013e3182218920. ⁴ FARE. Facts and Statistics. <https://www.foodallergy.org/life-with-food-allergies/food-allergy-101/facts-and-statistics>. Accessed December 19, 2019. ⁵ Khoriaty E, Umetsu DT. Oral immunotherapy for food allergy: towards a new horizon. *Allergy, Asthma & Immunology Res*. 2013; 5(1):3–15. doi:10.4168/aaic.2013.5.1.3. ⁶ The PALISADE Group of Clinical Investigators AR101 Oral Immunotherapy for Peanut Allergy. (2018). *N Engl J Med*. 379(21), 1991-2001. doi: 10.1056/nejmoa1812856.

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INDICATION

PALFORZIA is an oral immunotherapy indicated for the mitigation of allergic reactions, including anaphylaxis, that may occur with accidental exposure to peanut. PALFORZIA is approved for use in patients with a confirmed diagnosis of peanut allergy. Initial Dose Escalation may be administered to patients aged 4 through 17 years. Up-Dosing and Maintenance may be continued in patients 4 years of age and older.

PALFORZIA is to be used in conjunction with a peanut-avoidant diet.

Limitations of Use: Not indicated for the emergency treatment of allergic reactions, including anaphylaxis.

IMPORTANT SAFETY INFORMATION

WARNING: ANAPHYLAXIS

- **PALFORZIA can cause anaphylaxis, which may be life threatening and can occur at any time during PALFORZIA therapy.**
- **Prescribe injectable epinephrine, instruct and train patients on its appropriate use, and instruct patients to seek immediate medical care upon its use.**
- **Do not administer PALFORZIA to patients with uncontrolled asthma.**
- **Dose modifications may be necessary following an anaphylactic reaction.**
- **Observe patients during and after administration of the Initial Dose Escalation and the first dose of each Up-Dosing level, for at least 60 minutes.**
- **PALFORZIA is available only through a restricted program called the PALFORZIA REMS.**

CONTRAINDICATIONS

Uncontrolled asthma and history of eosinophilic esophagitis or other eosinophilic gastrointestinal disease.

WARNING AND PRECAUTIONS

Anaphylaxis

PALFORZIA can cause anaphylaxis, which may be life threatening. PALFORZIA is available only through a restricted program under a Risk Evaluation and Mitigation Strategy (REMS) called the PALFORZIA REMS because of the risk of anaphylaxis. Only prescribers, healthcare settings, pharmacies, and patients certified and enrolled in the REMS Program can prescribe, receive, dispense or administer PALFORZIA.

Anaphylaxis has been reported during all phases of PALFORZIA dosing, including Maintenance and in subjects who have undergone recommended Up-Dosing and dose modification procedures.

Do not initiate PALFORZIA treatment in a patient who has had severe or life-threatening anaphylaxis within the previous 60 days. PALFORZIA may not be suitable for patients with certain medical conditions that may reduce the ability to survive anaphylaxis, including but not limited to markedly compromised lung function, severe mast cell disorder, or cardiovascular disease. In addition, PALFORZIA may not be suitable for patients taking medications that can inhibit or potentiate the effects of epinephrine.

All Initial Dose Escalation doses and the first dose of each Up-Dosing level must be administered in a certified health care setting.

Patients may be more likely to experience allergic reactions following PALFORZIA administration in the presence of cofactors such as exercise, hot water exposure, intercurrent illness (e.g., viral infection), or fasting. Other potential cofactors may include menstruation, sleep deprivation, nonsteroidal anti-inflammatory drug use, or uncontrolled asthma. Patients should be proactively counseled about the potential for the increased risk of anaphylaxis in the presence of these cofactors. If possible, adjust the time of dosing to avoid these cofactors. If it is not possible to avoid these cofactors, consider withholding PALFORZIA temporarily.

Asthma

Uncontrolled asthma is a risk factor for a serious outcome, including death, in anaphylaxis. Ensure patients with asthma have their asthma under control prior to initiation of PALFORZIA.

PALFORZIA should be temporarily withheld if the patient is experiencing an acute asthma exacerbation. Following resolution of the exacerbation, resumption of PALFORZIA should be undertaken cautiously. Re-evaluate patients who have recurrent asthma exacerbations and consider discontinuation of PALFORZIA.

Eosinophilic Gastrointestinal Disease

Discontinue PALFORZIA and consider a diagnosis of eosinophilic esophagitis in patients who experience severe or persistent gastrointestinal symptoms, including dysphagia, vomiting, nausea, gastroesophageal reflux, chest pain, or abdominal pain.

Gastrointestinal Adverse Reactions

Gastrointestinal adverse reactions were commonly reported in PALFORZIA-treated subjects, and dose modification should be considered for patients who report these reactions. For severe or persistent gastrointestinal symptoms consider a diagnosis of eosinophilic esophagitis.

ADVERSE REACTIONS

The most common adverse events reported in subjects treated with PALFORZIA (incidence $\geq 5\%$ and $\geq 5\%$ than placebo) are abdominal pain, vomiting, nausea, oral pruritus, oral paresthesia, throat irritation, cough, rhinorrhea, sneezing, throat tightness, wheezing, dyspnea, pruritus, urticaria, anaphylactic reaction, and ear pruritus.

Please see full Prescribing Information, including Boxed WARNING, and Medication Guide at www.PALFORZIA.com.

For more information about PALFORZIA, please call 1-844-PALFORZ (1-844-725-3679) or visit www.PALFORZIA.com.