

# Potential Treatments for Food Allergy



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## KEYWORDS

• Food allergy • Food immunotherapy • Desensitization • Tolerance • Omalizumab

## KEY POINTS

- There is currently no cure for food allergy, and standard of care remains strict avoidance of foods to which a patient is allergic.
- Immunotherapy is based on established protocols for desensitization, and it involves administering increasing doses of an allergenic food over a period of several months to increase tolerance. Goals of ongoing immunotherapy trials are to achieve sustained unresponsiveness and permanent tolerance, although this has not yet been consistently established.
- The oral route appears to be the preferred method of food allergen delivery, but immunotherapy is also being studied through sublingual and epicutaneous routes.
- Improvements in immunotherapy safety and outcomes may come with anti-immunoglobulin E monoclonal antibody adjuncts, modified food antigens, and recombinant vaccines.
- Allergen nonspecific treatments could potentially be used to treat various and multiple food allergies.

## INTRODUCTION

Food allergy has been a subject of increasing research interest in the past decade. Data from multiple centers and various study designs indicate that there is a potential to effectively treat food allergy with immunomodulating therapies in both allergen-specific and nonspecific ways. This review serves to highlight the major therapeutics under investigation for food allergy, and the treatments discussed herein are summarized in [Fig. 1](#).

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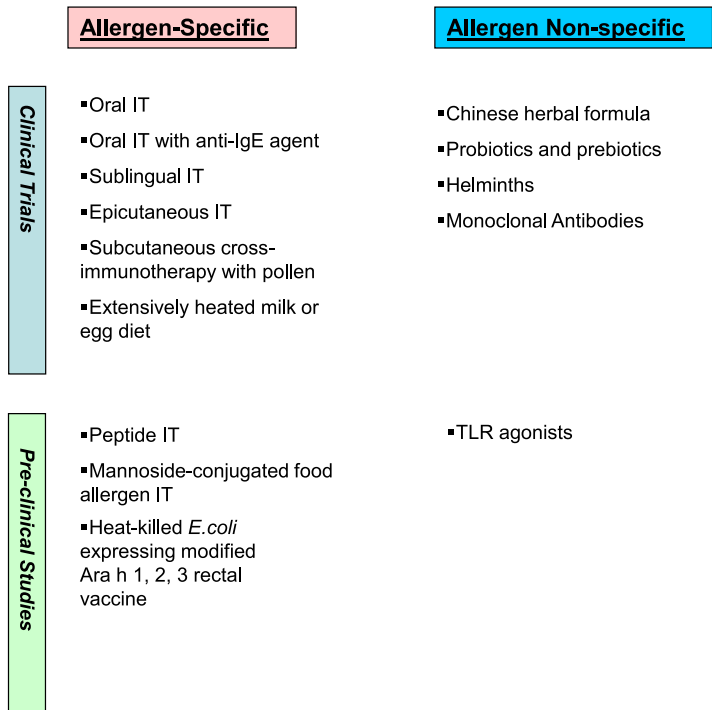


Fig. 1. Food allergy therapy. IT, immunotherapy.

Current Standard of Care for Food Allergy

Currently, there is no cure for food allergy, and standard of care hinges on strict avoidance of those foods to which a patient is allergic. The National Institute of Allergy and Infectious Diseases has put forth guidelines for the management of food allergy in the United States, which emphasizes the importance of food avoidance and label-reading, nutritional guidance and growth monitoring, and regular follow-up with an allergist.<sup>1</sup> An international consensus document endorses similar strategies, but concedes that no randomized clinical studies have proven the superiority of allergen avoidance or whether food allergen avoidance diminishes nutritional status.<sup>2</sup>

Avoidance is difficult in many situations, and as such, management always also necessitates education on timely and appropriate treatment of accidental exposures.<sup>3</sup> In the registry of fatal food-induced anaphylaxis, most fatal reactions were reported in the subjects who unknowingly ingested an offending food, thus highlighting the need for a more definitive approach to food allergy management.<sup>4</sup>

POTENTIAL ALLERGEN-SPECIFIC TREATMENTS FOR FOOD ALLERGY  
Concept of Immunotherapy

Given that there is currently no cure for food allergy, there is great interest in researching methods of tolerance induction, particularly food-specific immunotherapy. Food immunotherapy is based on established protocols for drug desensitization and aero-allergen/venom immunotherapy, and it involves administering increasing doses of an allergenic food over a period of several months.<sup>5</sup> For example, in oral immunotherapy (OIT), typically there is an initial rapid dose escalation, followed by further dose

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