

Nutrition and Functional Foods in Boosting Digestion,
Metabolism and Immune Health

2022, Pages 419-444

Chapter 25 - Prebiotics and probiotics in prevention of food allergy

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Available online 14 January 2022, Version of Record 14 January 2022.

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<https://doi.org/10.1016/B978-0-12-821232-5.00004-5>[Get rights and content](#)

Abstract

Recent years have marked food allergy development as a common and major problem with detrimental immune reactions in response to various food proteins. In many cases of food allergy, probiotics and prebiotics have emerged as potential therapeutic agents. This type of treatment is aimed to minimize inflammation and correct diverse allergic symptoms, which in turn leads to better management of allergic diseases. Probiotics and prebiotics enhance the tolerogenic microenvironment inside the gut, which is essential for the treatment of food allergies. The nutraceuticals-based treatments provide highly efficient as well as cost-effective. However, there are certain cases where probiotics and prebiotics may fail to treat food allergies. This limitation occurs due to incorrect strain selection, effector metabolites, along the hosts' environmental diversities and genetic setup. In this chapter, we present an overview of probiotics and prebiotics, a brief discussion on food allergy and their types (IgE and non-IgE mediated), the effects of pre-/probiotics in treating food allergies, and associated symptoms. More focused research is recommended in a larger and diverse sample with different age groups, sex, race, ethnicity, and environment, to demonstrate the efficacy of pre-/probiotics with better clinical outcomes. There is a huge scope of research in the fields of nutraceutical to prove that prebiotics and probiotics are potential disease-modifying agents, which can cure, treat, or manage a wide range of chronic or acute physiological disorders.

[< Previous](#)[Next >](#)

Keywords

Food allergies; IgE; Inflammation; Non-IgE; Prebiotics; Probiotics; Therapeutic agent

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