

Special Issue

Interactions between Probiotics, the Gut Microbiome, and Immunity

Message from the Guest Editor

Probiotics modulate the immune system from the gut-associated lymphoid tissue. In the intestinal microenvironment, dendritic cells recognize the probiotic and thus secrete cytokines with the ability to induce the polarization of naive T cells toward the population of Treg cells secreting IL-10. Both Treg cells and the secretion of anti-inflammatory IL-10 are driven to lymphoid tissue in distant organs to attenuate the pro-inflammatory response. Probiotic-rich foods in the diet or taking probiotic supplements can promote a healthy and balanced intestinal microbiota, reduce the colonization of antibiotic-resistant bacterial populations, and modulate the immune system. In that regard, the investigation of the bacterial population in the gut microbiota is critical to understanding the influence of intestinal dysbiosis on inflammatory chronic disease. Thus, new studies addressing both the action mechanisms of probiotic agents on the immune response and the evaluation of the gut microbiota are necessary. The present Special Issue welcomes authors to submit studies that address the following topics: Chronic inflammatory diseases, the gut microbiota, and the immune response.

Guest Editor

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Nutrients is an on-line open access journal that was first published in 2009. *Nutrients* adheres to rigorous peer-review and editorial processes and publishes only high quality manuscripts that address important issues related to the impacts of nutrients on human health. The Impact Factor of *Nutrients* has risen rapidly since its establishment and it is now ranked in the first quartile of journals publishing in the field of nutrition and dietetics research.

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