

Special Issue

Diet-Driven Gut Microbiota Modulation: Microbial Metabolism, Nutrient Utilization, and Implications for Health

Message from the Guest Editors

Dietary components and food-derived substrates are major determinants of gut microbiota composition and function, shaping microbial metabolism and influencing nutritional, immune, and overall health outcomes. This Special Issue, "Diet-Driven Gut Microbiota Modulation: Microbial Metabolism, Nutrient Utilization, and Implications for Health" within the section Prebiotics, Probiotics and Postbiotics, aims to highlight recent advances in understanding how diet, functional food ingredients, prebiotics, probiotics, synbiotics, and postbiotics modulate host–microbe interactions. Contributions may explore the interactions among diet, food-derived nutrients, probiotic function, and microbial metabolism, including approaches that link nutritional substrates with beneficial microbial activities. Studies on gut microbial ecology, metabolite production, nutrient utilization, metabolic health, inflammation, and disease prevention are particularly encouraged. By integrating microbiology, nutrition, synthetic biology, metabolomics, and translational applications, this Special Issue seeks to advance evidence-based strategies for improving gut health and nutritional outcomes.

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About the Journal

Message from the Editor-in-Chief

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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