



## Probiotics and Gut Microbiome-Prospects and Challenges

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### Message from the Guest Editor

The gut microbiome, a vital ecosystem in human health, influences digestion, immunity, and disease prevention. Dysbiosis, an imbalance in this microbiome, is linked to conditions like inflammatory bowel disease and obesity. Probiotics offer promise in restoring balance and enhancing health through mechanisms such as antimicrobial activity and immune regulation. However, challenges remain in understanding probiotic mechanisms, optimizing formulations, and regulatory considerations. This Special Issue aims to explore probiotic research's current state, challenges, and future prospects, emphasizing personalized therapies. Understanding probiotics' intricate interplay with the gut microbiome is crucial for developing effective disease interventions and personalized treatments.





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