

Special Issue

Next-Generation Probiotics and Postbiotics in Animal Health: From Mechanisms to Applications

Message from the Guest Editor

Next-generation probiotics (NGPs) are host-adapted or novel microbial strains identified through advanced microbiome and omics technologies, developed to deliver more targeted and consistent benefits compared with conventional probiotics. Postbiotics, as defined by the ISAPP, are preparations of inanimate microorganisms and/or their components that confer health benefits to the host, offering key advantages in stability, safety, and regulatory acceptance. Together, NGPs and postbiotics represent innovative approaches to improve gut health, productivity, and welfare in diverse animal species, including livestock, aquaculture, and companion animals, while reducing reliance on antibiotics. Despite these opportunities, significant challenges remain, such as mechanistic validation, scalable formulation technologies, and harmonized regulatory frameworks across regions. This Special Issue aims to bridge fundamental insights with practical applications. We welcome contributions on host–microbe and microbe–microbe interactions, immune modulation, metabolic regulation, and omics-driven approaches.

Guest Editor

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Message from the Editor-in-Chief

Animals is an on-line open access journal that was first published in 2011. *Animals* adheres to rigorous peerreview and editorial processes and publishes only high quality manuscripts that address important issues in the many varied disciplines that involve animals, with a focus on animal science, animal welfare and animal ethics. *Animals* is covered in the Science Citation Index Expanded (SCIE) in Web of Science, with the latest Impact Factor: 2.7 (2024, ranks 15/86 (Q1) in 'Agriculture, Dairy & Animal Science'; 21/170 (Q1) in 'Veterinary Sciences'), 5-Year Impact Factor: 3.2.

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