

INAUGURAL EDITORIAL

The Microbiota & Diseases: A new platform for the cutting-edge research findings and new advances in microbiota and diseases

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The human body hosts a diverse range of microorganisms in regions such as the oral cavity, digestive tract, skin, and vagina. The majority of these microorganisms reside in the gut, where the most diverse and abundant microbial community is established in the colon, comprising bacteria, fungi, yeasts, and viruses. The microbiota of the human digestive tract is a complex community that maintains a symbiotic relationship with the host and has co-evolved with the immune system to perform essential functions, including the synthesis and metabolism of certain vitamins, fatty acids, fibers, amino acids and other compounds. When the host-microbiota relationship is in dynamic balance, the microbiota supports the normal functioning of host organs and tissues.

Microbiota dysbiosis, caused by various factors, manifests as a reduction in beneficial microbes, an overgrowth of harmful microbes, and decreased microbial diversity. This imbalance can lead to disruption of the digestive tract mucosal microecology, barrier dysfunction, increased intestinal permeability and susceptibility to infections and the occurrence or exacerbation of inflammation, which are implicated in the pathogenesis of various chronic diseases including inflammatory bowel diseases such as Crohn's disease and ulcerative colitis, metabolic disorders such as obesity and diabetes and fatty liver, autoimmune joint diseases such as ankylosing spondylitis, and autoimmune skin diseases such as psoriasis. Dysbiosis or the translocation of neuroactive metabolites through the bloodstream to

the brain can disrupt neuronal function and stimulate inflammation, leading to the development of neurological and psychiatric disorders such as Parkinson's disease, Alzheimer's disease, autism spectrum disorder. In the context of imbalance between aerobic and anaerobic glycolysis in the gastrointestinal tract, reactive oxygen species (ROS) increase due to the altered oxygen environment. Normal commensal bacteria can be transformed into pathogenic bacteria, and many pathogenic bacteria and viruses alter the cell cycle or programming of host cells, resulting in cell proliferation and mutations that ultimately induce carcinogenesis or tumor formation. The microbiota also plays a crucial role in the development and progression of infectious diseases. A healthy gut microbiota counteracts unfriendly bacteria or potential pathogens by competing for adhesion sites and nutrients and by releasing bactericidal or inhibitory molecules. Additionally the microbiota stimulates local mucosal secretory antibodies' responses in the digestive tract and influences the development of immune cells through the release of signaling molecules. The microbiota is closely associated with common and significant chronic conditions.


The Microbiota & Diseases (M&D) is a scientific journal that publishes original articles, reviews, case reports, news, and brief communications on the relationship between microbiota and various diseases, microbial etiology and pathogenesis, probiotics and microbiota transplantation, as well as clinical translational research

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and clinical trials related to microbiota and microecologies. The journal operates in accordance with independent, unbiased, and double-blinded peer-review principles.

The goal of M&D is to make a significant contribution to the global health by advancing knowledge on microbiota and diseases at a high level. Your participation is sincerely welcome.