

Microbiota

Current Research and Emerging Trends

MICROBIOTA

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The human microbiota consists of a diverse collection of microbes including bacteria, archaea, viruses and eukaryotes. These organisms carry out a variety of functions that are vital to human health and well-being. One example is the prevention of bacterial infections by commensal bacterial in the gut. In recent years research has demonstrated a link between imbalances in the gut microbiota in early life and the development of obesity and allergic diseases in later life. The mechanisms of this and how diet, life-style factors and ageing influence the composition and activity of human microbiota are other areas of active research. The application of new technologies has revolutionised research initiatives providing new insights into the dynamics of these complex microbial communities and their role in health and disease.

In this timely book expert international authors review selected hot-topics in this area to provide an up-to-date overview. Topics covered include: effect of ageing and diet; dysbiosis as an environmental factor; beneficial effects of probiotics on infants and children with dysbiosis; metaproteomics of the gut microbiota; gut microbiome and neuro development; the link between oral health and neurological disease; and the influence of the gut microbiome composition on GI tract cancer.

The book is essential reading for everyone working with human microbiota, probiotics and prebiotics from the PhD student to the experienced scientist.

Chapter 1. Microbiome: Effects of Ageing and Diet (*Nuria Salazar, Sonia González, Alicja M. Nogacka, David Rios-Covián, Silvia Arboleya, Miguel Gueimonde and Clara G. de los Reyes-Gavilán*)

Chapter 2. Dysbiosis in Infants is an Important Environmental Factor of Developmental Origins of Health and Disease (*Yuichiro Yamashiro, Ravinder Nagpal, Hiromichi Shoji, Naoto Nishizaki and Satoru Nagata*)

Chapter 3. Beneficial Effects of Probiotics for Infants and Children with Dysbiosis (*Yuichiro Yamashiro, Hiromichi Shoji, Naoto Nishizaki and Satoru Nagata*)

Chapter 4. Metaproteomics Approach to Gut Microbiota in Health and Disease (*Bernardo Petriz, Filipe Moura and Octávio Franco*)

Chapter 5. Gut Microbiome: The Role in Neurodevelopment (*Surajit Pathak, Suhanya Veronica Prasad, Francesco Marotta, Woo-Sik Jeong, Ramachandran Murugesan and Antara Banerjee*)

Chapter 6. An Insight into the Link between Oral Health and Neurological Diseases (*Surajit Pathak, Suhanya Veronica Prasad, Sushmitha Sriramulu, Ganesan Jothimani, Ramachandran Murugesan, Francesco Marotta and Antara Banerjee*)

Chapter 7. The Influence of Gut Microbiota's Composition on the Carcinogenesis of Gastrointestinal Tract Cancers (*Vo Phuoc Tuan, Boldbaatar Gantuya, Takashi Matsumoto and Yoshio Yamaoka*)

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