

# EDITORIAL

## TALKING MICROBES: THE SIGNIFICANCE OF GUT-MICROBIOTA IN METABOLIC HEALTH

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The human gastrointestinal (GI) tract is characterized as one of the largest interfaces (250–400 m<sup>2</sup>) between the host, environmental factors and antigens in the human body.<sup>1</sup> The normal gut microbiota imparts specific functions in host, such as mediating many fundamental metabolic pathways including sugars and proteins fermentation and metabolism of bile acids and xenobiotics. It is also involved in drug metabolism, maintenance of structural integrity of the gut mucosal barrier, immunomodulation, and protection against pathogens.<sup>2,3</sup> Thus, the gut microbiota serves a number of vital functions in host and plays an integral role in maintaining health.<sup>4</sup>

However, shifts in microbial community composition also known as dysbiosis can destroy these mutualistic relationships and influence host physiology, compromising human health status.<sup>4,5</sup> Intestinal dysbiosis has been linked with important human diseases, including autoimmune and/or autoinflammatory disorders, such as IBD, metabolic disorders, such as obesity, type 2 diabetes, allergies, and neurological disorders.<sup>5</sup> Recent data suggest that the alterations in the gut bacteria ecosystem lead to the development of metabolic disorders such as type 2 diabetes and obesity.<sup>6,7</sup>

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