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Balanced Gut Probiotics: Target Gears for Diabetes Therapy

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The human gastrointestinal (GI) tract contains a trillions number of microorganisms. Although this tract is relatively dominated by a highly diverse number of Probiotics at subspecies levels, there appears to be microbial disparity at some of the divisions of the GI tract. The genome size of the stable microbial structure, collectively termed as microbiome, may provide humans with metabolic and genetic attributes pertinent to the maintenance of holistic homeostasis. These days, accumulating evidence reveals that gut microbiota in the human's body may play a significant role in the development of obesity, metabolic syndromes such as diabetes, cardiovascular disease, andmany other current critical endocrinal or metabolic disorders. In this paper, the mechanisms of actions by which the gut microbiota take part in the holistic activities within the host are explained. The results indicated that balanced probiotics mighthave a positive impact on the development of diabetes, together withlow-grade inflammations, lipid metabolism, energy harvesting, bowel function of the intestinal barrier, as well as bile acid metabolism. Thus, balanced probiotics at each division of GI tract and total gut microbiota in the host could be a natural biological factor to modulate diabetes if scientifically synchronized.

Keywords: Gut microbiota; Probiotics; Diabetes; Obesity; Metabolism

Biography:

Nditange Shigwedha is a Senior R&D Scientist at FERTIPAQ Shanghai. He studied BSc. Agriculture at the University of Namibia; both MSc. Food Science and PhD. Environmental Engineering at Jiangnan University. From 2007-2013, he has taught as a Senior Lecturer at the University of Namibia and afterward sabbatical for his Postdoctoral research in a Food microbiology laboratory at Harbin Institute of Technology. In 2016, he has held to the position of a Head of the R&D department at CPS China in Suzhou. Formerly also served as HOD: Food Science & Technology and occasionally acted as a Faculty Dean of Agriculture & Natural Resources at the University of Namibia 2008-2012.