ISSN: 1948-5948
Journal of Microbial & Biochemical Technology

OPEN ACCESS Freely available online

Commentary

Role of Microorganism in Lipid Metabolism

Bender Jocher*

Department of Biology, Institute for Genome Research and Systems Biology,Bielefeld University, Bielefeld, Germany

DESCRIPTION

As the population ages, the incidence of metabolic syndrome such as hyperlipidemia, hypertension, and diabetes is gradually increasing. Metabolic disease is associated with an increased risk of death in the elderly, and hyperlipidemia in particular is an important risk factor for cardiovascular disease. Lipid disorders are associated with lifestyle and other related metabolic disorders such as overweight, obesity, and diabetes, but some hyperlipidemia is caused by genetic changes. A Study in 52 countries around the world show that dyslipidemia, smoking, hypertension, diabetes, abdominal obesity, and the development of psychosocial factors are associated with an increased risk of heart disease in all parts of the world. Avoidance of edible fruits and vegetables, regular exercise smoking may reduce the relative risk of myocardial infarction, and smoking and dyslipidemia are the two most important risk factors. Previous studies have shown that some lactic acid bacteria may lower cholesterol levels in high-fat diet animals.

Gut microbiota is a vast and complex system of the human body that contains 100 times more genes than the human body. The intestinal flora is mainly composed of four phyla, *Firmicutes*, *Bacteroidetes*, *Actinomycetes*, and *Proteobacteria*. Among them, *Bacteroides*, *Bifidobacterium*, *eubacteria*, *Clostridium*, *Peptococcus*, *Peptostreptococcus* and *Lumenococcus* are predominant, and *Escherichia*, *Enterobacter*, *Enterococcus*, *Klebsiella*, *Lactobacillus* and *Proteus* are subdominant genera. The gut microbiota is closely associated with impaired lipid metabolism and also affects the development of cardiovascular disease. A six-year follow-up study of the flamingham study, a prospective longitudinal study of coronary artery disease, hypothesized that elevated serum cholesterol levels were associated with the development of coronary artery disease. The intestinal microflora is a biomarker of metabolic disorders of the heart. *Prevotella*, *Bacteroides*, *Clostridium*, and *Fecari* show characteristic changes in patients with dyslipidemia.

Researchers discovered that the microflora of the small intestine affects the absorption of lipids in the intestine and regulates lipid metabolism by regulating the digestive and absorptive processes of intestinal epithelial cells. This process is related to the action of certain bacterial strains. It can be seen that the role of the gut plexus is closely related to age, gender, obesity index, intervention time, and dosage. These conflicting results suggest that the treatment of lipid metabolism by the gut plexus needs to be individualized. In short, these observations provide new paths and insights for validation and follow-up, while demonstrating the importance of a healthy diet in preventing the development of lifestyle-related diseases. When it comes to interventions in lipid metabolism in the body, many are gradually becoming aware of the harms of long-term medications and paying more attention to lifestyle interventions. Diet is considered the basis for the treatment of dyslipidemia, and exercise is also an important front-line intervention for dyslipidemia. Recent studies have shown that edible probiotics can affect fat metabolism. Probiotics are living microorganisms, and when given in sufficient doses, they have a beneficial effect on the host by changing the balance of known intestinal flora.

Probiotics are becoming more and more important to health, but one barrier to using a new probiotic culture is their safety. Therefore, the biosafety and health benefits of probiotics should be rigorously evaluated before use. Human probiotic microorganisms mainly belong to the following genera: *Lactobacillus*, *Bifidobacterium*, *Lactococcus*, *Streptococcus*, *Enterococcus*. The most commonly used probiotics today include mainly *bifidobacteria* or lactic acid bacteria, as well as other lactic acid bacteria such as lactic acid bacteria and streptococci. More and more studies are discovering the importance of intestinal flora and probiotic intake in lipid disorders. Changes in the structure of the intestinal flora can affect atherosclerosis, obesity, and diabetes.

Researchers have discovered many mechanisms of the gut microbiota, including biological mechanisms, genes, and signaling pathways. In addition, probiotics play a potential role in the gut microbiota and can regulate lipid metabolism, obesity, and insulin resistance in the body to varying degrees. Future studies will need to pay more attention to the investigation of specific stress mechanisms in order to be more individualized in treatment. Therefore, the use of probiotics in humans in long-term populations needs to be validated on a large scale.

Correspondence to: Bender Jocher, Department of Biology, Institute for Genome Research and Systems Biology, Bielefeld University, Bielefeld, Germany, E-mail: bender.jocher@bug.edu

Received: 04-Jan-2022, Manuscript No. JMBT -22-481; **Editor assigned:** 06-Jan-2022, Pre QC No. JMBT -22-481 (PQ); **Reviewed:** 20-Jan-2022, QC No JMBT -22-481; **Revised:** 24-Jan-2022, Manuscript No. JMBT-22-481(R); **Published:** 31-Jan-2022, DOI: 10.35248/1948-5948.22.14.481.

Citation: Jocher B (2022) Role of Microorganism in Lipid Metabolism. J Microb Biochem Technol. 14:481.