

# NEWS:



## **Probiotics and prebiotics mechanism of action.**

In this study (1) using a multi-omics approach in a high-fat diet (HFD) model in mouse, the synbiotic intervention significantly reduced body weight gain and alleviated features of metabolic complications.

Beyond relative abundance of specific taxa modifications, at the functional level, short-chain fatty acid metabolism could be restored by the synbiotic intervention.

Revealed by **metaproteomics**, at the pathway level, the cell mobility, carbohydrate and lipid metabolisms were significantly increased by HFD, while the nucleotide metabolism was decreased. A significant increase in functions involved in amino acid metabolism and cell motility by HFD, while a decrease in energy and nucleotide metabolisms were observed. The synbiotic significantly reversed 11 KEGG pathways that are involved in carbohydrate, amino acid, and energy metabolisms, biosynthesis of other secondary metabolites, transcription, translation, replication and repair, as well as transport and catabolism.

Metaproteome analyses revealed the **capabilities of dietary pre- and probiotics treatments in modulating metabolic pathways and functional activities of gut microbial ecosystem.**

(1) Synbiotic-driven improvement of metabolic disturbances is associated with changes in the gut microbiome in diet-induced obese mice. Ke X and all. 2019

<https://www.ncbi.nlm.nih.gov/pubmed/30792016>

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