Akkermansia muciniphila CEZ05

Cat. No. PRBT-101-CEZ05

Lot. No. (See product label)

Introduction

Description

Akkermansia muciniphila is an oval, gram-negative, strictly anaerobic bacterium that is a commensal in the human gut. This bacterium is immobile and does not form spores. Akkermansia muciniphila was first isolated from the human gut in 2004 and has been found in both the small and large intestines, with particularly high levels in the cecum, where most of the mucin is produced.A. muciniphila comprises 3% to 5% of the gut microbiota of humans and other mammals. In addition, A. muciniphila has been detected in breast milk and mammary tissue of lactating women, where it utilizes oligosaccharides in breast milk as a source of energy, carbon, and nitrogen. This bacterium is vertically transmitted from breast milk to infants and plays a role in the development of the gut microbiota in early infancy (around 1 month), with a significant increase in abundance in adulthood. Pooled analyses performed on the global dataset showed that A. muciniphila was present in 77.73% of the evaluated cohorts globally and in 81.81% of the cohorts from Western populations.

Applications

AKK has an important role in disease mitigation 1 Intestinal diseases AKK is known for improving intestinal immune function and is important in maintaining normal intestinal function. It has been found that AKK has an ameliorative effect on a variety of intestinal diseases. The abundance of AKK in mice with intestinal inflammatory diseases, such as IBS, IBD, appendicitis and allergic diarrhea, is significantly reduced, and the number of AKK is significantly elevated after fecal transplants, and the symptoms are significantly improved. 2 Liver disease The gut-liver axis is involved in the regulation of host health by closely linking the gut, microbes and liver. In high-fat diet (HFD)-induced fatty liver mice, intestinal permeability is disrupted, the intestinal barrier function is imbalanced, and the abundance of AKK decreases in vivo. Oral administration of AKK restores the abundance of intestinal AKK, inhibits the expression of IL-6, increases the level of alanine aminotransferase, and restores the diversity of the intestinal flora, which reduces hepatic injury, enhances hepatic immunity, and ameliorates the symptoms of fatty liver. 3 Neurological disorders AKK can act on the human nervous system and improve a variety of neurological diseases. It has been found that the development of neurodegenerative diseases is related to changes in the intestinal flora, and transplantation of AKK into mice with neurodegenerative diseases can significantly improve the condition of the mice, reduce the mortality rate of the mice and prolong their life span. The abundance of AKK is negatively correlated with the incidence of Parkinson's disease, epilepsy, and other neurological disorders. 4 Regulation of metabolic diseases Research on AKK in metabolic disorders has mainly focused on metabolic dysregulation of obesity, and AKK has a good effect on a series of obesity-induced diseases such as diabetes mellitus, hypertension and hyperglycemia while improving obesity. 5 Improvement of cancer AKK in vivo and programmed death receptor inhibitor content is positively correlated, can improve the symptoms of non-small cell lung cancer, AKK through the blockade of host response to immune checkpoints to restore the inhibitory activity of cancer cells, is expected to use this to target the regulation of anti-tumor activity of the body through immunotherapy.

Product Information

Species	Akkermansia muciniphila
Source	Human
Appearance	Off-white to beige powder

Appearance	Off-white to beige powder
Activity	200 billion TFU/g

Usage and Packaging

Package	1kg Aluminum Foil & PE Bag

Storage and Shipping Information

Storage	At least 24 months if stored in a well-closed container away from moisture and direct sun light at room temperature.