

عنوان مقاله:

Probiotics and their mechanisms of action in preventing and treating colorectal cancer

محل انتشار:

اولین همایش منطقه ای دستاوردهای نوین و پژوهشهای دانش بنیان در میکروبیولوژی و بیوتکنولوژی (سال: 1401)

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خلاصه مقاله:

Colorectal cancer is one of the most common cancers known in the world. the prevalence of this disease is higher in Australia, New Zealand, Europe, and North America and less frequent in is caused by the uncontrollable growth of colon or rectal cells. The risk factors for cancer increase with genetic, epigenetic, and environmental factors. Genetic risk factors include type 2 diabetes, family history of cancer, and history of inflammatory bowel disease (IBD). They become problematic in the long run. Environmental factors of cancer include lifestyle, improper diet, obesity, alcohol, smoking, lack of exercise, consumption of fatty and processed foods, red meat, reduction of fiber consumption, and gut microbiome dysbiosis. A microbiome is a group of microorganisms living in the digestive tract that has a symbiotic relationship with the host. these microorganisms are effective in regulating the host's metabolic pathway and immune system, in other words, probiotics are a number of living microorganisms that, if consumed sufficiently, have beneficial effects on the host's health. The general mechanism of probiotics includes reducing blood cholesterol, lowering blood pressure, improving the function of the immune system, treating diarrhea caused by antibiotic use, reducing the inflammation of disease, reducing the symptoms of the destruction of the immune system, and delaying the symptoms of antibiotic use, delaying the signs of aging and reducing sensitivity. The body is more sensitive to allergens, improving IBD, increasing the function of the intestinal biological barrier by producing mucin, inhibiting bacteria, pathogens, and inhibiting cancer. Postbiotics obtained from probiotics include various metabolites such as short-chain fatty acids, exopolysaccharides, vitamins, enzymes, peptides, teichoic acids, and plasmalogens that cause useful functions in the host's body. The use of prebiotics (fibers found in food) is useful as a substrate and stimulant for the growth of probiotics. By choosing the right prebiotic, probiotics break down and digest them and provide better conditions to inhibit pathogens. Therefore, the synergistic combination of probiotics and prebiotics increases the function of the human immune system. These compounds make probiotics last longer, especially the microbiome of the digestive tract. Establishing homeostasis and health of the human body. In order to treat colorectal cancer, several methods such as chemotherapy, radiation therapy and immunotherapy has been used, but each of ... these methods has many side effects and causes many problems for the individual, the

کلمات کلیدی:

Colorectal cancer, Prebiotic, Probiotic, , Postbiotic

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