Probiotic supplementation enhances intestinal immune cell response to curb inflammation

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Abstract

Numerous food products on the market today advertise the presence of probiotics, living microorganisms with potential health benefits, and many people take dietary supplements containing probiotics in the hopes of improving their gut health. Scientists often compare peroral probiotic treatments to a 'drop in the ocean', referring to the vast microbiota that already exist in the gut. So how can it impact the entire microbiota and gut health? To answer this question, researchers recently evaluated how a particular probiotic bacterium affects immune cells found in masses of tissue in the small intestine called Peyer's patches. They found an increase in both the number and immune function of certain white blood cells known as B lymphocytes in the Peyer's patches of mice that ingested the probiotic. This change led to increased production of the antibody IgA and altered the intestinal microbial community, ultimately resulting in improved protection against inflammation, such as colitis. Although these findings have been demonstrated so far only in mice, they not only improve our understanding of gut health but may also pave the way to the development of more effective treatments for inflammatory bowel disease and certain types of cancer.