

New study shows health benefits of probiotic could extend to the entire body

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Data from a recent study demonstrate the anti-inflammatory and pathogen protection benefits of *Bifidobacterium infantis* 35624 a probiotic bacterial strain of human origin. Gastrointestinal benefits of probiotics have been well-documented, but more and more research is revealing that probiotic benefits extend to the entire body. The report was published in the August issue of the *Public Library of Science (PLOS) Pathogens*.

The inflammatory response is a key part of the immune system's battle against invaders. The normal response to infection is rapid and effective, however, the immune response may occasionally cause inflammation and damage to healthy tissue.

"Inflammation is a major factor in a number of chronic diseases affecting millions of people and can cause an unwanted impact on healthy tissue," said Dr. Liam O'Mahony, lead investigator. "Past research has shown that the probiotic *Bifidobacterium infantis* 35624 can positively impact the body's immune defense, and this most recent data suggests that its benefits are not restricted to the gastrointestinal tract."

Inflammation is associated with a wide range of conditions, such as inflammatory bowel disease, arthritis, bacterial-induced colitis, type I diabetes and organ transplantation. *Bifidobacterium infantis* 35624 has previously shown ability to modulate the inflammatory response in a clinical trial of patients with irritable bowel syndrome. The new data

suggests additional health benefits of this particular probiotic strain.

The published study examined the effect of *Bifidobacterium infantis* 35624 administration on immunity to Salmonella (*Salmonella typhimurium*), harmful bacteria that can cause intestinal infections and trigger the body's inflammatory response. *Bifidobacterium infantis* 35624, a probiotic strain isolated from healthy human gastrointestinal tissue, was administered to mice in freeze-dried powder at least three weeks prior to salmonella infection. Animals that received *Bifidobacterium infantis* 35624 showed dramatically increased numbers of certain immune cells that control the immune system response to harmful pathogens, in this case Salmonella.

Additionally, data show increased numbers of T-regulatory (Treg) cells, or cells that suppress inflammatory disease in a wide range of autoimmune diseases. Administration of *Bifidobacterium infantis* 35624 resulted in the induction of these Treg cells, which protected the host from excessive inflammation during the course of infection. Researchers concluded that the introduction of *Bifidobacterium infantis* 35624 results in enhanced protection from infection, while limiting pro-inflammatory damage caused by superfluous activation of the innate immune system.

Source: Manning Selvage & Lee

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