

Light shed on the secret behind probiotic bacteria promoting health

October 5 2009

Functional food is the food industry's fastest-growing product group, its leading products including dairy products which contain probiotics, that is, bacteria promoting health. Valio's *Lactobacillus rhamnosus* GG (LGG®) is the most frequently studied and used probiotic. Under the supervision of researchers at the Institute of Biotechnology, and the Department of Basic Veterinary Sciences at the University of Helsinki, an international research team determined the genome sequences of LGG and a bacterium closely related to it. The results, published in the renowned PNAS journal, shed light on the origin of probiotic mechanisms and promote product development in the food industry.

Functional [food](#) includes products designed for daily use, which have been shown by clinical studies to have positive health effects. Scientific study results have particularly contributed to the success of dairy products containing probiotic bacteria. Many research publications have confirmed that these bacteria promote health and boosts immune system and improve digestion. Some probiotics can also alleviate the symptoms suffered by those with [irritable bowel syndrome](#). As many as every fifth westerner suffers from this pain, also called spastic colon. Studies say that LGG probiotics are also an effective treatment method for reducing children's atopic symptoms, and the risk of respiratory infections.

In its recent publication, the research team showed that the protein component found by the team has a fundamental role in LGG binding with the human intestinal mucus. The team found out that the surface structures of LGG has a specific adhesion component. Remarkably, the

binding feature has been assumed to be one of the most important characteristics of bacteria with health-benefiting effects. Moreover, the researchers assume that the protein structure in question enables the health-promoting effects of LGG and other probiotic bacteria, and the positive immune modulation produced by them.

The research is a prime example of productive co-operation between researchers and the food industry. According to Tuomas Salusjärvi, research manager for Valio, the successful sequencing provides valuable additional information to support the already existing research information. The safety of the LGG probiotic and its advantages to consumers can now be shown in an even better way than before. A significant research field has been established around probiotic [bacteria](#). So far, thousands of scientific articles have been published on the subject. For this line of research, the findings of the genome, and the molecular mechanism possibly behind probiotics, is a downright breakthrough.

More information: The original publication is available online at: www.pnas.org/content/early/2009/10/09/0908876106.abstract

Source: University of Helsinki

Citation: Light shed on the secret behind probiotic bacteria promoting health (2009, October 5) retrieved 20 March 2024 from <https://phys.org/news/2009-10-secret-probiotic-bacteria-health.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--