



## Beneficial bacteria potentially heal intestinal infections and inflammation

The EU-funded DEPROHEALTH project aimed to design new ways of tackling intestinal illnesses with **beneficial lactic acid bacteria**. Diseases in focus in the project have been intestinal inflammation (such as Crohn's disease), stomach ulcers linked with *Helicobacter pylori* and infant diarrhoea caused by rotavirus. All these illnesses affect the everyday life of millions of people all over the world. Now results from mice studies have shown certain *Lactococcus* and *Lactobacillus* strains to prevent inflammation of the intestine.

By using laboratory tests and mouse models mimicking the human diseases, researchers in the DEPROHEALTH project first studied a series of promising lactobacilli for their beneficial effect on inflammation and infections. These so called **second-generation probiotics** designed in course of the project were **recombinant** bacteria, meaning that they have been modified by gene technology in such a way that they may exert enhanced health benefits. Prototype oral vaccine strains were designed to fight against *Helicobacter* or rotavirus infections. These future vaccines would be easier to administer than those which need to be injected and should lead to fewer side effects. Modified *Lactococcus* and *Lactobacillus* strains producing a biologically effective compound (an interleukine) were shown to heal colitis in mice.

Because of the very positive results observed in mice, researchers in the DEPROHEALTH project have obtained approval from the Dutch authorities for a clinical trial with a recombinant, 'disabled' *Lactococcus lactis* strain that cannot survive in the environment. This strain is being used in 10 patients with Crohn's disease, a life long intestinal inflammation with severe, recurrent symptoms, for example abdominal pain, diarrhoea, weight loss and rectal bleeding.

Further information please contact:  
Dr. Annick Mercenier  
Nutrition and Health Department, Head Allergy,  
Nestlé Research Center, P.O. Box 44,  
CH-1000 Lausanne 26, Switzerland  
tel: +41 21 785 84 66, fax: +41 21 785 85 44  
e-mail: [annick.mercenier@rdls.nestle.com](mailto:annick.mercenier@rdls.nestle.com)



More information on the PROEUHEALTH cluster can be obtained from <http://proeuhealth.vtt.fi> or by e-mail [proeuhealth@vtt.fi](mailto:proeuhealth@vtt.fi)

