Lactobacillus rhamnosus

General Information

Lactobacillus rhamnosus is a natural component of the intestinal and vaginal microflora.

As L. rhamnosus is microaerophilic, it is able to act in the latter part of the small intestine and the colon. The species Lactobacillus rhamnosus is one of the most studied in the probiotic world.

And most of the health benefits have been demonstrated with this species.

Several randomized controlled trials have shown that Lactobacillus rhamnosus significantly reduced the duration of diarrhea when given to children with gastroenteritis due to rotavirus.

Moreover, other studies have shown the efficacy of Lactobacillus rhamnosus to prevent diarrhea in cases of antibiotic therapy. Lactobacillus rhamnosus has also been shown to help reduce the development of atopic dermatitis in infants.

Probiotic properties

Resistance to gastric acidity and bile

Microorganisms chosen to be incorporated into probiotic preparations should remain alive until they reach the intestine. In order to do so, they have to pass through the gastrointestinal tract alive. Evaluation of their resistance to stomach acidity and biliary salts is one of the fundamental criteria for probiotic selection, even if tests are performed in vitro.

Stomach pH will vary during the day: the pH is 6 at breakfast, lose to 5 at lunch and over 4 at dinner time.

Lactobacillus rhamnosus R-11 is resistant to gastric acidity at a pH over 3.

If taken at mealtime (pH over 4), it will thus be able to pass through the stomach without being damaged.

Bile has an inhibitory effect on the growth of Lactobacillus rhamnosus R-11 however this probiotic bacteria is able to survive in high concentrations of bile and should, in vivo, reach the distal end of the small intestine without damage.

Other properties: Inhibition of intestinal pathogens and Immune modulation

Lactobacillus rhamnosus R-11 helps to balance intestinal microflora thanks to its ability to adhere to E.coli which causes diarrhea.

Lactobacillus rhamnosus R-11 seems to be able to modulate some immunological parameters of inflammation as well as activate immune cells in in vitro models.

Microencapsulation:

The strain's microencapsulation increases 1000 times its resistance to acidity. It also allows probiotics to better resist to heat shock.