Studies on gastrointestinal and immune health in older children and adults supplemented with the probiotic Lactobacillus reuteri DSM 17938 (Lactobacillus reuteri) showed several positive effects. There were no clinical safety or tolerance problems.

Immune system effects

REFERENCE	STUDY OBJECTIVES	STUDY DESIGN*	SUBJECTS AND (DAILY DOSE)	RESULTS
Mangalat N, 2012	Primary objective was to investigate the safety of the *L. reuteri* Protectis drops in healthy adults. Secondary aim was to study changes in some immune factors.	R, DB, PC 2 months with follow-up after 1 and 4 months	*L. reuteri*: 30 (5 drops/d = $5x10^8$ CFU) Placebo: 10	2 months of *L. reuteri* intake had no significant effect on: • subclasses of PBMC (peripheral blood mononuclear cells) • regulatory T cells (Tregs) • TLRs (toll like receptors) 2 and 4 expression • cytokine expression by stimulated PBMCs There was a small, significant increase in the faecal calprotectin level, although within the normal clinical range
Böttcher MF, 2008	To evaluate effect on the immunological composition of breast milk (as part of a study on allergy prevention in the offspring). Pregnant women ingested *L. reuteri* before giving birth.	R, DB, PC 4 weeks before delivery, follow-up after 1 month	*L. reuteri*: 54 10^8 CFU Placebo: 55	• Colostrum content of the cytokine TGF-beta2 was significantly reduced while its content of the anti-inflammatory cytokine IL-10 increased • The effect was not retained at follow-up
Tubelius P, 2005	To study prevention of short-term illness in healthy adults.	R, DB, PC 80 days	*L. reuteri*: 94 ($1x10^8$ CFU) Placebo: 87	*L. reuteri* significantly reduced short-term sick leave due to cold or GI infection.
Valeur N, 2004	To evaluate effect on immune cells in the gut epithelium in healthy adults.	Open 28 days + 28d follow-up	*L. reuteri*: 19 ($4x10^8$ CFU)	*L. reuteri* significantly increased/stimulated CD4+ T-lymphocytes in the small intestine (ileum).

H. pylori infection

REFERENCE	STUDY OBJECTIVES	STUDY DESIGN*	SUBJECTS AND (DAILY DOSE)	RESULTS
Ojetti V, 2012	Increase the eradication rate of *H. pylori* and reduce side-effects of 7 days of second line eradication treatment in adults	R, open 14 days + 6w follow-up	*L. reuteri*: 45 ($3x10^8$ CFU for 14d) Control: 45	*L. reuteri* supplementation significantly increased the eradication rate of *H. pylori* to 80% compared to 60% in the control group.
Francavilla R, 2008	Reduce GI symptoms and bacterial load, and increase eradication rate in *H. pylori*-infected dyspeptic adults.	R, DB, PC 28 days followed by 10d Hp eradication therapy.	*L. reuteri*: 20 ($1x10^8$ CFU) Placebo: 20	*L. reuteri* for 4 weeks significantly: • Reduced the load of *H. pylori* • Improved GI health scores There was no additional effect on eradication rate.
Scaccianoce G, 2008	Evaluate if *L. reuteri* (Lr) or a multi-strain probiotic (MSP) could increase the effect of eradication therapy (ET) of *H. pylori*.	Open, 4 arms: Lr + 7d ET MSP + 7d ET MSP + 14d ET 7d ET (control) 4-6w follow-up.	*L. reuteri:* 17 ($2x10^8$ CFU) Probiotic blend: 32 ($4,2x10^{10}$ CFU) for 7 and 14 days Control: 16	No probiotic showed any additional effect on the eradication rate of *H. pylori*.
Imase K, 2007	Evaluate the effect of *L. reuteri* on infection load in non-symptomatic *H. pylori*-infected adults.	R, DB, crossover 4 + 4 weeks.	*L. reuteri*→Placebo: 15 ($4x10^8$ CFU) Placebo→*L. reuteri*: 15 ($4x10^8$ CFU) *L. reuteri*→*L. reuteri*: 5 ($4x10^8$ CFU) Placebo→placebo: 5	• *L. reuteri* significantly reduced *H. pylori* bacterial load measured by urea breath test • The suppressive effect was sustained another 4 weeks in the group testing *L. reuteri* first and then placebo
Saggioro A, 2005	Evaluation of the combination of *L. reuteri* + omeprazole for eradication of *H. pylori* in symptomatic adults.	R, B 30 days + 4w follow-up.	*L. reuteri* + omeprazole: 15 ($2x10^8$ CFU) omeprazole: 15	• 9/15 (60%) given *L. reuteri* + omeprazole were completely eradicated of *H. pylori* • Omeprazole alone without effect

* R= randomized, DB= double blind, PC= placebo controlled. A video presentation of this study is available on www.biogaia.com

Dosage: 1 to 2 tablets a day

Child Health - Children 4–18 years **Adults - Digestive & Immune Health**