

# 10-year follow-up study shows infant probiotics are positively associated with a reduction of childhood functional abdominal pain

We are proud to announce the publication of a 10-year follow-up study of our probiotic strain, *Limosilactobacillus reuteri* (*L. reuteri*) Protectis<sup>®</sup> also known as *L. reuteri* DSM 17938, in the peer-reviewed journal *Nutrients*. The study shows that early supplementation with this strain during the first three months of life is associated with a markedly lower prevalence of functional abdominal pain (FAP)\* at age ten.

This follow-up builds on BioGaia's original randomized, controlled trial, which demonstrated that *L. reuteri* Protectis<sup>®</sup> reduced symptoms of functional gastrointestinal disorders (FGIDs) in infants when used preventively (Indrio, 2014). A total of 200 participants from the original cohort were assessed at age ten. FAP diagnoses were made according to Rome IV criteria by pediatric gastroenterologists who were blinded to the participants' original allocation.

## Key Findings:

- FAP was diagnosed in 13.1 percent of children in the probiotic group, compared with 80.2 percent in the placebo group.
- This corresponds to an absolute risk reduction of 67.1 percent and a relative risk of 0.16 ( $p < 0.001$ ).
- The study suggests that early supplementation with *L. reuteri* Protectis<sup>®</sup> may have long-lasting effects on gut health, reducing the risk of functional abdominal pain in childhood.

While this follow-up was observational and should be interpreted as an association rather than causation, the findings highlight the potential long-term impact of early-life microbiome support.

"This follow-up study reinforces the role of early probiotic supplementation in supporting gut health beyond infancy", said Gianfranco Grompone, Chief Scientific Officer at BioGaia. "The results demonstrate how early interventions in a critical window for infant development might have lasting benefits on children's digestive wellbeing."

## Study references:

Indrio F, Mauro AD, Perrone G, Greco A, Filoni S, Napolitano EV, et al. Long-Term Efficacy of *Limosilactobacillus reuteri* DSM 17938 in the Prevention of Functional Abdominal Pain Disorders. *Nutrients*. 2026;18(4):687. doi:10.3390/nu18040687.

Indrio F, Mauro AD, Riezzo G, Civardi E, Intini C, Corvaglia L, et al. Prophylactic Use of a Probiotic in the Prevention of Colic, Regurgitation, and Functional Constipation: A Randomized Clinical Trial. *Jama Pediatr*. 2014;168(3):228-233. doi:10.1001/jamapediatrics.2013.4367.

\* Definition of FAP: According to Rome IV criteria, FAP is defined as abdominal pain occurring at least four times per month over a minimum period of two months, not exclusively related to physiological events such as eating or menstruation, and not fulfilling criteria for other functional gastrointestinal disorders, including irritable bowel syndrome, functional dyspepsia, or abdominal migraine.

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## About BioGaia

BioGaia is a Swedish probiotic company that has been at the forefront of microbiome research for more than 35 years. BioGaia develops, manufactures, markets, and sells probiotic products focused on gut health, immune health, and oral health. The products are sold through local distribution partners or via own distribution in over 100 markets. The class B share of the Parent Company BioGaia AB is quoted on the Mid Cap segment of Nasdaq Stockholm. [biogaigroup.com](http://biogaigroup.com)