

AB-KOLICARE DIGEST

Probiotic formula with prebiotics and Zinc for acute treatment and recovery from diarrhea episodes in children.



SCOPE

Diarrhea in children can be caused by different kind of pathogens:

- Bacterial infections such as Campylobacter, Clostridium, Salmonella, Shigella, and Escherichia coli.
- Viral infections. Rotavirus and norovirus.

Group A rotaviruses are the leading cause of acute gastroenteritis in children < 2 years of age and account annually for nearly 600.000 child deaths worldwide.

Epithelium barrier: The intestinal epithelium forms a protective barrier against luminal contents, such as microbes and antigens present in food. Barrier function is mediated through apical junction complexes which consist of paracellular proteins integrated into tight junctions. Abnormalities of intercellular tight junctions contribute to a variety

of intestinal disorders, including:

- Acute diarrheal illness
- Gluten-sensitive enteropathy (celiac disease)
- Chronic inflammatory bowel disease

PRODUCT

Patented probiotic strains by WO2015018883A2.

AB-Digest is an innovative probiotic formula composed of:

- 3 probiotic strains (AB-Kolicare: *Pediococcus pentosaceus* CECT 8330 & *Bifidobacterium longum* CECT 7894; and *Lactobacillus rhamnosus* ATCC53103);
- 2 prebiotics: inulin and fructooligosaccharides

- Zinc.

Formula with immunomodulatory capacity, enhances epithelial barrier function, maintains intestinal homeostasis, inhibits the adhesion of pathogenic bacteria and offers high protection against rotavirus.

EVIDENCE

AB-Digest probiotic strain *P. pentosaceus* CECT 8330 is able to induce IL-10 production, and when combined in a single formula with *B. longum* CECT 7894 shows a broad spectrum inhibitory activity against pathogens and confirmed to be well tolerated in a pilot, randomized, double-blind clinical trial in infants. Two meta-analysis have been conducted for evaluating the effectiveness of *Lactobacillus rhamnosus* ATCC 53103 in treating acute gastroenteritis in children. Three randomized controlled trials involving 1092 children were included. *Lactobacillus rhamnosus* ATCC 53103 administration for the duration of hospital stay was associated with significantly lower rates of diarrhea (two RCTs, n = 823, relative risk, RR 0.37, 95% confidence interval, CI 0.23–0.59) and symptomatic rotavirus gastroenteritis (three RCTs, n=1043, RR 0.49, 95% CI 0.28–0.86). *Lactobacillus rhamnosus* ATCC 53103 was well tolerated and no harms were reported in any of the trials. Fifteen randomized controlled trials involving 2963 children were included. Combined data from 11 RCTs (n = 2444) showed that *Lactobacillus rhamnosus* ATCC 53103 significantly reduced the duration of diarrhoea compared with placebo or no treatment (mean difference, MD 1.05 days, 95% CI 1.7 to 0.4).

KEY POINTS

- Superior formula of *L. rhamnosus* ATCC53103 thanks to its combination with AB-Kolicare patented strains, Prebiotics and Zinc.
- The only product including three different species of gut commensal bacteria (*Bifidobacterium longum*, *Pediococcus acidilactici* and *Lactobacillus rhamnosus*).
- Strains selected from in vitro and in vivo models with specific anti-inflammatory activity (IL-10 production) and enhancement of immune system function.
- Improvement of gastrointestinal health by different mechanisms. Wider protection against bacteria and virus and enhancement of epithelium barrier.