

CHILDREN'S PRO is an exclusive formula based on 12 probiotic strains aimed at maintaining gastrointestinal health in children from the first stages of life. Each dose contains 10 billion viable microorganisms with a significant presence of species that colonize children's intestinal tracts early on, and have shown the most positive contribution to children's health, favouring balanced digestive health and supporting the immune system in its protective function against pathogenic microorganisms.

Ingredients: Binding agent (potato starch), bacterial culture (10 billion live active healthy cells per serving; see nutritional information), antioxidant (l-ascorbic acid), inulin (from chicory root, *Cichorium intybus*), arabinogalactan (from *Larix laricina*), anticaking agent (magnesium salts of fatty acids).

Nutritional information:

2 rounded scoops (0,3 g)

Human strains

<i>Lactobacillus rhamnosus</i> UB5115	6 629 billion CFU
<i>Lactobacillus casei</i> UB1499	1 284 million CFU
<i>Bifidobacterium longum</i> ssp. <i>infantis</i> UB9214	1 040 billion CFU
<i>Lactobacillus rhamnosus</i> GC	1 000 billion CFU
<i>Bifidobacterium breve</i> UB8674	214 million CFU
<i>Bifidobacterium longum</i> ssp. <i>longum</i> UB7691	214 million CFU
<i>Lactobacillus acidophilus</i> UB5997	18 million CFU

Plant strains

<i>Lactobacillus plantarum</i> UB2783	50 million CFU
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Dairy strains

<i>Lactobacillus reuteri</i> UB2419	351 million CFU
<i>Lactobacillus helveticus</i> UB7229	43 million CFU
<i>Lactobacillus paracasei</i> UB1978	36 million CFU
<i>Lactobacillus johnsonii</i> UB3394	9 million CFU

Inulin	5 mg
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Arabinogalactan (AOS)	5 mg
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CFU: Colony-Forming Unit Cells

Contains no: Preservatives, artificial flavours or colours, wheat.

Contains traces of milk and soy

Size and format:

20 g

Recommended daily dose:

2 rounded scoops (approx. 0,3 g) daily with cold, high-fat food (like yogurt or ice-cream). If you are taking antibiotics, take this product at least 2–3 hours before or after.

Do not exceed the stated recommended daily dose

Store preferably refrigerated.

Cautions:

Consult a health-care practitioner before using if you have fever, vomiting, bloody diarrhoea, or severe abdominal pain. Discontinue use if symptoms of digestive upset (diarrhoea) persist or worsen beyond 3 days. Consult a health-care practitioner if you have an immune-compromised condition (e.g. lymphoma or AIDS).

Indications and uses:

Different studies have shown that the ingredients in CHILDRENS'S PRO can be helpful for:

Digestive alterations (acute gastroenteritis, dysbiosis, antibiotic associated diarrhoea, inflammatory intestinal disease, irritable bowel syndrome (IBS), colic in babies, constipation, and celiac disease), digestive support (improving nutrient absorption and assimilation), allergies (dermatitis/atopic eczema, lactose intolerance, allergic rhinitis, asthma) and reinforcement of the immune system (respiratory and urinary tract infections).

PROBIOTICS: Probiotics are non-pathogenic microorganisms which when administered in determined amounts produce beneficial effects on human health, balancing intestinal microbiota and strengthening the immune system (they increase the number of beneficial anaerobic bacteria and decrease the population of potentially pathogenic microorganisms through antagonism/competition). In recent years, numerous studies have highlighted their importance for children. The intestinal mucosa makes up the largest surface of the human body exposed to the outside, and its immune cells must face infinite pathogens entering through the mouth. Intestinal colonization with certain bacteria strongly influences the immune response from an early age and can have a significant role in the development of chronic diseases. Not all probiotic microorganisms induce the same type of effect on host immune response: the most common species that have been shown to contribute positively to health include *Bifidobacterium* and *Lactobacillus*⁽¹⁻⁵⁾.

LACTOBACILLUS RHAMNOSUS: This has traditionally been used in the treatment and prevention of infectious diarrhoea from rotavirus and other viral diseases in babies and children. Its barrier effect modifies antigen response, increasing the secretion of specific IgA (Immunoglobulin A) and producing hydrolytic enzymes that decrease inflammation and symptoms at little over 1 day of administration. In a study in which 124 children with acute diarrhoea were assessed, those who were treated with *L. rhamnosus* presented fewer episodes of repetition and had improved intestinal permeability. *L. rhamnosus* has been shown to obtain the best results in immune response in children with allergies and infections, and in treatment for acute gastritis. There is evidence that this microorganism prevents intestinal wall lesions provoked by enterohemolytic pathogens such as *E. Coli* which means it is a therapeutic alternative to antibiotics for reducing the risk of systemic complications associated with this pathogen. *L. rhamnosus* has also been proven effective in children with irritable bowel syndrome, easing the abdominal pain associated with this disorder. Another recent trial shows that the composition of intestinal microbiota can significantly contribute to the development of certain chronic pathologies such as type 1, or young-onset diabetes, and that the immune reactivity provoked by *L. rhamnosus* is proposed as a determining protective factor against this pathology. In children with serious malnutrition, *L. rhamnosus* reduces recovery time and favours optimal immune cell response during rehabilitation. Recently, the molecule p40 GG *L. rhamnosus* has been identified as immune-modulating and responsible for the preventive effect on eczema and atopic dermatitis among babies⁽⁶⁻¹¹⁾.

L. rhamnosus GG strain: one of the most studied probiotic strains in the world. Its benefit has been described in infant diarrhoea⁽¹²⁾, respiratory infections⁽¹³⁾, antibiotic-associated diarrhoea⁽¹⁴⁾, infectious diarrhoea associated with *Clostridium difficile*⁽¹⁵⁾, inflammatory bowel diseases such as Irritable Bowel Syndrome⁽¹⁶⁾, improves gastrointestinal function after pancreatic surgery⁽¹⁷⁾.

LACTOBACILLUS CASEI: reduces the duration and incidence of infections such as bronchitis, pneumonia and rhinopharyngitis⁽¹⁸⁻²⁰⁾. In intestinal infections, it improves immunity against bacterial infections such as *Escherichia coli* and viral infections, as in influenza vaccination⁽²¹⁻²⁴⁾.

In children, it improves symptoms of allergic rhinitis⁽²⁵⁾, together with antibiotic therapy improves eradication of *Helicobacter pylori*⁽²⁶⁾, is effective in viral diarrhoea⁽²⁷⁾ and improves the overall incidence of infections⁽²⁸⁾. A study of 251 children shows a reduction in duration and 20% lower incidence of bronchitis, pneumonia and fatigue after 20 weeks of daily treatment⁽²⁹⁾.

BIFIDOBACTERIUM INFANTIS: This microorganism is predominant in the intestinal flora of babies, especially in those who are breastfed. It is one of the first to colonise the infant intestinal tract⁽³⁰⁾ and is critical in the adult for intestinal health and immune system function⁽³¹⁾. High concentrations of *B. infantis* have been shown to increase children's natural resistance to infection by *Shigella*, reducing the rate of severe diarrhoea caused by this germ; once weaned, however, levels of this bacteria decrease progressively down to very small amounts⁽³²⁾.

Produces acetic acid and inhibits pathogenic bacteria⁽³³⁾. Produces bacteriocins with activity against *Salmonella*, *Shigella* and *E. coli*^(34,35). Relieves many symptoms of Irritable Bowel Syndrome (IBS), such as pain, bloating, normalises bowel transit habit and regulates IL-10/IL-12 ratio⁽³⁶⁻³⁸⁾. It reduces systemic pro-inflammatory biomarkers in chronic inflammatory diseases such as ulcerative colitis, chronic fatigue syndrome and psoriasis, indicating that the immunomodulatory effects of the microbiota are not limited to the mucosa, but extend to the systemic immune system⁽³⁹⁾. It may alleviate symptoms of untreated coeliac disease⁽⁴⁰⁾.

BIFIDOBACTERIUM BREVE: it maintains colon homeostasis by reducing inflammation through induction of intestinal IL-10 producing Tr1 cells⁽⁴¹⁾. It protects colon function, relieves constipation, and reduces gas, bloating, and diarrhoea⁽⁴¹⁻⁴²⁾. It improves ulcerative colitis symptoms⁽⁴³⁾. In addition, it stimulates the immune system^(42,44), inhibits *Escherichia coli*⁽⁴⁵⁾ and suppresses the *Candida fungus*⁽⁴⁶⁾. It reduces fat, liver function, and systemic inflammation in people prone to obesity⁽⁴⁷⁾. In neonates, it improves gastrointestinal problems by stabilising the intestinal flora⁽⁴⁸⁾ and reduces the incidence of necrotising enterocolitis⁽⁴⁹⁾. In children with coeliac disease, it reduces the pro-inflammatory cytokine TNF-alpha⁽⁵⁰⁾. It improves adverse effects, such as fever, infections, and intestinal disorders, in chemotherapy patients⁽⁵¹⁾.

BIFIDOBACTERIUM LONGUM: Diverse studies have shown its efficacy when combined with other probiotics at preventing antibiotic associated diarrhoea (AAD) by restoring a child's intestinal microflora, as well as treating IBS^(2,3). A protein factor produced by *B. longum* inhibits the adhesion of the enterotoxigenic strain of *Escherichia coli*⁽⁵²⁾. It has anti-inflammatory properties and is indicated for gastrointestinal disorders such as ulcerative colitis⁽⁵³⁾, antibiotic-associated diarrhoea^(54,55), Irritable Bowel Syndrome⁽⁵⁶⁾, and seasonal allergies^(57,58). It helps in the formation of lactic acid and formic acid, lowering intestinal pH and preventing the proliferation of harmful bacteria⁽⁵⁹⁾. It is also a significant producer of B vitamin⁽⁶⁰⁾.

LACTOBACILLUS ACIDOPHILUS: This helps maintain an acidic environment in the intestinal tract, preventing the growth of harmful bacteria. It's been used for many years to treat and prevent oral yeast infections, urinary tract infections and diarrhoea caused by antibiotic use. Today, a study involving 89 patients has proven its efficacy⁽⁶¹⁾.

It improves the general symptoms of patients with Irritable Bowel Syndrome⁽⁶²⁾. It helps maintain an acidic environment in the intestinal tract by preventing the growth of harmful bacteria and reduces antibiotic-associated diarrhoea⁽⁶³⁾. It helps improve digestive health by maintaining the intestinal barrier, restoring intestinal flora, improving digestion, reinforcing the immune system, and supporting beneficial bacteria that thrive in the colon⁽⁶⁴⁾. It helps improve symptoms of allergic rhinitis⁽⁶⁵⁾, hay fever⁽⁶⁵⁾ and atopic dermatitis⁽⁶⁶⁾.

LACTOBACILLUS PLANTARUM: It acts against unwanted bacteria by improving the symptoms of Irritable Bowel Syndrome such as excessive gas, bloating and abdominal discomfort⁽⁶⁸⁾, as well as in ulcerative colitis⁽⁶⁹⁾. It regulates immune response and is beneficial in the treatment of atopic dermatitis in children⁽⁷⁰⁾. It improves gastrointestinal symptoms during antibiotic therapy⁽⁷¹⁾. It improves symptoms of lactose intolerance, such as diarrhoea and flatulence⁽⁷²⁾.

LACTOBACILLUS REUTERI: This microorganism is present in mother's milk. Studies show its efficacy at reducing colic in babies by helping regulate digestion, reducing constipation and the intensity and frequency of abdominal pain^(3,7). It prevents necrotising enterocolitis in neonates⁽⁷³⁾, improves symptoms of infantile colic^(74,75), increases digestive health in children by being effective in acute infantile diarrhoea⁽⁷⁶⁾ and antibiotic-associated diarrhoea⁽⁷⁷⁾, is able to reduce the adverse effects of anti-*Helicobacter pylori* treatment in children⁽⁷⁸⁾ and is effective in infantile constipation⁽⁷⁹⁾.

LACTOBACILLUS HELVETICUS: Studies have proven that this strain prevents gastrointestinal infection, improves protection against pathogens and modulates immune response. The specific enzymatic activities of the strain may improve nutrient bioavailability, the elimination of allergens and food toxins, and the production of bioactive peptides in protein digestion⁽⁸⁰⁾. Fermented milk with *L. helveticus* improves cognitive function⁽⁸¹⁾. In animals, it increases bone density and bone mineral content⁽⁸²⁾. It controls unwanted intestinal micro-organisms and bacteria (*Salmonella enteritidis*, *Campylobacter jejuni*, *Escherichia coli*, *Candida albicans*, etc.), regulates immune response and reduces lactose intolerance⁽⁸³⁾.

LACTOBACILLUS PARACASEI: improves digestive function⁽⁸⁴⁾, improves symptoms (especially ocular) in patients with allergic rhinitis treated with oral antihistamines⁽⁸⁵⁾. It is also useful in combating *Staphylococcus aureus*, *Escherichia coli* and *Salmonella* infections⁽⁸⁶⁻⁸⁸⁾. It relieves symptoms such as frequency and duration of acute diarrhoea in children⁽⁸⁹⁾.

LACTOBACILLUS JOHNSONII: has several benefits such as in *Helicobacter pylori* gastritis⁽⁹⁰⁾, regulates immune response⁽⁹¹⁾, may help in the control of diabetes⁽⁹²⁾ and improves allergic rhinitis in children⁽⁹³⁾.

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