

Pro-Intensity is a powerful advanced combination of **16 selected probiotic strains** (10 human, 2 plant and 4 dairy), bovine **colostrum** (high proline-rich polypeptide content), **inulin** (chicory), **A.O.S.** (larch) and xylooligosaccharides (XOS). It provides a minimum of 20 billion viable bacteria per capsule with GPSTM enteric coating for optimal protection against the stomach's acid secretions.

Ingredients: Potato starch, bacterial culture (20 billion live active, healthy cells per capsule, see nutritional information), bovine colostrum (from *Bos taurus*) (**milk**), inulin (from chicory root, *Cichorium intybus*), arabinogalactan (from *Larix laricina*), xylooligosaccharides, L-ascorbic acid (vitamin C), anti-caking agent (magnesium salts of fatty acids and silicon dioxide), GPS™ enteric coated vegetable capsule (glazing agent: hydroxypropylmethylcellulose; aqueous enteric-coating solution; purified water).

Nutritional information:

1 capsule (392 mg)

<i>Lactobacillus rhamnosus</i> UB5115 ¹	7,427 billion CFU
<i>Lactobacillus crispatus</i> UB4719 ¹	1,903 billion CFU
<i>Lactobacillus casei</i> UB1499 ¹	1,887 billion CFU
<i>Bifidobacterium animalis</i> ssp. <i>lactis</i> UB3963 ¹	1,427 billion CFU
<i>Lactobacillus gasseri</i> UB8141 ¹	1,427 billion CFU
<i>Bifidobacterium bifidum</i> UB4280 ¹	951 million CFU
<i>Bifidobacterium breve</i> UB8674 ¹	315 million CFU
<i>Bifidobacterium longum</i> ssp. <i>infantis</i> UB9214 ¹	315 million CFU
<i>Bifidobacterium longum</i> ssp. <i>longum</i> UB7691 ¹	315 million CFU
<i>Lactobacillus acidophilus</i> UB5997 ¹	26 million CFU
<i>Lactobacillus salivarius</i> UB4198 ²	1,427 billion CFU
<i>Lactobacillus plantarum</i> UB2783 ²	73 million CFU
<i>Lactobacillus johnsonii</i> UB3394 ³	1,903 billion CFU
<i>Lactobacillus helveticus</i> UB7229 ³	539 million CFU
<i>Lactobacillus paracasei</i> UB1978 ³	52 million CFU
<i>Lactococcus lactis</i> LL-23 ³	13 million CFU
Colostrum (high content of proline-rich polypeptides)	25 mg
Inulin	10 mg
Arabinogalactan (AOS)	10 mg
Xylooligosaccharides (XOS)	10 mg
Vitamin C (L-ascorbic acid)	6 mg (15% NRV*)

Source of strains: ¹human / ²plant / ³dairy.

CFU: Colony-Forming Unit Cells

NRV: Nutrient Reference Value in %.

The **GPS™ enteric coating** protects contents from stomach acids and delivers 100% potency to the intestines.

Size and format:

30 enteric-coated vegetable capsules

Recommended daily dose:

1–2 capsules daily. If you are taking antibiotics, take this product at least 2–3 hours before or after taking them.

Do not exceed the stated recommended daily dose.

Store preferably refrigerated.

Indications and uses:

- Crohn's disease
- Hypercholesterolaemia
- Improves the immune system and digestive function
- Antibiotic-associated diarrhoea
- Ulcerative colitis
- Diabetes mellitus
- Inflammatory bowel disease

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).

DETAILS:

PRO-INTENSITY contains a selection of scientifically proven probiotic strains, supplementary prebiotics of natural origin and a colostrum extract. It is the latest development in probiotic supplementation and is the ideal product to improve the immune system and digestive function, being essential for good health and disease resistance.

Each capsule contains more than 20 billion live cells, with a strain selection of 16 beneficial strains, including 10 of human origin. Although the origin of a probiotic strain is not the sole criterion for efficacy, strains of human origin exhibit the ability to colonise at multiple sites in the gastrointestinal tract.

The activity of the strains helps to boost immune function, disease resistance, optimal digestion and absorption of nutrients, improved vitamin synthesis, better lactose tolerance, and improved gastrointestinal transit.

Bovine colostrum from high quality sources has a high proline-rich polypeptide content. Specific immunoglobulins (IgG) and growth factors (IGF) in bovine colostrum exert their beneficial effects on the intestine, with IgGs destroying pathogenic bacteria and IGFs improving the intestinal mucosa lining.

The enteric coating of the capsule protects the product from gastric juices and ensures 100% potency.

INGREDIENTS:

LACTOBACILLUS RHAMNOSUS: this product contains the UB5115 human strain. It is one of the most widely researched probiotic species due to its tolerance to acidic conditions. This product contains more than 7.4 billion colony-forming units (CFUs) from this species.

It colonises the intestinal membranes, providing numerous health benefits: it increases lactic acid production, actively suppressing the growth of harmful bacteria such as *Salmonella* ⁽¹⁾. It is effective in preventing antibiotic-associated diarrhoea ⁽²⁾ and *Clostridium difficile*-associated diarrhoea ⁽³⁾. It strengthens the immune system and is a good adjuvant for the influenza vaccine ⁽⁴⁾. It improves intestinal barrier function for the relief of autoimmune diseases such as arthritis ⁽⁵⁾ and allergies ⁽⁶⁾. It improves the blood lipid profile ⁽⁷⁾ and reduces cholesterol ⁽⁸⁾. It may prevent or relieve symptoms of post-partum depression and anxiety ⁽⁹⁾, regenerate the vaginal flora in women by reducing colonisation by oral bacteria and fungi ⁽¹⁰⁾, and may reduce the prevalence of gestational diabetes mellitus ⁽¹¹⁾. In children, it reduces the frequency and duration of diarrhoea and vomiting ⁽¹²⁾, rotavirus diarrhoea ⁽¹³⁾, and antibiotic-associated diarrhoea ⁽¹⁴⁾. It reduces the incidence of atopic dermatitis ^(15, 16). Drinking milk supplemented with *L. rhamnosus* reduces the risk of tooth decay in children ⁽¹⁷⁾.

LACTOBACILLUS CRISPATUS: this product contains the UB4719 human strain. Numerous studies have shown its considerable potential for maintaining the health of the female reproductive system, helping to prevent recurrent urinary tract infections, as well as bacterial vaginosis and candidiasis ⁽¹⁸⁻²⁰⁾. It is also able to modulate the immune system ⁽²¹⁾ and reduce allergic symptoms in mice ⁽²²⁾.

LACTOBACILLUS CASEI: this product contains the UB1499 human strain. It reduces the duration and incidence of infections such as bronchitis, pneumonia and rhinopharyngitis ⁽²³⁻²⁵⁾. Regarding intestinal infections, it boosts immunity against bacterial infections (e.g. *Escherichia coli*) and viral infections (e.g. influenza vaccinations) ⁽²⁶⁻²⁹⁾.

In children, it improves allergic rhinitis symptoms ⁽³⁰⁾, helps eradicate *Helicobacter pylori* in conjunction with antibiotic therapy ⁽³¹⁾, is effective against viral diarrhoea ⁽³²⁾, and reduces the general incidence of infections ⁽³³⁾.

BIFIDOBACTERIUM ANIMALIS subsp. LACTIS: this product contains the UB3963 human strain. It helps reduce constipation and bloating in children and adolescents with irritable bowel syndrome ⁽²⁴⁾. It boosts the immune system by increasing levels of NK (natural killer) cells and polymorphonuclear leukocytes ⁽²⁵⁾. It helps to repair the permeability of the intestinal barrier by enhancing apical junction proteins and goblet cell population ⁽²⁶⁾. It reduces abdominal visceral fat in overweight people with metabolic disorders and has beneficial effects on weight control and metabolic health ^(27, 28). It also improves glucose intolerance in animals ⁽²⁹⁾.

LACTOBACILLUS GASSERI: this product contains the UB8141 human strain. It improves functional dyspepsia by improving gastric microbiota by helping to suppress *Helicobacter pylori* in the stomach⁽³⁰⁾. It is also a predominant species in the vaginal flora, inhibits the adherence of pathogenic bacteria and helps in the prevention and treatment of bacterial vaginosis⁽³¹⁾. It has antimicrobial activity through the production of bacteriocins^(32,33), improves symptoms such as diarrhoea in Irritable Bowel Syndrome^(34,35), helps boost the immune system⁽³⁶⁾ and may help regulate allergic response⁽³⁷⁾. Its effect on weight control has been studied in recent years. It has a reducing effect on abdominal adiposity, body weight and other measures of obesity and helps to regulate blood lipids (triglycerides, cholesterol), suggesting its beneficial impact on metabolic disorders⁽³⁸⁻⁴⁰⁾.

BIFIDOBACTERIUM BIFIDUM: this product contains the UB4280 human strain. They are found in the mucosal lining of the last part of the small bowel and are the predominant strains that colonise the large bowel and support bowel health, hygiene, and functionality. They reduce serum cholesterol and dissolve bile salts^(41,42). *B. bifidum* has been shown to exert antibacterial activity against *Helicobacter pylori*^(43,44), reduce apoptosis in the intestinal epithelium of children with necrotising enterocolitis⁽⁴⁵⁾, regulate the immune system response⁽⁴⁶⁻⁴⁸⁾, reduce the duration and severity of colds⁽⁴⁷⁾, provide anti-inflammatory activity in chronic diseases of the large bowel (e.g. irritable bowel syndrome)^(49,50), and reduce the incidence of radiotherapy-induced diarrhoea in cervical cancer patients⁽⁵¹⁾.

BIFIDOBACTERIUM BREVE: this product contains the UB8674 human strain. It maintains colon homeostasis by reducing inflammation through induction of intestinal IL-10-producing Tr1 cells⁽⁵²⁾. It protects colon function, relieves constipation, and reduces gas, bloating, and diarrhoea^(52,53). It improves ulcerative colitis symptoms⁽⁵⁴⁾. It also stimulates the immune system^(53,55), inhibits *Escherichia Coli*⁽⁵⁶⁾ and suppresses the *Candida* fungus⁽⁵⁷⁾. It reduces fat, liver function, and systemic inflammation in people prone to obesity⁽⁵⁸⁾. In neonates, it improves gastrointestinal problems by stabilising the intestinal flora⁽⁵⁹⁾ and reduces the incidence of necrotising enterocolitis⁽⁶⁰⁾. In children with coeliac disease, it reduces the pro-inflammatory cytokine TNF-alpha⁽⁶¹⁾. It improves adverse effects in chemotherapy patients, such as fever, infections, and intestinal disorders⁽⁶²⁾.

BIFIDOBACTERIUM LONGUM subsp. INFANTIS: this product contains the UB9214 human strain. It is the dominant probiotic inhabiting the distal part of the small bowel and colon. It is one of the first species to colonise the infant gastrointestinal tract⁽⁶³⁾ and is critical in adults for intestinal health and immune system function⁽⁶⁴⁾. It is extremely good at surviving stomach and bile acids⁽⁶⁵⁾ and is typically able to adhere to intestinal tissues⁽⁶⁶⁾. It produces acetic acid and inhibits pathogenic bacteria⁽⁶⁷⁾. It produces bacteriocins, which act against *Salmonella*, *Shigella*, and *E. coli*^(68,69). It relieves many symptoms of Irritable Bowel Syndrome (IBS) (e.g. pain, bloating), normalises bowel movements, and regulates the IL-10/IL-12 ratio⁽⁷⁰⁻⁷²⁾. It reduces systemic pro-inflammatory biomarkers in chronic inflammatory diseases such as ulcerative colitis, chronic fatigue syndrome, and psoriasis, demonstrating that the immunomodulatory effects of microbiota are not limited to the mucosa but encompass the systemic immune system⁽⁷³⁾. It can alleviate symptoms of untreated coeliac disease⁽⁷⁴⁾.

BIFIDOBACTERIUM LONGUM subsp. LONGUM: this product contains the UB7691 human strain. A protein factor produced by *B. longum* inhibits the adhesion of the enterotoxigenic strain of *Escherichia coli*⁽⁷⁵⁾. It has anti-inflammatory properties and is indicated for gastrointestinal disorders such as ulcerative colitis⁽⁷⁶⁾, antibiotic-associated diarrhoea^(77,78), Irritable Bowel Syndrome⁽⁷⁹⁾, and seasonal allergies^(80,81). It aids the formation of lactic acid and formic acid, lowering the pH of the intestines and preventing the proliferation of harmful bacteria⁽⁸²⁾. It is also a significant producer of B vitamins⁽⁸³⁾.

LACTOBACILLUS ACIDOPHILUS: this product contains the UB5997 human strain. It improves the general symptoms of patients with Irritable Bowel Syndrome⁽⁸⁴⁾. It helps to maintain an acidic environment in the intestinal tract by preventing the growth of harmful bacteria and reduces antibiotic-associated diarrhoea⁽⁸⁵⁾. It reduces total plasma cholesterol and low-density lipoprotein (LDL) cholesterol^(86,87). It helps to improve digestive health by maintaining the intestinal barrier, restoring intestinal flora, improving digestion, boosting the immune system, and supporting beneficial bacteria that thrive in the colon⁽⁸⁸⁾. It helps to improve symptoms of allergic rhinitis⁽⁸⁹⁾, hay fever⁽⁹⁰⁾, and atopic dermatitis⁽⁹¹⁾.

LACTOBACILLUS SALIVARIUS: this product contains the UB5997 plant strain. It inhibits the growth and activity of harmful pathogenic bacteria, including *Helicobacter pylori*^(92,93) and *Salmonella*⁽⁹⁴⁾. It helps to break down undigested proteins and deactivate toxins produced by intestinal putrefaction⁽⁹⁵⁾. It improves the lipid (cholesterol) profile and reduces inflammation, tumour necrosis factor, and *Escherichia coli* populations⁽⁹⁶⁾. When used in combination with prebiotics (fructooligosaccharides), it is effective in reducing the symptoms of atopic dermatitis in children⁽⁹⁷⁾ and adults⁽⁹⁸⁾.

LACTOBACILLUS PLANTARUM: this product contains the UB2783 plant strain. It acts against unwanted bacteria by improving the symptoms of Irritable Bowel Syndrome, such as excessive gas, bloating and abdominal discomfort⁽⁹⁹⁻¹⁰³⁾, and ulcerative colitis^(104, 105). It regulates immune response and is beneficial in the treatment of atopic dermatitis in children⁽¹⁰⁶⁾. It has immunostimulatory effects in the elderly, reducing the number of infections⁽¹⁰⁷⁾. It improves gastrointestinal symptoms during antibiotic therapy⁽¹⁰⁸⁾. It reduces cardiovascular risk factors and may be useful as a protective agent in the primary prevention of atherosclerosis in smokers⁽¹⁰⁹⁾. In adults with hypercholesterolaemia, it lowers cholesterol and high blood pressure, which, as a result, may reduce the risk of cardiovascular diseases⁽¹¹⁰⁾. It improves symptoms of lactose intolerance, such as diarrhoea and flatulence, in combination with another probiotic⁽¹¹¹⁾. Together with other *Lactobacillus* species, it can restore the vaginal flora by improving the pH and diagnosis of bacterial vaginosis when administered orally⁽¹¹²⁾.

LACTOBACILLUS JOHNSONII: this product contains the UB3394 dairy strain. It has several benefits, such as in *Helicobacter pylori* gastritis⁽¹¹³⁾, regulates immune response⁽¹¹⁴⁾, may help in the control of diabetes⁽¹¹⁵⁾, is helpful against vaginal infections⁽¹¹⁶⁾, and improves allergic rhinitis in children⁽¹¹⁷⁾.

LACTOBACILLUS HELVETICUS: this product contains the UB7229 dairy strain. It protects the gastrointestinal tract, strengthening the systemic humoral and intestinal mucosal immune response in elite athletes⁽¹¹⁸⁾. It has been shown to cause an antidepressant effect in animals, probably due to the microbiota-gut-brain axis connection⁽¹¹⁹⁾. Fermented milk with *L. helveticus* improves cognitive function⁽¹²⁰⁾ and lowers blood pressure⁽¹²¹⁾. In animals, it increases bone density and bone mineral content⁽¹²²⁾, and in post-menopausal women, it has a positive effect on calcium metabolism⁽¹²³⁾. It controls unwanted intestinal micro-organisms and bacteria (*Salmonella enteritidis*, *Campylobacter jejuni*, *Escherichia coli*, *Candida albicans*, etc.), regulates immune response and reduces lactose intolerance⁽¹²⁴⁾.

LACTOBACILLUS PARACASEI: this product contains the UB1978 dairy strain. It significantly enhances the specific immune response in healthy people who have received the influenza vaccine⁽¹²⁵⁾. It improves digestive function⁽¹²⁶⁾ and symptoms (especially eye symptoms) in patients with allergic rhinitis treated with oral antihistamines⁽¹²⁷⁾. It is also effective against *Staphylococcus aureus*, *Escherichia coli*, and *Salmonella* infections⁽¹²⁸⁻¹³⁰⁾. It relieves the frequency and duration of acute diarrhoea in children⁽¹³¹⁾. It improves neurocognitive function in patients with chronic fatigue syndrome when used in combination with other probiotics⁽¹³²⁾.

LACTOCOCCUS LACTIS: this product contains the LL-23 dairy strain. It produces bacteriocins such as lactacin, nisin and lactococcin⁽¹³³⁾. Nisin is the best studied compound in this group. Nisin is a so-called lantibiotic bacteriocin with a broad spectrum of antimicrobial activity and an immunomodulatory effect⁽¹³⁴⁾. One of the most important properties of nisin is its activity against Gram-positive bacteria and bacterial spores such as *Clostridium difficile*⁽¹³⁵⁾. *Lactococcus lactis* also boosts antiviral immunity by reducing cold and flu symptoms^(136, 137), may help lower blood pressure⁽¹³⁸⁾, and may help reduce intestinal inflammation⁽¹³⁹⁾, among other properties⁽¹⁴⁰⁾.

L. lactis LL-23 strain: together with other probiotics, it reduces inflammatory markers in people with rheumatoid arthritis⁽¹⁴¹⁾, and also together with other probiotics and diet helps to significantly reduce abdominal fat and increased antioxidant enzyme activity⁽¹⁴²⁾.

CALOSTRO: contains high levels of proline-rich polypeptides (PRP's) that help reduce the inflammatory response responsible for some of the symptoms associated with Irritable Bowel Syndrome and Leaky Gut Syndrome (intestinal dysbiosis). It contains a high proportion of immunoglobulin (IgG), antimicrobial factors (lactoferrin), immunomodulatory polypeptides, anti-inflammatory cytokines, growth factors and other bioactive compounds that promote immune response, inhibit excessive production of "reactive oxygen species" and act in synergy as prebiotics for the intensive growth of specific probiotic strains. Growth factors are involved in the regeneration and proliferation of the intestinal epithelium for proper intestinal absorption and permeability⁽¹⁾. Proline-rich polypeptides are one of the most important components of colostrum because of their ability to modulate the immune system and regulate the production of certain cytokines, signalling molecules that control the inflammatory process^(143, 144).

Clinical studies show that bovine colostrum regulates the immune response after exercise^(145, 146), reduces muscle damage and inflammation after exercise⁽¹⁴⁷⁾, has a protective effect on the respiratory tract mucosa^(148, 149), is effective in HIV treatment-associated diarrhoea⁽¹⁵⁰⁾, reduces the duration and severity of rotavirus diarrhoea⁽¹⁵¹⁾, and prevents gastrointestinal damage (increased permeability) caused by non-steroidal anti-inflammatory drugs⁽¹⁵²⁾. The lactoferrin it contains inhibits the growth of various pathogenic micro-organisms such as *Helicobacter pylori*⁽¹⁵³⁾.

INULIN: It is a fructooligosaccharide (FOS) of plant origin, extracted from the root of chicory (*Cichorium intybus*). It acts as a prebiotic, creating the right environment for probiotics or beneficial micro-organisms to reproduce faster and in greater numbers⁽¹⁵⁴⁻¹⁵⁶⁾. It increases the population of *Bifidobacterium* probiotics in the colon and reduces toxic metabolites and harmful enzymes. It prevents pathogenic and autogenous diarrhoea and constipation and protects liver function⁽¹⁵⁷⁾.

ARABINO GALACTAN: it is an arabino-oligosaccharide (AOS) of plant origin from the larch tree (*Larix laricina*). It is an excellent prebiotic that increases the production of short-chain fatty acids (mainly butyrate), which acts as an energy substrate for the epithelial cells of the colon and protects the intestinal mucosa. It activates the immune response and selectively stimulates the growth and activity of probiotic bacteria⁽¹⁵⁸⁾. It is useful in fighting infections due to its ability to decrease bacterial adherence^(159, 160). In addition, it lowers the intestinal pH and improves mineral absorption⁽¹⁶⁰⁻¹⁶³⁾.

XYLOLIGOSACCHARIDES (XOS): are xylan-derived oligosaccharides with a prebiotic effect stimulating the selective growth of beneficial bacteria. XOS also have other beneficial health effects. These positive effects are related to the optimisation of colon functions, as well as the metabolism (increasing or changing the composition of short-chain fatty acids), antioxidant properties, immunostimulation, reduction of triglycerides and cholesterol, reduction of procarcinogenic enzymes, etc.⁽¹⁶⁴⁻¹⁶⁶⁾.

References

- 1) De Keersmaecker, Sigrid CJ, et al. "Strong antimicrobial activity of *Lactobacillus rhamnosus* GG against *Salmonella typhimurium* is due to accumulation of lactic acid." *FEMS microbiology letters* 259.1 (2006): 89-96.
- 2) Szajewska, H., and M. Kolodziej. "Systematic review with meta-analysis: *Lactobacillus rhamnosus* GG in the prevention of antibiotic-associated diarrhoea in children and adults." *Alimentary pharmacology & therapeutics* 42.10 (2015): 1149-1157.
- 3) Goldenberg, Joshua Z., et al. "Probiotics for the prevention of *Clostridium difficile*-associated diarrhea in adults and children." *The Cochrane Library* (2013).
- 4) Davidson, Lisa E., et al. "*Lactobacillus* GG as an immune adjuvant for live-attenuated influenza vaccine in healthy adults: a randomized double-blind placebo-controlled trial." *European journal of clinical nutrition* 65.4 (2011): 501-507.
- 5) Baharav, Ehud, et al. "*Lactobacillus* GG bacteria ameliorate arthritis in Lewis rats." *The Journal of nutrition* 134.8 (2004): 1964-1969.
- 6) Thomas, Debra J., et al. "*Lactobacillus rhamnosus* HN001 attenuates allergy development in a pig model." *PLoS One* 6.2 (2011): e16577.
- 7) Kekkonen, Riina A., et al. "Effect of probiotic *Lactobacillus rhamnosus* GG intervention on global serum lipidomic profiles in healthy adults." *World journal of gastroenterology: WJG* 14.20 (2008): 3188.
- 8) Costabile, Adele, et al. "Effect of soluble corn fibre with *Lactobacillus rhamnosus* GG and the pilus-deficient derivative GG-PB12 on faecal microbiota, immune function and metabolism in healthy elderly (Saimes study)." *Frontiers in Immunology* 8 (2017): 1443.
- 9) Slykerman, R. F., et al. "Effect of *Lactobacillus rhamnosus* HN001 in pregnancy on postpartum symptoms of depression and anxiety: a randomized double-blind placebo-controlled trial." *EBio- Medicine* 24 (2017): 159-165.
- 10) Reid, Gregor, et al. "Oral use of *Lactobacillus rhamnosus* GR-1 and *L. fermentum* RC-14 significantly alters vaginal flora: randomized, placebo-controlled trial in 64 healthy women." *Pathogens and Disease* 35.2 (2003): 131-134.
- 11) Wickens, Kristin L., et al. "Early pregnancy probiotic supplementation with *Lactobacillus rhamnosus* HN001 may reduce the prevalence of gestational diabetes mellitus: a randomized controlled trial." *British Journal of Nutrition* 117.6 (2017): 804-813.
- 12) Basu, Sriparna, et al. "Effect of *Lactobacillus rhamnosus* GG in persistent diarrhea in Indian children: a randomized controlled trial." *Journal of clinical gastroenterology* 41.8 (2007): 756-760.
- 13) Szymanski, H., et al. "Treatment of acute infectious diarrhoea in infants and children with a mixture of three *Lactobacillus rhamnosus* strains—a randomized, double-blind, placebo-controlled trial." *Alimentary pharmacology & therapeutics* 23.2 (2006): 247-253.
- 14) Ruszczynski, M., A. Radzikowski, and H. Szajewska. "Clinical trial: effectiveness of *Lactobacillus rhamnosus* (strains E/N, Oxy and Pen) in the prevention of antibiotic-associated diarrhoea in children." *Alimentary pharmacology & therapeutics* 28.1 (2008): 154-161.

- 15) Wu, Yi-Jie, et al. "Evaluation of efficacy and safety of *Lactobacillus rhamnosus* in children aged 4–48 months with atopic dermatitis: An 8-week, double-blind, randomized, placebo-controlled study." *Journal of Microbiology, Immunology and Infection* 50.5 (2017): 684-692.
- 16) Kalliomäki, Marko, et al. "Probiotics in primary prevention of atopic disease: a randomized placebo-controlled trial." *The Lancet* 357.9262 (2001): 1076-1079.
- 17) Kaye, Elizabeth Krall. "Daily Intake of Probiotic *Lactobacilli* May Reduce Caries Risk in Young Children." *Journal of Evidence Based Dental Practice* 17.3 (2017): 284-286.
- 18) Stapleton, Ann E., et al. "Randomized, placebo-controlled phase 2 trial of a *Lactobacillus crispatus* probiotic given intravaginally for prevention of recurrent urinary tract infection." *Clinical infectious diseases* 52.10 (2011): 1212-1217.
- 19) Hemmerling, Anke, et al. "Phase 1 dose-ranging safety trial of *Lactobacillus crispatus* CTV-05 (LACTIN-V) for the prevention of bacterial vaginosis." *Sexually transmitted diseases* 36.9 (2009): 564.
- 20) Wang, Shuai, et al. "Antimicrobial compounds produced by vaginal *Lactobacillus crispatus* are able to strongly inhibit *Candida albicans* growth, hyphal formation and regulate virulence-related gene expressions." *Frontiers in microbiology* 8 (2017): 564.
- 21) Eslami, Solat, et al. "*Lactobacillus crispatus* strain SJ-3C-US induces human dendritic cells (DCs) maturation and confers an anti-inflammatory phenotype to DCs." *Apmis* 124.8 (2016): 697-710.
- 22) Tobita, Keisuke, Hiroyuki Yanaka, and Hajime Otani. "Anti-allergic effects of *Lactobacillus crispatus* KT-11 strain on ovalbumin-sensitized BALB/c mice." *Animal science journal* 81.6 (2010): 699-705.
- 23) Guillemard, E., et al. "Consumption of a fermented dairy product containing the probiotic *Lactobacillus casei* DN-114 001 reduces the duration of respiratory infections in the elderly in a randomised controlled trial." *British journal of nutrition* 103.1 (2010): 58-68.
- 24) Cobo Sanz, JMa, J. A. Mateos, and A. Muñoz Conejo. "Efecto de *Lactobacillus casei* sobre la incidencia de procesos infecciosos en niños/as." *Nutrición Hospitalaria* 21.4 (2006): 547-551.
- 25) Turchet, P., et al. "Effect of fermented milk containing the probiotic *Lactobacillus casei* DN-114001 on winter infections in free-living elderly subjects: a randomised, controlled pilot study." *The journal of nutrition, health & aging* 7.2 (2003): 75-77.
- 26) Isolauri, Erika, et al. "Improved immunogenicity of oral D x RRV reassortant rotavirus vaccine by *Lactobacillus casei* GG." *Vaccine* 13.3 (1995): 310-312.
- 27) Matsuzaki, T., et al. "The effect of oral feeding of *Lactobacillus casei* strain Shirota on immunoglobulin E production in mice." *Journal of Dairy Science* 81.1 (1998): 48-53.
- 28) Ingrassia, Isabelle, Antony Leplingard, and Arlette Darfeuille-Michaud. "*Lactobacillus casei* DN-114 001 inhibits the ability of adherent-invasive *Escherichia coli* isolated from Crohn's disease patients to adhere to and to invade intestinal epithelial cells." *Applied and environmental microbiology* 71.6 (2005): 2880-2887.
- 29) Boge, Thierry, et al. "A probiotic fermented dairy drink improves antibody response to influenza vaccination in the elderly in two randomised controlled trials." *Vaccine* 27.41 (2009): 5677-5684.
- 30) Giovannini, Marcello, et al. "A randomized prospective double blind controlled trial on effects of long-term consumption of fermented milk containing *Lactobacillus casei* in pre-school children with allergic asthma and/or rhinitis." *Pediatric research* 62.2 (2007): 215-220.
- 31) Šýkora, Josef, et al. "Effects of a specially designed fermented milk product containing probiotic *Lactobacillus casei* DN-114 001 and the eradication of *H. pylori* in children: a prospective randomized double-blind study." *Journal of clinical gastroenterology* 39.8 (2005): 692-698.
- 32) Guarino, Alfredo, et al. "Oral bacterial therapy reduces the duration of symptoms and of viral excretion in children with mild diarrhea." *Journal of pediatric gastroenterology and nutrition* 25.5 (1997): 516-519.
- 33) Merenstein, D., et al. "Use of a fermented dairy probiotic drink containing *Lactobacillus casei* (DN-114 001) to decrease the rate of illness in kids: the DRINK study A patient-oriented, double-blind, cluster-randomized, placebo-controlled, clinical trial." *European journal of clinical nutrition* 64.7 (2010): 669-677.
- 34) Basturk, Ahmet, Reha Artan, and Aygen Yilmaz. "Efficacy of synbiotic, probiotic, and prebiotic treatments for irritable bowel syndrome in children: a randomized controlled trial." *Turk J Gastroenterol* 27.5 (2016): 439-443.
- 35) Miller, Larry E., Liisa Lehtoranta, and Markus J. Lehtinen. "The effect of *Bifidobacterium animalis* ssp. *lactis* HN019 on cellular immune function in healthy elderly subjects: systematic review and meta-analysis." *Nutrients* 9.3 (2017): 191.
- 36) Martín, Rebeca, et al. "*Bifidobacterium animalis* ssp. *lactis* CNCM-I2494 restores gut barrier permeability in chronically low-grade inflamed mice." *Frontiers in microbiology* 7 (2016): 608.
- 37) Takahashi, Shota, et al. "Effect of *Bifidobacterium animalis* ssp. *lactis* GCL2505 on visceral fat accumulation in healthy Japanese adults: a randomized controlled trial." *Bioscience of microbiota, food and health* 35.4 (2016): 163-171.
- 38) Uusitupa, Henna-Maria, et al. "*Bifidobacterium animalis* subsp. *lactis* 420 for Metabolic Health: Review of the Research." *Nutrients* 12.4 (2020): 892.
- 39) Stenman, L. K., et al. "Potential probiotic *Bifidobacterium animalis* ssp. *lactis* 420 prevents weight gain and glucose intolerance in diet-induced obese mice." *Beneficial microbes* 5.4 (2014): 437-445.
- 40) Koga, Yasuhiro, et al. "Probiotic *L. gasseri* strain (LG21) for the upper gastrointestinal tract acting through improvement of indigenous microbiota." *BMJ open gastroenterology* 6.1 (2019): e000314.
- 41) Lin, Ta-Chin, et al. "Improvement of Bacterial Vaginosis by Oral *Lactobacillus* Supplement: A Randomized, Double-Blinded Trial." *Applied Sciences* 11.3 (2021): 902.
- 42) Ishikawa, Takumi, et al. "Antibacterial activity of the probiotic candidate *Lactobacillus gasseri* against methicillin-resistant *Staphylococcus aureus*." *Asian Pacific Journal of Dentistry* 20.1 (2020): 1-8.
- 43) Kobayashi, R., et al. "Oral administration of *Lactobacillus gasseri* SBT2055 is effective in preventing *Porphyromonas gingivalis*-accelerated periodontal disease." *Scientific reports* 7.1 (2017): 1-10.
- 44) Shin, Suk Pyo, et al. "A double blind, placebo-controlled, randomized clinical trial that breast milk derived-*Lactobacillus gasseri* BNR17 mitigated diarrhea-dominant irritable bowel syndrome." *Journal of clinical biochemistry and nutrition* 62.2 (2018): 179-186.
- 45) Suzuki, Takayoshi, et al. "Yogurt containing *Lactobacillus gasseri* mitigates aspirin-induced small bowel injuries: a prospective, randomized, double-blind, placebo-controlled trial." *Digestion* 95.1 (2017): 49-54.
- 46) Nishihira, Jun, et al. "*Lactobacillus gasseri* SBT2055 stimulates immunoglobulin production and innate immunity after influenza vaccination in healthy adult volunteers: a randomized, double-blind, placebo-controlled, parallel-group study." *Functional Foods in Health and Disease* 6.9 (2016): 544-568.
- 47) Nishihira, Jun, et al. "*Lactobacillus gasseri* potentiates immune response against influenza virus infection." *Immunity and Inflammation in Health and Disease*. Academic Press, 2018. 249-255.
- 48) Kadooka, Y., et al. "Regulation of abdominal adiposity by probiotics (*Lactobacillus gasseri* SBT2055) in adults with obese tendencies in a randomized controlled trial." *European journal of clinical nutrition* 64.6 (2010): 636-643.
- 49) Kim, Joohee, et al. "*Lactobacillus gasseri* BNR17 supplementation reduces the visceral fat accumulation and waist circumference in obese adults: a randomized, double-blind, placebo-controlled trial." *Journal of medicinal food* 21.5 (2018): 454-461.
- 50) Wang, Chen, et al. "The effect of probiotic supplementation on lipid profiles in adults with overweight or obesity: A meta-analysis of randomized controlled trials." *Journal of Functional Foods* 86 (2021): 104711.
- 51) Klaver, F. A., and Roelof Van Der Meer. "The assumed assimilation of cholesterol by *Lactobacilli* and *Bifidobacterium bifidum* is due to their bile salt-deconjugating activity." *Applied and Environmental Microbiology* 59.4 (1993): 1120-1124.
- 52) Zanotti, Ilaria, et al. "Evidence for cholesterol-lowering activity by *Bifidobacterium bifidum* PRL2010 through gut microbiota modulation." *Applied microbiology and biotechnology* 99.16 (2015): 6813-6829.
- 53) Shirasawa, Y., et al. "*Bifidobacterium bifidum* BF-1 suppresses *Helicobacter pylori*-induced genes in human epithelial cells." *Journal of dairy science* 93.10 (2010): 4526-4534.

- 44) Chenoll, E., et al. "Novel probiotic *Bifidobacterium bifidum* CECT 7366 strain active against the pathogenic bacterium *Helicobacter pylori*." Applied and environmental microbiology 77.4 (2011): 1335-1343.
- 45) Khailova, Ludmila, et al. "*Bifidobacterium bifidum* reduces apoptosis in the intestinal epithelium in necrotizing enterocolitis." American Journal of Physiology-Gastrointestinal and Liver Physiology 299.5 (2010): G1118-G1127.
- 46) Fu, Yu-Rong, et al. "Effects of *Bifidobacterium bifidum* on adaptive immune senescence in aging mice." Microbiology and immunology 54.10 (2010): 578-583.
- 47) De Vrese, Michael, et al. "Probiotic bacteria reduced duration and severity but not the incidence of common cold episodes in a double blind, randomized, controlled trial." Vaccine 24.44 (2006): 6670-6674.
- 48) Park, Ji-Hee, et al. "Encapsulated *Bifidobacterium bifidum* potentiates intestinal IgA production." Cellular immunology 219.1 (2002): 22-27.
- 49) Guglielmetti, Simone, et al. "Randomised clinical trial: *Bifidobacterium bifidum* MIMBb75 significantly alleviates irritable bowel syndrome and improves quality of life—a double-blind, placebo-controlled study." Alimentary pharmacology & therapeutics 33.10 (2011): 1123-1132.
- 50) Kim, Namju, et al. "Oral feeding of *Bifidobacterium bifidum* (BGN4) Prevents CD4+ CD45RB high T cell-mediated inflammatory bowel disease by inhibition of disordered T cell activation." Clinical Immunology 123.1 (2007): 30-39.
- 51) Chitapanarux, Imjai, et al. "Randomized controlled trial of live *Lactobacillus acidophilus* plus *Bifidobacterium bifidum* in prophylaxis of diarrhea during radiotherapy in cervical cancer patients." Radiation Oncology 5.1 (2010): 31.
- 52) Jeon, Seong Gyu, et al. "Probiotic *Bifidobacterium breve* induces IL-10-producing Tr1 cells in the colon." PLoS pathogens 8.5 (2012): e1002714.
- 53) Tabbers, M. M., et al. "Is *Bifidobacterium breve* effective in the treatment of childhood constipation? Results from a pilot study." Nutrition journal 10.1 (2011): 19.
- 54) Ishikawa, Hideki, et al. "Beneficial effects of probiotic bifidobacterium and galacto-oligosaccharide in patients with ulcerative colitis: a randomized controlled study." Digestion 84.2 (2011): 128-133.
- 55) Mullié, Catherine, et al. "Increased poliovirus-specific intestinal antibody response coincides with promotion of *Bifidobacterium longum-infantis* and *Bifidobacterium breve* in infants: a randomized, double-blind, placebo-controlled trial." Pediatric research 56.5 (2004): 791-795.
- 56) Sheehan, Vivien M., et al. "Improving gastric transit, gastrointestinal persistence and therapeutic efficacy of the probiotic strain *Bifidobacterium breve* UCC2003." Microbiology 153.10 (2007): 3563-3571.
- 57) Mendonça, Fabio Henrique Boarini Pacheco, et al. "Effects of probiotic bacteria on Candida presence and IgA anti-Candida in the oral cavity of elderly." Brazilian dental journal 23.5 (2012): 534-538.
- 58) Minami, Jun-ichi, et al. "Oral administration of *Bifidobacterium breve* B-3 modifies metabolic functions in adults with obese tendencies in a randomised controlled trial." Journal of nutritional science 4 (2015).
- 59) Kitajima, Hiroyuki, et al. "Early administration of *Bifidobacterium breve* to preterm infants: randomised controlled trial." Archives of Disease in Childhood-Fetal and Neonatal Edition 76.2 (1997): F101-F107.
- 60) Braga, Taciana Duque, et al. "Efficacy of *Bifidobacterium breve* and *Lactobacillus casei* oral supplementation on necrotizing enterocolitis in very-low-birth-weight preterm infants: a double-blind, randomized, controlled trial—." The American journal of clinical nutrition 93.1 (2010): 81-86.
- 61) Klemenak, Martina, et al. "Administration of *Bifidobacterium breve* Decreases the Production of TNF-alfa in Children with Celiac Disease." Digestive diseases and sciences 60.11 (2015): 3386-3392.
- 62) Wada, Mariko, et al. "Effects of the enteral administration of *Bifidobacterium breve* on patients undergoing chemotherapy for pediatric malignancies." Supportive care in cancer 18.6 (2010): 751-759.
- 63) He, Fang, et al. "Comparison of mucosal adhesion and species identification of bifidobacteria isolated from healthy and allergic infants." Pathogens and Disease 30.1 (2001): 43-47.
- 64) Ishibashi, N., T. Yaeshima, and H. Hayasawa. "Bifidobacteria: their significance in human intestinal health." Malaysian Journal of Nutrition 3.2 (1997): 149-159.
- 65) Sun, Wenrong, and Mansel W. Griffiths. "Survival of bifidobacteria in yogurt and simulated gastric juice following immobilization in gellan-xanthan beads." International Journal of Food Microbiology 61.1 (2000): 17-25.
- 66) Bernet, Marie-Francoise, et al. "Adhesion of human bifidobacterial strains to cultured human intestinal epithelial cells and inhibition of enteropathogen-cell interactions." Applied and environmental microbiology 59.12 (1993): 4121-4128.
- 67) Gibson, G. R., and Xin Wang. "Regulatory effects of bifidobacteria on the growth of other colonic bacteria." Journal of Applied Microbiology 77.4 (1994): 412-420.
- 68) Cheikhoussef, Ahmad, et al. "Antimicrobial activity and partial characterization of bacteriocin-like inhibitory substances (BLIS) produced by *Bifidobacterium infantis* BCRC 14602." Food Control 20.6 (2009): 553-559.
- 69) Cheikhoussef, Ahmad, et al. "Bifidin I-A new bacteriocin produced by *Bifidobacterium infantis* BCRC 14602: Purification and partial amino acid sequence." Food Control 21.5 (2010): 746-753.
- 70) Whorwell, Peter J., et al. "Efficacy of an encapsulated probiotic *Bifidobacterium infantis* 35624 in women with irritable bowel syndrome." The American journal of gastroenterology 101.7 (2006): 1581-1590.
- 71) Brenner, Darren M., and William D. Chey. "*Bifidobacterium infantis* 35624: a novel probiotic for the treatment of irritable bowel syndrome." Reviews in gastroenterological disorders 9.1 (2009): 7-15.
- 72) O'Mahony, Liam, et al. "*Lactobacillus* and *bifidobacterium* in irritable bowel syndrome: symptom responses and relationship to cytokine profiles." Gastroenterology 128.3 (2005): 541-551.
- 73) Groeger, David, et al. "*Bifidobacterium infantis* 35624 modulates host inflammatory processes beyond the gut." Gut microbes 4.4 (2013): 325-339.
- 74) Smecuol, Edgardo, et al. "Exploratory, randomized, double-blind, placebo-controlled study on the effects of *Bifidobacterium infantis* natrene life start strain super strain in active celiac disease." Journal of clinical gastroenterology 47.2 (2013): 139-147.
- 75) Fujiwara, Shigeru, et al. "Proteinaceous factor (s) in culture supernatant fluids of bifidobacteria which prevents the binding of enterotoxigenic *Escherichia coli* to ganglioside GM1." Applied and environmental microbiology 63.2 (1997): 506-512.
- 76) Furrle, Elizabeth, et al. "Synbiotic therapy (*Bifidobacterium longum*/Synergy 1) initiates resolution of inflammation in patients with active ulcerative colitis: a randomised controlled pilot trial." Gut 54.2 (2005): 242-249.
- 77) Orrhage, K., B. Brismar, and C. E. Nord. "Effect of supplements with *Bifidobacterium longum* and *Lactobacillus acidophilus* on the intestinal microbiota during administration of clindamycin." Microbial Ecology in Health and Disease 7.1 (1994): 17-25.
- 78) Koning, Catherina JM, et al. "The effect of a multispecies probiotic on the intestinal microbiota and bowel movements in healthy volunteers taking the antibiotic amoxicillin." The American journal of gastroenterology 103.1 (2008): 178-189.
- 79) Ortiz-Lucas, Maria, et al. "Effect of probiotic species on irritable bowel syndrome symptoms: A bring up to date meta-analysis." Rev Esp Enferm Dig 105.1 (2013): 19-36.
- 80) Xiao, Jin-zhong, et al. "Clinical efficacy of probiotic *Bifidobacterium longum* for the treatment of symptoms of Japanese cedar pollen allergy in subjects evaluated in an environmental exposure unit." Allergy international 56.1 (2007): 67-75.
- 81) Takahashi, N., et al. "Immunostimulatory oligodeoxynucleotide from *Bifidobacterium longum* suppresses Th2 immune responses in a murine model." Clinical & Experimental Immunology 145.1 (2006): 130-138.
- 82) Makras, Lefteris, and Luc De Vuyst. "The in vitro inhibition of Gram-negative pathogenic bacteria by bifidobacteria is caused by the production of organic acids." International Dairy Journal 16.9 (2006): 1049-1057.
- 83) LeBlanc, J. G., et al. "B-Group vitamin production by lactic acid bacteria—current knowledge and potential applications." Journal of Applied Microbiology 111.6 (2011): 1297-1309.
- 84) Sinn, Dong Hyun, et al. "Therapeutic effect of *Lactobacillus acidophilus*-SDC 2012, 2013 in patients with irritable bowel syndrome." Digestive diseases and sciences 53.10 (2008): 2714-2718.

- 85) Gao, Xing Wang, et al. "Dose–response efficacy of a proprietary probiotic formula of *Lactobacillus acidophilus* CL1285 and *Lactobacillus casei* LBC80R for antibiotic-associated diarrhea and *Clostridium difficile*-associated diarrhea prophylaxis in adult patients." *The American journal of gastroenterology* 105.7 (2010): 1636-1641.
- 86) Ooi, L-G., et al. "*Lactobacillus acidophilus* CHO-220 and inulin reduced plasma total cholesterol and low-density lipoprotein cholesterol via alteration of lipid transporters." *Journal of dairy science* 93.11 (2010): 5048-5058.
- 87) Rerksuppaphol, Sanguansak, and Lakkana Rerksuppaphol. "A randomized double-blind controlled trial of *Lactobacillus acidophilus* plus *Bifidobacterium bifidum* versus placebo in patients with hypercholesterolemia." *Journal of clinical and diagnostic research: JCDR* 9.3 (2015): KC01.
- 88) Bader J, et al. "Processing, consumption and effects of probiotic microorganisms." *Encyclopedia of Life Support Systems*. (2012).
- 89) Ishida, Y., et al. "Clinical effects of *Lactobacillus acidophilus* strain L-92 on perennial allergic rhinitis: a double-blind, placebo-controlled study." *Journal of Dairy Science* 88.2 (2005): 527-533.
- 90) Ishida, Yu, et al. "Effect of milk fermented with *Lactobacillus acidophilus* strain L-92 on symptoms of Japanese cedar pollen allergy: a randomized placebo-controlled trial." *Bioscience, biotechnology, and biochemistry* 69.9 (2005): 1652-1660.
- 91) Torii, Shinpei, et al. "Effects of oral administration of *Lactobacillus acidophilus* L-92 on the symptoms and serum markers of atopic dermatitis in children." *International archives of allergy and immunology* 154.3 (2011): 236-245.
- 92) Ryan, Kieran A., et al. "Strain-specific inhibition of *Helicobacter pylori* by *Lactobacillus salivarius* and other lactobacilli." *Journal of Antimicrobial Chemotherapy* 61.4 (2008): 831-834.
- 93) Kabir, A. M., et al. "Prevention of *Helicobacter pylori* infection by lactobacilli in a gnotobiotic murine model." *Gut* 41.1 (1997): 49-55.
- 94) Riboulet-Bisson, Eliette, et al. "Effect of *Lactobacillus salivarius* bacteriocin Abp118 on the mouse and pig intestinal microbiota." *PLoS One* 7.2 (2012): e31113.
- 95) European Food Safety Authority (EFSA). "Scientific Opinion on the safety and efficacy of *Lactobacillus salivarius* (CNCM I-3238) n *Lactobacillus casei* (ATCC PTA-6135) as silage additives for all species." *EFSA Journal* 10.9 (2012): 2884.
- 96) Rajkumar, Hemalatha, et al. "Effect of probiotic *Lactobacillus salivarius* UBL S22 and prebiotic fructo-oligosaccharide on serum lipids, inflammatory markers, insulin sensitivity, and gut bacteria in healthy young volunteers: A randomized controlled single-blind pilot study." *Journal of Cardiovascular Pharmacology and Therapeutics* 20.3 (2015): 289-298.
- 97) Wu, K-G., T-H. Li, and H-J. Peng. "*Lactobacillus salivarius* plus fructo-oligosaccharide is superior to fructo-oligosaccharide alone for treating children with moderate to severe atopic dermatitis: a double-blind, randomized, clinical trial of efficacy and safety." *British Journal of Dermatology* 166.1 (2012): 129-136.
- 98) Drago, L., et al. "Effects of *Lactobacillus salivarius* LS01 (DSM 22775) treatment on adult atopic dermatitis: a randomized placebo-controlled study." *International Journal of Immunopathology and Pharmacology* 24.4 (2011): 1037-1048.
- 99) Niedzielin, Krzysztof, Hubert Kordecki, and Bożena Birkenfeld. "A controlled, double-blind, randomized study on the efficacy of *Lactobacillus plantarum* 299v in patients with irritable bowel syndrome." *European Journal of Gastroenterology & Hepatology* 13.10 (2001): 1143-1147.
- 100) Kim, H. Jae, et al. "A randomized controlled trial of a probiotic, VSL# 3, on gut transit and symptoms in diarrhoea-predominant irritable bowel syndrome." *Alimentary Pharmacology & Therapeutics* 17.7 (2003): 895-904.
- 101) Nobaek, Sören, et al. "Alteration of intestinal microflora is associated with reduction in abdominal bloating and pain in patients with irritable bowel syndrome." *The American Journal of Gastroenterology* 95.5 (2000): 1231-1238.
- 102) Nikfar, Shekoufeh, et al. "Efficacy of probiotics in irritable bowel syndrome: a meta-analysis of randomized, controlled trials." *Diseases of the Colon & Rectum* 51.12 (2008): 1775-1780.
- 103) Ducrotté, Philippe, Prabha Sawant, and Venkataraman Jayanthi. "Clinical trial: *Lactobacillus plantarum* 299v (DSM 9843) improves symptoms of irritable bowel syndrome." *World Journal of Gastroenterology: WJG* 18.30 (2012): 4012.
- 104) Kumar, CSV Satish, et al. "Protective effect of *Lactobacillus plantarum* 21, a probiotic on trinitrobenzenesulfonic acid-induced ulcerative colitis in rats." *International Immunopharmacology* 25.2 (2015): 504-510.
- 105) Bibiloni, Rodrigo, et al. "VSL# 3 probiotic-mixture induces remission in patients with active ulcerative colitis." *The American Journal of Gastroenterology* 100.7 (2005): 1539-1546.
- 106) Han, Youngshin, et al. "A randomized trial of *Lactobacillus plantarum* CILP133 for the treatment of atopic dermatitis." *Pediatric Allergy and Immunology* 23.7 (2012): 667-673.
- 107) Mane, J., et al. "A mixture of *Lactobacillus plantarum* CECT 7315 and CECT 7316 enhances systemic immunity in elderly subjects. A dose-response, double-blind, placebo-controlled, randomized pilot trial." *Nutricion Hospitalaria* 26.1 (2011).
- 108) Lönnemark, Elisabet, et al. "Intake of *Lactobacillus plantarum* reduces certain gastrointestinal symptoms during treatment with antibiotics." *Journal of Clinical Gastroenterology* 44.2 (2010): 106-112.
- 109) Naruszewicz, Marek, et al. "Effect of *Lactobacillus plantarum* 299v on cardiovascular disease risk factors in smokers." *The American Journal of Clinical Nutrition* 76.6 (2002): 1249-1255.
- 110) Costabile, Adele, et al. "An in vivo assessment of the cholesterol-lowering efficacy of *Lactobacillus plantarum* ECGC 13110402 in normal to mildly hypercholesterolaemic adults." *PLoS One* 12.12 (2017): e0187964.
- 111) Roškar, Irena, et al. "Effects of a probiotic product containing *Bifidobacterium animalis* subsp. *animalis* IM386 and *Lactobacillus plantarum* MP2026 in lactose intolerant individuals: Randomized, placebo-controlled clinical trial." *Journal of Functional Foods* 35 (2017): 1-8.
- 112) Strus, Magdalena, et al. "Studies on the effects of probiotic *Lactobacillus* mixture given orally on vaginal and rectal colonization and on parameters of vaginal health in women with intermediate vaginal flora." *European Journal of Obstetrics & Gynecology and Reproductive Biology* 163.2 (2012): 210-215.
- 113) Cruchet, Sylvia, et al. "Effect of the ingestion of a dietary product containing *Lactobacillus johnsonii* La1 on *Helicobacter pylori* colonization in children." *Nutrition* 19.9 (2003): 716-721.
- 114) Marcial, Guillermo E., et al. "*Lactobacillus johnsonii* N6. 2 modulates the host immune responses: a double-blind, randomized trial in healthy adults." *Frontiers in immunology* 8 (2017): 655.
- 115) Lau, Kenneth, et al. "Inhibition of type 1 diabetes correlated to a *Lactobacillus johnsonii* N6. 2-mediated Th17 bias." *The Journal of Immunology* 186.6 (2011): 3538-3546.
- 116) Joo, Hyun-Min, et al. "*Lactobacillus johnsonii* HY7042 ameliorates *Gardnerella vaginalis*-induced vaginosis by killing *Gardnerella vaginalis* and inhibiting NF- κ B activation." *International immunopharmacology* 11.11 (2011): 1758-1765.
- 117) Lue, Ko-Haung, et al. "A trial of adding *Lactobacillus johnsonii* EM1 to levocetirizine for treatment of perennial allergic rhinitis in children aged 7–12 years." *International journal of pediatric otorhinolaryngology* 76.7 (2012): 994-1001.
- 118) Michalickova, Danica M., et al. "*Lactobacillus helveticus* Lafti L10 Supplementation Modulates Mucosal and Humoral Immunity in Elite Athletes: A Randomized, Double-Blind, Placebo-Controlled Trial." *The Journal of Strength & Conditioning Research* 31.1 (2017): 62-70.
- 119) Liang, S., et al. "Administration of *Lactobacillus helveticus* NS8 improves behavioral, cognitive, and biochemical aberrations caused by chronic restraint stress." *Neuroscience* 310 (2015): 561-577.
- 120) Chung, Young-Chul, et al. "Fermented milk of *Lactobacillus helveticus* IDCC3801 improves cognitive functioning during cognitive fatigue tests in healthy older adults." *Journal of Functional Foods* 10 (2014): 465-474.
- 121) Jauhainen, Tiina, et al. "*Lactobacillus helveticus* fermented milk lowers blood pressure in hypertensive subjects in 24-h ambulatory blood pressure measurement." *American Journal of Hypertension* 18.12 (2005): 1600-1605.
- 122) Narva, Mirkka, et al. "Effects of long-term intervention with *Lactobacillus helveticus*-fermented milk on bone mineral density and bone mineral content in growing rats." *Annals of Nutrition and Metabolism* 48.4 (2004): 228-234.
- 123) Narva, Mirkka, et al. "The effect of *Lactobacillus helveticus* fermented milk on acute changes in calcium metabolism in postmenopausal women." *European journal of nutrition* 43.2 (2004): 61-68.
- 124) Taverniti, Valentina, and Simone Guglielmetti. "Health-promoting properties of *Lactobacillus helveticus*." *Frontiers in Microbiology* 3 (2012).

- 125) 103) Rizzardini, Giuliano, et al. "Evaluation of the immune benefits of two probiotic strains *Bifidobacterium animalis* ssp. *lactis*, BB-12® and *Lactobacillus paracasei* ssp. *paracasei*, *L. casei* 431® in an influenza vaccination model: a randomised, double-blind, placebo-controlled study." *British Journal of Nutrition* 107.6 (2012): 876-884.
- 126) Riezzo, G., et al. "Randomised clinical trial: efficacy of *Lactobacillus paracasei*-enriched artichokes in the treatment of patients with functional constipation—a double-blind, controlled, crossover study." *Alimentary Pharmacology & Therapeutics* 35.4 (2012): 441-450.
- 127) Costa, D. J., et al. "Efficacy and safety of the probiotic *Lactobacillus paracasei* LP-33 in allergic rhinitis: a double-blind, randomized, placebo-controlled trial (GA2LEN Study)." *European Journal of Clinical Nutrition* 68.5 (2014): 602-607.
- 128) Bendali, Farida, Nassim Madi, and Djamilia Sadoun. "Beneficial effects of a strain of *Lactobacillus paracasei* subsp. *paracasei* in *Staphylococcus aureus*-induced intestinal and colonic injury." *International Journal of Infectious Diseases* 15.11 (2011): e787-e794.
- 129) Tsai, Yueh-Ting, Po-Ching Cheng, and Tzu-Ming Pan. "Immunomodulating activity of *paracasei* subsp. *paracasei* NTU 101 in enterohemorrhagic *Escherichia coli* O157H7-infected mice." *Journal of Agricultural and Food Chemistry* 58.21 (2010): 11265-11272.
- 130) Jankowska, Alicja, et al. "Competition of *Lactobacillus paracasei* with *Salmonella enterica* for adhesion to Caco-2 cells." *BioMed Research International* 2008 (2008).
- 131) Passariello, A., et al. "Randomised clinical trial: efficacy of a new synbiotic formulation containing *Lactobacillus paracasei* B21060 plus arabinogalactan and xyloligosaccharides in children with acute diarrhoea." *Alimentary Pharmacology & Therapeutics* 35.7 (2012): 782-788.
- 132) Sullivan, Åsa, Carl E. Nord, and Birgitta Evengård. "Effect of supplement with lactic-acid producing bacteria on fatigue and physical activity in patients with chronic fatigue syndrome." *Nutrition Journal* 8.1 (2009): 4.
- 133) Al-Omari, Aisha W., Ikhlas Ramadan Matter, and Alaa Hussein Almola. "An overview of Bacteriocins." *Samarra Journal of Pure and Applied Science* 4.2 (2022): 58-72.
- 134) Małaczewska, Joanna, and Edyta Kaczorek-Łukowska. "Nisin—A lantibiotic with immunomodulatory properties: A review." *Peptides* 137 (2021): 170479.
- 135) Le Lay, Christophe, et al. "Nisin is an effective inhibitor of *Clostridium difficile* vegetative cells and spore germination." *Journal of medical microbiology* 65.2 (2016): 169-175.
- 136) Shibata, Takeo, et al. "*Lactococcus lactis* JCM5805 activates anti-viral immunity and reduces symptoms of common cold and influenza in healthy adults in a randomized controlled trial." *Journal of Functional Foods* 24 (2016): 492-500.
- 137) Thu, Nghiem Nguyet, et al. "Impact of Infectious Disease after *Lactococcus lactis* Strain Plasma Intake in Vietnamese Schoolchildren: A Randomized, Placebo-Controlled, Double-Blind Study." *Nutrients* 14.3 (2022): 552.
- 138) Beltrán-Barrientos, Lilia M., et al. "Randomized double-blind controlled clinical trial of the blood pressure-lowering effect of fermented milk with *Lactococcus lactis*: A pilot study." *Journal of Dairy Science* 101.4 (2018): 2819-2825.
- 139) Liu, Meiling, et al. "Protective effects of a novel probiotic strain, *Lactococcus lactis* ML2018, in colitis: in vivo and in vitro evidence." *Food & function* 10.2 (2019): 1132-1145.
- 140) Khemariya, Priti, et al. "Probiotic *Lactococcus lactis*: A review." *Turkish Journal of Agriculture-Food Science and Technology* 5.6 (2017): 556-562.
- 141) Cannarella, Ligia Aparecida Trintin, et al. "Mixture of probiotics reduces inflammatory biomarkers and improves the oxidative/nitrosative profile in people with rheumatoid arthritis." *Nutrition* 89 (2021): 111282.
- 142) Gomes, Aline Corado, et al. "The additional effects of a probiotic mix on abdominal adiposity and antioxidant Status: a double-blind, randomized trial." *Obesity* 25.1 (2017): 30-38.
- 143) Godhia, Meena L., et al. "Colostrum—its Composition, Benefits as a Nutraceutical—A Review." *Curr Res Nutr Food Sci J* 1.1 (2013): 37-47.
- 144) Fortín, A.M., et al. "Determinación de la calidad del calostro bovino a partir de la densidad y de la concentración de IgG y del número de partos de la vaca y su efecto en el desarrollo de los terneros hasta los 30 días de edad." BS thesis. Zamorano: Escuela Agrícola Panamericana, 2012, 2009.
- 145) Shing, C.M. "Effects of bovine colostrum supplementation on immune variables in highly trained cyclists." *J Appl Physiol* 102.3 (2007): 1113-22.
- 146) Jones, A.W., et al. "The effects of bovine colostrum supplementation on in vivo immunity following prolonged exercise: a randomised controlled trial." *Eur J Nutr* (2017): 1-10.
- 147) Kotsis, Yiannis, et al. "A low-dose, 6-week bovine colostrum supplementation maintains performance and attenuates inflammatory indices following a Loughborough Intermittent Shuttle Test in soccer players." *Eur J Nutr* (2017): 1-15.
- 148) Crooks, Christine, et al. "Effect of bovine colostrum supplementation on respiratory tract mucosal defenses in swimmers." *Int J Sport Nutr Exerc Metab* 20.3 (2010): 224-235.
- 149) Jones, A.W., et al. "Effects of bovine colostrum supplementation on upper respiratory illness in active males." *Brain Behav Immun* 39 (2014): 194-203.
- 150) Kaducu, F.O., et al. "Effect of bovine colostrum-based food supplement in the treatment of HIV-associated diarrhea in Northern Uganda: a randomized controlled trial." *Indian Journal of Gastroenterology* 30.6 (2011): 270-276.
- 151) Mitra, AK., et al. "Hyperimmune cow colostrum reduces diarrhoea due to rotavirus: a double-blind, controlled clinical trial." *Acta Paediatrica* 84.9 (1995): 996-1001.
- 152) Playford, Raymond J., et al. "Co-administration of the health food supplement, bovine colostrum, reduces the acute non-steroidal anti-inflammatory drug-induced increase in intestinal permeability." *Clinical Science* 100.6 (2001): 627-633.
- 153) Dzik, Sara, et al. "Properties of bovine colostrum and the possibilities of use." *Polish Annals of Medicine* 24.2 (2017): 295-299.
- 154) Institute of Food Technologists (IFT). What are fructooligosaccharides and how do they provide digestive, immunity and bone health benefits?. *ScienceDaily* (2013).
- 155) Gibson, Glenn R. "Dietary modulation of the human gut microflora using the prebiotics oligofructose and inulin." *The Journal of nutrition* 129.7 (1999): 1438S-1441S.
- 156) Flamm, Gary, et al. "Inulin and oligofructose as dietary fiber: a review of the evidence." *Critical reviews in food science and nutrition* 41.5 (2001): 353-362.
- 157) Cardarelli, Haïssa R., et al. "Inulin and oligofructose improve sensory quality and increase the probiotic viable count in potentially synbiotic petit-suisse cheese." *LWT-Food Science and Technology* 41.6 (2008): 1037-1046.
- 158) Robinson, Ramona R., Joellen Feirtag, and Joanne L. Slavin. "Effects of dietary arabinogalactan on gastrointestinal and blood parameters in healthy human subjects." *Journal of the American College of Nutrition* 20.4 (2001): 279-285.
- 159) Gibson, Glenn R. "Dietary modulation of the human gut microflora using the prebiotics oligofructose and inulin." *The Journal of nutrition* 129.7 (1999): 1438S-1441S.
- 160) Flamm, Gary, et al. "Inulin and oligofructose as dietary fiber: a review of the evidence." *Critical reviews in food science and nutrition* 41.5 (2001): 353-362.
- 161) Van Loo, Jan, et al. "On the presence of inulin and oligofructose as natural ingredients in the western diet." *Critical Reviews in Food Science & Nutrition* 35.6 (1995): 525-552.
- 162) Niness, Kathy R. "Inulin and oligofructose: what are they?." *The Journal of nutrition* 129.7 (1999): 1402S-1406S.
- 163) Rao, A. V. "Dose-response effects of inulin and oligofructose on intestinal bifidogenesis effects." *The Journal of nutrition* 129.7 (1999): 1442S-1445S.
- 164) Samanta, A. K., et al. "Xylooligosaccharides as prebiotics from agricultural by-products: Production and applications." *Bioactive Carbohydrates and Dietary Fibre* 5.1 (2015): 62-71.
- 165) Wang, Jing, et al. "Wheat bran xylooligosaccharides improve blood lipid metabolism and antioxidant status in rats fed a high-fat diet." *Carbohydrate Polymers* 86.3 (2011): 1192-1197.
- 166) Palaniappan, Ayyappan, Usha Antony, and Mohammad Naushad Emmambux. "Current status of xylooligosaccharides: Production, characterization, health benefits and food application." *Trends in Food Science & Technology* 111 (2021): 506-519.