



Why AB-BIOTICS?

We offer a diversified product range to meet the needs of our partners

Research and development of a vast generation of natural probiotic strains formulated not only to meet therapeutic needs but also to maintain human health.

Clinically-proven probiotic solutions

- 1. Development of probiotic blends with relevant medical applications for every stage of life.
- 2. Complete in vitro and in vivo investigation process.
- 3. Clinical validation in humans. Gold standard randomised, double-blind, placebo-controlled clinical trials.



Unique strains with characterized mechanism of action

- Collection of hundreds of bacteria strains, creating a private strain bank. Microbiota samples taken from non-industrialised societies (human resident bacteria).
- 2. Characterisation of the strains' mechanism of action, after selecting those with outstanding phenotypes
- 3. Patent protection.

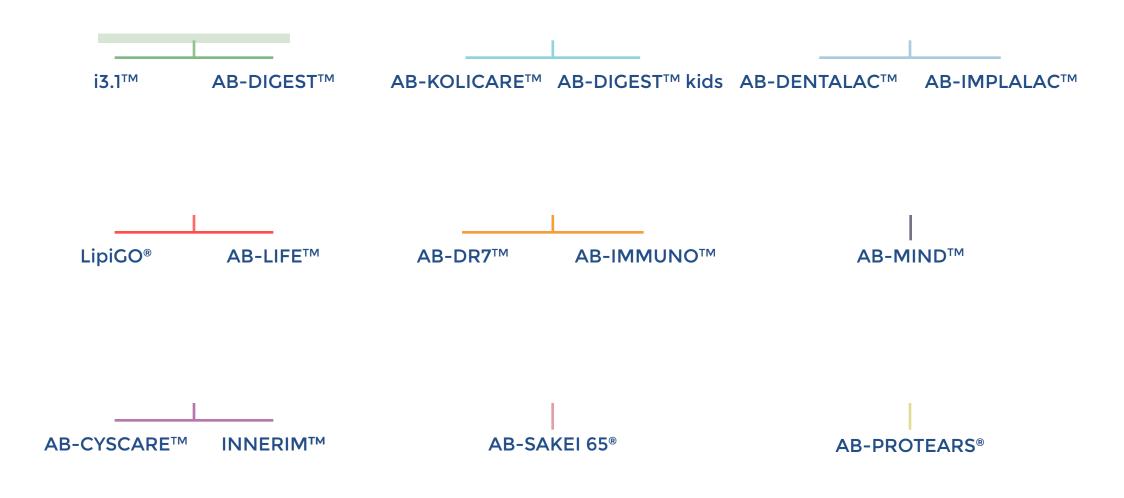
Ready-to-market products

- Generation of the final product concept (dose, delivery form, formulation and posology), following all quality and regulatory processes.
- 2. Development of a value proposition and positioning of the final product, taking into consideration specific market needs and competitors.
- 3. Proven safety and efficacy.





Therapeutic areas and finished products







Our probiotic strains



Pediococcus acidilactici KABP™ 021	CECT 7483	 → Antagonistic activity against IBS-related bacteria → Synthesis of SCFA (acetate)
Lactiplantibacillus plantarum KABP™ 022	CECT 7484	Enhancement of the intestinal barrier via synthesis of poly-P granules Reduction of inflammation through the production of acetylcholine Antagonistic activity against IBS-related pathogenic bacteria Synthesis of SCFA (acetate)
Lactiplantibacillus plantarum KABP™ 023	CECT 7485	
Lacticaseibacillus rhamnosus GG	ATCC 531033	 → Strong adhesive capacity to the intestinal epithelium → Modulation of the innate and adaptative immune responses → Synthesis of p40 and p75 proteins, that protect the epithelial barrier, enhance intestinal cells' function and promote the production of IgA → Antagonistic activity against gastrointestinal tract pathogens
Bifidobacterium longum KABP™ 042	CECT 7894	 → Antagonistic activity against colic-related pathogenic bacteria → Digestion of HMOs, supporting a healthy gut colonisation → Homofermentative metabolism (no CO₂ production)
Pediococcus pentosaceus KABP™ 041	CECT 8330	 → Induction of anti-inflammatory molecules (IL-10) → Homofermentative metabolism (no CO₂ production)
Lactiplantibacillus plantarum KABP™ 051	CECT 7481	→ Good aggregation and adhesion to tissues in the oral cavity, preventing overgrowth of undesirable bacteria
Levilactobacillus brevis KABP™ 052	CECT 7480	→ Good tolerance against lysozyme and most antiseptics found in mouthwashes
Pediococcus acidilactici KABP™ 053	CECT 8633	 → Antagonistic activity against oral pathogenic bacteria → Low production of acid and malodorous compounds





Our probiotic strains



Lactiplantibacillus plantarum KABP™ 011	CECT 7527	
Lactiplantibacillus plantarum KABP™ 012	CECT 7528	 → Modification of the enterohepatic cycle through a high BSH activity → Capacity to capture intestinal cholesterol, promoting its excretion
Lactiplantibacillus plantarum KABP™ 013	CECT 7529	
Saccharomyces cerevisiae postbiotic	BGCC extact	 → Specific binding to saturated fats, limiting its absorption through the intestinal wall → Beneficial effects on the metabolism of glucose, reducing blood insulin levels after a meal
Lactobacillus plantarum DR7®	KCTC 13909BP	 Regulation of neuroactive molecules, with effects on the serotonin-kynurenine pathway and dopamine-norepinephrine pathway Modification of gut bacteria concentrations affecting the gut-brain axis Improvement of anti-inflammatory (IL-10) versus pro-inflammatory (TNF-α, IFN-γ) signals Reduction of stress-associated molecules (cortisol) plasma levels. Antioxidative properties Direct antagonistic activity against pathogens linked with URTIs
Lactiplantibacillus plantarum KABP™ 031	CECT 7315	 Synthesis of acetate linked with an increase in IgA (increased immune protection and induction of T-cells Modulation of several anti and proinflammatory cytokines Reduction of TGF-β1, diminishing immunosupression
Lactiplantibacillus plantarum KABP™ 032	CECT 7316	





Our probiotic strains



Latilactobacillus sakei proBio 65	KCTC 10755BP	 → Stimulation of regulatory lymphocites, linked with an increased production of several cytokines (IL-10, IL-12, IL-17, IFN-γ) → Reduction of chemokines associated with allergic responses and inflammatory processes
Lactiplantibacillus plantarum KABP™ 062	CECT 8675	 → Antagonistic activity against uropathogenic bacteria → Survival of the vaginal environment → Biofilm formation and acidification capacity, preventing overgrowth of undesirable bacteria
Lactiplantibacillus plantarum KABP™ 063	CECT 8677	
Lactiplantibacillus plantarum KABP™ 061	CECT 7504	 → Antagonistic activity against pathogenic bacteria linked with infections such as bacterial vaginosis → High adhesion capacity to the vaginal epithelium → Acidification capacity preventing overgrowth of undesirable bacteria → Antagonistic activity against Candida spp. High resistance to simulated candidiasis vaginal environment

Our probiotic blends - Gastrointestinal health









STICKS

DROPS

i3.1TM

P. acidilactici KABP™ 021

L. plantarum KABP™ 022

L. plantarum KABP™ 023

Indication

- → Irritable bowel syndrome (IBS)
- → Lactose intolerance
- → Digestive wellbeing

Daily dose in final product: 3 billion CFU

Scientific support

- **1.** Lorenzo-Zúñiga V, et al. i.31, a new combination of probiotics, improves irritable bowel syndrome-related quality of life. World J. Gastroenterol. 20, 8709–8716 (2014).
- **2.** Barraza-Ortiz DA, et al. Combination of a probiotic and an antispasmodic increases quality of life and reduces symptoms in patients with irritable bowel syndrome: a pilot study. Dig. Dis. (2020)
- **3.** Cano-Contreras A, et al. Efficacy of probiotic i3.1 symptomatic improvement in patients with lactose intolerance. J Clin. Gastroenterol. (2020).
- **4.** Lorén V, et al. Comparative effect of the i3.1 probiotic formula in two animal models of colitis. Probiotics Antimicrob. Proteins. 9, 71–80 (2017).
- **5.** Perez M, et al. Derived postbiotics of a multi-strain probiotic formula clinically validated for the treatment of Irritable bowel syndrome. FASEB J. 34, 1–1 (2020).

Additional compounds: Vitamin D







SHOTS

STICKS

AB-DIGEST™

B. longum KABP™ 042

P. pentosaceus KABP™ 041

L. rhamnosus GG

Indication

- → Diarrhea, antibiotic co-treatment
- → Microbiota restoration
- → Immune support

Daily dose in final product: 6 billion CFU

Scientific support*

- **1.** Hempel S, et al. Probiotics for the prevention and treatment of antibiotic-associated diarrhea: a systematic review and metanalysis. JAMA. 9, 1959–69 (2012).
- **2.** Szajewska H, et al. Systematic review with meta-analysis: *Lactobacillus rhamnosus* GG in the prevention of antibiotic-associated diarrhoea in children and adults. Aliment. Pharmacol. Ther. 42, 1149-57 (2014).
- **3.** Tintore M, et al. Probiotic treatment with AB-KOLICARE causes changes in the microbiota which correlate with a reduction in crying time. Int. J. pharma Bio Sci. 8, 281-288 (2017).
- **4.** Astó E, et al. Equivalence of a novel *Lactobacillus rhamnosus* isolate to the reference ATCC53103 strain. Poster presented at SEPyP congress (2018).

Additional compounds: Inulin, Fructooligosaccharides (FOS), Zinc



Our probiotic blends - Pediatric health



AB-KOLICARE™

B. longum KABP™ 042
P. pentosaceus KABP™ 041

Indication

- → Infant colic
- → Microbiota development

Daily dose in final product: 1 billion CFU

Scientific support

- **1.** Santas JM, et al. *Pediococcus pentosaceus* CECT 8330 and *Bifidobacterium longum* CECT 7894 show a trend towards lowering infantile excessive crying syndrome in a pilot clinical trial. Int J Pharm Bio Sci. 6, 458-466 (2015).
- **2.** Navarro-Tapia E, et al. Patient characteristics influencing infant colic amelioration under a probiotic treatment. Ann. Nutr. Metab. 74, 1–31 (2019).
- **3.** Chen K, et al. The efficacy of 3 week's daily supplementation with a two-combined probiotic strains on infant colic. Manuscript submitted.
- **4.** Tintore M, et al. Probiotic treatment with AB-KOLICARE causes changes in the microbiota which correlate with a reduction in crying time. Int. J. pharma Bio Sci. 8, 281-288 (2017).
- **5.** Tintore M, et al. Gut microbiota dysbiosis and role of probiotics in infant colic. Arch. Clin. Microbiol. 08, 56 (2017).

Additional compounds: Vitamin D









SHOTS

STICKS

DROPS

AB-DIGEST™

- B. longum KABP™ 042
 P. pentosaceus KABP™ 041
- L. rhamnosus GG

Indication

- → Diarrhea, antibiotic co-treatment
- → Microbiota restoration
- → Immune support

Daily dose in final product: 6 billion CFU

Scientific support*

- **1.** Szajewska H, et al. Meta-analysis: *Lactoba-cillus* GG for treating acute gastroenteritis in children--updated analysis of randomised controlled trials. Aliment Pharmacol Ther. 38, 467–76 (2013).
- **2.** Szajewska H, et al. Systematic review with meta-analysis: *Lactobacillus rhamnosus* GG in the prevention of antibiotic-associated diarrhoea in children and adults. Aliment Pharmacol Ther. 42, 1149–57 (2015).
- **3.** Tintore M, et al. Probiotic treatment with AB-KOLICARE causes changes in the microbiota which correlate with a reduction in crying time. Int. J. pharma Bio Sci. 8, 281-288 (2017).
- **4.** Astó E, et al. Equivalence of a novel *Lactobacillus rhamnosus* isolate to the reference ATCC53103 strain. Poster presented at SEPyP congress (2018)

Additional compounds: Inulin, Fructooligosaccharides (FOS), Zinc





Our probiotic blends - Oral health









VIALS

GUMS

AB-DENTALAC™

L. plantarum KABP™ 051

L. brevis KABP™ 052

P. acidilactici KABP™ 053

Indication

- → Protection after oral surgery
- → Gingivitis, caries, halitosis, ndental plaque
- → Teeth whitening

Daily dose in final product: 1 billion CFU

Scientific support

- **1.** Montero E, et al. Clinical and microbiological effects of the adjunctive use of probiotics in the treatment of gingivitis: A randomized controlled clinical trial. J. Clin. Periodontol. 44, 708–716 (2017).
- 2. Ferrés-Amat E, et al. Probiotics diminish the post-operatory pain following mandibular third molar extraction: A randomised double-blind controlled trial (pilot study). Benef. Microbes 11, 631–639 (2020).
- **3.** Calabuig RP, et al. Oral probiotic reduces pain after third molar extraction procedure. Poster presented at SEPyP congress (2019).
- **3.** Bosch M, et al. Isolation and characterization of probiotic strains for improving oral health. Arch Oral Biol. 57, 539-349 (2012).

Additional compounds: Vitamin D







TABLETS

VIALS

AB-IMPLALACTM

P. acidilactici CECT 8904

P. pentosaceus CECT 8905

P. acidilactici CECT 8906

Indication

- → Peri-implantitis prevention
- → Oral microbiota balance

Daily dose in final product: 1 billion CFU

Scientific support

1. Clinical trial on-going: evaluation of the improvement of peri-implantitis state in implants treated with probiotics.

Additional compounds: Vitamin D



Our probiotic blends - Cardiometabolic health









STICKS

DROPS

AB-LIFE™

L. plantarum KABP™ 011 L. plantarum KABP™ 012 L. plantarum KABP™ 013

Indication

- → High cholesterol
- → High triglycerides

Daily dose in final product: 1.2 billion CFU

Scientific support

- 1. Fuentes MC. et al. A randomized clinical trial evaluating a proprietary mixture of Lactobaci*llus plantarum* strains for lowering cholesterol. Med. J. Nutrition Metab. 9, 125-135 (2016).
- 2. Espadaler J, et al. Demographic and clinical characteristics influencing the effects of a cholesterol-lowering probiotic. Ann. Nutr. Metab. 74, 1-31 (2019).
- 3. Bosch M, et al. Lactobacillus plantarum CECT 7527, 7528 and 7529: Probiotic candidates to reduce cholesterol levels. J. Sci. Food Agric. 94, 803-809 (2014).
- 4. Kim DH, et al. Effect of mixture of Lactobacillus plantarum CECT 7527, 7528, and 7529 on obesity and lipid metabolism in rats fed a high-fat diet. J. Korean Soc. Food Sci. Nutr. 43, 1484-1490 (2014).
- 5. Mukerji P, et al. Safety evaluation of AB-LIFE®: Antibiotic resistance and 90-day repeated-dose study in rats. Food Chem. Toxicol. 92, 117-128 (2016).
- 6. Guerrero L, et al. Effect of AB-LIFE in combination with 10 mg of Monacolin K. Manuscript under preparation.

Additional compounds: Vitamin B1, Omega 3 (alpha linolenic acid)



STICKS

LipiGO®

Saccharomyces cerevisiae postbiotic (BGCC extract)

Indication

- → Prevents rebound effect
- → Safe weight loss
- → Overweight and type I obesity

Daily dose in final product: 3000 mg

Scientific support

- 1. Santas J, et al. Effect of a polysacchariderich hydrolysate from Saccharomyces cerevisiae (LipiGO®) in body weight loss: randomised, double-blind, placebo-controlled clinical trial in overweight and obese adults. J Sci Food Agric. 97, 4250-7 (2017).
- 2. Gómez-Candela C. et al. Clinical trial to assess the benefits of regular consumption of LipiGO® on the weight rebound effect postdiet in obese and overweight individuals. Manuscript under preparation.
- 3. Santas J, et al. Polysaccharide-rich hydrolysate from Saccharomyces cerevisiae (Lipi-GO®) increases fatty acid and neutral sterol excretion in guinea pigs fed with hypercholesterolemic diets. Eur J Lipid Sci Technol. 119, 17001-04 (2017).



Our probiotic blends - Brain health







CAPSULES STICKS

AB-MINDTM

L. plantarum DR7

Indication

- → Stress and anxiety
- → Emotional well-being
- → Memory and cognition

Daily dose in final product: 1 billion CFU

Scientific support

- **1.** Chong HX, et al. *Lactobacillus plantarum* DR7 alleviates stress and anxiety in adults: A randomised, double-blind, placebo-controlled study. Benef. Microbes 10, 355–373 (2019).
- **2.** Liu G, et al. *Lactobacillus plantarum* DR7 modulated bowel movement and gut microbiota associated with dopamine and serotonin pathways in stressed adults. Int. J. Mol. Sci. 21, 4608 (2020).
- **3.** Lew LC, et al. Effects of potential probiotic strains on the fecal microbiota and Metabolites of d-Galactose-Induced Aging Rats Fed with High-Fat Diet. Probiotics Antimicrob. Proteins 12, 545–562 (2020).

Additional compounds: Magnesium



Our probiotic blends - Immune health









STICKS

DROPS

AB-DR7™

L. plantarum DR7

Indication

- → Upper respiratory tract infections (URTIs)
- → Respiratory health

Daily dose in final product: 1 billion CFU

Scientific support

- **1.** Chong HX, et al. *Lactobacillus plantarum* DR7 improved upper respiratory tract infections via enhancing immune and inflammatory parameters: A randomized, double-blind, placebo-controlled study. J. Dairy Sci. 102, 4783–4797 (2019).
- **2.** Altadill T, et al. Does *Lactoplantibacillus plantarum* DR7 reduce days of upper respiratory tract infections and fever? A post-hoc analysis of a randomized, placebo-controlled trial. FASEB Journal (2021).
- **3.** Baud D, et al. Using probiotics to flatten the curve of coronavirus disease COVID-2019. Pandemic. Front. Public Heal. 8, (2020).
- **4.** Lew LC, et al. Effects of potential probiotic strains on the fecal microbiota and metabolites of d-galactose-induced aging rats fed with high-fat diet. Probiotics Antimicrob. Proteins. 12, 545–562 (2020).

Additional compounds: Vitamin D, C, Zinc









CAPSULES

STICKS

DROPS

AB-IMMUNOTM

L. plantarum KABP™ 031 L. plantarum KABP™ 032

Indication

- → Immunity support
- → Immunosenescence prevention

Daily dose in final product: 1 billion CFU

Scientific support

- 1. Mañé 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. Nutr. Hosp. 26, 228-235 (2011).
- **2.** Bosch M, et al. El consumo del probiótico *Lactobacillus plantarum* CECT 7315/7316 mejora el estado de salud general en personas de edad avanzada. Nutr. Hosp. 26, 642-645 (2011).
- **3.** Bosch M, et al. *Lactobacillus plantarum* CECT 7315 and CECT 7316 stimulate immunoglobulin production after influenza vaccination in elderly Nutr. Hosp. 27, 504–509 (2012).
- **4.** Vilahur G, et al. *Lactobacillus plantarum* CECT 7315/7316 intake modulates the acute and chronic innate inflammatory response. Eur. J. Nutr. 54, 1161–1171 (2015).
- **5.** Bosch M, et al. Probiotic properties of *Lactobacillus plantarum* CECT 7315 and CECT 7316 isolated from faeces of healthy children. Lett. Appl. Microbiol. 54, 240–246 (2012).

Additional compounds: Vitamin B₉, B₆, B₁₀, C, A, Zinc, Selenium



Our probiotic blends - Skin health







CAPSULES

STICKS

AB-SAKEI 65®

L. sakei proBio 65

Indication

- → Atopic dermatitis
- → Skin redness and discomfort

Daily dose in final product: 5 billion CFU

Scientific support

- **1.** Woo SI, et al. Effect of *Lactobacillus sakei* supplementation in children with atopic eczema-dermatitis syndrome. Ann. Allergy, Asthma Immunol. 104, 343–348 (2010).
- **2.** Park SB, et al. Effect of emollients containing vegetable-derived lactobacillus in the treatment of atopic dermatitis symptoms: Split-body clinical trial. Ann. Dermatol. 26, 150–155 (2014).
- **3.** Rather IA, et al. Oral administration of live and dead cells of *Lactobacillus sakei* proBio65 alleviated atopic dermatitis in children and adolescents: a randomized, double-blind, and placebo-controlled Study. Probiotics Antimicrob. Proteins (2020).
- **4.** Lim J, et al. Immune-modulating characteristics of *Lactobacillus sakei* proBio65 isolated from Kimchi. Korean J. Microbiol. Biotechnol. 39, 313-316 (2011).
- **5.** Kim JY, et al. Atopic dermatitis-mitigating effects of new *Lactobacillus* strain, *Lactobacillus* sakei probio 65 isolated from Kimchi. J. Appl. Microbiol. 115, 517–526 (2013).

Additional compounds: Zinc



Our probiotic blends - Women's health





AB-CYSCARE™

L. plantarum KABP™ 062 L. plantarum KABP™ 063

Indication

- → Urinary tract infections (UTIs)
- → Urogenital microbiota balance

Daily dose in final product: 1 billion CFU

Scientific support*

- **1.** Simón E, et al. Screening of *Lactobacilli* strains of human origin candidates for the prevention of urinary tract infections. Ann. Nutr. Metab. 74, 1–31 (2019).
- **2.** Padayatty SJ, et al. Vitamin C as an antioxidant: evaluation of its role in disease prevention. J Am Coll Nutr. 22, 18-35 (2003)
- **3.** Ochoa-Brust GJ, et al. Daily intake of 100 mg ascorbic acid as urinary tract infection prophylacticagent during pregnancy. Acta. Obstet. Gynecol. Scand. 86, 783-7 (2007).
- **4.** Wang CH, et al. Cranberry-containing products for prevention of urinary tract infections in susceptible populations: a systematic review and meta-analysis of randomized controlled trials. Arch Intern Med. 172, 988-96 (2012).
- **5.** Salo J, et al. Cranberry juice for the prevention of recurrences of urinary tract infections in children: a randomized controlled trial. Clin Infect Dis. 54, 340-6 (2012).

Additional compounds: Cranberry extract, Vitamin C







INNERIMTM

L. plantarum KABP™ 061

Indication

- → Vaginal candidiasis
- → Vaginal microbiota balance

Daily dose in final product: 0.1 billion CFU

Scientific support

- 1. Palacios S, et al. Is it posible to prevent recurrent vulvovaginitis? Role of *Lactobacillus plantarum* 11001 (CECT7504). Eur J Clin Microbiol. Infect. Dis. 35, 1701-8 (2016).
- **2.** Clinical trial on-going: Interventional study to evaluate the effect of the oral administration of L. plantarum on vaginal microbiota (NCT04461782).





Our probiotic blends - Eye health



EYE DROPS

AB-PROTEARS®

L. sakei proBio 65

Indication

- → Ocular irritation
- → Allergies and inflammation of the eye surface

Daily dose in final product: 1 billion CFU

Scientific support

- 1. Clinical trial on-going
- **2.** *In vivo* testing for skin sensibilization and ocular irritation



Quality standards



patented products



clinically-proven and safe



organic strains, natural origin



allergen-free



Qualified Presumption of Safety status (EFSA)



not modified genetically



Generally Recognised as Safe (FDA) and/or Natural Product Number (Health Canada)



As a leading B2B company with global presence:

We support our partners throughout product lifespan

R&D, market access and marketing specialists. Complete, personalised support every step of the way

We adapt to our partners' aspirations and needs

Co-development of probiotic solutions following market trends



www.ab-biotics.com