



BIOITHAS
PROBIOTICS

Food supplements based on
PROBIOTICS

VADEMECUM
product portfolio

Take care of your **health** through your **microbiota**



Bioithas **DERMA**

for **skin** health and care



 **30 capsules**

DAILY DOSE

1 capsule/day

HOW TO USE

Take preferably together with breakfast



GLUTEN free



LACTOSE free



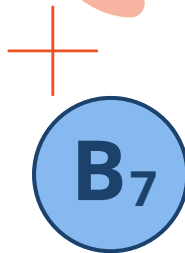
GMO free

Bioithas DERMA is a capsule food supplement which contains **probiotics**, selected based on published scientific evidences, and **biotin**. It is specially design for **skin health and care**.



PROBIOTIC STRAINS $\geq 1 \times 10^9$ cfu/cap

Lacticaseibacillus rhamnosus
Bifidobacterium longum



BIOTIN

Contributes to the maintenance of the skin in normal conditions

10 μ g/cap
(20% NRV)



Maintaining the **skin in optimal conditions**



Pruritus and **eczema** in atopic skin



Hyperkeratosis in psoriatic skin



Sensitive skin prone to **irritation**

INGREDIENTS

Bulking agent (cellulose), coating agent (hydroxypropylmethylcellulose), mixture of *Lacticaseibacillus rhamnosus* and *Bifidobacterium longum*, anti-caking agents (magnesium salts of fatty acids and silicon dioxide), biotin.

Bioithas **DERMA**

for **skin** health and care

The **probiotic strains** included in **Bioithas DERMA** are ***Bifidobacterium longum* Bths-05 (CECT 30615)** and ***Lactocaseibacillus rhamnosus* Bths-08 (CECT 30580)**.

Bacteria that commonly inhabit the human body, especially in the gastrointestinal tract and the urinary and genital systems, are included in *Lactobacillus* genus. These bacteria produce lactic acid, acidifying the pH and inhibiting the growth of pathogenic bacteria.

Bifidobacterium genus comprises bacteria that are widely distributed in the intestinal tract of mammals, birds and insects. They are present in the human intestine, mainly in children, since they are among the first bacteria to colonize the intestine of neonates.

Many species of these two genera are attributed a wide variety of health benefits, with the bacteria being most used as probiotics due to their great effectiveness demonstrated in a multitude of clinical trials.

Both bacterial species *Lactobacillus rhamnosus* (currently renamed taxonomically as *Lactocaseibacillus rhamnosus*) and *Bifidobacterium longum* are included in the list of species with QPS (Qualified Presumption of Safety) status of the European Food Safety Authority (EFSA).

Several clinical trials have demonstrated the effectiveness and safety of using probiotics in skin diseases as atopic dermatitis, psoriasis, acne, rosacea and wound healing, among others. [1]

A randomized, double-blind and placebo-controlled clinical trial with 90 patients with psoriasis showed that, compared to a placebo, the probiotic mixture under study (which included strains of the species *B. longum* and *L. rhamnosus*, in addition to *B. lactis*) helped in reducing the disease severity index (PASI75) in 66.7% of patients, compared to 41.9% in placebo. In addition, 6 months after completing the study, patients who had taken the probiotic had a lower risk of new outbreaks of the disease. [2]

Secondly, a randomized, double-blind, placebo-controlled clinical trial with 50 patients (aged 4 to 17 years) with moderate atopic dermatitis, demonstrated that the intake of a probiotic preparation (which included *B. longum*) for 12 weeks achieved a reduction of SCORAD (*Scoring of Atopic Dermatitis* index) of 83% in the probiotic group and 24% in the placebo group. Additionally, a significant reduction in the use of topical steroids to treat flares was also observed in the probiotic group. [3] The results of this study were corroborated in a second clinical trial with the same design, but with a larger number of participants. [4]

L. rhamnosus species has been used (alone or with other strains) in other clinical trials in children with atopic dermatitis or eczema, showing greater improvement in symptoms compared to a placebo in all cases. [5-7]

In addition, **Bioithas DERMA** contains **biotin**, that contributes to maintain the skin in normal condition.

REFERENCES

- [1] Navarro-López V, et al. *Microorganisms* **2021**; 9(7):1513.
- [2] Navarro-López V, et al. *Acta Derm Venereol* **2019**; 99(12):1078-84.
- [3] Navarro-López V, et al. *JAMA Dermatol* **2018**; 154(1):37-43.
- [4] Feíto-Rodríguez M, et al. *Clin Exp Dermatol* **2023**; llad007.
- [5] Wu YJ, et al. *J Microbiol Immunol Infect* **2017**; 50(5):684-92.
- [6] Rosenfeldt V, et al. *J Allergy Clin Immunol* **2003**; 111(2):389-95.
- [7] Isolauri E, et al. *Clin Exp Allergy* **2000**; 30(11):1604-10.

Bioithas DIGEST

for **intestinal** comfort and well-being



 **30** capsules

DAILY DOSE

1 capsule/day

HOW TO USE

Take preferably together with breakfast



GLUTEN free

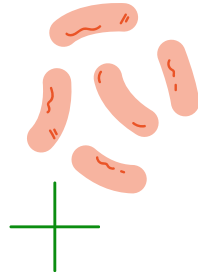


LACTOSE free



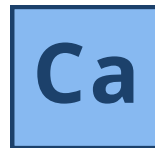
GMO free

Bioithas DIGEST is a capsule food supplement which contains **probiotics**, selected based on published scientific evidences, and **calcium**. It is specially design for **intestinal comfort and well-being**.



PROBIOTIC STRAINS $\geq 1 \times 10^9$ cfu/cap

Kluyveromyces marxianus
Lactacaseibacillus rhamnosus



CALCIUM

which contributes to the normal functioning of digestive enzymes

120 mg/cap
(15% NRV)



Irritable Bowel Syndrome (**IBS**)



Diarrhea associated with **antibiotic** consumption



Traveler's diarrhea



Gastroenteritis



Dyspepsia and **abdominal pain**

INGREDIENTS

Calcium carbonate (calcium), bulking agent (cellulose), coating agent (hydroxypropylmethylcellulose), mixture of *Lactacaseibacillus rhamnosus* and *Kluyveromyces marxianus*, anti-caking agents (magnesium salts of fatty acids and silicon dioxide).

Bioithas **DIGEST**

for **intestinal** comfort and well-being

The **probiotic strains** included in **Bioithas DIGEST** are ***Lactacaseibacillus rhamnosus* Bths-07 (CECT 30579)** and ***Kluyveromyces marxianus* Bths-04 (CECT 13203)**.

Bacteria of the *Lactobacillus* genus are usually benign and inhabit the human body, especially the gastrointestinal tract and the urinary and genital systems. These bacteria produce lactic acid, acidifying the pH and inhibiting the growth of pathogenic bacteria. Many species of this genus are attributed a wide variety of health benefits, some of which are most commonly used as probiotics due to their great effectiveness demonstrated in a multitude of clinical trials.

Kluyveromyces marxianus is the first yeast not belonging to *Saccharomyces* genus with probiotic activity that exists on the market. *K. marxianus* remains viable after consumption, overcoming the gastric barrier and colonizing the intestine by adhering to the enterocytes in the intestinal epithelium. In addition, it has the ability to regulate intestinal activity during antibiotic therapy, thanks to the intrinsic resistance of yeasts to antibiotics. It also has β -galactosidase activity, absent in strains of the *Saccharomyces* genus, so it has the ability to degrade lactose, which may be useful to reduce the effects of intolerance in susceptible individuals. [1]

Both *Kluyveromyces marxianus* and *Lactobacillus rhamnosus* (now *Lactacaseibacillus rhamnosus*) are included in the list of species with QPS (Qualified Presumption of Safety) status of the European Food Safety Authority (EFSA).

Several clinical trials have demonstrated the efficacy and safety of probiotic use in the treatment of digestive symptoms. A meta-analysis concludes that there is a strong scientific evidence of the benefit of probiotic in the treatment of diarrhea, both in adults and especially in children. Among the most used probiotic in clinical trial, *Sacharomyces boulardii*, a yeast with similar characteristics to *K. marxianus*, and *L. rhamnosus* stand out. [2-4]

Highlighting some clinical trials: A randomized, double-blind and placebo controlled study evaluated children with functional dyspepsia, Irritable Bowel Syndrome (IBS) or abdominal functional pain, and results showed that patients who received the probiotic *L. rhamnosus* better controlled the abdominal pain. Regarding the patients with IBS, children receiving *L. rhamnosus* had a higher response compared with placebo (33% vs. 5%). [5] Another trial in children with gastroenteritis (caused by rotavirus or *Cryptosporidium*) showed that with the intake of *L. rhamnosus*, less number of children had repeated episodes of diarrhea, in addition to less deterioration in intestinal function. [6]

Another clinical trial studied the effect of the intake of a preparation containing *K. marxianus* in the symptoms of IBS, and abnormal bowel movements were reduced. Patients' global self-assessment showed a significant improvement in patients treated with *K. marxianus* compared with those receiving the standard treatment. [7]

In addition, **Bioithas DIGEST** contains **calcium**, which contributes to the normal functioning of digestive enzymes.

REFERENCES

- [1] Quarella S, et al. *Genome Announc* **2016**; 4(5):e00923-16.
- [2] Sazawal S, et al. *Lancet Infect Dis* **2006**; 6(6):374-82.
- [3] Hayes SR, Vargas AJ. *Explore (NY)* **2016**; 12(6):463-6.
- [4] Guarino A, et al. *J Clin Gastroenterol* **2015**; 49, Suppl 1:S37-45.
- [5] Gawrońska A, et al. *Aliment Pharmacol Ther* **2007**; 25(2):177-84.
- [6] Sindhu KN, et al. *Clin Infect Dis* **2014**; 58(8):1107-15.
- [7] Lisotti A, et al. *Minerva Gastroenterol Dietol* **2011**.

Bioithas **INMUNE**

for strengthening the **immune system**



 **30 capsules**

DAILY DOSE

1 capsule/day

HOW TO USE

Take preferably together with breakfast



GLUTEN free



LACTOSE free



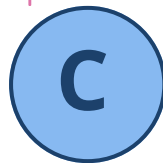
GMO free

Bioithas INMUNE is a capsule food supplement which contains **probiotics**, selected based on published scientific evidences, and **vitamin C**. It is specially design for **strengthening the immune system**.



PROBIOTIC STRAINS $\geq 1 \times 10^9$ cfu/cap

Kluyveromyces marxianus
Bifidobacterium longum



VITAMIN C

16 mg/cap
(20% NRV)

which contributes to the normal functioning of the immune system



Strengthening the immune system



Prevention of infections (bacterial and viral)



Prevention of allergic symptoms

INGREDIENTS

Bulking agent (cellulose), coating agent (hydroxypropylmethylcellulose), mixture of *Kluyveromyces marxianus* and *Bifidobacterium longum*, L-ascorbic acid (vitamin C), anti-caking agents (magnesium salts of fatty acids and silicon dioxide).

Bioithas **INMUNE** for strengthening the **immune system**

The **probiotic strains** included in **Bioithas INMUNE** are ***Bifidobacterium longum* Bths-06 (CECT 30616)** and ***Kluyveromyces marxianus* Bths-04 (CECT 13203)**.

Bifidobacterium genus includes gram-positive anaerobic bacteria widely distributed in the intestinal tract of mammals, birds and insects. They are present in the human intestine, mainly in children, since they are among the first bacteria to colonize the intestine of neonates. Several species belonging to this genus are attributed a large variety of health benefits, being (along with *Lactobacillus* genus) the most used as probiotics because of its strong evidence in clinical trials.

Kluyveromyces marxianus is a yeast naturally present in kefir and cheese, and isolated from whey and curds of cow's milk. It is the first yeast not belonging to *Saccharomyces* genus with probiotic activity existing in the market. This yeast remains viable after consumption, overcoming the gastric barrier and colonizing the intestine attached to the enterocytes of the intestinal epithelium. In addition, it has the ability to regulate intestinal activity during antibiotic therapy, thanks to the intrinsic resistance of yeasts to antibiotics. *K. marxianus* also has β -galactosidase activity, absent in strains of the *Saccharomyces* genus, so it has the ability to degrade lactose, which may be useful to reduce the effects of intolerance in susceptible individuals. Several *in vitro* and *in vivo* scientific evidences have demonstrated that it modulates the immune response, reducing the levels of pro-inflammatory cytokines. [1]

Both *Kluyveromyces marxianus* and *Bifidobacterium longum* are included in the list of species with QPS (Qualified Presumption of Safety) status of the European Food Safety Authority (EFSA).

In a clinical trial with infants, results showed that a probiotic mixture including *B. longum* is effective in the reduction of the risk of developing eczema or atopic dermatitis during the first 18 months of life compared to the control group. [2]

In another clinical trial including *B. longum* in the probiotic formulation, children with allergic rhinitis achieved a significant improvement of symptoms and quality of life, compared to the worsening in the placebo group. [3]

A clinical trial with infants demonstrated that intaking *B. longum* has positive effects in the establishment of a healthy gut microbiota in the early stages of life and has an important role in the improvement of the Th1 immune response. [4]

Regarding *K. marxianus*, a retrospective observational clinical trial studied the effect on the frequency of respiratory tract infections, showing a reduction in the infections requiring antibiotic therapy. [5]

In addition, **Bioithas INMUNE** contains **vitamin C**, which contributes to the normal functioning of the immune system.

REFERENCES

- [1] Quarella S, et al. *Genome Announc* **2016**; 4(5):e00923-16.
- [2] Enomoto T, et al. *Allergol Int* **2014**; 63(4):575-85.
- [3] Miraglia Del Giudice M, et al. *Ital J Pediatr* **2017**; 43(1):25.
- [4] Wu BB, et al. *World J Pediatr* **2016**; 12(2):177-82.
- [5] Nigro A, et al. *Int J Immunopathol Pharmacol* **2014**; 27(3):455-60.

Bioithas MUCOSA

for the **mucosal** tissues health



 **30 capsules**

DAILY DOSE

1 capsule/day

HOW TO USE

Take preferably together with breakfast



GLUTEN free



LACTOSE free



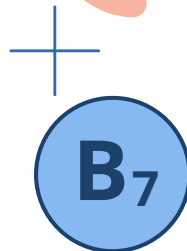
GMO free

Bioithas MUCOSA is a capsule food supplement which contains **probiotics**, selected based on published scientific evidences, and **biotin**. It is specially design for the **mucosal tissues health**.



PROBIOTIC STRAINS $\geq 1 \times 10^9$ cfu/cap

Lactiplantibacillus plantarum
Bifidobacterium longum



BIOTIN

which contributes to the maintenance of normal mucous membranes

10 μ g/cap
(20% NRV)



Maintenance of **mucous** membranes in healthy conditions



Oral mucositis, especially from radiotherapy and chemotherapy



Improvement of chronic inflammation in the **oral** and **urogenital mucosa**

INGREDIENTS

Bulking agent (cellulose), coating agent (hydroxypropylmethylcellulose), mixture of *Lactiplantibacillus plantarum* and *Bifidobacterium longum*, anti-caking agents (magnesium salts of fatty acids and silicon dioxide), biotin.

Bioithas MUCOSA

for the **mucosal** tissues health

The **probiotic strains** included in **Bioithas MUCOSA** are ***Bifidobacterium longum* Bths-05 (CECT 30615)** and ***Lactiplantibacillus plantarum* Bths-03**.

Lactobacillus genus includes gram-positive, facultative or microaerophilous, bacilliform and non-spore producing bacteria. They are usually benign and inhabit the human body, especially in the gastrointestinal tract and the urinary and genital systems. In addition, these bacteria produce lactic acid, acidifying the pH and inhibiting the growth of pathogenic bacteria. Some species of this genus are used industrially for the production of yogurt, cheese and other fermented foods.

On the other hand, *Bifidobacterium* genus includes gram-positive anaerobic bacteria widely distributed in the intestinal tract of mammals, birds and insects. They are present in the human intestine, mainly in children, since they are among the first bacteria to colonize the intestine of neonates.

Several species belonging to these both genera are attributed a large variety of health benefits, being the most used as probiotics because of its strong evidence in clinical trials.

Both *Lactobacillus plantarum* (now *Lactiplantibacillus plantarum*) and *Bifidobacterium longum* are included in the list of species with QPS (Qualified Presumption of Safety) status of the European Food Safety Authority (EFSA).

A clinical study showed that ingesting the probiotic *L. plantarum* had preventive and curative effects in a mouse model of urinary tract infection. [1]

Another clinical trial demonstrated that the intake of *L. plantarum* in women with a history of recurrent vulvovaginal candidiasis was associated with improvement of clinical signs. [2]

The intake of *B. longum* in patients with oral mucositis induced by radiochemotherapy resulted in a significant reduction of the severity of mucositis, as well as in the restoration of the diversity of the gut microbiota in a clinical trial. [3]

Bioithas MUCOSA also contains **biotin**, which contributes to the maintenance of normal mucous membranes.

REFERENCES

- [1] de Arellano AR, et al. *Benef Microbes* **2012**; 3(1):51-9.
- [2] Vladareanu R, et al. *Eur Rev Med Pharmacol Sci* **2018**; 22(1):262-7.
- [3] Jiang C, et al. *Cancer* **2019**; 125(7):1081-90.

Bioithas **CYSTUS**

for the well-being and protection of the **urinary system**



 **30** capsules

DAILY DOSE

1 capsule/day

HOW TO USE

Take preferably together with breakfast



GLUTEN free



LACTOSE free



GMO free

Bioithas CYSTUS is a capsule food supplement which contains **probiotics**, selected based on published scientific evidences, **american red cranberry** extract and **vitamin C**. It is specially design for the **well-being and protection of the urinary system**.



PROBIOTIC STRAINS $\geq 1 \times 10^9$ cfu/cap

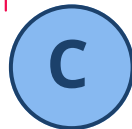
Lactiplantibacillus plantarum
Lacticaseibacillus rhamnosus



RED CRANBERRY

PAC: 120 mg/cap

that provides proanthocyanidins (PAC)



VITAMIN C

16 mg/cap
(20% NRV)

which contributes to the normal functioning of the immune system



Urinary well-being and protection against bacterial infections



Reducing the risk of **recurrent UTIs**



Adjuvant treatment to the use of **antibiotics** in UTIs

INGREDIENTS

American red cranberry *Vaccinium macrocarpon* fruit dry extract (proanthocyanidins 40%), coating agent (hydroxypropylmethylcellulose), mixture of *Lacticaseibacillus rhamnosus* and *Lactiplantibacillus plantarum*, bulking agent (cellulose), L-ascorbic acid (vitamin C), anti-caking agents (magnesium salts of fatty acids and silicon dioxide).

Bioithas **CYSTUS**

for the well-being and protection of the **urinary system**

The **probiotic strains** included in **Bioithas CYSTUS** are ***Lactocaseibacillus rhamnosus* Bths-07 (CECT 30579)** and ***Lactiplantibacillus plantarum* Bths-03**.

Lactobacillus genus includes bacteria that are usually benign and inhabit the human body, especially in the gastrointestinal tract and the urinary and genital systems. In addition, these bacteria produce lactic acid, acidifying the pH and inhibiting the growth of pathogenic bacteria. Several species belonging to this genus are attributed a large variety of health benefits, being one of the most used as probiotics due to its strong evidence in clinical trials.

Both *Lactobacillus plantarum* (now *Lactiplantibacillus plantarum*) and *Lactobacillus rhamnosus* (now *Lactocaseibacillus rhamnosus*) are included in the list of species with QPS (Qualified Presumption of Safety) status of the European Food Safety Authority (EFSA).

Several *in vitro* studies have demonstrated the effectiveness of lactic acid bacteria in inhibiting the growth of antibiotic-resistant uropathogens. [1,2] An *in vivo* research with mice studied the preventive and curative effects of *L. plantarum*. Results demonstrated that *L. plantarum* as a preventive treatment causes a reduction in the duration of the infection, the concentration of urinary leukocytes and the pathogenic *Escherichia coli* bacterial load. [3]

A randomized, double-blind and placebo controlled clinical trial studied the efficacy of a probiotic product (which included red cranberry, *L. plantarum* and *L. acidophilus*) in the prevention of urinary tract infections (UTI) in women. The results showed a greater number of participants who did not suffer a

UTI, a longer time to the first UTI, a shorter duration of infection, fewer patients requiring antibiotics and a shorter duration of antibiotic treatment. [4]

The results of a clinical trial with women with bacterial infection showed that in the probiotic (which included *L. rhamnosus* and *L. reuteri*) group a higher percentage (61.5 %) of women had a "normal" vaginal microbiota at the end of the study compared to placebo group (26.9 %). [5]

The intake of **red cranberry** (*Vaccinium macrocarpon*) has traditionally been associated with the prevention of UTIs due to colonization and infection by uropathogenic *E. coli*. Some of their components that may contribute to health benefits are: phenolic acids, flavonoids, anthocyanins, proanthocyanidins and triterpenoids.

Proanthocyanidins (PACs) appear to be responsible for inhibiting the adhesion of *E. coli* and other uropathogens to uroepithelial cells. For example, the results of a meta-analysis clearly showed the great potential of using red cranberries in the prevention of UTIs significantly reducing their incidence. [6] In general, the ingestion of cranberries is recommended to reduce the incidence of UTIs, particularly in people with recurrent infections.

Bioithas CYSTUS also contains **vitamin C**, which contributes to the normal functioning of the immune system.

REFERENCES

- [1] Shim YH, et al. *Pediatr Int* **2016**; 58(10):1009-13.
- [2] Manzoor A, et al. *Jundishapur J Microbiol* **2016**; 9(1):e18952.
- [3] de Arellano AR, et al. *Benef Microbes* **2012**; 3(1):51-9.
- [4] Koradia P, et al. *Expert Rev Anti Infect Ther* **2019**; 17(9):733-40.
- [5] Vujic G, et al. *Eur J Obstet Gynecol Reprod Biol* **2013**; 168(1):75-9.
- [6] Luís Â, et al. *J Urol* **2017**; 198(3):614-21.

Bioithas WOMAN

for **women's** general wellbeing



 **30** capsules

DAILY DOSE

1 capsule/day

HOW TO USE

Take preferably together with breakfast



GLUTEN free



LACTOSE free



GMO free

Bioithas WOMAN is a capsule food supplement which contains **probiotics**, selected based on published scientific evidences, **iron**, **calcium**, **folic acid** and **vitamin D**. It is specially designed to improve **women's health and well-being**.



PROBIOTIC STRAINS $\geq 1 \times 10^9$ cfu/cap

Lactiplantibacillus plantarum
Lacticaseibacillus rhamnosus
Kluyveromyces marxianus

+ **Ca** **CALCIUM**
120 mg/cap
(15% NRV)

+ **B₉** **FOLIC ACID**
160 µg/cap
(80% NRV)

+ **D** **VITAMIN D**
5 µg/cap
(100% NRV)

+ **Fe** **IRON**
7 mg/cap
(50% NRV)



Contribute to **women's** general **health**



Help their **intestinal well-being**



Reduce the risk of **vaginal tract infections**

INGREDIENTS

Calcium carbonate (calcium), coating agent (hydroxypropylmethylcellulose), iron bisglycinate (iron), mixture of *Lacticaseibacillus rhamnosus*, *Kluyveromyces marxianus* and *Lactiplantibacillus plantarum*, bulking agent (cellulose), anti-caking agents (magnesium salts of fatty acids and silicon dioxide), pteroylmonoglutamic acid (folate), cholecalciferol (vitamin D).

Bioithas **WOMAN** for **women's** general wellbeing

The **probiotic strains** included in **Bioithas WOMAN** are ***Lactocaseibacillus rhamnosus* Bths-07 (CECT 30579)**, ***Lactiplantibacillus plantarum* Bths-03** and ***Kluyveromyces marxianus* Bths-04 (CECT 13203)**.

Lactobacillus genus includes bacteria that are usually benign and inhabit the human body, especially in the gastrointestinal tract and the urinary and genital systems. In addition, these bacteria produce lactic acid, acidifying the pH and inhibiting the growth of pathogenic bacteria. Several species belonging to this genus are attributed a large variety of health benefits, being one of the most used as probiotics due to its strong evidence in clinical trials.

Both *Lactobacillus plantarum* (now *Lactiplantibacillus plantarum*) and *Lactobacillus rhamnosus* (now *Lactocaseibacillus rhamnosus*) are included in the list of species with QPS (Qualified Presumption of Safety) status of the European Food Safety Authority (EFSA).

Several *in vitro* studies have demonstrated the effectiveness of lactic acid bacteria in inhibiting the growth of antibiotic-resistant uropathogens. [1,2] An *in vivo* research with mice studied the preventive and curative effects of *L. plantarum*. Results demonstrated that *L. plantarum* as a preventive treatment causes a reduction in the duration of the infection, the concentration of urinary leukocytes and the pathogenic *Escherichia coli* bacterial load. [3]

The results of a clinical trial with women with bacterial infection showed that in the probiotic (which included *L. rhamnosus* and *L. reuteri*) group a higher percentage (61.5 %) of women had a "normal" vaginal microbiota at the end of the study compared to placebo group (26.9 %). [4]

A clinical trial with women demonstrated the relationship between the presence and quantity of *Lactobacillus* and vaginal pH, observing that women with a higher number of *Lactobacillus* had lower prevalence of streptococcus infections. [5]

Women usually tend to suffer from digestive symptoms, both during menstrual periods and after the onset of menopause. A multitude of clinical trials have demonstrated the effectiveness and safety of using probiotics for the treatment of various digestive symptoms (mostly diarrhea), especially the yeast *Saccharomyces boulardii* and *L. rhamnosus*, among others. [6,7]

Kluyveromyces marxianus yeast (with similar characteristics to *S. boulardii*) remains viable after consumption, overcoming the gastric barrier and colonizing the intestine by adhering to the enterocytes in the intestinal epithelium. In addition, it has the ability to regulate intestinal activity during antibiotic therapy, thanks to the intrinsic resistance of yeasts to antibiotics. Several *in vitro* and *in vivo* scientific evidences have demonstrated that it modulates the immune response, reducing the levels of pro-inflammatory cytokines. [8] *K. marxianus* is also included in the EFSA QPS list.

In addition, **Bioithas WOMAN** contains: **vitamin D**, which contributes to the normal functioning of the immune system; **calcium**, for the maintenance of bones in normal conditions; **folic acid**, that contributes to the growth of maternal tissues during pregnancy; and **iron**, which helps reduce tiredness and fatigue.

REFERENCES

- [1] Shim YH, et al. *Pediatr Int* **2016**; 58(10):1009-13.
- [2] Manzoor A, et al. *Jundishapur J Microbiol* **2016**; 9(1):e18952.
- [3] de Arellano AR, et al. *Benef Microbes* **2012**; 3(1):51-9.
- [4] Vujic G, et al. *Eur J Obstet Gynecol Reprod Biol* **2013**; 168(1):75-9.
- [5] Rönqvist PD, et al. *Acta Obstet Gynecol Scand* **2006**; 85(6):726-35.
- [6] Sazawal S, et al. *Lancet Infect Dis* **2006**; 6(6):374-82.
- [7] Guarino A, et al. *J Clin Gastroenterol* **2015**; 49 Suppl 1:S37-45.
- [8] Quarella S, et al. *Genome Announc* **2016**; 4(5):e00923-16.

Bioithas HAIR+

for strong and healthy hair



 **30 capsules**

DAILY DOSE

1 capsule/day

HOW TO USE

Take preferably together with breakfast



GLUTEN free

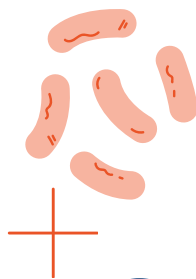


LACTOSE free



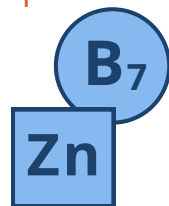
GMO free

Bioithas HAIR+ is a capsule food supplement which contains **probiotics**, selected based on published scientific evidences, **zinc** and **biotin**. It is specially design for **strong and healthy hair**.



PROBIOTIC STRAINS $\geq 1 \times 10^9$ cfu/cap

Lactacaseibacillus rhamnosus
Bifidobacterium longum



BIOTIN
and
ZINC

that contribute to the maintenance of hair in normal conditions

9 µg/cap
(18% NRV)

2.1 mg/cap
(21% NRV)



Maintaining **strong and healthy hair**



Hair loss, especially due to **alopecia areata**

INGREDIENTS

Bulking agent (cellulose), coating agent (hydroxypropylmethylcellulose), mixture of *Lactacaseibacillus rhamnosus* CECT 30580 and *Bifidobacterium longum* CECT 30616, zinc gluconate (zinc), dry extract of *Tagetes erecta* flowers (lutein 5%), anti-caking agents (magnesium salts of fatty acids and silicon dioxide), biotin.

Bioithas HAIR+

for strong and healthy hair

The **probiotic strains** included in **Bioithas HAIR+** are ***Bifidobacterium longum* Bths-06 (CECT 30616)** and ***Lactocaseibacillus rhamnosus* Bths-08 (CECT 30580)**.

Bacteria that commonly inhabit the human body, especially in the gastrointestinal tract and the urinary and genital systems, are included in *Lactobacillus* genus. These bacteria produce lactic acid, acidifying the pH and inhibiting the growth of pathogenic bacteria. Some species of this genus are used industrially for the production of yogurt, cheese and other fermented foods.

Bifidobacterium genus comprises bacteria that are widely distributed in the intestinal tract of mammals, birds and insects. They are present in the human intestine, mainly in children, since they are among the first bacteria to colonize the intestine of neonates.

Many species of these two genera are attributed a wide variety of health benefits, with the bacteria being most used as probiotics due to their great effectiveness demonstrated in a multitude of clinical trials.

Both bacterial species *Lactobacillus rhamnosus* (currently renamed as *Lactocaseibacillus rhamnosus*) and *Bifidobacterium longum* are included in the list of species with QPS (Qualified Presumption of Safety) status of the European Food Safety Authority (EFSA).

Several clinical trials have demonstrated the effectiveness and safety of using probiotics in skin diseases. [1]

A randomized, double-blind and placebo controlled pilot clinical trial conducted by BIOITHAS research group evaluated the efficacy of the probiotic mixture *B. longum* CECT 30616 and *L. rhamnosus* CECT 30580 in improving the severity of 26 patients with alopecia areata (AA). Although without reaching statistically significant differences due to the small sample size, after 24 weeks of intervention, patients belonging to the probiotic group showed greater improvement than patients in the placebo group, both in activity, inactivity and repopulation signs, as well as in the number of AA plaques and the affected area, observing a reduction in the surface area affected by AA. Furthermore, this improvement in symptoms was accompanied by a change in the composition of the skin microbiota in the areas with AA in the probiotic group, but not in the placebo group. [2]

In addition, **Bioithas HAIR+** contains **zinc and biotin**, that contribute to maintain the hair in normal conditions.

REFERENCES

- [1] Navarro-López V, et al. *Microorganisms* **2021**; 9(7):1513.
[2] Clinical trial "**RANDOMIZED, DOUBLE-BLIND AND PLACEBO-CONTROLLED CLINICAL TRIAL TO EVALUATE THE EFFICACY OF A PROBIOTIC PREPARATION ADMINISTERED TO PATIENTS WITH ALOPECIA AREATA**" [ALO.PRO]. *Under review.*

Bioithas **ACDERM**

for healthy and **blemish-free skin**



 **30 capsules**

DAILY DOSE

1 capsule/day

HOW TO USE

Take preferably together with breakfast



GLUTEN free

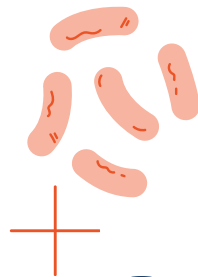


LACTOSE free



GMO free

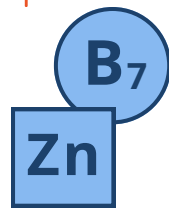
Bioithas ACDERM is a capsule food supplement which contains **probiotics**, selected based on published scientific evidences, **biotin** and **zinc**. It is specially design for a **healthy and blemish-free skin**.



PROBIOTIC STRAIN

$\geq 1 \times 10^9$ cfu/cap

Lactocaseibacillus rhamnosus



BIOTIN and ZINC

9 µg/cap
(18% NRV)

2.1 mg/cap
(21% NRV)

which contribute to the maintenance of the skin in normal conditions



Maintaining **healthy, blemish-free skin**.



Especially indicated for patients with **acne**.

INGREDIENTS

Bulking agent (cellulose), coating agent (hydroxypropylmethylcellulose), *Lactocaseibacillus rhamnosus* CECT 30031, zinc gluconate (zinc), spirulina algae powder *Arthrospira platensis*, *Polygonum cuspidatum* root dry extract (reveratrol 25%), anti-caking agents (magnesium salts of fatty acids and silicon dioxide), biotin.

Bioithas **ACDERM** for healthy and **blemish-free skin**

The **probiotic strain** included in **Bioithas ACDERM** is ***Lactocaseibacillus rhamnosus* AcnéPro-Bths (CECT 30031)**. Several clinical trials have demonstrated the effectiveness and safety of the use of probiotics in skin diseases. [1]

Lactobacillus genus includes gram-positive, facultative or microaerophilic, bacilliform, non-spore-producing bacteria. They are usually benign and inhabit the human body, especially the gastrointestinal tract and the urinary and genital systems. These bacteria produce lactic acid, acidifying the pH and inhibiting the growth of pathogenic bacteria. Some species of this genus are used industrially for the production of yogurt, cheese and other fermented foods. It is remarkable, that many species of this genus are attributed a wide variety of health benefits, with the bacteria being most used as probiotics due to their great effectiveness demonstrated in a multitude of clinical trials.

The species *Lactobacillus rhamnosus* (currently taxonomically renamed as *Lactocaseibacillus rhamnosus*) is included in the list of species with QPS (Qualified Presumption of Safety) status of the European Food Safety Authority (EFSA).

Bioithas ACDERM also contains **spirulina** (*Arthrospira platensis* BEA_IDA_074B), a cyanobacteria whose nutritional properties and high content of bioactive components with potential therapeutic effects stand out. An example is C-phycoerythrin, which has demonstrated immunomodulatory effects in clinical trials, as well as antioxidant, antimicrobial and antitumor potential *in vitro* and *in vivo*.

A randomized, double-blind, placebo-controlled clinical study conducted by the BIOITHAS research group involving 80 patients (12-30 years) with acne evaluated the effectiveness of the probiotic mixture *L. rhamnosus* CECT 30031 and spirulina BEA_IDA_0074B (strains included in this product) in improving the severity of the disease. After 12 weeks of treatment, the number of patients with an improvement of at least one category on the AGSS scale (Acne Global Severity Scale) was 10/34 (29.41%) in the placebo group compared to 20/40 (50 %) in the probiotic (p=0.019). According to the GAGS (Global Acne Grading System) index, the number of patients with a response to treatment (considered as a reduction of at least 30% in the score) was 7/34 (20.58%) in the group placebo vs 17/40 (42.50%) in the probiotic group (p=0.034). A greater reduction in the number of acne lesions was observed in the probiotic group compared to the placebo group, after 12 weeks of intervention, but the differences were not statistically different. That is, the results of the clinical trial suggest that the probiotic used is a safe and effective treatment for patients with acne, reducing the severity of the disease. [2]

In addition, **Bioithas ACDERM** includes **zinc and biotin**, that contribute to the maintenance of the skin in normal conditions.

REFERENCES

- [1] Navarro-López V, et al. *Microorganisms* **2021**; 9(7):1513.
[2] Clinical trial "**RANDOMIZED, DOUBLE-BLIND AND PLACEBO-CONTROLLED CLINICAL STUDY TO EVALUATE THE EFFICACY OF A PROBIOTIC PREPARATION IN PATIENTS WITH ACNE**" [ACNE.PROBI]. *Under review.*

Bioithas Digest-COV

for **intestinal** well-being and strengthening of the **immune system**



 **30 capsules**

DAILY DOSE

1 capsule/day

HOW TO USE

Take preferably together with breakfast



GLUTEN free

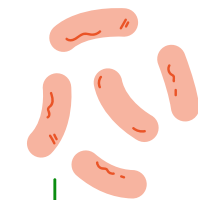


LACTOSE free



GMO free

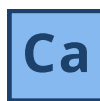
Bioithas Digest-COV is a capsule food supplement which contains **probiotics**, selected based on clinical trials results, **calcium** and **vitamins C and D**. It is specially designed to contribute to **intestinal comfort and well-being and the proper functioning of the immune system**.



PROBIOTIC STRAINS $\geq 1 \times 10^9$ cfu/cap

Kluyveromyces marxianus

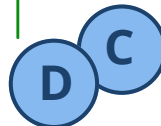
Lactobacillus rhamnosus



CALCIUM

which contributes to the normal functioning of digestive enzymes

120 mg/cap
(15% NRV)



VITAMINS C AND D

that contribute to the normal functioning of the immune system

C: 16 mg/cap
(20% NRV)

D: 5 µg/cap
(100% NRV)



Digestive symptoms associated with **COVID-19**



Intestinal comfort and well-being



Good functioning of the **immune system**

INGREDIENTS

Calcium carbonate (calcium), coating agent (hydroxypropylmethylcellulose), mixture of *Lactobacillus rhamnosus* CECT 30579 and *Kluyveromyces marxianus* B0399, bulking agent (cellulose), L-ascorbic acid (vitamin C), anti-caking agents (magnesium salts of fatty acids and silicon dioxide), colecalciferol (vitamin D).

Bioithas Digest-COV

for **intestinal** well-being and strengthening of the **immune system**

The **probiotic strains** included in **Bioithas Digest-COV** are ***Lactobacillus rhamnosus* Bths-07 (CECT 30579)** and ***Kluyveromyces marxianus* B0399**.

Bacteria of the *Lactobacillus* genus are usually benign and inhabit the human body, especially the gastrointestinal tract and the urinary and genital systems. These bacteria produce lactic acid, acidifying the pH and inhibiting the growth of pathogenic bacteria. Many species of this genus are attributed a wide variety of health benefits, some of which are most commonly used as probiotics due to their great effectiveness demonstrated in a multitude of clinical trials.

Kluyveromyces marxianus is the first yeast not belonging to *Saccharomyces* genus with probiotic activity that exists on the market. *K. marxianus* remains viable after consumption, overcoming the gastric barrier and colonizing the intestine by adhering to the enterocytes in the intestinal epithelium. In addition, it has the ability to regulate intestinal activity during antibiotic therapy, thanks to the intrinsic resistance of yeasts to antibiotics. It also has β -galactosidase activity, absent in strains of the *Saccharomyces* genus, so it has the ability to degrade lactose, which may be useful to reduce the effects of intolerance in susceptible individuals. Several *in vitro* and *in vivo* scientific evidences have demonstrated that it modulates the immune response, reducing the levels of pro-inflammatory cytokines. [1]

Both *Kluyveromyces marxianus* and *Lactobacillus rhamnosus* (now *Lactobacillus rhamnosus*) are included in the list of species with QPS (Qualified Presumption of Safety) status of the European Food Safety Authority (EFSA).

Several clinical trials have demonstrated the efficacy and safety of probiotic use in the treatment of digestive symptoms. A meta-analysis concludes that there is a strong scientific evidence of the benefit of probiotic in the treatment of diarrhea, both in adults and especially in children. Among the most used probiotic in clinical trial, *Sacharomyces boulardii*, a yeast with similar characteristics to *K. marxianus*, and *L. rhamnosus* stand out. [2-4]

Recently, a clinical trial carried out by BIOITHAS research group has demonstrated the effectiveness of the mixture of *L. rhamnosus* CECT 30579 and *K. marxianus* B0399 strains in reducing digestive symptoms associated with COVID-19 infection. This study (prospective, open-label, case-control intervention) evaluated the impact of ingesting the probiotic mixture for 30 days on in 26 patients (and another 15 patients were used as controls). The results showed that the use of this combination of probiotic strains could be a good adjuvant treatment in patients with COVID-19, reducing digestive symptoms. [5]

In addition, **Bioithas Digest-COV** contains **calcium**, which contributes to the normal functioning of digestive enzymes. **Vitamins C and D**, which contribute to the proper functioning of the immune system, are also included in this food supplement.

REFERENCES

- [1] Quarella S, et al. *Genome Announc* **2016**; 4(5):e00923-16.
- [2] Sazawal S, et al. *Lancet Infect Dis* **2006**; 6(6):374-82.
- [3] Hayes SR, Vargas AJ. *Explore (NY)* **2016**; 12(6):463-6.
- [4] Guarino A, et al. *J Clin Gastroenterol* **2015**; 49, Suppl 1:S37-45.
- [5] Navarro-López V, et al. *Med Microecol* **2022**; 14:100061.

Bioithas **SPORT**

to reduce **tiredness** and **fatigue**



 **30** capsules

DAILY DOSE

1 capsule/day

HOW TO USE

Take preferably together with breakfast



GLUTEN free

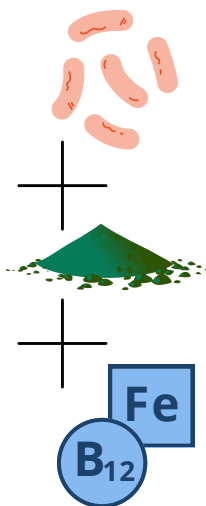


LACTOSE free



GMO free

Bioithas SPORT is a capsule food supplement which contains **probiotics**, selected based on published scientific evidences, **spirulina**, **iron** and **vitamin B12**. It is specially designed to **reduce tiredness and fatigue associated with physical exercise**.



PROBIOTIC STRAIN $\geq 1 \times 10^9$ cfu/cap

Bifidobacterium longum

SPIRULINA

100 mg/cap

IRON
VITAMIN B12

Fe: 2,8 mg/cap
(50% NRV)

B12: 2,5 µg/cap
(100% NRV)

that contribute to reducing tiredness and fatigue



Reduce **tiredness** and **fatigue**



Reduce **inflammation** and **oxidation** associated with physical exercise



Contribute to **intestinal comfort** and well-being

INGREDIENTS

Bulking agent (cellulose), spirulina algae *Arthrospira platensis* powder, *Bifidobacterium longum*, coating agent (hydroxypropylmethylcellulose), iron bisglycinate (iron), anti-caking agents (magnesium salts of fatty acids and silicon dioxide), cyanocobalamin (vitamin B12).

Bioithas **SPORT**

to reduce **tiredness** and **fatigue**

The **probiotic strain** included in **Bioithas SPORT** is ***Bifidobacterium longum* Bths-06 (CECT 30616)**.

Bifidobacterium genus includes gram-positive anaerobic bacteria widely distributed in the intestinal tract of mammals, birds and insects. They are present in the human intestine, mainly in children, since they are among the first bacteria to colonize the intestine of neonates.

Several species belonging to this genus are attributed a large variety of health benefits, being (along with *Lactobacillus* genus) the most used as probiotics because of its strong evidence in clinical trials.

The species *Bifidobacterium longum* is not pathogenic, and is included in the list of species with QPS (Qualified Presumption of Safety) status of the European Food Safety Agency (EFSA).

In an *in vivo* study in mice, the effect of a strain of *B. longum* on the physical exercise performance was studied. The results showed that probiotic supplementation combined with exercise training synergistically increased exercise performance and improved physiological adaptation. Greater performance was observed in terms of endurance and grip strength, as well as better indices associated with fatigue (lactate, ammonia, creatine kinase (CK), lactate dehydrogenase (LDH) and glycogen content), compared to the control groups. Supplementation with *B. longum* significantly improved the indices of inflammation and injury (platelet/lymphocyte ratio (PLR), aminotransferase (AST), and CK) caused by a prolonged resistance exercise test. Additionally, acetate, propionate, and butyrate levels were significantly higher. [1]

A randomized, double-blind, placebo-controlled clinical trial showed that the intake of a strain of *B. longum* for 5 weeks significantly increased runners' Cooper test running distance. [2]

Spirulina is a food supplement based on dry biomass of the cyanobacteria *Arthrospira platensis*. In its composition, spirulina is more than 50% protein, and it is also an excellent source of vitamins, minerals and antioxidants, being considered a superfood.

Several studies have shown that spirulina intake contributes to improving physical performance [3], reducing muscle damage associated with physical exercise [4] and reducing the percentage of body fat. [5]

In addition, **Bioithas SPORT** contains **iron and vitamin B12**, that contribute to reducing tiredness and fatigue.

REFERENCES

- [1] Huang WC, et al. *Nutrients* **2020**; 12(4):1145.
- [2] Lin CL, et al. *Nutrients* **2020**; 12(7):1972.
- [3] Kalafati M, et al. *Med Sci Sports Exerc* **2010**; 42(1):142-51.
- [4] Lu HK, et al. *Eur J Appl Physiol* **2006**; 98(2):220-6.
- [5] Bagheri R, et al. *Br J Nutr* **2022**; 127(2):248-56.