

# ProLon L-Biome



## General information

L-BIOME is a dietary supplement containing probiotics, prebiotics, DHA, and L-lysine that facilitates the balance of the intestinal bacterial flora. L-BIOME is well-tolerated as it is gluten and lactose-free. Lactobacillus rhamnosus HN001 and Bifidobacterium Breve B3 contribute to the re-establishment of the intestinal bacterial flora, by supporting the gut-immune system and favoring metabolism. Inulin contributes to providing the nourishment for probiotic strains. DHA and lysine promote the integrity and proper functioning of tissues, including the intestinal one.

Intestinal bacterial flora is present in the lumen of the intestinal mucosa and is composed of microorganisms that protect the intestine from pathogenic germs, hinder infections, promote food digestion, regulate intestinal function, produce essential vitamins for the body, and eliminate harmful waste. The bacterial flora can be altered by various factors such as stress, a poor diet, and antibiotics.

Prebiotics are the nourishment for the bacterial flora, **promoting its growth**. They are indigestible by the human intestine, and naturally found in many plant-based foods.

To carry out its beneficial action, the probiotic requires prebiotics intake. **L-Biome is a synergistic** blend of probiotics, prebiotics, DHA, and lysine to help promote intestinal well-being.

## Ingredients:

salt of omega-3 lysine fatty acids (Omega-3 from oil derived from the microalgae Schyzochitrium sp., L-lysine), L-Inulin; capsule: Hydroxypropyl methylcellulose; Bifidobacterium breve B3; anti-caking agent: Calcium biphosphate; Lactobacillus rhamnosus HN001; anti-caking agents: Magnesium salts of fatty acids, Talc; Calcium carbonate.

AVERAGE CONTENTS	for 2 capsule	for 3 capsule
LACTOBACILLUS RHAMNOSUS HN001	18 <sup>mln</sup> CFU	27 <sup>mln</sup> CFU
BIFIDOBACTERIUM BREVE	10 <sup>mln</sup> CFU	15 <sup>mln</sup> CFU
SALT OF OMEGA-3-LYSINE FATTY ACIDS	400 mg	600 mg
of which DHA dodecohexanoic acid	200 mg	300 mg
of which L-lysine	132 mg	198 mg
INULINA / INULINE / INULIN	300 mg	450 mg

## Dosage:

Directions for use: It is recommended to take 2-3 capsules per day with a glass of water.

## Storage Instructions:

Store in a cool, dry place at a temperature not exceeding 25°C, away from light and/or heat sources. The minimum expiry date refers to the product if correctly stored in an intact package. Do not throw away in the environment after use.

## WARNINGS:

Directions for use: It is recommended to take 2-3 capsules per day with a glass of water.

## Storage Instructions:

Dietary supplements should not be considered as a substitute for a varied and balanced diet and a healthy lifestyle. Do not exceed the recommended daily dose. KEEP OUT OF REACH OF CHILDREN UNDER THREE YEARS OLD. Do not take in case of allergies or hypersensitivity to one or more components.

**The package contains 60 capsules**  
**Weight: 37.8g**

These statements have not be evaluated by the Food and Drug Administration.  
This product does not intended to diagnose, treat, cure, or prevent any disease.

**proLon®**

# ProLon L-Biome

## Approved Claims

- 28 BILLION COLONIES
- Gluten-Free
- Allergen-Free
- Lactose-Free
- Made in Italy
- DHA contributes to the maintenance of visual function
- DHA contributes to the maintenance of brain function
- Probiotics facilitate the balance of intestinal flora
- Helps improve the level of natural good bacteria in the body
- Positively influences the intestinal flora



## Discover more for each ingredient

**Lactobacillus rhamnosus HN001:** It is a probiotic particularly resistant to the action of bile. Thanks to this characteristic, it is capable of colonizing the upper part of the small intestine and the colon. Numerous studies show that *L. rhamnosus* HN001 has a beneficial impact on intestinal barrier function.

**Bifidobacterium breve B3:** is a bacterial species of the genus *Bifidobacterium* which has probiotic properties. Bifidobacteria are a type of bacteria that live symbiotically in the intestines of humans. It promotes bacterial diversity within the microbiota.

**Inulin:** Inulin is a less soluble fiber found, for example, in chicory. While refined foods provide taste and energy, they lack fiber, and their long-term consumption can lead to various disorders. Several studies demonstrate that inulin acts as a prebiotic and can support the growth of *Bifidobacteria* and *Lactobacillus* species in the intestinal microflora, promoting good digestive health.

**DHA (Docosahexaenoic Acid):** DHA is a polyunsaturated omega-3 fatty acid. It is "essential", which means that it cannot be synthesized by the body. Recent studies have shown that European populations consume few DHA-containing foods, creating situations of deficiency that can be addressed through supplementation. DHA is important because it contributes to the maintenance of normal brain, visual. It is a component of phospholipids in various organs, including the heart, brain, and retina. The intake of DHA is considered necessary for normal growth.

**Lysine:** It is essential in humans and must therefore be obtained from the diet. Lysine plays several roles in humans, most importantly proteinogenesis, but also in the crosslinking of collagen polypeptides, uptake of essential mineral nutrients, and in the production of carnitine, which is key in fatty acid metabolism.

These statements have not been evaluated by the Food and Drug Administration.  
This product does not intend to diagnose, treat, cure, or prevent any disease.

proLon®

# ProLon L-Biome

## Some Select References:

- o Minami, J.I., Kondo, S., Yanagisawa, N., et al., 2015. 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.
- o Minami, J., Iwabuchi, N., Tanaka, M., et al., 2018. Effects of Bifidobacterium breve B-3 on body fat reductions in pre-obese adults: a randomized, double-blind, placebo-controlled trial. *Bioscience of Microbiota, Food and Health*, pp.18-001.
- o Inoue T, Kobayashi Y, Mori N, Sakagawa M, et al., 2018. Effect of combined bifidobacteria supplementation and resistance training on cognitive function, body composition and bowel habits of healthy elderly subjects. *Benef Microbes*. 2018 Dec 7;9.
- o González-Hernández LA, Jave-Suarez LF, Fafutis-Morris M, Montes-Salcedo KE, Valle- Gutierrez LG, Campos-Loza AE, Enciso-Gómez LF, Andrade-Villanueva JF (2012) Synbiotic therapy decreases microbial translocation and inflammation and improves immunological status in HIV-infected patients: a double-blind randomized controlled pilot trial. *Nutr J* 11:90.
- o Mokkala K, Pussinen P, Houttu N, Koivuniemi E, Vahlberg T, Laitinen K. (2018) The impact of probiotics and n-3 long-chain polyunsaturated fatty acids on intestinal permeability in pregnancy: a randomised clinical trial. *Beneficial Microbes* 9(2): 199-208
- o Kruger MC, Fear A, Chua WH, Plimmer GG, Schollum LM (2009) The effect of Lactobacillus rhamnosus on mineral absorption and bone health in growing male and ovariectomised female rats. *Dairy Science & Technology* 89:219-231.
- o Tannock GW, Taylor C, Lawley B, Loach D, Gould M, Dunn AC, McLellan AD, Black MA, McNoe L, Dekker J, Gopal P, Collett MA (2014) Altered transcription of murine genes induced in the small bowel by administration of probiotic strain Lactobacillus rhamnosus HN001. *Applied and Environmental Microbiology* 80:2851-2859
- o Miller LE, Ouwehand AC (2013) Probiotic supplementation decreases intestinal transit time: Meta- HN019, analysis of randomized controlled trials. *World Journal of Gastroenterology* 19:4718-4725
- o Shah BR, Li B, Al Sabbah H, Xu W, Mráz J. Effects of prebiotic dietary fibers and probiotics on human health: With special focus on recent advancement in their encapsulated formulations. *Trends Food Sci Technol*. 2020 Aug;102:178-192.
- o den Besten G., van Eunen K., Groen A.K., Venema K., Reijngoud D.-J., Bakker B.M. The role of short-chain fatty acids in the interplay between diet, gut microbiota, and host energy metabolism. *Journal of Lipid Research*. 2013;54(9):2325-2340.
- o Dewulf E., Cani P., Claus S., Neyrinck A., Puylaert P., Glenn G....Delzenne N. INULIN-TYPE fructans with prebiotic properties lessen endotoxemia and modulate host metabolism by changing gut microbiota composition in obese women: 749 accepted poster. *Obesity Facts*. 2012;5:200-201.

These statements have not been evaluated by the Food and Drug Administration.  
This product does not intend to diagnose, treat, cure, or prevent any disease.

**proLon**<sup>®</sup>

# ProLon L-Biome

- o Dewulf E.M., Cani P.D., Neyrinck A.M., Possemiers S., Van Holle A., Muccioli G.G...Sohet F.M. Inulin-type fructans with prebiotic properties counteract GPR43 overexpression and PPAR $\gamma$ -related adipogenesis in the white adipose tissue of high-fat diet-fed mice. *The Journal of Nutritional Biochemistry*. 2011;22(8):712-722.
- o Nicolucci A.C. Prebiotics reduce body fat and alter intestinal microbiota in children who are overweight or with obesity. *Gastroenterology*. 2017;153(3):711-722
- o Costantini L, Molinari R, Farinon B, Merendino N. Impact of Omega-3 Fatty Acids on the Gut Microbiota. *Int J Mol Sci*. 2017 Dec 7;18(12):2645 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5751248/>
- o Jayapala H, Lim SY. N-3 Polyunsaturated Fatty Acids and Gut Microbiota. *Comb Chem High Throughput Screen*. 2022 Jul 1. doi: <https://pubmed.ncbi.nlm.nih.gov/35786331/>
- o Rousseau G. Microbiota, a New Playground for the Omega-3 Polyunsaturated Fatty Acids in Cardiovascular Diseases. *Mar Drugs*. 2021 Jan 23;19(2):54. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7931107/>
- o Stillwell W, Wassall SR. Docosahexaenoic acid: membrane properties of a unique fatty acid. *Chem Phys Lipids*. 2003;126(1):1-27.

---

These statements have not been evaluated by the Food and Drug Administration.  
This product does not intend to diagnose, treat, cure, or prevent any disease.

**proLon**<sup>®</sup>

# ProLon L-Pill

The package contains 60 capsules  
Weight: 37.8g



AVERAGE CONTENTS	for 2 capsule	for 3 capsule
<b>SALT OF OMEGA-3-LYSINE FATTY ACIDS</b>	400 mg	600 mg
of which DHA dodecohexanoic acid	200 mg	300 mg
of which L-lysine	132 mg	198 mg
<b>WASABI JAPONICA</b>	185 mg	277,5 mg
<b>SUGAR CANE EXTRACT</b>		
of which 15% poliphenols and 5% flavonoids	100 mg	150 mg
<b>CAFFEINE</b>	69 mg	103,5 mg
<b>GREEN TEA (20% CATECHINS)</b>	57,5 mg	86,3 mg
of which epigallocatechin gallate	2,30 mg	3,45 mg

## General information

L-PILL is a supplement based on natural extracts, DHA, and lysine. The natural extracts, from green tea, Cane sugar, and Wasabi Japonica.

## Ingredients:

salt of omega-3 lysine fatty acids (Omega-3 from oil derived from the microalgae Schyzochitrium sp., L-lysine); capsule: Hydroxypropyl methylcellulose; Wasabia japonica (Miq.) matsum., root) dry extract 2% in isocyanate calculated as glucosinolates, Cane sugar (Saccharum officinarum L, sap (juice)) dry extract 15% polyphenols and 5% flavonoids; anti-caking agent: Calcium biphosphate; Caffeine, Green tea (Camellia sinensis (L.) Kuntze, leaves) dry extract 20% catechins (epigallocatechin gallate 4%); anti-caking agents: Magnesium salts of fatty acids, Talc; Calcium carbonate.

## Dosage:

Directions for use: It is recommended to take 2-3 capsules per day with a glass of water.

## Storage Instructions:

Store in a cool, dry place at a temperature not exceeding 25°C, away from light and/or heat sources. The minimum expiry date refers to the product if correctly stored in an intact package. Do not throw away in the environment after use.

## WARNINGS:

Directions for use: It is recommended to take 2-3 capsules per day with a glass of water.

## Storage Instructions:

Dietary supplements should not be considered as a substitute for a varied and balanced diet and a healthy lifestyle. Do not exceed the recommended daily dose. KEEP OUT OF REACH OF CHILDREN UNDER THREE YEARS OLD. Do not take in case of allergies or hypersensitivity to one or more components.

These statements have not be evaluated by the Food and Drug Administration.  
This product does not intended to diagnose, treat, cure, or prevent any disease.

**proLon**<sup>®</sup>

# ProLon L-Pill

## Approved Claims

- DHA contributes to the maintenance of visual function.
- DHA contributes to the maintenance of brain function.
- Gluten-free.
- Allergen-free.
- Lactose-free.
- Produced in Italy.

## Functions of Individual Ingredients

### **Green tea extract (Camellia sinensis) 60% caffeine, 10% catechins**

Green tea is produced from the leaves of *Camellia sinensis* (L.) Kuntze, without fermentation, which prevents the oxidation of polyphenolic components. Most of the polyphenols in green tea are catechins

**Catechins:** Catechin is present in many dietary products, such as green tea. The antioxidant action of catechin is well-established by various in vitro, in vivo and physical methods. Clinical studies have shown the beneficial effects of catechin due its antioxidant action.

**Caffeine:** Caffeine is a plant-derived alkaloid and is considered the most widely used psychoactive substance all around the world. If consumed in moderation, caffeine can offer various benefits to the human body thanks to its numerous properties.

**Concentrated cane sugar rich in polyphenols and flavonoids:** Polyphenols refer to a wide group of natural organic substances. The most common polyphenols are flavonoids, tannins, lignins, anthraquinones, and melanins. Flavonoids, a subset of polyphenols, have both antioxidant and anti-inflammatory properties. Numerous studies have found a link between the consumption of flavonoids and anti-aging. The flavonoids' oxidation is of good interest because of antioxidative property with the capability of scavenging radicals by electron transfer processes (Janeiro & Brett, 2004).

**Wasabia Japonica 2% isothiocyanates:** are derived from the hydrolysis of glucosinolates, sulfur-containing compounds present in cruciferous vegetables such as cauliflower, Wasabi Japonica, watercress, broccoli, and Brussels sprouts.

**DHA (Docosahexaenoic Acid):** DHA is a polyunsaturated omega-3 fatty acid. It is "essential", this means that it cannot be synthesized by the body. Recent studies show that European populations consume few DHA-containing foods, leading to deficiency situations that can be addressed through supplementation. DHA is important because it contributes to the maintenance of normal brain, visual. Indeed, it is a component of phospholipids, present in various organs, including the heart, brain, and retina. The intake of DHA is considered necessary for normal growth, efficient tissue turnover, and proper tissue function.

**Lysine:** It is essential in humans and must therefore be obtained from the diet. Lysine plays several roles in humans, most importantly proteinogenesis, but also in the crosslinking of collagen polypeptides, uptake of essential mineral nutrients, and in the production of carnitine, which is key in fatty acid metabolism.

These statements have not been evaluated by the Food and Drug Administration.  
This product does not intend to diagnose, treat, cure, or prevent any disease.

**proLon®**

# ProLon L-Pill

## Select References:

- o Costantini L, Molinari R, Farinon B, Merendino N. Impact of Omega-3 Fatty Acids on the Gut Microbiota. *Int J Mol Sci.* 2017 Dec 7;18(12):2645 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5751248/>
- o Jayapala H, Lim SY. N-3 Polyunsaturated Fatty Acids and Gut Microbiota. *Comb Chem High Throughput Screen.* 2022 Jul 1. doi: <https://pubmed.ncbi.nlm.nih.gov/35786331/>
- o Rousseau G. Microbiota, a New Playground for the Omega-3 Polyunsaturated Fatty Acids in Cardiovascular Diseases. *Mar Drugs.* 2021 Jan 23;19(2):54. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7931107/>
- o Stillwell W, Wassall SR. Docosahexaenoic acid: membrane properties of a unique fatty acid. *Chem Phys Lipids.* 2003;126(1):1-27.
- o Li J, Pora BLR, Dong K, Hasjim J. Health benefits of docosahexaenoic acid and its bioavailability: A review. *Food Sci Nutr.* 2021 Jul 23;9(9):5229-5243. doi: 10.1002/fsn3.2299. PMID: 34532031; PMCID: PMC8441440.
- o 6-(methylsulfinyl)hexyl isothiocyanate (6-MITC) from *Wasabia japonica* alleviates inflammatory bowel disease (IBD) by potential inhibition of glycogen synthase kinase 3 beta (GSK-3b)\_*European Journal of Medicinal Chemistry* \_2021.
- o Anti-Diabetic Obesity Effects of *Wasabia Japonica* Matsum Leaf Extract on 45% Kcal High-Fat Diet-Fed Mice\_Nutrients\_2021
- o Anti-oxidant and Anti-hypercholesterolemic Activities of *Wasabia japonica*\_eCAM\_2010\_IF2.6. 9
- o Anticancer and Anti-Neuroinflammatory Constituents Isolated from the Roots of *Wasabia japonica*\_antioxidants\_2022
- o Bactericidal activity of wasabi (*Wasabia japonica*) against *Helicobacter pylori*\_International Journal of Food Microbiology\_2004
- o Inhibitory effects of Japanese horseradish (*Wasabia japonica*) on the formation and genotoxicity of a potent carcinogen, acrylamide\_J Sci Food Agric\_2017
- o Wasabi leaf extracts attenuate adipocyte hypertrophy through PPAR $\gamma$  and AMPK\_Bioscience, Biotechnology, and Biochemistry\_2016
- o Molecular Mechanisms Underlying Anti-Inflammatory Actions of 6-(Methylsulfinyl)hexyl Isothiocyanate Derived from Wasabi (*Wasabia japonica* )\_Advances in Pharmacological Sciences\_2012
- o Neuroprotective and Anti-Inflammatory Activities of Allyl Isothiocyanate through Attenuation of JNK/NF- $\kappa$
- o Antithrombotic activity of flavonoids and polyphenols rich plant species MIRZA BOJIĆ ; University of Zagreb Faculty of Pharmacy and Biochemistry, Department of Medicinal Chemistry, HR-10000 Zagreb, Croatia

These statements have not been evaluated by the Food and Drug Administration.  
This product does not intend to diagnose, treat, cure, or prevent any disease.

**proLon**<sup>®</sup>



# ProLon L-Pill

- o Michael Aviram, Bianca Fuhrman, Polyphenolic flavonoids inhibit macrophage-mediated oxidation of LDL and attenuate atherogenesis, *Atherosclerosis*,
- o Montané, X.; Kowalczyk, O.; Reig-Vano, B.; Bajek, A.; Roszkowski, K.; Tomczyk, R.; Pawliszak, W.; Giamberini, M.; Mocek-Plóćiniak, A.; Tylkowski, B. Current Perspectives of the Applications of Polyphenols and Flavonoids in Cancer Therapy. *Molecules* 2020, 25, 3342. <https://doi.org/10.3390/molecules25153342>
- o Postprandial insulin and glucose levels are reduced in healthy subjects when a standardised breakfast meal is supplemented with a filtered sugarcane molasses concentrate\_ *EurJ Nutr*\_2015
- o Antioxidant and Anti-Diabetic Functions of a Polyphenol-Rich Sugarcane Extract\_ *JAmerColofNutr*\_2019\_
- o A polyphenol rich sugarcane extract as a modulator for inflammation and neurological disorders\_ *PharmaNutr*\_2020
- o Immunomodulatory Properties of Polyphenol-Rich Sugarcane Extract on Human Monocytes\_ *Biologics*\_2021
- o Age-Deterring and Skin Care Function of a Polyphenol Rich Sugarcane Concentrate\_ *Cosmetics*\_2020
- o Antioxidant activity and polyphenol composition of sugarcane molasses extract\_ *JFoodChem*\_2020\_
- o Phytochemical profile of sugarcane and its potential health aspects\_ *PhcogRev*\_2015\_1
- o Munawar Abbas, Farhan Saeed, Faqir Muhammad Anjum, Muhammad Afzaal, Tabussam Tufail, Muhammad Shakeel Bashir, Adnan Ishtiaq, Shahzad Hussain & Hafiz Ansar Rasul Suleria (2017) Natural polyphenols: An overview, *International Journal of Food Properties*, 20:8, 1689-1699, DOI: 10.1080/10942912.2016.1220393

These statements have not been evaluated by the Food and Drug Administration.  
This product does not intend to diagnose, treat, cure, or prevent any disease.

**proLon**<sup>®</sup>



# ProLon L-Pill

---

These statements have not be evaluated by the Food and Drug Administration.  
This product does not intended to diagnose, treat, cure, or prevent any disease.

proLon®