ANGEL YEAST CO., LTD.
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Email: Nutritech@angelyeast.com



We Are Here to Protect Your Health

FUNCTIONAL FOOD INGREDIENTS FROM YEAST

Who We Are

Global Commitment



Founded in 1986, Angel Yeast has grown into a global leader in yeast and biotechnology. With 33 production facilities worldwide and products reaching over 170 countries and regions, we are dedicated to delivering natural ingredient solutions that drive healthier living. Guided by our mission—"Exploring Yeast, Empowering Life"—we leverage microbial science to harmonize human health with sustainability. Our 12,000+ global team shares a unified vision: to innovate for a healthier, more sustainable future.

Angel in Numbers

170+
Products Available in 170+ Countries

12000+
12000+ Employees

9
9 Core Business Units

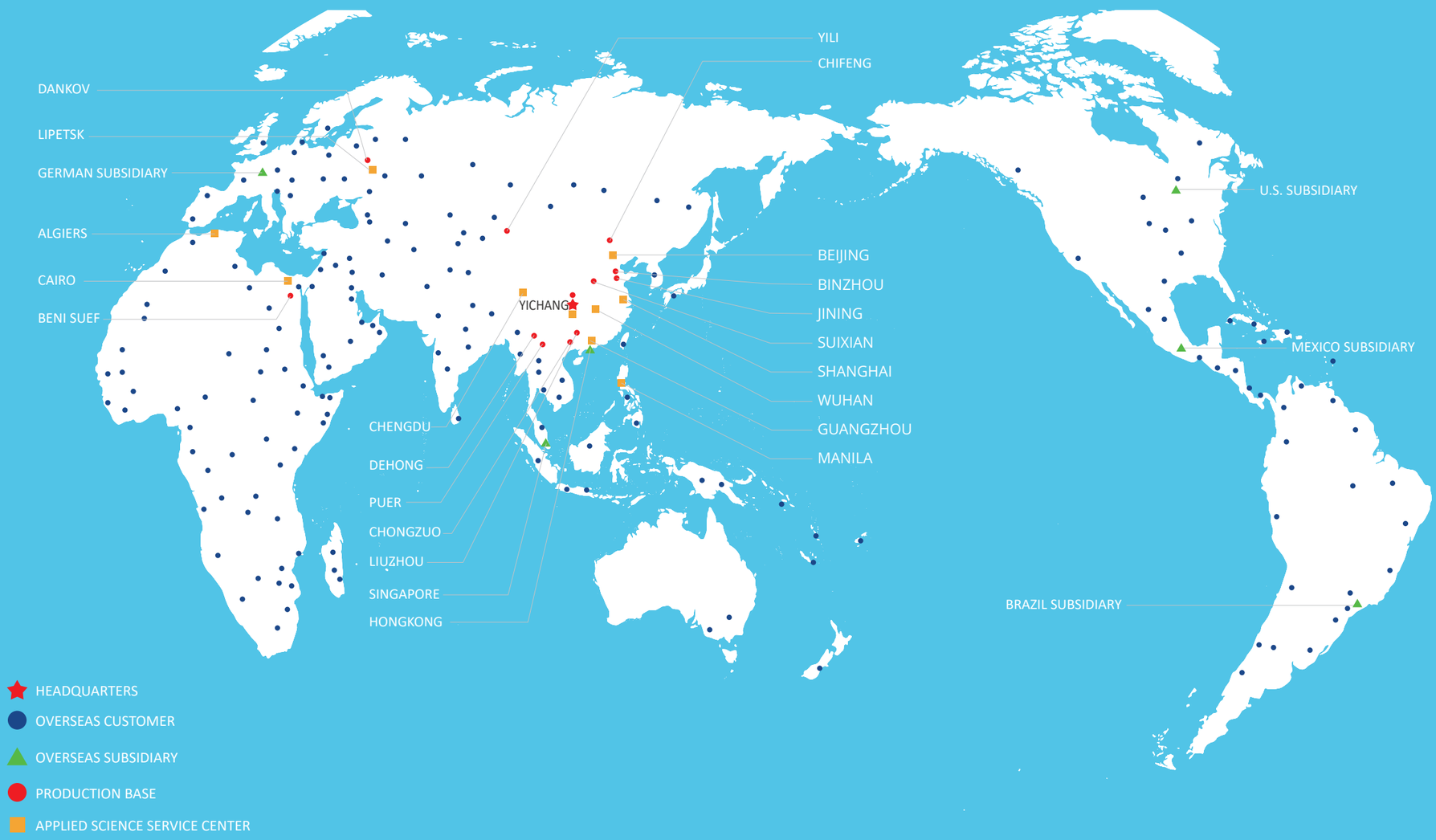
33
33 Production Bases

30
More Than 30 Years of Fast Growth

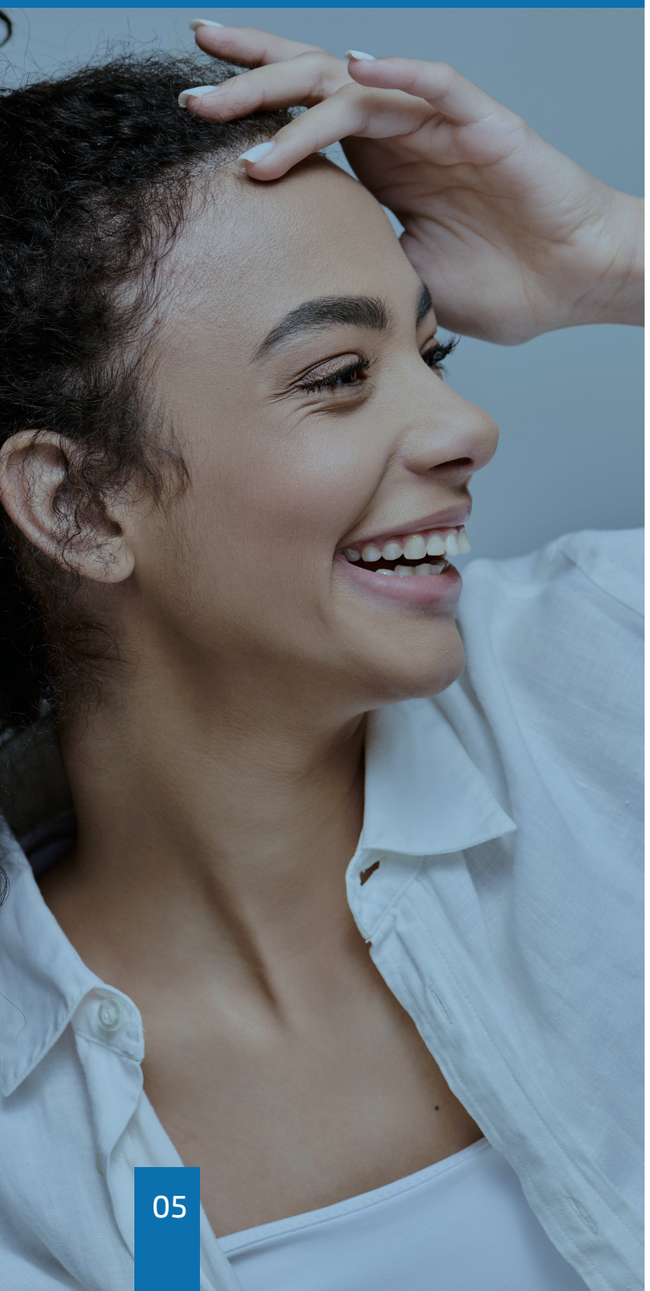
12
12 Applied Scienceservice Centers

760+
760+ R&D Professionals

Yeast Extract Capacity Leading The World



Your Partner in Yeast



Driven Health Innovation

As Angel's specialized division for yeast functional ingredients, Angel Human Health combines deep fermentation expertise with cutting-edge science to develop innovative, differentiated, and evidence-backed solutions. We focus on customized formulations that empower our customers to achieve enduring market success while contributing to a healthier world.

Our portfolio targets critical health needs—immune support, gut health, weight management, sports nutrition, healthy aging, vegetarian wellness, and overall wellbeing—with featured ingredients like Yeast Beta-glucan, Nutritional Yeast Flakes, Yeast Protein, *Saccharomyces boulardii* Probiotics, and Selenium Yeast. Trusted by leading global brands, these solutions add proven value to end products, bridging science and daily health. Angel has been more than a company; we are architects of healthier futures, driven by yeast, science, and a relentless commitment to innovation.

Catalog

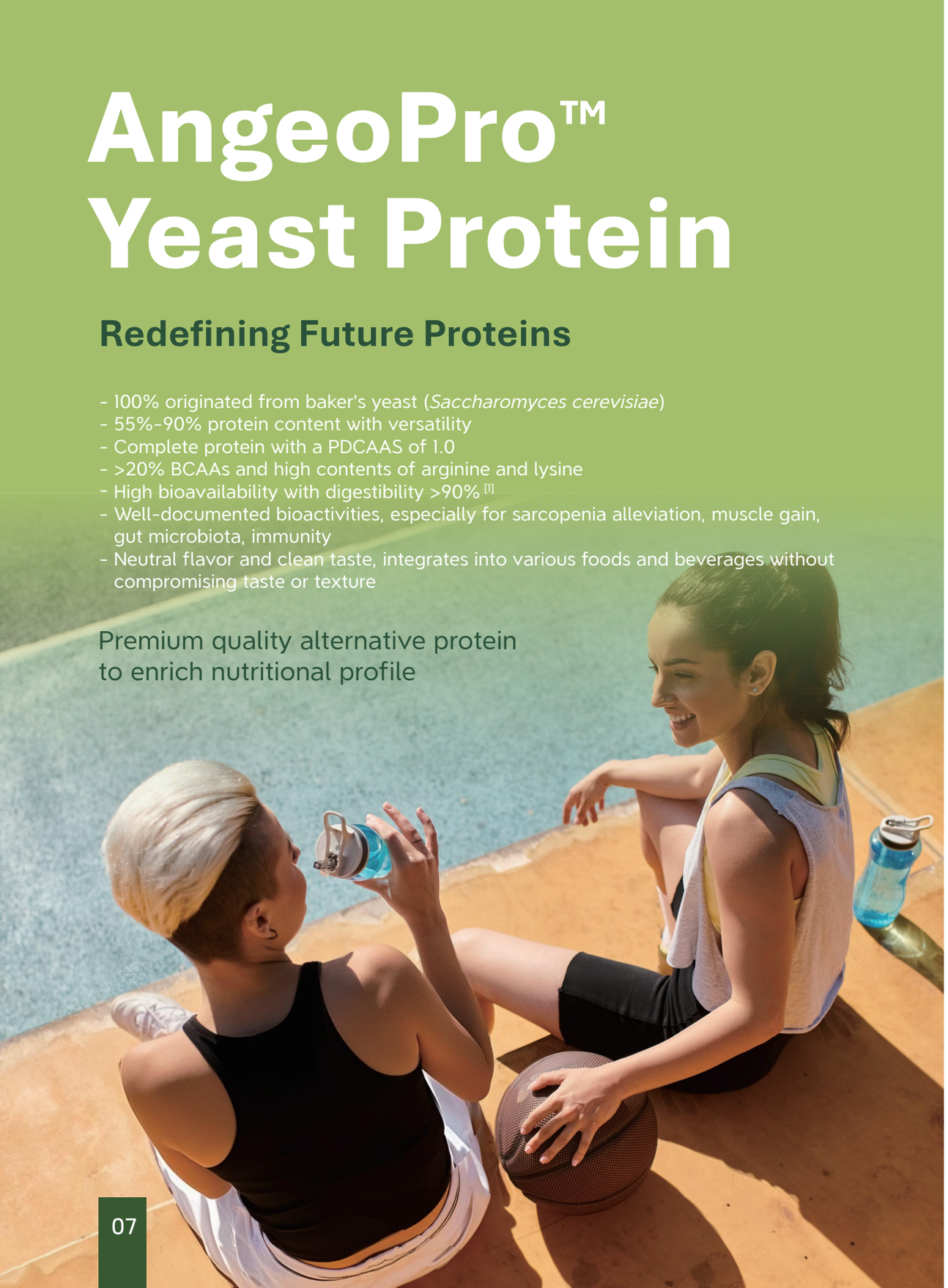
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AngeoPro™ Yeast Protein

Redefining Future Proteins

- 100% originated from baker's yeast (*Saccharomyces cerevisiae*)
- 55%-90% protein content with versatility
- Complete protein with a PDCAAS of 1.0
- >20% BCAAs and high contents of arginine and lysine
- High bioavailability with digestibility >90% [1]
- Well-documented bioactivities, especially for sarcopenia alleviation, muscle gain, gut microbiota, immunity
- Neutral flavor and clean taste, integrates into various foods and beverages without compromising taste or texture

Premium quality alternative protein to enrich nutritional profile

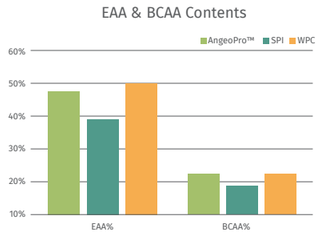


Description

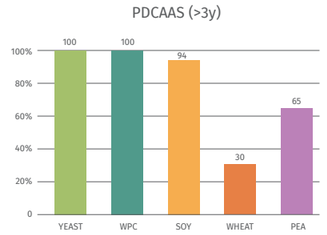
AngeoPro™ Yeast Protein is a sustainable microbial protein derived from baker's yeast (*Saccharomyces cerevisiae*). It is rich in essential amino acids and offers a high-quality protein source with excellent bio-availability.

Complete Protein With Premium Quality

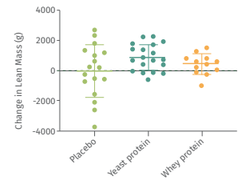
Comparison of Essential Amino Acids (EAA) and Branched Chain Amino Acids (BCAA) Contents[1][2]



Protein Digestibility Corrected Amino Acids Scores (PDCAAS) of children above 3 years and adults for different proteins[2]



Improving muscle mass & exercise performance[3]



Change in lean mass after 8 weeks

Muscle Mass & Exercise Performance Changes Relative to Baselines[3]

N=47	Placebo	AngeoPro™	Whey Protein
Max Bench Press (kg)	2.59	5.78*	5.77*
Lean Total (g)	-50.49	867.14*	357.73
Total Mass (g)	518.24	950.94	654.37

Non-GMO, Non-animal, Allergen-free, Gluten-free, Eco-friendly and sustainable, Vegan source, Halal and Kosher certificated.

Product Features

Yeast protein is approved as food according to local regulations of many countries and regions (contact us for details). As a food ingredient, it can be added to various food types without altering the natural characteristics of the food, thereby significantly enhancing the nutritional profile of the final product.

Grade	Key Feature	Recommended Applications
F84	≥80% protein content in dry basis	Meal Replacement Smoothie, Protein Powder, Protein Shakes, Dairy Products, Formula Milk Powder, Protein Drinks
F90	≥88% protein content in dry basis	

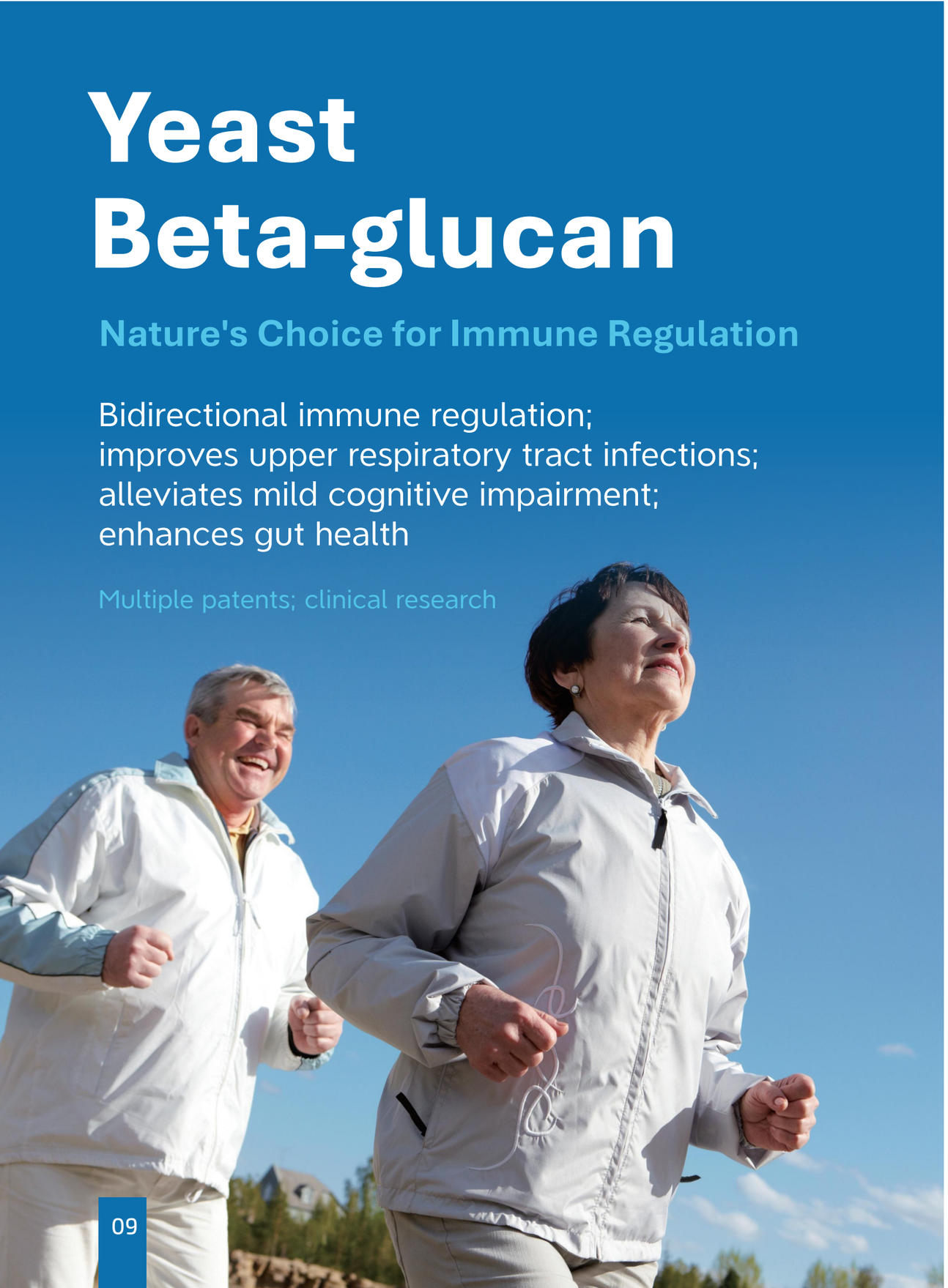
[1] Qiao, et al. Research on the Release And Absorption Regularities of Free Amino Acids and Peptides in Vitro Digestion of Yeast Protein. Food Chemistry, 2025
[2] Cao, et al. Evaluation of the nutritional quality of yeast protein in comparison to animal and plant proteins using growing rats and INFOGEST model. Food Chemistry, 2025
[2] Briskey, et al. Effect of yeast protein on muscle mass and performance in an adult population–a double blind, randomised controlled trial. Journal of Food and Nutrition Research, 2024

Yeast Beta-glucan

Nature's Choice for Immune Regulation

Bidirectional immune regulation;
improves upper respiratory tract infections;
alleviates mild cognitive impairment;
enhances gut health

Multiple patents; clinical research



Description

Yeast Beta-glucan is a high-molecular-weight active polysaccharide found in the inner layer of yeast cell walls, with a main chain of β-1,3-D-glucan and branched chains of β-1,6-D-glucan. It exhibits diverse functions such as immune regulation, anti-infection, and anti-radiation.

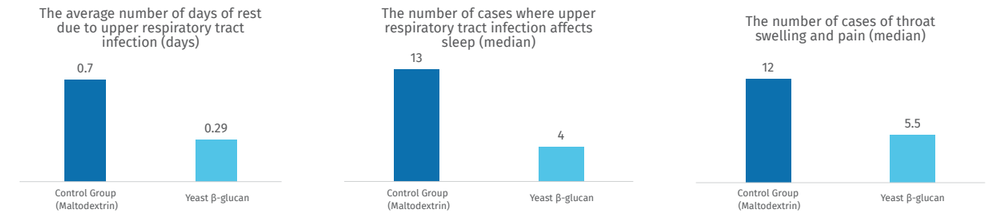
Functions

1.Bidirectional Immune Regulation

When immunity is low, yeast β-glucan is phagocytosed by macrophages, decomposed into active fragments, activating immune pathways and triggering immune cascade reactions. When immunity is overactive, yeast β-glucan significantly reduces Th2 cytokines (IL-4, IL-5) and increases Th1 cytokines (IL-12), while decreasing eosinophils, helping balance immune function and alleviate allergies [1].

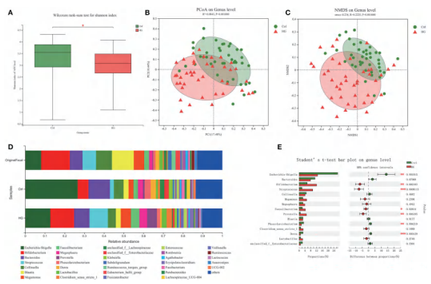
2.Improves Upper Respiratory Tract Infections

Yeast β-glucan can reduce symptoms in patients with upper respiratory tract infections, relieve negative emotions, improve sleep quality, and shorten sick leave duration [2].



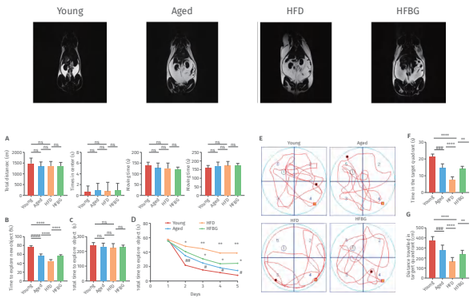
3.Enhances Gut Health

Yeast β-glucan significantly increases the content of short-chain fatty acids (SCFAs) and the relative abundance of Bifidobacterium in the gut, while reducing the relative abundance of harmful bacteria such as E. coli [3].



4.Alleviates Cognitive Impairment

Yeast β-glucan can reshape gut microbiota and increase SCFA levels, potentially improving cognitive dysfunction via the gut-brain axis, reducing neuroinflammation, and alleviating Alzheimer's symptoms [4].



Product Features

Water-soluble or dispersible; multiple models available.
β-glucan content ≥85%.
Applicable to dietary supplements, general foods, and beverages.

[1] Yeast whole glucan particle beta-glucan in conjunction with antitumour monoclonal antibodies to treat cancer, 2005.
[2] Effect of β-Glucan (Angel Yeast) Compared to a Placebo on Cold and Flu Incidence and Symptoms in an Adult Population – A Double Blind, Randomised Controlled Trial, 2024.
[3] Effects of Zymosan on Short-Chain Fatty Acid and Gas Production in in vitro Fermentation Models of the Human Intestinal Microbiota lites. 2022.
[4] Yeast β-glucan alleviates high-fat diet-induced Alzheimer's disease-like pathologies in rats via the gut-brain axis. 2024.

Mannoproteins

Yeast-Derived Prebiotics, Safeguarding Intestinal Health

Modulates gut microbiota;
Anti-aging;
Reduces blood lipids

Natural Source
Substantiated by Research



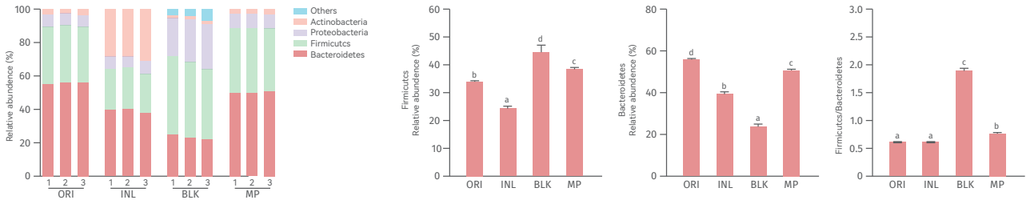
Description

Mannoprotein is a natural functional ingredient derived from the yeast cell wall, rich in polysaccharides and mannan oligosaccharides. It offers multiple health benefits and is safe and reliable. Mannoprotein demonstrates significant efficacy in regulating intestinal health, anti-aging, and lipid-lowering/body weight management.

Functions

1.Prebiotic Activity Regulates Intestinal Health

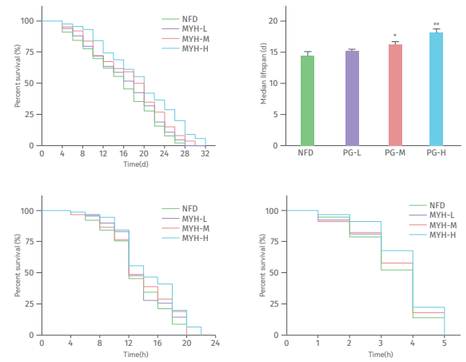
In an in vitro fermentation model, mannoprotein significantly reduces the Firmicutes/Bacteroidetes ratio and promotes the production of short-chain fatty acids. Its fermentation metabolites significantly inhibit the release of inflammatory factors TNF-α and IL-6 from macrophages, demonstrating excellent anti-inflammatory activity[1].



Effect of Yeast Mannoprotein on Gut Microbiota Composition at the Phylum Level
ORI: Pre-fermentation sample; INL: Positive control group (Inulin); BLK: Blank control group (No carbon source); MP: Mannoprotein group

2.Antioxidant and Anti-Aging

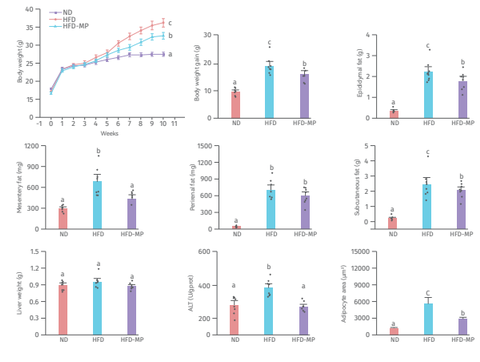
Mannoprotein significantly extends the lifespan of C. elegans, enhances the activity of antioxidant enzymes such as superoxide dismutase and glutathione peroxidase, and reduces levels of reactive oxygen species and malondialdehyde. It also regulates the expression of aging-related genes like DAF-16 and SKN-1, and exerts its anti-aging effects by modulating the gut microbiota[2].



Survival Curves and Median Lifespan of C. elegans under Different Concentrations of Mannoprotein

3.Lipid-Lowering and Weight Management

In a high-fat diet mouse model, mannoprotein intervention significantly reduced weight gain, decreased the accumulation of hepatic, mesenteric, and subcutaneous fat, and improved hepatic steatosis. It also lowered fasting blood glucose, total cholesterol, triglycerides, and low-density lipoprotein levels, while alleviating chronic inflammation[3].



NC: Normal control group; MX: Model group; MK: *Kluyveromyces marxianus* Postbiotic group

Product Features

Available in various content specifications for selection.
Suitable for use in various product forms such as solid beverages, functional foods, and dietary supplements.

[1] Feng Zeng et al. Anti-oxidative and anti-aging effects of mannoprotein-rich yeast cell wall enzymatic hydrolysate by modulating gut microbiota and metabolites in Caenorhabditis elegans, 2023.
[2] Li Xiang et al. Fermentation of yeast mannoprotein in vitro and anti-inflammatory activity of its metabolites, 2022.
[3] Yeast mannoproteins are expected to be a novel potential functional food for attenuation of obesity and modulation of gut microbiota, 2022.

Nutritional Yeast Flakes

The Natural Balanced Nutrient Source

Fermented with special bread yeast strains; crispy texture, fresh aroma; low-calorie, low-fat, nearly cholesterol-free; rich in high-quality protein (≥45%), rich in dietary fiber (≥20%), complete B vitamins, and diverse minerals (≥16 types).

Superfood; nutrition + deliciousness



Description

Nutritional Yeast Flakes is made from bread yeast via special processing, featuring a fresh aroma, crispy texture, and rich nutrients. It can be consumed directly, used as a condiment, or added to various foods to enhance sensory experience while supplementing essential nutrients.

Product Features

Nutritional Yeast Flakes have distinct sensory profiles which are characterized by nutty, toasted, and cheesy flavor notes with crispy texture, making them an excellent ingredient for a wide range of foods, enhancing flavor and texture.
Besides, Nutritional Yeast Flakes are rich in complete protein, dietary fiber and particularly B vitamins. They are ideal source to supplement nutrients, especially vitamin B12, which is lacking in vegetarian diets and is easily deficient in vegan population.

Key Features

Suitable for direct consumption, seasoning, condiments, or sprinkling.
Also applicable as a food ingredient in products such as weight-loss meal replacements, energy bars, cereal bars, nutritional shakes, bread, cakes, and snacks.



Enhances immune function;
regulates blood glucose and lipid levels;
antioxidant and anti-tumor effects

99% organic selenium yeast; good stability;
low hygroscopicity; higher bioavailability and safety than inorganic selenium;
patented process; national standard-setting;
exceeds national standards

Selenium -Enriched Yeast

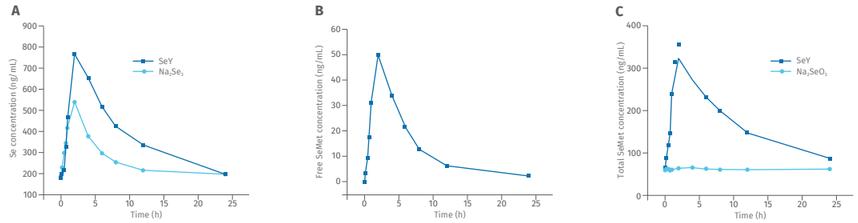
The Ideal Organic Selenium Supplement

Description

Selenium-enriched yeast is produced by biotransformation technology, which converts inorganic selenium into organic selenium stored within yeast cells in the form of selenomethionine and selenocysteine. It features high absorption, high utilization, and high safety, making it the optimal source for selenium nutrition fortification.

Bioavailability

Based on selenium and total selenomethionine, the bioavailability values of selenium-enriched yeast (SeY) relative to Na_2SeO_3 are 144% and 272%, respectively. After oral administration of selenium-enriched yeast, 75.9%–82.3% of total selenium in rat plasma is converted into selenoproteins, indicating that the bioavailability of selenium in selenium-enriched yeast is significantly higher than that of sodium selenite[1].



Time-dependent plasma concentrations of selenium (A), free selenomethionine (B), and total selenomethionine (C) in mice after oral administration of SeY or Na_2SeO_3

Selenium content and bioavailability in different organs

Unit (μg/kg)	Food selenium content	Plasma selenium content	Liver selenium content	Relative bioavailability (%)	
				Plasma	Liver
Sodium selenite	50	463	490	100	100
	100	790	727		
	200	1249	933		
Selenium-enriched yeast	50	708	651	122	226
	100	947	908		
	200	1533	1597		

Organic Selenium Form

Analysis by HPLC-ICP-MS at French National Center for Scientific Research (CNRS)confirmed that detected selenium forms in selenium-enriched yeast. Results showed that selenium in selenium-enriched yeast mainly exists as selenomethionine and selenocysteine.

Selenium forms in selenium-enriched yeast

Batch	CF1333	CF1334	CF1347
Inorganic seleniu	Not detected	Not detected	Not detected
Selenium from selenomethionine (mg/kg)	1560±98	1513±118	1349±150
Selenium from selenocysteine (mg/kg)	52.2±0.9	41.2±1.8	367±40
Total selenium (mg/kg)	2002±117	2068±175	2412±104

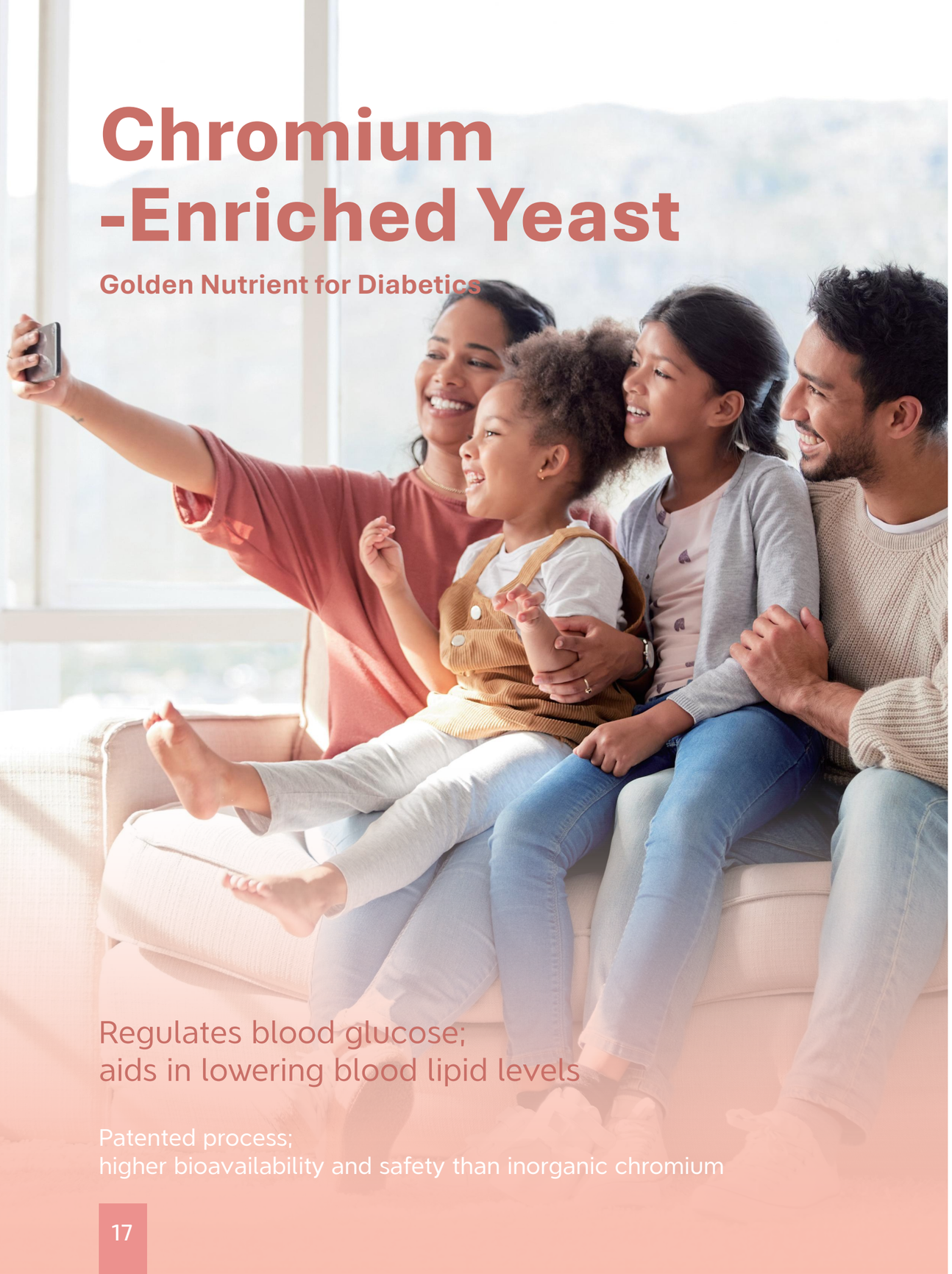
Product Features

As a food nutritional fortifier, it can be applied to various foods, and also used as a raw material for health foods in filing and registration.

[1] Comparison of Bioavailability, Pharmacokinetics, and Biotransformation of Selenium-EnrichedYeast and Sodium Selenite in Rats Using PlasmaSelenium and Selenomethionine, 2019.

Chromium -Enriched Yeast

Golden Nutrient for Diabetics



Regulates blood glucose;
aids in lowering blood lipid levels

Patented process;
higher bioavailability and safety than inorganic chromium

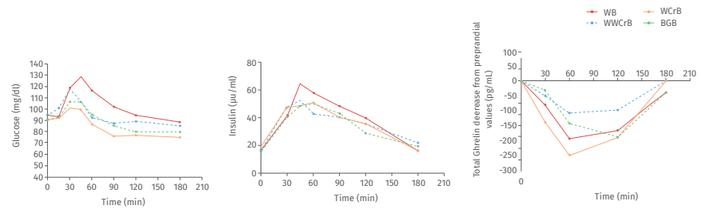
Description

Chromium-enriched yeast is produced by biotransformation technology, which converts inorganic chromium into organic chromium and enriches it within yeast cells. It features high absorption, high utilization, and high safety.

Functions

Lowers Glycemic Index

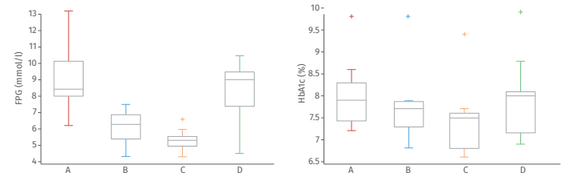
Studies on subjects consuming chromium-enriched yeast bread show that chromium-enriched yeast induces a milder postprandial blood glucose response, helping to lower the glycemic index[1] .



Glucose, insulin, and ghrelin responses 3 hours after consuming four test breads
(WB: White wheat bread; WWCrB: Whole wheat bread with chromium-enriched yeast; WCrB: White wheat bread with chromium-enriched yeast; BGB: Whole wheat rye bread with soluble oat β-glucan)

Improves Insulin Resistance

Supplementation with chromium-enriched yeast in subjects reduced blood glucose and glycosylated hemoglobin levels, likely due to improved insulin resistance[2] .



FPG levels (left) and HbA1c levels (right) at different stages
(A: Fasting; B: First supplementation period, 100 μg chromium/day; C: Second supplementation period, 200 μg chromium/day;
D: Post-supplementation)

Lowers Blood Lipids

After 4 cycles (8 weeks each) of chromium-enriched yeast supplementation in type 2 diabetes patients, results showed that chromium-enriched yeast was more effective than chromium trichloride in improving blood glucose and lipid levels[3].

Changes in related indicators before and after supplementation with chromium-enriched yeast and chromium trichloride

Group	Total cholesterol (mmol/L)	HDL cholesterol (mmol/L)	Triglycerides (mmol/L)	Chromium (μg/L)	
				Serum	Urine
Groups A and B at 0 point (n*=78)	5.16±1.37	0.99±0.28	1.97±1.11	0.104±0.032	0.378±0.093
Group B on placebo in first stage (n=37)	5.21±1.32**	0.97±0.29	1.89±1.07	0.097±0.034	0.364±0.097
Groups A and B on brewer's yeast in first and second stages (n=74)	4.82±0.99	1.22±0.21	1.5±0.68	0.273±0.070	0.709±0.242
Groups A and B on placebo in third and fourth stages (n=69)	4.92±0.83	1.0±0.27	1.94±0.63	0.154±0.056	0.468±0.206
Groups A and B on chromium chloride in third and fourth stages (n=67)	4.99±1.29	1.19±0.25**	1.54±0.98**	0.281±0.080**	1.085±0.35
Group A on placebo in fourth stage (n=31)	5.26±1.26	0.95±0.21	1.98±1.12	0.146±0.039*	0.384±0.087

Product Features

The European Food Safety Authority (EFSA) has explicitly designated chromium yeast as a source of chromium nutritional fortifiers.

[1] Cr-enriched yeast: beyond fibers for the management of postprandial glycemic response tobread, 2017.
[2] Effect of Chromium-Enriched Yeast on FastingPlasman Glucose, Glycated Haemoglobin and Serum Lipid Levels in Patients with Type 2 Diabetes Mellitus Treated with Insulin,2013.
[3] Effect of Chromium Supplementation on Glucose Metabolism and Lipids: A systematic reviewof randomized controlled trials, 2007.

Improves reproductive health;
alleviates cognitive impairment;
reduces memory damage

Patented process;
higher bioavailability and safety than inorganic zinc



Zinc for Cognitive Health
and Vital Living

Zinc-Enriched Yeast

Description

During yeast cultivation, inorganic zinc is added. Yeast absorbs and transforms zinc during growth, organically binding zinc with intracellular proteins and polysaccharides. This eliminates the toxic side effects and gastrointestinal irritation of inorganic zinc, enabling efficient and safer utilization of zinc by the human body.

Bioavailability

Studies comparing zinc sulfate, zinc gluconate, and zinc-enriched yeast in mice showed no significant differences in bioavailability, but zinc from zinc-enriched yeast was more easily retained by the body[1].

Net zinc balance rates in mice supplemented with different zinc sources

Sample	Net zinc balance (%)
Zinc sulfate	2.99
Zinc gluconate	5.12
Zinc-enriched yeast	7.48

Organic Zinc Form

Using HPLC-ICP-MS, the French National Center for Scientific Research (CNRS) analyzed the zinc forms in zinc-enriched yeast. Results confirmed that all zinc in zinc-enriched yeast exists in organic forms.

Zinc forms in zinc-enriched yeast

Sample	Protein-bound	Carboxyl-bound	Sulfhydryl-, hydroxyl-, or amino-bound	$ZnSO_4$
Zinc-enriched yeast	50%	32%	10%	Not detected

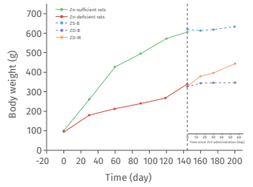
Zinc content in zinc-enriched yeast and enzyme-soluble fractions

Sample	Zinc content (mg/kg)	Standard deviation (mg/kg)	Relative deviation (%)
Zinc sulfate	4709	303	6.4
Zinc gluconate	2911	135	4.6

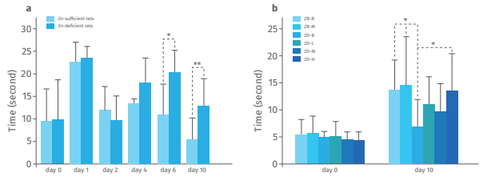
Functions of Zinc-Enriched Yeast Powder

Improves Memory Damage

Zinc-deficient rats exhibit reduced plasma zinc levels, slower weight gain, and significantly prolonged maze completion time. Supplementation with zinc-enriched yeast increased food intake and weight gain in zinc-deficient rats. By day 16 of supplementation, maze completion time in zinc-deficient rats showed no significant difference from normal rats, indicating that zinc-enriched yeast can mitigate zinc deficiency-induced cognitive impairment as a therapeutic intervention[2].



Changes in body weight of zinc-deficient and zinc-sufficient rats
(Zn-sufficient rats: Zinc-adequate rats; Zn-deficient rats: Zinc-deficient rats; ZS-B: Zinc-enriched blank group; ZS-M: Zinc-enriched medium-dose group; ZD-B: Zinc-deficient blank group; ZD-L: Zinc-deficient low-dose group; ZD-M: Zinc-deficient medium-dose group; ZD-H: Zinc-deficient high-dose group)



Platform stay time
(a: 145 days before the first Morris water maze test; b: 55 days after the second Morris water maze test)

Product Features

As a nutritional fortifier, zinc-enriched yeast can be used to increase zinc content in foods, including but not limited to dairy products, biscuits, beverages, fruit juices, and flour. It is also an important raw material for zinc fortification in infant formula, helping meet infants' zinc requirements. Additionally, zinc-enriched yeast powder can be used to produce health foods as a zinc supplement source.

[1] Comparison of the Oral Absorption, Distribution, Excretion, and Bioavailability of Zinc SulfateZinc Gluconate, and Zinc-Enriched Yeast in Rats, 2018.
[2] Zinc-Enriched Yeast Improves Learning and Memory Impairments in Zinc-Deficient Rats, 2018.

Saccharomyces boulardii (BLD-3)

Rapid Anti-Diarrheal Yeast Probiotic

Promotes proliferation of beneficial bacteria;
relieves diarrhea;
improves gut barrier damage; reduces inflammation

Patented strain; high survival rate through the gastrointestinal tract;
promotes beneficial bacteria proliferation



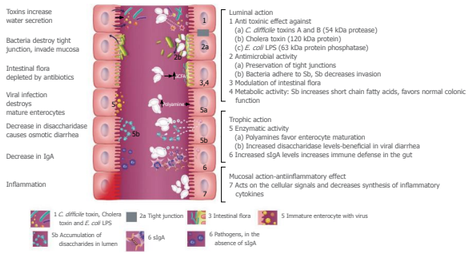
Description

Saccharomyces boulardii is a subspecies of Saccharomyces cerevisiae. BLD-3 promotes proliferation and maturation of intestinal epithelial cells, leading to longer villi and deeper crypts, thereby enhancing digestion and absorption of nutrients. It also stimulates the intestinal mucosa to produce immunoglobulin (IgA), forming a primary defense against pathogens.

Functions

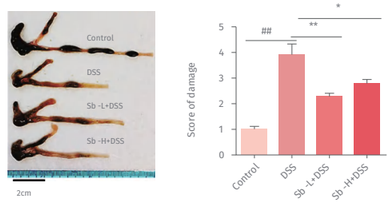
1.Anti-Diarrheal Mechanism

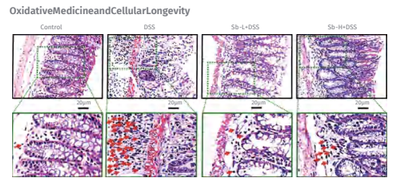
Studies indicate that the potential in vivo mechanism of BLD-3 is as shown[1].



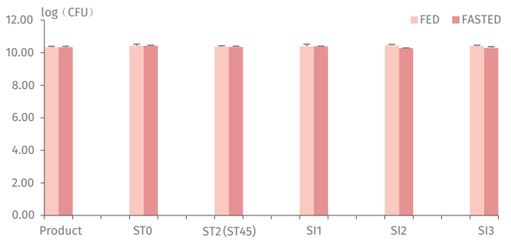
3.Improves Ulcerative Colitis Symptoms

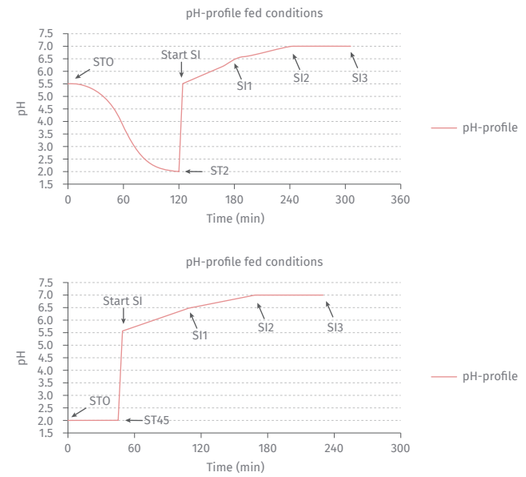
BLD-3 can significantly alleviate intestinal barrier damage, reduce inflammatory responses, and improve gut dysbiosis caused by ulcerative colitis. Additionally, inactivated BLD-3 exhibits effects similar to live BLD-3[3].





2.Excellent Digestive Fluid Tolerance [2]





Survival rate of BLD-3 during different digestion stages in the stomach and small intestine
(FED: Fed state; FASTED: Fasted state; ST: Gastric digestion stage; SI: Small intestinal digestion stage)

Product Features

Viable cell count ≥20 billion CFU/g.
Live BLD-3 can be used in probiotic solid beverages, capsules, drops, or tablets, as well as in general foods and pet nutrition products. Inactivated BLD-3 can serve as postbiotics for various functional foods.

[1] Systematic review and meta-analysis of *Saccharomyces boulardii* in adult patients, 2010.
[2] Evaluation the Viability of the *Saccharomyces boulardii* Bld-3 and its Influence on the Colonic Microbiota Composition by SHIME, 2018.
[3] *Saccharomyces boulardii* Ameliorates Dextran Sulfate Sodium-Induced Ulcerative Colitis inMice by Regulating NF-kB and Nrf2 Signalingathways, 2021.

Kluyveromyces marxianus 31691

Natural Power
A New Antiallergy Option



Alleviates food allergies； Reduces serum IgE；
Modulates Th1/Th2 immune balance

Patented strain
Qualified Presumption of Safety (QPS)

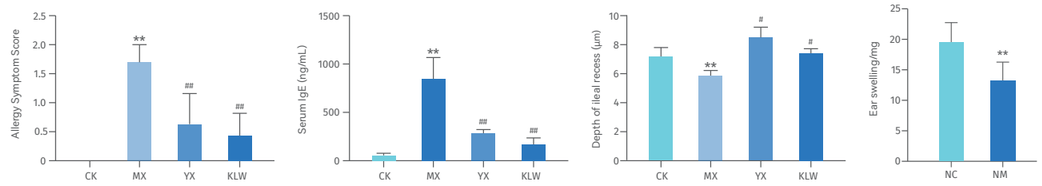
Description

Kluyveromyces marxianus 31691 is a yeast probiotic with significant applications in the food industry, possessing anti-allergic properties. Strain 31691 has a good food safety profile and is included in the QPS list. It exhibits anti-allergic activity against beta-lactoglobulin-induced food allergies and Type IV delayed-type hypersensitivity reactions.

Functions

1.Alleviates Food Allergies and Atopic Dermatitis

Kluyveromyces marxianus 31691 can significantly reduce the level of specific IgE in the serum of a milk beta-lactoglobulin-induced Type II allergy model, alleviate food allergy symptoms, and reduce ear swelling in a dinitrofluorobenzene (DNFB)-induced Type IV allergic contact dermatitis model.

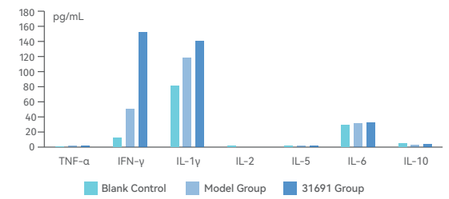


Results comparison of allergic reaction indicators

MX: Model group; **YX**: Positive control; **KLW**: *Kluyveromyces marxianus* 31691 group

2.Improves Ulcerative Colitis Symptoms

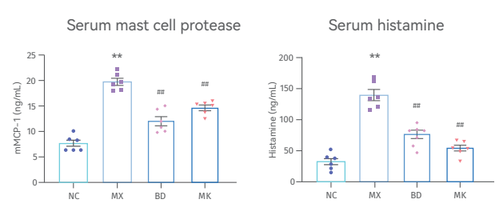
Kluyveromyces marxianus 31691 can activate the systemic Th1 immune pathway, indirectly inhibit the Th2 response, reduce levels of Th2 cytokines (IL-4, IL-5, IL-13), and lower Th17 cell levels, thereby restoring immune balance.



Changes in serum cytokine levels in OVA-induced allergic mice treated with *Kluyveromyces marxianus* 31691

3. Postbiotics are Also Effective

Postbiotics derived from *Kluyveromyces marxianus* 31691 also demonstrate significant anti-allergic efficacy, potentially by inhibiting mast cell degranulation and reducing histamine levels.



NC: Normal control group; **MX**: Model group;
MK: *Kluyveromyces marxianus* Postbiotic group

Product Features

Available in both probiotic and postbiotic forms.
Suitable for use in probiotic solid beverages, dietary supplements, and functional foods.
Viable count ≥ 10 billion CFU/g.

Yeast Postbiotics

Postbiotics for Gut Health

Anti-allergic; alleviates diarrhea; regulates gut health

Patented strain; non-GMO

Description

Bld-3 Yeast Postbiotics is a fermented product derived from the cultivation of *Saccharomyces boulardii.* It contains intact *Saccharomyces boulardii* cells and their metabolites, exhibiting diverse physiological activities. Additionally, it is rich in nutrients such as polyphenols, dietary fiber, and B vitamins.

Mechanism of Action

Studies indicate that the potential in vivo mechanisms of postbiotic preparations include the following aspects[1].

Enhances Antioxidant Capacity

It chelates with metal ions to generate antioxidant substances and regulates host antioxidant mechanisms.

Regulates Immune Responses

It interacts with epithelial cells, dendritic cells, monocytes/macrophages, and lymphocytes to modulate host immune reactions.

Modulates Gut Microbiota

Antimicrobial substances (e.g., bacteriocins) inhibit pathogen growth.
Structural components (e.g., pili and lectins) adhere to or bind at specific sites, preventing pathogen adhesion.
Organic acids regulate the internal pH, creating conditions favorable for probiotic growth and inhibiting pathogen proliferation.

Strengthens Intestinal Epithelial Barrier Function

Components such as lipoteichoic acid, surface layer proteins, short-chain fatty acids (SCFAs), and secreted proteins play protective roles in maintaining gut barrier function.



Figure 1: Mechanism of postbiotics' antioxidant properties

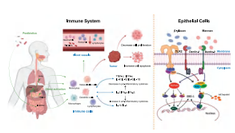


Figure 2: Immunomodulatory functions of postbiotics and yeast cell wall components in the host

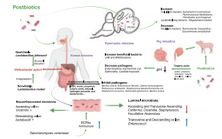


Figure 3: Postbiotic-mediated regulation of gastrointestinal microbiota in humans and animals

In Vivo Anti-Allergic Effects

Bld-3 Yeast Postbiotics significantly reduce ear swelling in mice, demonstrating anti-allergic activity.

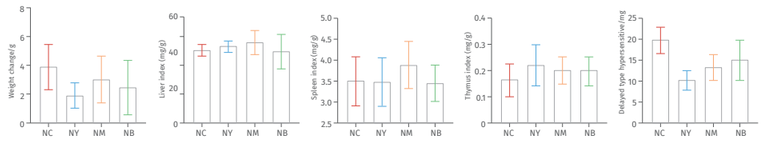


Figure 4: Changes in related physiological indicators in mice after supplementation with Bld-3 Yeast Postbiotics (NC: Negative control group; NY: Glutathione yeast group; NM: *Kluyveromyces marxianus* group; NB: Postbiotics group)

Product Features

As a food ingredient, it can be added to various food types, including:
Mixes (e.g., thick syrups, powders, effervescent tablets),
Beverages (e.g., room-temperature drinks, ready-to-drink, oral liquids),
Healthy snacks (e.g., soft candies, fructose candies),Bursting beads.

[1] Unlocking the power of postbiotics: A revolutionary approach to nutrition for humans and animals, 2024.



Bifidobacterium animalis subsp. *lactis* Bi66

A Trusted Helper for Relieving Constipation

Alleviates constipation;
regulates gut microbiota

Patented strain;
excellent gastrointestinal tolerance
and intestinal adhesion capacity

Description

Bifidobacterium animalis subsp. *lactis* Bi66 is a probiotic strain isolated from the feces of healthy infants, with functions to improve gut microbiota and relieve constipation. Bi66 exhibits strong gastrointestinal tolerance and intestinal adhesion capacity, efficiently utilizes oligosaccharides, strongly inhibits harmful bacteria, and relieves constipation by regulating gastrointestinal regulatory peptide levels, promoting gastric acid secretion in mice, accelerating gastric emptying, and increasing intestinal transit rate.

Relieves Constipation

Bifidobacterium animalis Bi66 can increase the number of fecal pellets excreted within 3 hours, fecal water content, and small intestinal propulsion rate in mice; shorten the time to first black fecal pellet; improve gastrointestinal regulatory peptide levels; promote gastric acid secretion; accelerate gastric emptying and intestinal transit rate; and ultimately relieve constipation.

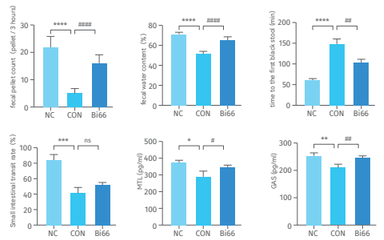


Figure 1: Effects of *Bifidobacterium animalis* Bi66 on various indicators in constipated mice
(NC: Negative control group; CON: Constipation model group; Bi66: *Bifidobacterium animalis* subsp. *lactis* Bi66 group)

Product Features

Bifidobacterium animalis subsp. *lactis* Bi66 can be used in probiotic solid beverages, capsules, tablets, and drops, aiming to relieve constipation and improve gut function.

Lactiplantibacillus plantarum P16

Little Guardian of Gut Health

Anti-inflammatory;
regulates gut microbiota

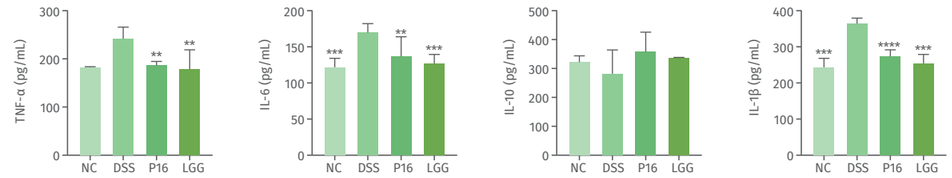
Patented strain; acid-resistant; bile salt-resistant

Description

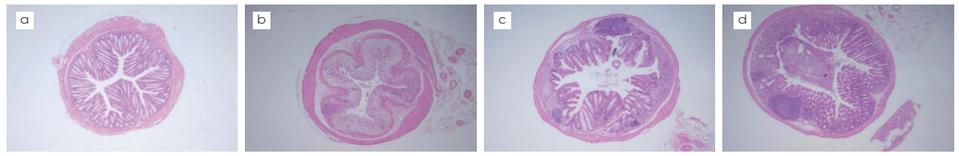
Lactiplantibacillus plantarum P16 is a probiotic strain isolated from pickled vegetables, with strong gastrointestinal tolerance and intestinal adhesion capacity. It improves gut microbiota and alleviates colitis symptoms. P16 promotes the expression of anti-inflammatory factors, inhibits pro-inflammatory factor levels, and increases gut microbial diversity and the Firmicutes/Bacteroidetes ratio.

Immune Regulation

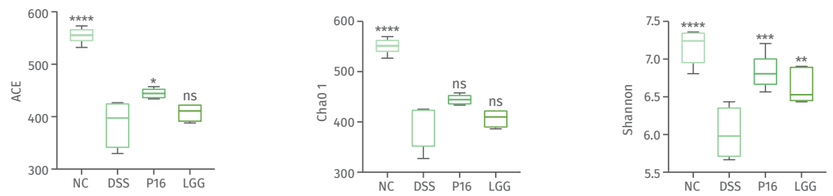
Lactiplantibacillus plantarum P16 significantly improves the disease activity index and histological damage score in mice with ulcerative colitis. It increases the abundance of beneficial bacteria such as Akkermansia and Ruminococcus, regulates gut microbiota composition, and reduces the content of harmful bacteria.



Effects of *Lactiplantibacillus plantarum* P16 on colonic inflammatory cytokine levels in mice
(NC: Negative control group; DSS: Model group; P16: *Lactiplantibacillus plantarum* P16 group; LGG: *Lactobacillus rhamnosus* LGG group)



Effects of *Lactiplantibacillus plantarum* P16 on colon length and colonic tissue structure in mice
(a: Negative control group; b: DSS model group; c: *Lactiplantibacillus plantarum* P16 group; d: *Lactobacillus rhamnosus* LGG group)



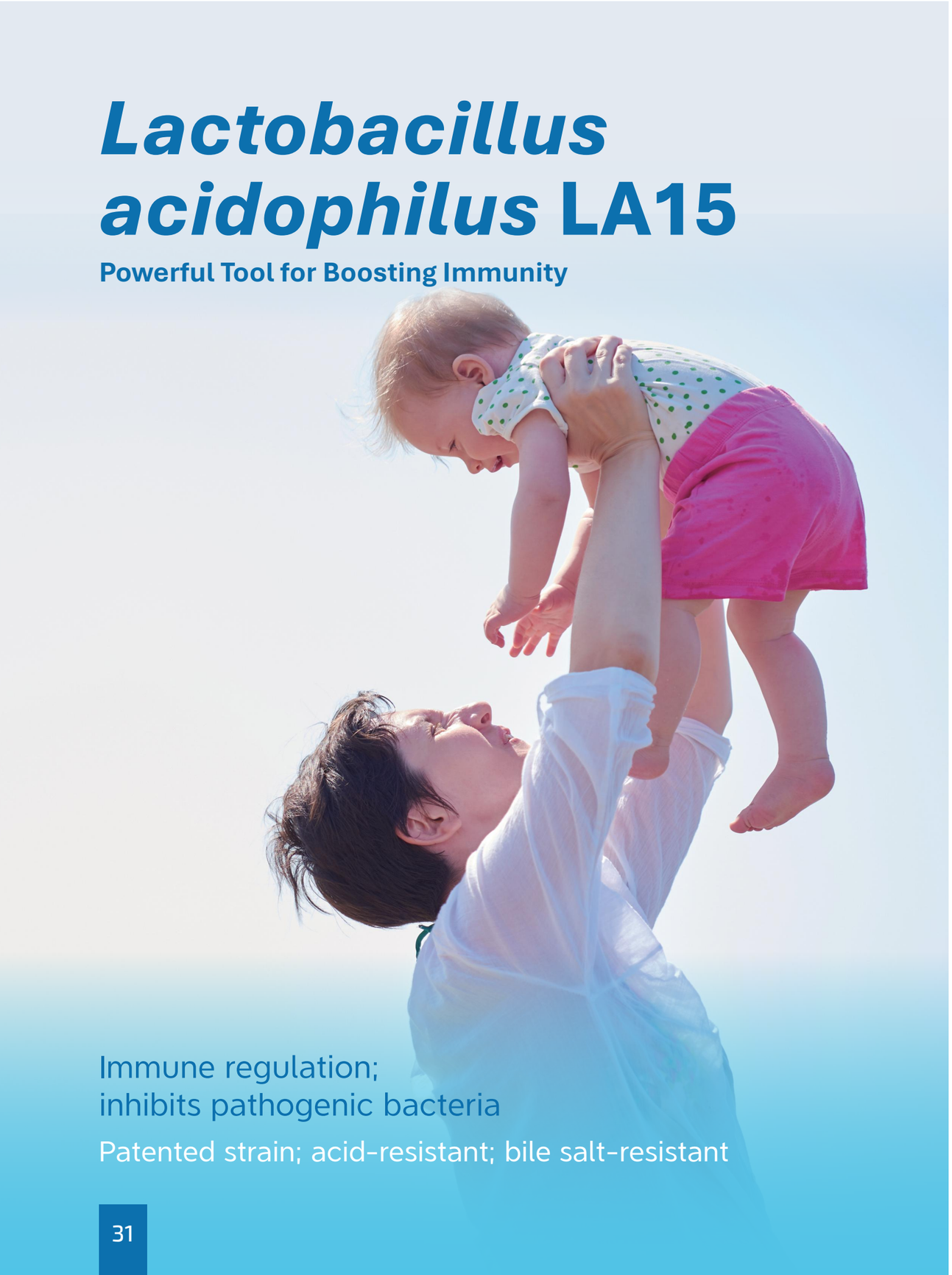
α-diversity analysis of gut microbiota in mice
(NC: Negative control group; DSS: Model group; P16: *Lactiplantibacillus plantarum* P16 group; LGG: *Lactobacillus rhamnosus* LGG group)

Product Features

Lactiplantibacillus plantarum P16 can be used in probiotic solid beverages, capsules, tablets, and drops, aiming to regulate gut microbiota and alleviate intestinal inflammation.

Lactobacillus acidophilus LA15

Powerful Tool for Boosting Immunity



Immune regulation;
inhibits pathogenic bacteria

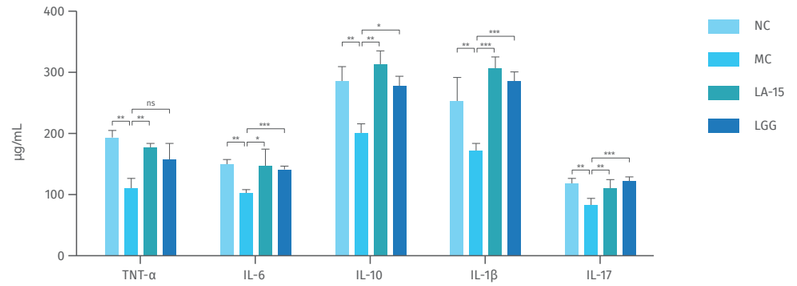
Patented strain; acid-resistant; bile salt-resistant

Description

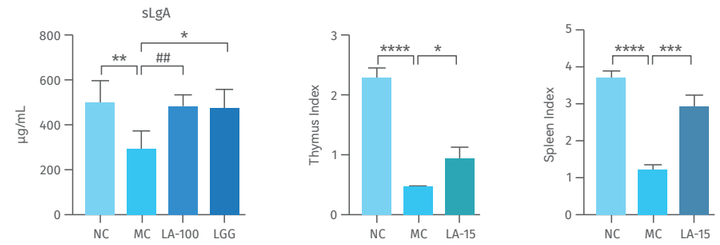
Lactobacillus acidophilus LA15 is a probiotic strain isolated from the feces of healthy infants, with functions to improve gut microbiota and regulate immunity. LA15 exhibits strong gastrointestinal tolerance and intestinal adhesion capacity, potently inhibits pathogenic bacteria, and is sensitive to antibiotics. It achieves immune regulation by increasing immune cell proliferation rates, regulating cytokines, and modulating immunoglobulins.

Immune Regulation

Lactobacillus acidophilus LA15 significantly enhances macrophage proliferation rates in cyclophosphamide-induced immunosuppressed mice, strengthening immune function by boosting macrophage activity. It also significantly increases the secretion of cytokines such as TNF-α and IL-10, stimulating macrophages to secrete pro-inflammatory and anti-inflammatory factors, which play a key role in activating innate immunity.



Lactobacillus acidophilus LA15 increases thymus Index and Spleen Index in mice, counteracting the impact of immunosuppression on the development of critical immune organs. It also enhances humoral immunity by stimulating sIgA production.



Effects of *Lactobacillus acidophilus* LA15 on immune function in mice
(NC: Negative control group; MC: Drug group; LA15: *Lactobacillus acidophilus* LA15 group; LGG: *Lactobacillus rhamnosus* LGG group)

Product Features

Lactobacillus acidophilus LA15 can be used in probiotic solid beverages, capsules, tablets, and drops, aiming to improve immune regulation and gut function.

Glutathione -Rich Yeast

100% Natural Glutathione



Oral beauty;
alcohol detoxification and liver protection

100% natural source; fully water-soluble;
non-GMO; rich in glutathione, amino acids, and polypeptides

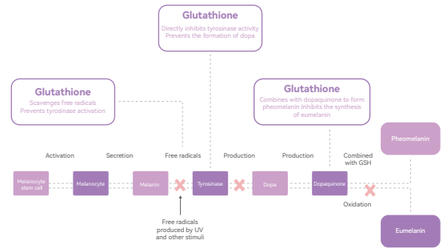
Description

Produced from Saccharomyces cerevisiae through cultivation, fermentation, enzymatic hydrolysis, and drying processes, with primary components including protein and glutathione.

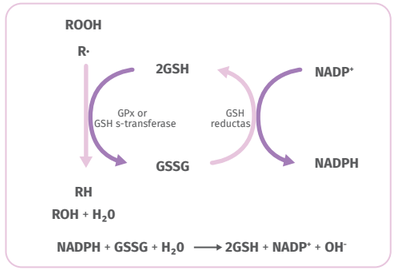
Functions

1.Brightening

Glutathione-rich yeast binds to the copper-containing active site of tyrosinase, inactivating the enzyme. Redirects tyrosine synthesis from eumelanin (dark pigment) to pheomelanin (light yellow pigment).
The unique sulfhydryl group in glutathione-rich yeast has strong antioxidant activity, scavenging ROS generated in epidermal cells after UV exposure and reducing ROS-induced melanin formation.



Mechanism of glutathione
-rich yeast in reducing melanin production



Schematic diagram of antioxidant function
of glutathione-rich yeast

2.Liver Protection

Intervention with glutathione-rich yeast significantly reduces serum ALT and AST levels, effectively alleviating ethanol-induced liver damage. It also lowers serum and liver TC and TG levels [1].

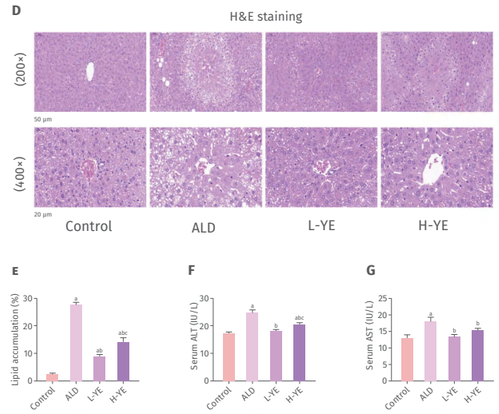


Figure 1. YE treatment ameliorated ALD in alcohol-fed mice. (D) H&E staining of the liver (200× and 400×). (E) Quantitative analysis of lipid accumulation in the liver (%). (F) Serum ALT. (G) Serum AST. (H) Liver TC. (I) Liver TG. (J) Serum TC. (K) Ser um TG. Each bar denotes the mean ± standard error of the mean. a, P < 0.05 versus the Control group; b, P < 0.05 versus the ALD group; c, P < 0.05 versus the L-YE group.

3.Anti-Aging

Glutathione-rich yeast primarily achieves anti-aging effects by reducing peroxides (e.g., MDA) and enhancing GSH-Px enzyme activity. A medium dose (170 mg/kg) exhibits optimal antioxidant efficacy [2].

Product Features

Glutathione content ≥18%; fully water-soluble; wide application range.
Applicable to functional foods, beverages, oral liquids, dairy products, solid beverages, and formulated foods.

[1] Dietary yeast extract prevents alcoholic liver disease in mice via correcting gut dysbiosis and improving intestinal barrier function, 2025.
[2] Antioxidative and anti-ageing effects of nucleotide-rich yeast hydrolysate by modulating metabolites in Caenorhabditis elegans based on metabonomic analysis, International Journal of Food Science and Technology 2023.



Ginseng Extract

Derived from ginseng, superior to ginseng

Fully water-soluble; non-GMO; non-irradiated;
total ginsenoside ≥5.0%; rare ginsenoside ≥2.0%

Enhanced rare ginsenosides; anti-fatigue;
tonifies qi and nourishes blood;
boost energy and improve blood health

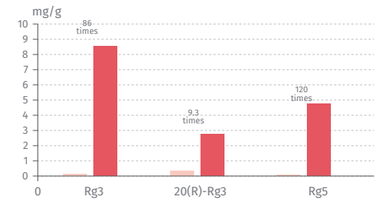
Description

Ginseng extract is prepared using 5-year-old or younger artificially cultivated ginseng root powder as raw material. Through fermentation processing, the ginseng fermentation product is obtained, followed by coarse filtration, fine filtration, concentration, and spray drying to produce ginseng extract powder.

Functions

Changes in Ginsenosides Before and After Fermentation

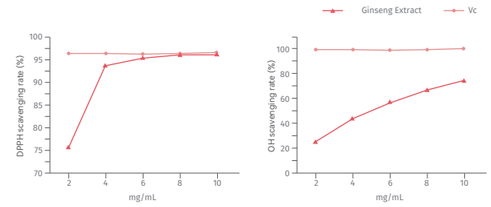
Common ginsenosides decrease while rare ginsenosides increase after fermentation.



Changes in ginsenosides of ginseng extract before and after fermentation

Antioxidant Activity

Ginseng extract exhibits strong antioxidant capacity in DPPH free radical scavenging and hydroxyl radical scavenging.

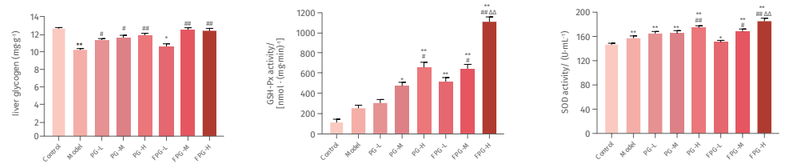


In vitro antioxidant activity evaluation of ginseng extract

Anti-Fatigue Effects

Ginseng extract effectively alleviates fatigue levels and related indicators in mice. Ginseng extract outperforms un ginseng extract in all tested indicators.

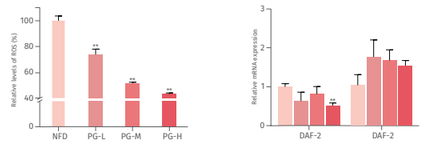
Anti-fatigue test in mice with ginseng extract



Anti-Aging Effects

Ginseng extract significantly extends the lifespan of Caenorhabditis elegans and enhances their resistance to heat stress and acute oxidative stress. Antioxidant enzymes such as T-SOD, GSH-PX, and CAT are significantly upregulated, while MDA, ROS, and apoptosis levels are significantly downregulated. Additionally, ginseng extract exerts antioxidant and anti-aging effects by reducing DAF-2 mRNA expression and increasing SKN-1 and SOD-3 mRNA expression in Caenorhabditis elegans.

Anti-aging test of ginseng extract



Product Features

Ginseng extract boasts excellent water solubility and stability, suitable for various food processing conditions. It has a mild flavor, making it easy to accept. It can be used as a functional ingredient for anti-fatigue, qi-tonifying, blood-nourishing, and immunity-enhancing purposes in beverages, oral liquids, solid beverages, soft candies, soft capsules, effervescent tablets, formulated foods, and other products.

Tangerine Peel Extract

Supports healthy digestion and regular bowel function

Helps relieve occasional constipation and supports bowel regularity

Non-GMO; non-irradiated; hesperidin content ≥2.0%; fermentation-converted flavonoids; enhanced bioavailability

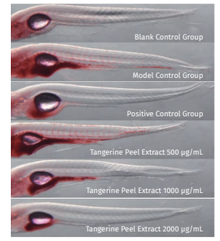
Description

Tangerine peel extract is crafted from high-quality, thoroughly sun-dried tangerine peel. After professional fermentation processing and drying, it is prepared into tangerine peel enzyme powder.

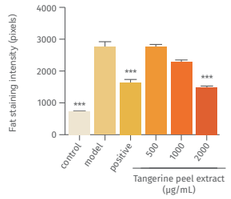
Functions

Inhibits Fat Absorption

Studies show that the intensity of vascular fat staining in the tangerine peel extract experimental group is significantly weaker than that in the model control group, indicating its efficacy in inhibiting fat absorption.



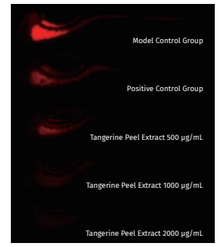
Typical images of fat staining intensity in zebrafish intestinal and tail blood vessels after sample treatment



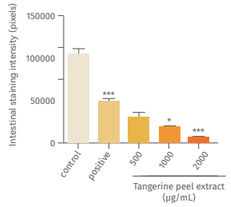
Fat staining intensity in zebrafish intestinal and tail blood vessels after sample treatment

Laxative Effect and Keeping Bowels Regular

Studies reveal that the intestinal fluorescence intensity of zebrafish in the tangerine peel extract experimental group is significantly weaker than that in the positive control group and normal control group, demonstrating its role in moistening intestines and promoting defecation.



Typical images of intestinal fluorescence intensity in zebrafish after sample treatment



Intestinal fluorescence intensity in zebrafish after sample treatment

Relieves Constipation

Clinical studies show that tangerine peel extract achieves a marked effective rate of 44.4%, an effective rate of 44.4%, and a total effective rate of 88.8% in relieving constipation, confirming its efficacy in alleviating constipation symptoms in humans.

Product Features

Tangerine peel extract can be used in gut health, intestine-moistening/defecation-promoting, and weight-loss foods. Its application scope includes solid beverages, yogurt, chocolate cookies, jelly, and other products.