



INNOVATIVE ELEMENTS TO AMELIORATE LIFE



ZLEY® FRESHENALL-PLA

「Multi-antibacteria & Deodorant, Long-lasing for 24h」

「Balances Skin Microecology, Gently Nurtures Sensitive Skin」



WHO WE ARE

COMMITTED TO AMELIORATE LIVE, WITH TECHNOLOGY

Driven by a vision of innovation and development, we are dedicated to producing high-quality raw materials for the global personal care industry, addressing the growing demand for functional ingredients. Our products are designed to promote skin rejuvenation, brightening, antioxidant, and anti-inflammatory benefits.

「 1 2 3 」

1 factory located in Weinan, Shaanxi Province
2 Innovation research and development centers
3 subsidiaries: [China] Guangzhou [Hongkong]
and [Singapore] Over 200 employees

WHAT WE DO

COMMITTED TO AMELIORATE LIVE, WITH TECHNOLOGY

「Herbalism」

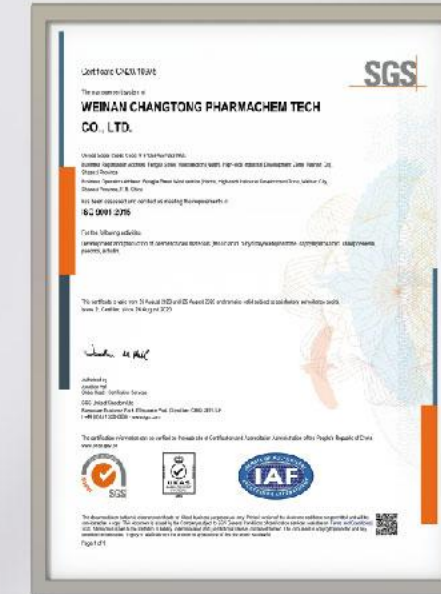
The cosmetic industry is actively exploring new neurocosmetic ingredients to enhance the connection between the skin and the nervous system. We harness plant extracts with soothing and anti-inflammatory properties to alleviate skin irritations, reduce redness, and support a healthier complexion.

「Metropolitan」

We are committed to continuously exploring innovative formulations for effective skin rejuvenation. Our team leverages advanced technologies and novel ingredients to push the boundaries and unlock new possibilities in this field.

「Revolution」

We utilize innovative technologies and ingredients to deliver exceptional results in skin brightening. Our ongoing research focuses on addressing pigmentation issues and promoting a radiant complexion.



PATENT CERTIFICATE

ZL 2022 1 1022382.9

Anti-inflammatory and Repairing Composition Containing Ethylene Glycol Salicylate and Its Preparation Method and Application

ZL 2022 1 1306298.X

Supramolecular Vesicle Aggregates of 4-Butylresorcinol and Their Preparation Method and Cosmetic Composition

ZL 2022 1 1147913.7

Microencapsulated Kava Extract and Its Preparation Method and Application

ZL 2016 1 0490027.2

Anti-Aging Cosmetic Composition and Its Preparation Method

ZL 2022 1 1648008.X

Composition Containing Amino Acid Derivatives for Regulating Skin Microbiota

ZL 2022 1 1038113.1

Anti-Acne, Whitening, and Antioxidant Essential Oil Composition Containing Ferulic Acid Derivatives and Its Preparation Method

ZL 2022 1 1187356.1

Composition for Skin Conditioning, Whitening, and Brightening, and Essence Lotion

ZL 2015 1 0077009.7

Preparation Method of High-Purity Piperazine

ZL 2023 1 0925891.0

Composition and Its Use in Improving Skin Barrier Function, and Skincare Product

ZL 2022 1 1251631.1

Liposomes Containing Ferulic Acid and Its Derivatives, Preparation Method, and Application

ZL 2015 1 0170034.X

Method for Synthesizing 2,4-Dihydroxyacetophenone and Recycling Wastewater

ZL 2014 1 0245210.7

Preparation Method of Half-Fumarate Quetiapine

ZL 2023 1 1500453.6

Deodorizing Composition, Its Preparation Method, and Application

ZL 2023 1 1366456.5

Peony Root Bark Extract-Based Perfume with Lemon Fragrance, Preparation Process, and Application

ZL 2024 1 0785149.9

Preparation Method of Highly Active Trigonella Extract and Its Uses in Care Products

ZL 2024 1 0726523.8

Preparation Method of Hydroxypinacolone Retinoate

ZL 2024 2 1028204.1 (Utility model patent)

Ultrasonic Cleaner for Cosmetic Testing

ZL 2024 1 0576240.X

Composition for Reducing Periorbital Skin Issues, Its Preparation Process, and Application

MORE PATENT APPLICATIONS ARE PENDING...



I&D STRENGTH

「BIRI」 (Biotechnology Innovation Research Institute)

Our team of experienced biologists leads the R&D efforts to identify active skincare ingredients with proven efficacy, high potency, and stability through experimental protocols, strain culture, and fermentation optimization.

Our facility adheres to the national laboratory safety standards GB 19489-2011, including P2 and biochemical laboratory requirements.

「FOSCRC」 (Functionality of Skin Care Research Center)

As society progresses and technology advances, there is a growing demand for effective skin care and a deeper understanding of cosmetics. At our Functional Skincare Research and Development Center, we focus on exploring skincare products through chemical testing and cell assays to study their functions and properties.

「FOSCTEC」 (Functionality of Skin Care Testing&Evaluation Center)

We partner with a professional third-party testing institute specializing in cosmetics, cosmetic raw materials, and pharmaceutical intermediates to ensure rigorous and reliable product testing.



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Part . 01

「MARKRT ANALYSIS」

MARKRT ANALYSIS

INNOVATIVE ELEMENTS TO AMELIORATE LIFE

「DEODORANT PRODUCTS CLASSIFIED AS ORDINARY COSMETICS」



The Regulations on the Supervision and Administration of Cosmetics, implemented on January 1, 2021, stipulate that cosmetics for hair dyeing, perming, spot fading & whitening, sun protection, hair loss prevention, and those claiming new efficacy are special cosmetics.

Deodorant products have been removed from the special cosmetic category and classified as ordinary cosmetics.

In the Classification Rules and Catalogue of Cosmetics issued by the National Medical Products Administration in May 2021, deodorant efficacy is defined as reducing or masking body odor.

Note: Products that deodorize solely by inhibiting microbial growth are not regarded as cosmetics.

Early medications such as formalin and neomycin could alleviate body odor. However, they are prohibited from cosmetic applications due to severe side effects and unsuitability for long-term use. Accordingly, the cosmetics industry has been pursuing safer and more effective deodorant ingredients in recent years.

「MECHANISM OF BODY ODOR FORMATION」...

Sweat glands are appendage organs of the skin, functioning to excrete waste and regulate body temperature.

There are two types of sweat glands in the human body:

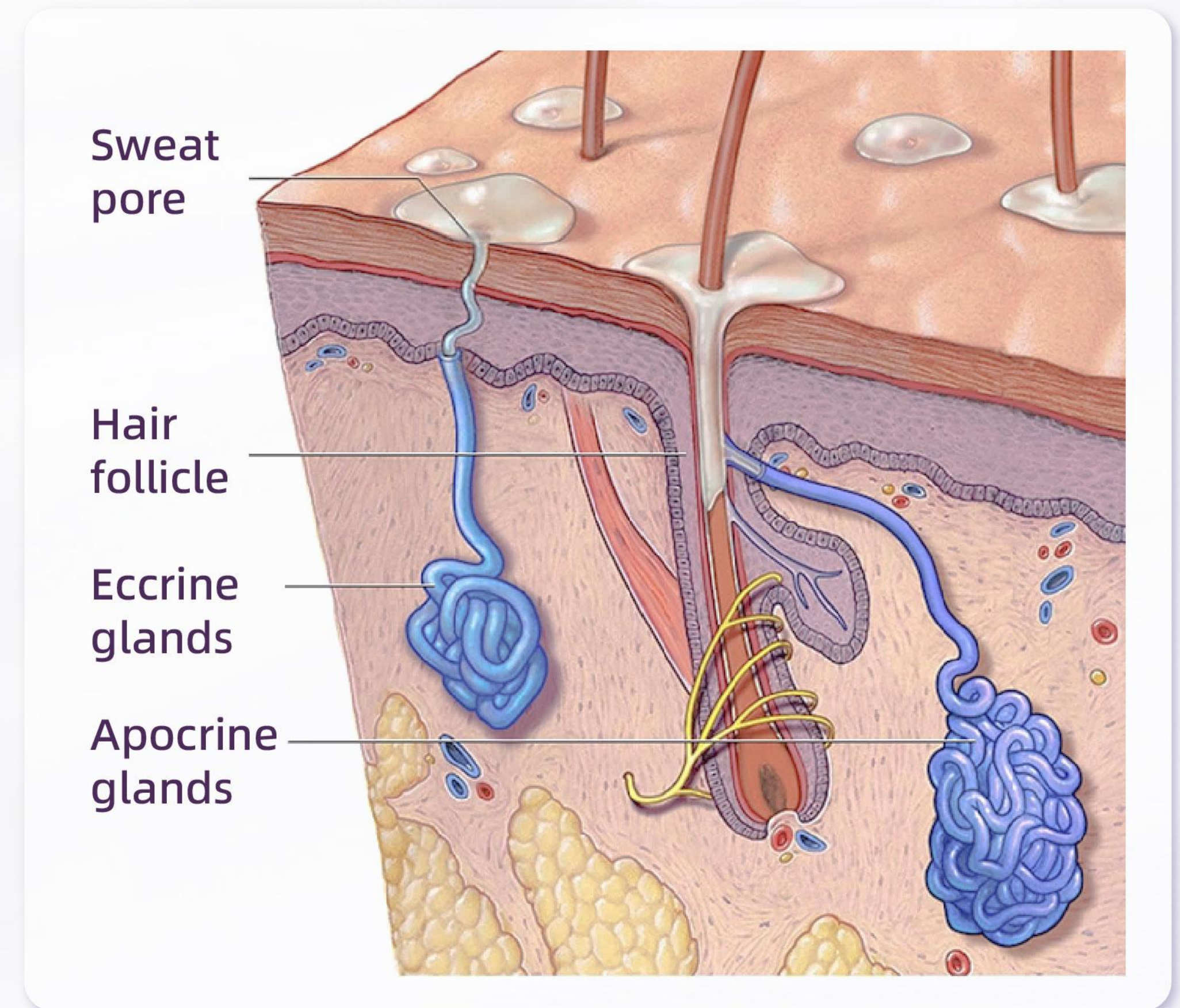
1. Eccrine glands

- ▶ Distributed almost all over the body.
- ▶ They secrete sweat containing little protein or fatty acids, which has no peculiar odor.
- ▶ Their main functions are body temperature regulation and skin moisturizing.

2. Apocrine glands

- ▶ Mainly located in armpits, urogenital area, areola and nipples. Their secretions are rich in proteins and fatty acids, appearing milky white or pale yellow.
- ▶ Initially odorless, the sweat is quickly decomposed by skin surface microorganisms, producing ammonia and volatile short-chain fatty acids with strong unpleasant smells, thus causing body odor.

In short, body odor is an abnormal physiological reaction caused by interactions between skin microorganisms and sweat.



CHEMICAL COMPOUNDS PRESENT IN ODOR GASES

The odor gases produced mainly include nitrogen compounds (ammonia, methylamine), volatile sulfur-containing compounds (hydrogen sulfide, methyl mercaptan), and aromatic compounds (indole, fecal deodorant, etc.).

These odor gases are characterized by volatility and low perception thresholds.

- Methyl mercaptan, indole, and fecal odor, hydrogen sulfide with rotten egg odor, and ammonia and methylamine with ammonia odor;
- Methyl mercaptan had the lowest odor threshold, followed by fecal deodorant and hydrogen sulfide;

Group(s)	Component Name	Odor	Odor threshold
VOLATILE SULFUR-CONTAINING COMPOUNDS	Hydrogen sulfide	Rotten egg odor	4×10^{-11}
	Methyl mercaptan	Fecal odor	5.1×10^{-19}
NITRIDES	Ammonia	Ammonia odor	4.3×10^{-8}
	Methylamine	Ammonia odor	7.5×10^{-10}
AROMATIC COMPOUNDS	Indole	Fecal odor	3×10^{-10}
	Fecal odorant	Fecal odor	5.6×10^{-12}



*Ref: Wang Jinping, Zhang Mi. Research on pet odor and application of deodorant. The 39th (2019) China Detergent Industry Annual Meeting.
*Ref: Du Yongwei, Zhang Mi. Analysis of influencing factors and elimination measures of oral halitosis [J Suan Science and Technology,2021,048(006):136-138.]

「 CONVENTIONAL BODY ODOR CONTROL METHODS 」



*Ref: 崔小倩,赵梦恬,陈彦君,曹高.除臭剂与除臭化妆品的研究进展[J].日用化学工业, 2022, 52(10):1121-1127.

PRODUCT DESIGN PHILOSOPHY

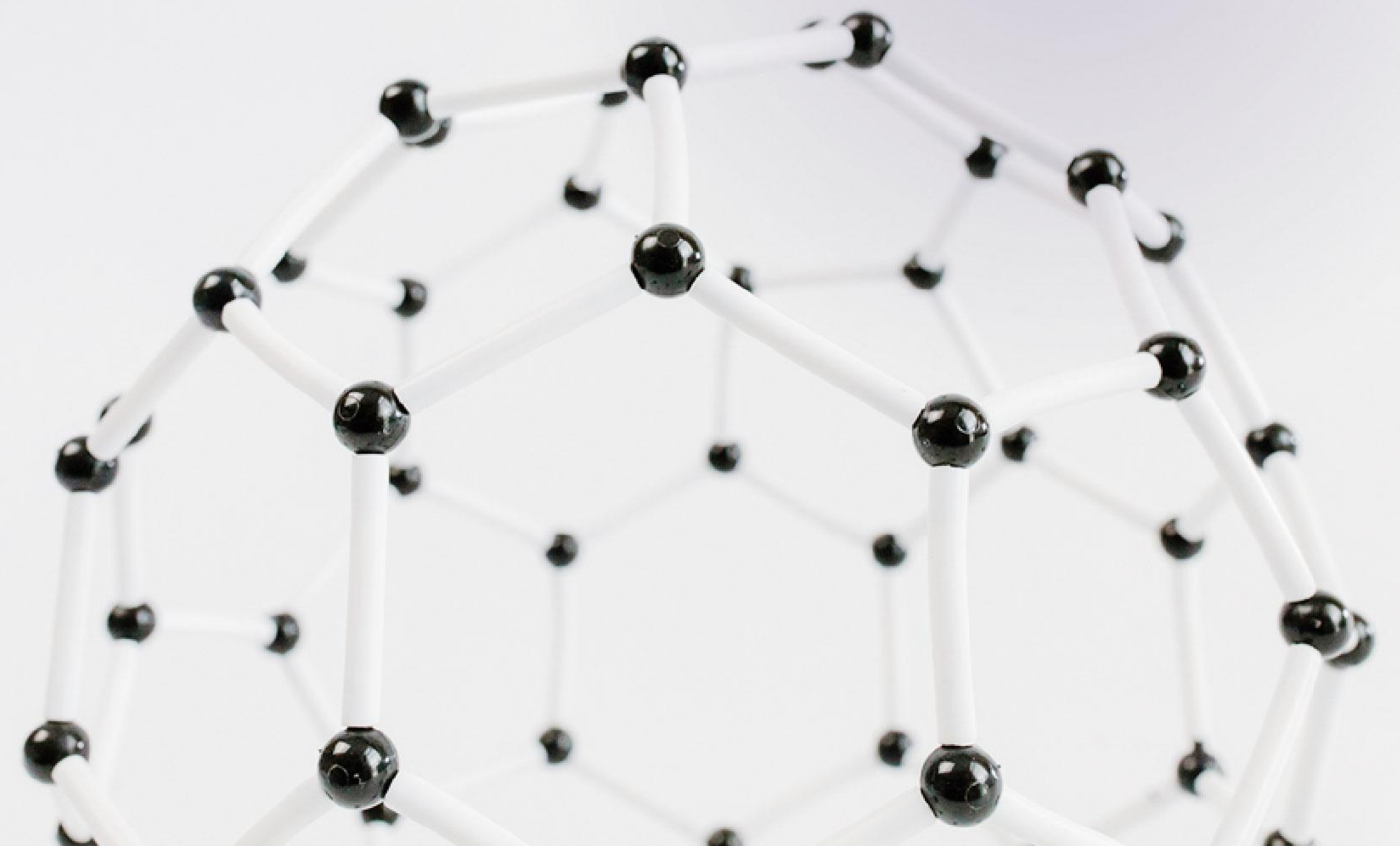
Traditional deodorants not only do not have significant deodorizing effect, but also accompanied by greater safety risks. In addition, with the call of the country and the pursuit of consumers for green and natural, the development of green and safe deodorant cosmetics has become the focus of attention of many cosmetic companies.

Based on the mechanism of deodorization, the R&D team of ZLEY pay attention to the deodorant effect, but also values highly to its safety , advocating nature.

We aim to control the occurrence of body odor without destroying the normal flora and physiology of the skin, and provide a more scientific, systematic, green and safe deodorant solution--**ZLEY®FRESHENALL-PLA.**

Part . 02

「PRODUCT INTRODUCTION」



PRODUCT INTRODUCTION

INNOVATIVE ELEMENTS TO AMELIORATE LIFE

「ZLEY®FRESHENALL-PLA」



ZLEY®FRESHENALL-PLA, a green, safe and bio-friendly anti-bacterial & deodorant product compounded with natural actives (Bamboo vinegar, Biota Orientalis Leaf Extract) and prebiotics (inulin), creates a healthy skin micro-ecology. It is suitable for sensitive skin.



1.Controls skin flora, balances skin micro-ecology, inhibits odor at source.

Prebiotics provide nutrients to the resident probiotics on the surface of the body, produce organic acids to lower the pH of the skin surface, inhibit the growth and reproduction of harmful bacteria, and reduce their metabolic production of smelly volatile compounds.

2.Multi-dimensional deodorization, & Odor decomposition.

Accurately find the source of odor, multiple active substances act on the odor factors to decompose them into water, CO₂, inorganic substances, etc. by the chemical reaction (neutralization, catalysis, redox, etc.), physical adsorption and plant deodorization, etc, without secondary pollution.

3.selected natural plant extracts and moisturizing factors, light aroma, long-term nourishment of the skin, to protect the skin health;

4.Green pure formula, safe with non-irritation: green approved by the Beauty Evolution, 0 alcohol, 0 essence, 0 preservatives;

5.No adverse irritation reaction to human skin and sweat glands, no adverse reaction to human health.

Part . 03

「ACTION MECHANISM」



ACTION MECHANISM

INNOVATIVE ELEMENTS TO AMELIORATE LIFE

ANTI-BACTERIAL DEODORANT WITH MULTI-DIMENSIONAL SYNERGISTIC ACTION ON THE BODY

ZLEY®Freshenall-Pla Mechanism of action

- **Controlling odor at the source:** Balance the micro-ecology of the skin, promote the growth of beneficial bacteria, inhibit the growth and reproduction of harmful flora.
- **Direct decomposition of odor factors:** Accurately finding the source of odor, and achieve deodorization by chemical reaction, physical adsorption and plant deodorization.

① Bamboo vinegar

- Through its own conjugated double bond system of electron pairs and odor molecules to carry out various types of reactions such as acid-base reaction, catalytic reaction, redox reaction, etc., to remove the odor of hydrogen sulfide, organic amines, etc. well.

② Inulin (Prebiotics)

- Controls skin flora and balances skin micro-ecology: Provides nutrients to resident Prebiotics on the body surface, produces organic acids to lower the pH of the skin surface, inhibits the growth and reproduction of harmful flora, and reduces their metabolic production of smelly volatile compounds.

③ Biota Orientalis Leaf Extract

- Contains a variety of substances, including organic acid components and organic amine odor molecules can be acid-base reaction to achieve deodorant effect.
- It has a light aroma, with anti-bacterial and anti-deodorizing properties, and help keep your skin healthy in the long term.

ZLEY®FRESHENALL-PLA, Multi-dimensionally eliminates odor factors via chemical reaction, physical adsorption and botanical deodorization. It synergistically inhibits bacteria and reduces odor, regulates skin flora, balances skin microecology, achieves long-lasting odor reduction from the source, and maintains healthy skin condition sustainably.

MULTI-DIMENSIONAL DECOMPOSITION OF ODOR, PROVIDING LONG-LASTING PROTECTION



The multi-effective deodorizing factors (Bamboo vinegar, Biota Orientalis Leaf Extract, Inulin) in ZLEY®FRESHENALL-PLA can effectively target the source of odor, and decompose the odor molecules into water, CO_2 , and organics, etc., by chemical reaction, physical adsorption, and botanical deodorization without secondary pollution. So as to achieve multi-dimensional odor decomposition with long-lasting protection.

BAMBOO VINEGAR

known as "Magic Water" in Japan^[1], is derived from bamboo. It is a water-soluble mixture condensed from gases produced during thermal decomposition and dry distillation processes including drying, pre-carbonization, carbonization and calcination of bamboo materials^[2].

In traditional Chinese medicine, bamboo vinegar is also referred to as bamboo juice. It possesses antioxidant, anti-inflammatory and antibacterial properties, and is clinically applied to clear heat, eliminate phlegm, relieve cough, calm asthma and tranquilize nerves^[2].

Studies show that bamboo vinegar contains over 200 organic components and dozens of minerals, mainly water, organic acids, phenols, ketones, aldehydes, alcohols and esters. It is a natural, eco-friendly ingredient for antibacterial and deodorizing effects^[2].

Table - Active Ingredients of Bamboo Vinegar^[3]

Category	Percentage (%)	Main Component
Water	80 ~ 90	water
Organic Acid	7 ~ 11	Mainly acetic acid (~6%), followed by formic acid, butyric acid, propionic acid, etc.
Phenols	6 ~ 8	Phenol and its homologues & derivatives, including o-cresol, guaiacol, 2,6-dimethoxyphenol, syringol, maltol, etc.
Ketones	0.8 ~ 1	Acetone, butanone and their derivatives
Aldehydes	0.02 ~ 0.6	Formaldehyde, furfural, vanillin, etc.
Alcohols	0.01 ~ 1	Tetrahydro-3-furanol, propylene glycol, methanol, etc.
Esters	0.5 ~ 0.8	Butyrolactone, methyl levulinate, ethyl butyrate, etc.
Other	0.5 ~ 1	Pyridine, acetylfuran, ethyl silane and trace tar substances

[1] 范建华, 许黎明, 许艺威, 等. 竹醋液对鸡场消毒和除臭的试验研究 [J]. 中国兽药杂志, 2023, 57(06):41-45.

[2] 普少瑕, 崔宇, 李春梅. 竹醋液的功能及其在动物生产中的应用 [J]. 畜牧与兽医, 2015, 47(04):122-125.

[3] 倪春耕. 竹醋液抑菌活性及应用技术研究 [D]. 安徽农业大学, 2006.

Table 1 Minimum Inhibitory Concentration (MIC) and Minimum Bactericidal Concentration (MBC) of Bamboo Vinegar[1]

Microorganism	Bamboo Vinegar (MIC in $\mu\text{g/ml}$)	Bamboo Vinegar (MBC in $\mu\text{g/ml}$)
Escherichia coli	7.813	31.25
Staphylococcus aureus	7.813	31.25
Pseudomonas aeruginosa	7.813	15.625
Candida albicans	62.5	125
Aspergillus niger	62.5	250

Unit Conversion : 1 $\mu\text{g/ml}$ =1mg/L=1ppm

① Antibacterial Effect

- Organic acids (formic acid, acetic acid, propionic acid, benzoic acid) and phenolics (phenol, o-cresol) in bamboo vinegar synergistically inhibit the growth and reproduction of bacteria and fungi, with low risk of drug resistance.

[1] 郭国胜. 竹醋液抑菌作用研究 [D]. 浙江工业大学, 2010.

② Chemical Deodorization

Acid-base Neutralization: Organic acids in bamboo vinegar (acetic acid, formic acid, butyric acid, propionic acid, etc.) react with odorous amines such as ammonia, methylamine and dimethylamine to neutralize and eliminate odors.

Nucleophilic Addition Reaction: Conjugated systems consisting of carbon-carbon double bonds and carbonyl groups in unsaturated aldehydes and ketones readily react with thiols and other malodorous molecules under acidic conditions to remove unpleasant smells.

Redox Reaction: Organic acids and phenols in bamboo vinegar oxidize sulfide ions (S^{2-}) in hydrogen sulfide (H_2S) into sulfite (S^{4+}) and sulfate (S^{6+}), forming water-soluble sulfite (SO_3^{2-}) and sulfate (SO_4^{2-}) compounds.



[1] 普少瑕, 崔宇, 李春梅. 竹醋液的功能及其在动物生产中的应用 [J]. 畜牧与兽医, 2015, 47(04):122-125.

[2] 倪春耕. 竹醋液抑菌活性及应用技术研究 [D]. 安徽农业大学, 2006.

[3] 崔小倩, 赵梦恬, 陈彦君, 等. 除臭剂与除臭化妆品的研究进展 [J]. 日用化学工业 (中英文), 2022, 52(10):1121-1127.

Internationally Recognized Prebiotic-INULIN

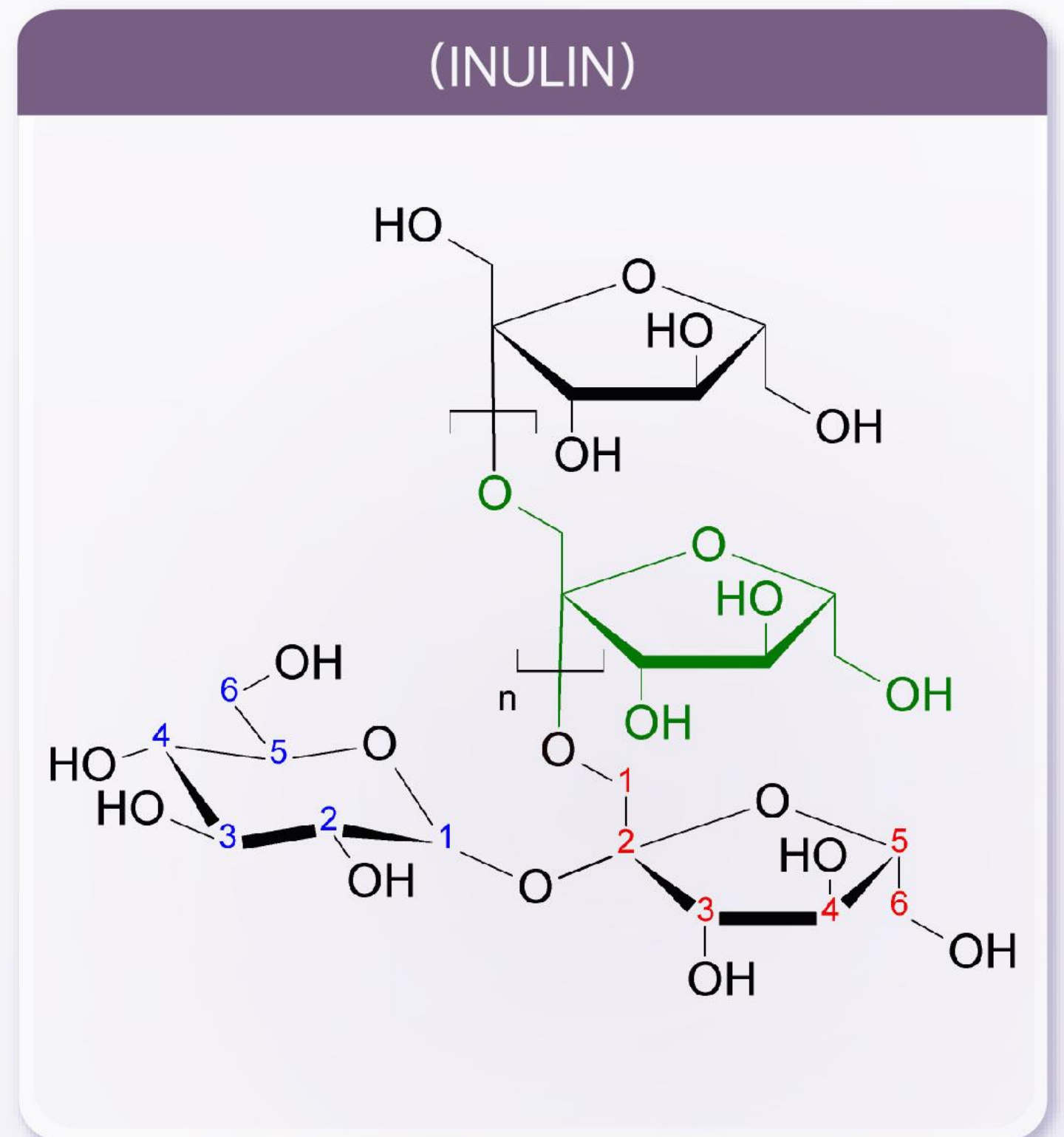
Also known as inulin, it is one of the reserve biological polysaccharides in plants, mainly present in the tubers of Asteraceae plants such as Jerusalem artichoke and chicory. It has various biological effects including regulating flora balance, enhancing immune response, reducing inflammatory reactions and antioxidant activity, and is hailed as "a typical representative food for human health in the 21st century"^[1,2].

Regulating Flora Balance:

Inulin can selectively promote the proliferation of beneficial bacteria such as Bifidobacterium and Lactobacillus, produce short-chain fatty acids and lactic acid, lower the pH value of the skin surface, and inhibit the growth and reproduction of harmful pathogenic microorganisms such as Escherichia coli^[1,2].

Dual Antioxidant and Anti-Inflammatory Effects, Enhancing Skin Immune Function:

It inhibits the NF-κB signaling pathway, leading to the downregulation of pro-inflammatory factors (such as COX2), and promotes the expression of the antioxidant enzyme HO-1 (heme oxygenase 1) through the antioxidant switch Nrf2 pathway^[3].



[1] 菊粉的功能特性与开发利用研究进展 [J]. 包装工程, 2019, 40(01): 34-39.

[2] 菊粉在医药和食品领域应用的研究进展 [J]. 食品与药品, 2024, 26(03): 305-312.

[3] Exploring the Anti-Inflammatory Effect of Inulin by Integrating Transcriptomic and Proteomic Analyses in a Murine Macrophage Cell Model. Nutrients. 2023 Feb 8;15(4):859.

BIOTA ORIENTALIS LEAF

- Also known as Cypress Leaf, Chinese Arborvitae Leaf and Cluster Cypress Leaf, it has a fresh fragrance.
- As recorded in Compendium of Materia Medica, Biota Orientalis Leaf is a traditional Chinese medicinal herb with rich medicinal value and an excellent choice for dietary health care.
- In traditional Chinese medicine, Biota Orientalis Leaf is bitter in taste, slightly cold in nature, astringent and dry in property. It has the effects of clearing heat and cooling blood, dispelling wind and dampness, stopping bleeding and resolving stasis, relieving cough and eliminating phlegm, and promoting hair growth and blackening.
- Biota Orientalis Leaf has been approved by the China Food and Drug Administration (CFDA) as one of the substances that can be used in health food.



[1] 侧柏叶的化学成分与药理学作用研究进展 [J]. 中国野生植物资源 ,2021,40(04):53-56.

[2] 侧柏叶的化学成分及药理活性研究 [D]. 吉林农业大学 ,2018.

Table - Active Ingredients of Biota Orientalis Leaves^[1,2]

Category	Main Components
Flavonoids	Quercitrin, Myricitrin, Rutin, Kaempferol, Hinokiflavone, Amentoflavone, etc.
Volatile Oils	α -Caryophyllene, α -Pinene, 3-Carene, Limonene, Cedrol, Cedrane, Terpinyl Acetate, etc.
Tannins	Polyphenols
Others	• Inorganic elements (Ca, Mg, Fe, Zn, etc.) • Organic acids • Polysaccharides (Glucose, Mannose, Arabinose, Galactose, Rhamnose, etc.)

Modern studies indicate that the main active ingredients of Biota Orientalis leaves include **flavonoids, volatile oils and tannins**.

- **Antibacterial:** Biota Orientalis leaf extracts exert favorable bacteriostatic effects against bacteria such as Staphylococcus aureus and Escherichia coli, as well as fungi including Aspergillus niger^[1]
- **Anti-inflammatory:** The extracts markedly inhibit the expression of NO, IL-6, IL-1 β and TNF- α , thereby alleviating cellular inflammation^[1].
- **Antioxidant:** They effectively scavenge excess free radicals and exhibit excellent antioxidant properties^[1].
- **Hair growth & anti-hair loss:** The extracts suppress 5 α -reductase activity, upregulate β -catenin expression in hair follicle cells, improve follicle vitality and promote hair growth^[1,3].
- **Deodorization:** Volatile oils from Biota Orientalis leaves are rich in aldehydes, ketones, terpenes and cycloalkane epoxides. Terpenes and epoxy groups react with malodorous substances via addition reactions. Meanwhile, conjugated structures of C=C double bonds and carbonyl groups in unsaturated aldehydes and ketones readily undergo nucleophilic addition with thiols under acidic conditions to eliminate odors^[4,5].

[1] 侧柏叶的化学成分与药理学作用研究进展 [J]. 中国野生植物资源, 2021,40(04):53-56.
[2] 侧柏叶的研究进展 [J]. 江苏中医药, 2008,(02):86-88.
[3] 中药侧柏叶中的化学成分和其药理活性的研究进展 [C]// 榆林市医学会 . 第四届全国医药研究论坛论文集(下). 天津天狮学院 ;,2024:864-867.
[4] 植物除臭剂的研究与应用进展 [J]. 湖北大学学报 (自然科学版),2020,42(06):644-648+668
[5] 中草药的除臭功能及其应用 [J]. 中外技术情报, 1996,(09):32-33.

Part . 04

「EFFICACY EVALUATION」



EFFICACY EVALUATION

INNOVATIVE ELEMENTS TO AMELIORATE LIFE

REMOVAL RATE OF ODOR FACTORS

(AMMONIA, HYDROGEN SULFIDE, TRIMETHYLAMINE)

1. Test sample

3% ZLEY®Freshenall-Pla

2. Test Basis

1. QB/T 2761-2006 Method for Determination of Purification Effect of Indoor Air Purification Products
2. GB/T 18204.2-2014 Hygienic Inspection Methods in Public Places

3. Test Items

Removal rate
(Ammonia, Hydrogen sulfide, Trimethylamine)

4. Testing Procedure

- ① **Sample preparation:** 100ml of sample sprayed on 3 sheet of 1m² base paper, sprayed in 3 times.
- ② **Preparation for source release:** Two glass rods wrapped with 5 layers of gauze were placed upright in two 500ml reagent bottles, filled with 200ml of contaminant ammonia (1%) and labeled A1, A2.
 - **Hydrogen Sulfide:** Connect the cylinder containing hydrogen sulfide gas to the test chamber, open the cylinder valve, and pumped hydrogen sulfide gas into the test chamber.
 - **Trimethylamine:** Generate using a gaseous pollutant generator.
- ③. Hang 3 sheet of base paper with unsprayed sample in the blank test chamber A, and then hang the base paper with sprayed sample in the test chamber B.
- ④ Put the release sources A1 and A2 into the blank test chamber A and sample test chamber B respectively, and close the doors immediately.
- ⑤ Turn on the fans in compartments A and B respectively and stir for 1 min, then turn off the fans.
- ⑥ After 24h of action, collect samples from compartments A and B and analyze them, recording the concentrations as C_A and C_B respectively.

REMOVAL RATE OF ODOR FACTORS

(AMMONIA, HYDROGEN SULFIDE, TRIMETHYLAMINE)

5.Calculation formula

$$\text{Removal rate(\%)} = \frac{C_A - C_B}{C_A} \times 100$$

C_A represents the blank chamber concentration,
 C_B represents the test chamber concentration

6、Test Results

Sample	Pollutant	Acting time (h)	The concentration after action in blank chamber C_A (mg/m ³)	The concentration after action in test chamber C_B (mg/m ³)	Removal rate(%)
3% ZLEY®Freshenall-Pla	Ammonia	24	10.04	1.24	87.6
	Hydrogen sulfide	24	1.05	0.07	93.3
	Trimethylamine	24	1.10	0.10	90.9

7、Conclusion

3% ZLEY® Freshenall-Pla has a significant removal effect on odor factors (ammonia, hydrogen sulfide, trimethylamine), with deodorizing and anti-bacterial properties, which can be applied to the products for personal care, pet, and environmental deodorization.

Part . 05

「TECHNICAL INFORMATION」



TECHNICAL INFORMATION

INNOVATIVE ELEMENTS TO AMELIORATE LIFE



「ZLEY®FRESHENALL-PLA」

INCI NAME	Bamboo Vinegar; Inulin; Propanediol; Hydroxyacetophenone; 1,2-Hexanediol; Biota Orientalis Leaf Extract; Water
CAS NO.	/; 9005-80-5; /; 504-63-2; 99-93-4; 6920-22-5; /; 7732-18-5
SAFETY RISK	Green (Data from EWVG, Beauty Evolution)
ACNE RISK	None (Data from Beauty Evolution)
APPEARANCE	Transparent brownish yellow liquid
RECOMMENDED DOSAGE	2-10%.
SOLUBLE	Well soluble in water at room temperature
FORMULATION	Add to the system at room temperature and mix well.
APPLICATION	Deodorant sprays, body lotions, deodorant antiperspirants, deodorant antiperspirant sticks, etc.
EFFICACY	Body deodorant (underarms, head, skin, feet, etc.)
KEY POINTS	• Prebiotics work synergistically with natural active substances, direct decomposition of odor factors, long lasting purification for 24H; • Anti-Bacterial Deodorant with Multi-Dimensional Synergistic Action on the Body, it can control the odor at source, balance the micro-ecology of the skin, promote the growth of beneficial bacteria, inhibit the growth and reproduction of harmful flora; • Selected natural plant extracts and moisturizing factors, long-term nourishment of the skin, to protect the skin health; • Green pure formula, safe with non-irritation: green approved by the Beauty Evolution, 0 alcohol, 0 essence, 0 preservatives;
APPLICATION SCENARIOS	Sporting, socializing, dating, after dinner, etc.

REFRESHING DEODORANT & ANTIPERSPIRANT LOTION

PHASE	COMPONENTS	INCI	DOSAGE/%	SUPPLIERS
A	Water	Water	74.52	—
	N-200T	Xanthan Gum	0.10	—
	ZLEY®BIOCARE-CPH	Chlorphenesin	0.28	ZLEY
	ZLEY®FRESHENALL-PLA	Bamboo Vinegar; Inulin; Propanediol; Hydroxyacetophenone; 1,2-Hexanediol; Biota Orientalis Leaf	2.00	ZLEY
B		Extract; Water		
	ZLEY®BIOCARE-ZEHG	Ethylhexylglycerin	0.10	ZLEY
	ZLEY®BIOCARE-ZHD	1,2-Hexanediol	0.50	ZLEY
	ZLEY®PE203-KAENDA	Piper Methysticum Root Extract, Hydroxypropyl Cyclodextrin, Butylene Glycol, Water	0.50	ZLEY
	Edible Alcohol	Ethanol	5.00	—

「FORMULATION NUMBER」

L-23080101.

「EFFICACY OVERVIEW」

Antibacterial, deodorant, antiperspirant

「KEY INGREDIENTS」

- ①Anti-bacterial and deodorant:
ZLEY®FRESHENALL-PLA
- ②Soothing and anti-inflammatory:
ZLEY®PE203-KAENDA

「APPEARANCE」

Transparent serum

「PH (10%SO1.)」

4.0-7.0

「MANUFACTURING PROCESS」

- ①Mix phase A, stir and heat until dissolved, then stir well and cool down.
- ②Cool down to 50℃ and add the phase B, stirring well;
- ③Discharged at 40℃

FRESH DEODORANT & ANTIPERSPIRANT STICK

PHASE	COMPONENTS	INCI	DOSAGE/%	SUPPLIERS
A	Propylene Glycol	Propylene Glycol	25.00	—
	Glycerin	Glycerin	25.00	—
	ZLEY®BIOCARE-CPH	Chlorphenesin	0.30	ZLEY
	Sodium Stearate	Sodium Stearate	5.00	—
B	18 Acid	Stearic Acid	2.00	—
	ZLEY®FRESHENALL-PLA	Bamboo Vinegar; Inulin; Propanediol; Hydroxyacetophenone; 1,2-Hexanediol; Biota Orientalis Leaf	2.00	ZLEY
C	Extract; Water			
	Water	Water	30.90	—
	Silica	Silica	8.00	—
	ZLEY®PE91	Phenoxyethanol, ethylhexylglycerol	0.60	ZLEY

「FORMULATION NUMBER」

L-23071303A

「EFFICACY OVERVIEW」

Purifying deodorant, helps to inhibit perspiration and keep you fresh and dry.

「APPEARANCE」

White translucent cream

「PH (10%SO1.)」

10.22

「MANUFACTURING PROCESS」

- ①Pre-treatment: Disperse silica with water, mix well, and wait for use.
- ② Mix phase A materials (except sodium stearate) and heat to 80°C under stirring.
- ③ Heat the phase B materials until it is completely dissolved, stir evenly.
- ④ Pour the B phase materials into the phase A, heating by water bath for 3min under stirring, add water and silica, continue to heat by water bath under stirring;
- ⑤ Add sodium stearate, stir slowly to disperse.
- ⑥ Add the remaining raw materials in turn, stir well and discharged.

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[INNOVATIVE ELEMENTS TO AMELIORATE LIFE]

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