Purerbe™ Plant Extracts
植物提取物



Kangcare Group - Kangcare Phytotech Co., Ltd.

乔康集团 - 乔康植萃生物科技(临沂)有限公司

Ginkgo Biloba Extract

Plant Source: *Ginkgo Biloba L.*
Used Part: Leaf
INCI: GINKGO BILOBA EXTRACT

Description

As a renowned "living fossil" and long-lived tree species—some individuals of which can live for thousands of years—Ginkgo biloba has been integrated into human history for millennia, finding diverse uses in traditional medicine and serving as a food source. Extracts of ginkgo leaves contain flavonol glycosides, such as glycosides of quercetin, kaempferol, isorhamnetin and myricetin; terpene lactones, such as ginkgolides A, B, C, and bilobalide; unique ginkgo biflavones; as well as phenolic acids, proanthocyanidins, alkylphenols, and polyprenols.

Specification

USP/EP/CP
Total Flavonol Glycosides 24% + Total Terpene Lactones 6% / Total Flavonol Glycosides 31% + Total Terpene Lactones 12%
Ginkgolic Acid below 10ppm/5ppm /1ppm

Functions

1.Ginkgolide B potently antagonizes the platelet-activating factor (PAF) receptor, a class A G protein-coupled receptor (GPCR) and primary target, inhibiting PAF-induced thromboxane A2 (TXA2) production and platelet aggregation to improve microcirculatory disorders (e.g., cerebral thrombosis, arteriosclerosis). Additionally, its antioxidant effects, promotion of endothelial nitric oxide (NO) release, and anti-inflammatory activities further modulate vascular function. Beyond antagonizing the PAF receptor to inhibit downstream G protein-mediated signaling, Ginkgolide B also targets other pathways (e.g., Toll-like receptor 4, TLR4) to suppress the activation of NF-κB and MAPK signaling, blocking inflammatory cascades and reducing the release of pro-inflammatory cytokines (e.g., TNF-α, IL-6, IL-1β). Capable of crossing the blood-brain barrier, ginkgolide B inhibits microglial activation in the central nervous system, alleviating neuroinflammation. It activates the TrkA receptor (the functional receptor for nerve growth factor, NGF), promoting downstream signaling (e.g., PI3K/Akt and MAPK/ERK pathways) to enhance NGF expression and support neural repair and plasticity.

2.Bilobalide exerts dual antagonism on the GABA-A receptor (α1β2γ2L subtype): non-competitive antagonism via binding to allosteric sites and partial competitive antagonism at high GABA concentrations, while inhibiting the GABA transporter-1 (GAT-1) to increase synaptic GABA concentration and indirectly enhance inhibitory transmission. It mitigates glutamatergic excitotoxicity by suppressing NMDA/AMPA receptor overactivation and calcium overload, protects mitochondrial function by stabilizing membrane potential and restoring tricarboxylic acid (TCA) cycle flux, and activates the Nrf2/ARE pathway for potent antioxidant effects while inhibiting NF-κB-mediated inflammatory signaling. Additionally, bilobalide promotes neuronal survival through the Akt/eNOS pathway.

3.Flavonol glycosides (e.g., quercetin, kaempferol, isorhamnetin, and their glycoside forms) exhibit unique roles in antioxidation, anti-inflammation, and microcirculation improvement, acting synergistically with other components in ginkgo extracts. Compared to free flavonoids, their glycosylated forms offer higher water solubility and stability, facilitating more efficient intestinal absorption and bioavailability.

Advantages

- Located in the cultivation region, ensuring high raw material controllability
- Customizable
- Low pesticide residues
- High-content availability

银杏叶提取物

植物来源: *Ginkgo Biloba L.*
提取部位: Leaf
INCI: 银杏（GINKGO BILOBA）提取物

描述

银杏树作为著名的“活化石”和长寿树种(有些个体寿命可达数千年)，在人类历史中已被应用数千年，在传统医学中有多种用途，并可作为食物来源。银杏叶提取物含有黄酮苷类成分，如槲皮素苷、山奈酚苷、异鼠李素苷和杨梅素苷；萜类内酯成分，如银杏内酯 A、B、C 及白果内酯；独特的银杏双黄酮类化合物；此外还含有酚酸、原花青素、烷基酚和聚戊烯醇等成分。

规格

USP/EP/CP

总黄酮苷24% + 萜类内酯6% / 总黄酮苷31% + 萜类内酯12%

银杏酸 低于10ppm/5ppm /1ppm

功能

1.银杏内酯B通过强效拮抗 PAF 受体(A类G蛋白偶联受体，主要靶点)，抑制 PAF 诱导的血栓素A2(TXA2)生成和血小板聚集，改善微循环障碍(如脑血栓、动脉硬化)，此外，其抗氧化、内皮NO释放及抗炎作用亦有助于血管功能调节；不仅通过拮抗PAF受体而抑制下游G蛋白介导的信号传导，还可以通过其他靶点(如TLR4)抑制NF-κB和MAPK通路的激活，阻断炎症级联反应，减少促炎因子(如TNF-α、IL-6、IL-1β)的释放；银杏内酯B可穿透血脑屏障，在中枢神经系统中抑制小胶质细胞活化，减轻神经炎症；激活TrkA受体(NGF的功能性受体)，促进下游信号(如PI3K/Akt和MAPK/ERK通路)，促进神经生长因子(NGF)表达，支持神经修复与可塑性。

2.白果内酯通过非竞争性拮抗(结合变构位点)和部分竞争性拮抗(高浓度GABA下竞争结合位点)GABA-A受体(α1β2γ2L亚型)，并抑制GAT-1，增加GABA浓度，间接增强抑制性传递；抑制谷氨酸兴奋毒性(NMDA/AMPA受体)和钙超载；保护线粒体功能(稳定膜电位、恢复TCA循环)；激活Nrf2/ARE通路(强效抗氧化)并抑制NF-κB炎症信号；通过Akt/eNOS通路促进神经元存活。

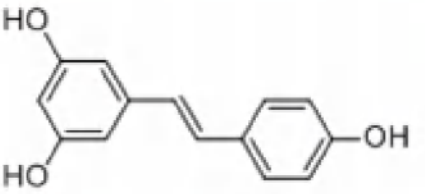
3.黄酮苷类化合物(如槲皮素、山奈酚、异鼠李素及其糖苷形式)在抗氧化、抗炎、改善微循环等方面具有独特作用，且与其他成分协同发挥药理效应。相比游离黄酮，其水溶性和稳定性更高，更易被肠道吸收。

优势

- 地处种植区，原料可控性高
- 可定制
- 低农残
- 高含量可供

Polygonum Cuspidatum Extract -- Resveratrol

Plant Source:*Polygonum Cuspidatum Sieb. et Zucc.*
Used Part: Root
CAS No: 501-36-0
Chemical Formula: $C_{14}H_{12}O_3$
Molecular Weight: 228.24
INCI: RESVERATROL; POLYGONUM CUSPIDATUM EXTRACT



Description

Japanese knotweed*(Polygonum Cuspidatum)* exhibits remarkably vigorous vitality, with roots capable of penetrating concrete and asphalt. It is one of the few plants that naturally contain resveratrol, a potent antioxidant, and also harbors diverse bioactive compounds such as emodin and anthraquinones. These components collectively confer multiple therapeutic properties, including antioxidant, anti-inflammatory, anticancer, anti-aging and anti-acne effects.

Specification

Resveratrol 5%/50%/98%/99% HPLC

Functions

1.Activation of Nrf2/ARE Pathway

Resveratrol and emodin in Reynoutria japonica extract covalently modify Keap1 cysteine residues, releasing Nrf2 for nuclear translocation. This initiates ARE (antioxidant response element) activation, upregulating antioxidant enzymes such as SOD, CAT, HO-1, and NQO1.

2.Inhibition of NF-κB reducing inflammatory responses

◆ Resveratrol suppresses NF-κB p65 subunit activity through SIRT1-mediated deacetylation, reducing inflammatory responses.

◆ Emodin blocks IκBα phosphorylation, inhibiting NF-κB nuclear translocation and decreasing pro-inflammatory cytokines (TNF-α, IL-6, IL-1β).

3.Regulation of NO Production

Resveratrol downregulates iNOS expression via NF-κB and SIRT1/Nrf2 pathways, reducing excessive NO generation during inflammation. At low concentrations, it activates eNOS to promote physiological NO release, maintaining NO homeostasis and improving vascular function.

4.Anticancer Effects in Hormone-Dependent Cancers

◆ ER+ Breast Cancer: Resveratrol inhibits ERα nuclear translocation and downstream PI3K/Akt signaling, blocking estrogen-induced cell proliferation.

◆ AR+ Prostate Cancer: Resveratrol suppresses AR expression and nuclear translocation, disrupting androgen-dependent growth signals.

◆ Cell Cycle Arrest and Apoptosis: Induces G1/S phase arrest, activates caspase pathways, and inhibits angiogenesis (via VEGF downregulation), with pronounced effects in ER+/AR+ tumor models.

5.Anti-Aging Effects

Resveratrol delays aging, primarily through SIRT1 activation and mitochondrial function enhancement in animal models.

6.Osteoprotective Effects

Resveratrol activates the Wnt/β-catenin pathway to promote osteoblast differentiation and inhibits NF-κB signaling to reduce osteoclastogenesis, preventing osteoporosis.

7. Anti-Acne Activity

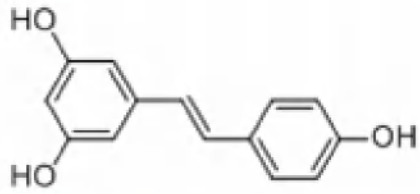
Topical resveratrol inhibits Propionibacterium acnes and reduces inflammatory responses, offering potential for acne prevention.

Advantages

Wide application range | Low Pesticide | Customizable | High-content availability

虎杖提取物--白藜芦醇

植物来源: *Polygonum Cuspidatum Sieb. et Zucc.*
提取部位: Root
CAS 号: 501-36-0
化学式: $C_{14}H_{12}O_3$
分子式: 228.24
INCI: 白藜芦醇；虎杖（POLYGONUM CUSPIDATUM）提取物



描述

虎杖生命力极强，根系可穿透混凝土和沥青。虎杖是天然富含白藜芦醇的少数植物之一，还含多种活性成分，如大黄素、蒽醌类，兼具抗氧化、抗炎、抗癌、抗衰老、抗痤疮等多重功能。

规格

白藜芦醇 5%/50%/98%/99% HPLC

功能

1. 激活Nrf2/ARE通路增强抗氧化能力

虎杖提取物中的白藜芦醇和大黄素通过共价修饰Keap1蛋白的半胱氨酸残基，释放Nrf2并促使其进入细胞核，启动抗氧化反应元件（ARE）的激活，上调超氧化物歧化酶（SOD）、过氧化氢酶（CAT）、血红素氧合酶-1（HO-1）和NAD(P)H醌氧化还原酶1（NQO1）等抗氧化酶的表达。

2. 抑制NF-κB通路减少炎症反应

- ◆ 白藜芦醇：通过激活SIRT1去乙酰化NF-κB p65亚基，抑制其活性，减少促炎因子（如TNF-α、IL-6、IL-1β）释放。
- ◆ 大黄素：阻断IκBα磷酸化，抑制NF-κB核转位，从而降低炎症因子水平。

3. 调节一氧化氮（NO）代谢

- ◆ 高浓度白藜芦醇：通过抑制NF-κB和SIRT1/Nrf2通路下调iNOS表达，减少炎症状态下NO的过量生成。
- ◆ 低浓度白藜芦醇：激活eNOS（内皮型NOS），促进NO生理性释放，改善血管舒张功能。

4. 抗癌作用：激素依赖性肿瘤的双向调控

- ◆ ER+乳腺癌：白藜芦醇通过抑制雌激素受体α（ERα）核转位及下游PI3K/Akt信号通路，阻断雌激素诱导的细胞增殖。
- ◆ AR+前列腺癌：下调雄激素受体（AR）表达并抑制其核转位，阻断雄激素依赖的生长信号。
- ◆ 其他机制：诱导G1/S期细胞周期阻滞、激活caspase通路促进凋亡，并抑制血管生成（下调VEGF），在ER+/AR+肿瘤模型中效果显著。

5. 延缓衰老

白藜芦醇通过激活SIRT1、改善线粒体功能（如增强PGC-1α表达）延长寿命。

6. 预防骨质疏松

白藜芦醇激活Wnt/β-catenin通路促进成骨细胞分化，同时抑制NF-κB通路减少破骨细胞生成，动物实验显示其可增加骨密度。

7. 外用抗痤疮作用

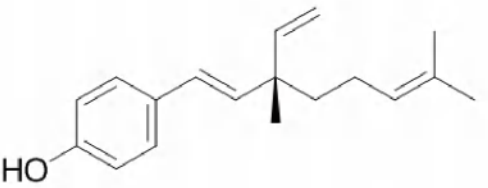
白藜芦醇外用制剂通过抑制痤疮丙酸杆菌生物膜形成及TLR2/NF-κB通路，减轻皮肤炎症，随机双盲试验显示其凝胶剂可减少炎症性痤疮病变。

优势

多种应用 | 低农残 | 可定制 | 高含量可供

Bakuchiol

Plant Source : *Psoralea Corylifolia L.*
Used Part : Seed
Solvent Used : Water & Ethanol
CAS No: 10309-37-2
Chemical Formula : $C_{18}H_{24}O$
Molecular Weight : 256.38
INCI Name: Bakuchiol



Description

Bakuchiol is a natural meroterpene compound extracted from the seeds of the Fabaceae plant Psoralea corylifolia. It serves as a key active ingredient in traditional Chinese medicine for treating skin conditions such as vitiligo and inflammation. Unlike retinol, bakuchiol exerts anti-aging effects through similar molecular pathways but is a rare non-retinoid natural compound with highly effective anti-aging properties in nature. Compared to retinol, Bakuchiol demonstrates significantly greater stability and gentler effects on the skin

Specification

Bakuchiol 98% HPLC

Functions

1. Antioxidant and Anti-Inflammatory Effects

Unlike retinol, which directly activates retinoic acid receptors (RAR/RXR), Bakuchiol exerts indirect effects by inhibiting CYP26A1 (a retinoic acid metabolic enzyme). This prolongs the half-life of endogenous retinoic acid, thereby enhancing RAR signaling without direct receptor activation. Additionally, Bakuchiol activates peroxisome proliferator-activated receptors (PPARγ/δ) to modulate gene expression, contributing to anti-inflammatory, antioxidant, barrier repair, and anti-aging functions:

- ◆ **PPARγ Pathway:** Suppresses NF-κB signaling, reducing pro-inflammatory cytokines (TNF-α, IL-6, IL-8) and adhesion molecules (ICAM-1), while upregulating anti-inflammatory cytokine IL-10. This alleviates inflammatory skin conditions such as rosacea.
- ◆ **Nrf2/ARE Pathway:** Activates Nrf2 through non-covalent interactions or upstream kinase regulation (e.g., Akt/ERK), initiating antioxidant response elements (ARE) to enhance antioxidant enzymes (HO-1, NQO1, SOD). This clears free radicals and inhibits lipid peroxidation.

2. Collagen Stimulation

- ◆ **PPARγ-TGF-β/Smad Crosstalk:** Activates PPARγ to synergize with TGF-β/Smad signaling, upregulating COL1A1 (collagen type I alpha 1 chain) expression and stimulating collagen and elastin synthesis.
- ◆ **PPARδ-MMP-1 Regulation:** Inhibits MMP-1 transcription to reduce collagen degradation, improving wrinkles and skin elasticity.

3. Keratinocyte Metabolism Regulation

- ◆ **PPARγ in Epidermis:** Promotes epidermal lipid synthesis (FABP5, ANGPTL4) and enhances keratinocyte differentiation via SPINK5 (serine protease inhibitor) and markers like loricrin/involucrin, repairing the skin barrier.
- ◆ **PPARδ in Epidermis:** Enhances fatty acid β-oxidation (CPT1A) to boost cellular energy metabolism. Regulates KLF4 and SPINK5 for gentle keratinocyte turnover, improving roughness and pore congestion with milder effects compared to retinol.

4. Antibacterial and Anti-Inflammatory Actions

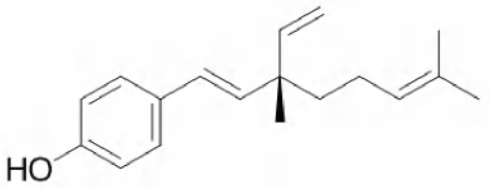
- ◆ **Antibacterial Effects:** Disrupts Cutibacterium acnes biofilms and toxin secretion
- ◆ **PPARγ-SREBP-1c-FAS/ACC Axis:** Inhibits lipogenic pathways in sebaceous glands by suppressing SREBP-1c, reducing fatty acid synthesis (FAS/ACC downregulation) and excessive sebum production. This benefits acne-prone and rosacea-prone skin, where retinol lacks antibacterial activity.

Advantages

Compared to retinyl palmitate (a vitamin A ester), bakuchiol exerts its effects directly without requiring conversion to an active form. It is extremely gentle on the skin, making it safe for sensitive skin, pregnancy, and breastfeeding (unlike retinol, which is contraindicated during pregnancy due to teratogenic risks). Bakuchiol does not disrupt skin barrier lipids, maintains a neutral pH, and carries no teratogenic risk (retinol is classified as FDA Pregnancy Category C). Additionally, it avoids post-inflammatory hyperpigmentation (PIH) associated with retinol use, making it suitable for all skin types and tones

补骨脂酚

植物来源: *Psoralea Corylifolia L.*
使用部位: Seed
使用溶剂: Water & Ethanol
CAS 号: 10309-37-2
分子式: $C_{18}H_{24}O$
分子量: 256.38
INCI名: 补骨脂酚



描述

补骨脂酚是从豆科植物补骨脂(Psoralea corylifolia)种子中提取的天然萜类化合物,是传统中医中用于治疗皮肤问题(如白斑、炎症)的活性成分。相比视黄醇,它能通过相似的分子通路发挥抗衰功效,是自然界中罕见的具有高效抗老作用的非维生素 A 类天然成分,比视黄醇稳定得多,对皮肤也温和得多。

规格

补骨脂酚 98% HPLC

功能

1.抗氧化与抗炎:与视黄醇依赖视黄酸受体(RAR/RXR)发挥作用不同,补骨脂酚主要抑制视黄酸代谢酶CYP26A1,延长视黄酸半衰期,间接增强PAR信号;补骨脂酚通过激活过氧化物酶体增殖物激活受体PPAR γ/δ通路调节基因表达,在皮肤抗炎、抗氧化、屏障修复及抗衰中发挥多重作用,如抑制NF-κB通路减少促炎因子(TNF-α、IL-6、IL-8)及黏附分子(ICAM-1),上调抗炎因子(如IL-10),缓解炎症性皮肤病(如玫瑰痤疮)。补骨脂酚通过非共价相互作用或间接途径(如调控上游激酶Akt/ERK)激活Nrf2并启动ARE(抗氧化反应元件),上调HO-1、NQO1、SOD等抗氧化酶,清除自由基、抑制脂质过氧化;

2.促胶原蛋白生成:激活PPAR γ,协同TGF-β/Smad通路上调COL1A1,刺激 I 型胶原蛋白、弹性蛋白合成,PPAR δ抑制MP-1(基质金属蛋白酶1)转录,减少胶原蛋白降解,改善皱纹和皮肤弹性;

3.调节角质代谢:在表皮中,激活PPAR γ促进脂质合成(FABP5、ANGPTL4),上调丝氨酸蛋白酶抑制剂(SPINK5)、角化细胞分化标志物(如loricrin、involucrin)的表达,促进表皮分化,修复皮肤屏障;激活PPAR δ,增强脂肪酸β-氧化(CPT1A),提升细胞能量代谢,调控KLF4和SPINK5,促进表皮分化,温和促进角质更新,改善粗糙和毛孔堵塞(类似视黄醇的角质剥脱效果,但更轻柔);

4.抑菌抗炎:抑制痤疮丙酸杆菌,在皮脂腺中,PPARγ通过抑制SREBP-1c-FAS/ACC轴,减少脂肪酸合成,抑制皮脂过度分泌,对痘肌和玫瑰痤疮友好(视黄醇无抑菌作用)。

优势

相比VA棕榈酸酯,补骨脂酚无需转化为活性形式即可直接起效,且对皮肤屏障刺激性极低,敏感肌、孕妇均可安全使用(视黄醇因致畸风险被孕妇禁用),不破坏皮肤屏障脂质,pH 中性。无致畸风险(视黄醇被 FDA 列为妊娠 C 类成分),不诱发视黄醇可能导致的炎症后色素沉着(PIH),适合所有肤质及肤色。

Tea Saponin

Plant Soure: *Camillia oleifera Abel*
Used Part: Seed
Extraction Solvent: Water
INCI: CAMELLIA OLEIFERA EXTRACT

Description

Tea saponin is a triterpenoid saponin glycoside extracted from Camellia oleifera (oil-tea camellia), consisting of a hydrophobic triterpenoid sapogenin core (e.g., tea saponin A, B, C) and hydrophilic sugar chains (e.g., glucose, galactose). This unique amphiphilic structure, characterized by higher glycosylation complexity compared to most plant saponins, provides enhanced foam stability and pH tolerance. As a natural non-ionic surfactant, it remains stable in hard water or acidic conditions, making it suitable for versatile applications in cosmetics, pharmaceuticals, and industrial formulations.

Specification

Tea Saponin 60%/80%

Functions

1. Surfactant properties:
Tea saponin exhibits strong surfactant properties due to its amphiphilic structure (hydrophobic triterpenoid backbone and hydrophilic sugar chains), enabling foam formation and stabilization in aqueous solutions.
2. Antioxidant Effects:
◆ **Free Radical Scavenging:** Directly neutralizes superoxide anion (O_2^{-}•), hydroxyl radicals (•OH), and DPPH radicals (scavenging rate >80%).
◆ **Nrf2/ARE Pathway Activation:** Upregulates antioxidant enzymes (HO-1, NQO1) by inducing Nrf2 nuclear translocation, enhancing cellular antioxidant defenses (Zhou et al., Molecules, 2020).
3.Anti-Inflammatory Effects:
Inhibits NF-κB signaling to reduce pro-inflammatory cytokines (TNF-α, IL-6), making it suitable for cosmetic products to alleviate sensitive skin issues.
4. Antimicrobial and Antiviral Activity:
◆ **Antibacterial:** Effective against Gram-positive bacteria (e.g., Staphylococcus aureus), Gram-negative bacteria (e.g., E. coli), and fungi (e.g., Candida albicans) by disrupting cell membranes.
◆ **Antiviral:** Inactivates enveloped viruses (e.g., H1N1 influenza and HSV) through membrane destabilization. In vitro studies show an IC_{50} of 10–20 μg/mL for H1N1, outperforming amantadine (IC_{50} ~50 μg/mL).
5.Anticancer Effects:
Induces G0/G1 phase arrest and activates caspase-3-dependent apoptosis in hepatocellular carcinoma and breast cancer cells
6.Hypolipidemic Effects
Tea saponin binds to bile acids in the intestine, reducing their reabsorption and promoting cholesterol excretion via feces. **Inhibition of Intestinal Cholesterol Absorption:** Downregulates Niemann-Pick C1-Like 1 protein (NPC1L1) expression in intestinal epithelial cells, limiting cholesterol uptake. **Enhanced Hepatic Fatty Acid β-Oxidation:** Activates the peroxisome proliferator-activated receptor α (PPARα) pathway, boosting hepatic fatty acid beta-oxidation and reducing triglyceride (TG) synthesis.**Increased LDL Clearance:** Upregulates low-density lipoprotein receptor (LDLR) expression in hepatocytes, accelerating the clearance of low-density lipoprotein cholesterol (LDL-C) from circulation

Advantages

Eco-Friendly Degradability
Tea saponin demonstrates **over 90% biodegradation within 14 days under OECD guidelines,** significantly outperforming synthetic surfactants like alcohol ether sulfate (AES). It exhibits **no significant toxicity to aquatic organisms.**
Gentle Cleansing Properties
Compared to sodium lauryl sulfate (SLS), tea saponin causes **minimal disruption to the skin barrier and reduces transepidermal water loss (TEWL),** ensuring mildness for sensitive skin

茶皂素

植物来源: *Camillia oleifera Abel*
提取部位: Seed
提取溶剂: Water
INCI: 油茶（CAMELLIA OLEIFERA）提取物

描述

茶皂素是从油茶中提取的一种三萜类糖苷化合物，由疏水性三萜皂苷元（如茶皂素A、B、C）与亲水性糖链（如葡萄糖、半乳糖）组成，形成天然两亲结构，其糖链分支复杂度高于多数植物皂苷，赋予更强的泡沫稳定性和pH耐受性，是一种天然的非离子型表面活性剂，在硬水或酸性条件下仍保持稳定，适合多场景应用。

规格

茶皂素 60%/80%

功能

1.表面活性功能

2.抗氧化：通过直接捕获超氧阴离子（O_2^{-}·）、羟基自由基（·OH）、DPPH 自由基而清除自由基（DPPH清除率>80%）；通过上调 Nrf2/ARE 通路，促进 HO-1、NQO1 等抗氧化酶表达，增强细胞抗氧化防御能力

3.抗炎：抑制NF-κB通路减少炎症因子（TNF-α、IL-6），用于护肤产品缓解敏感肌问题

4.抗菌：对革兰氏阳性菌（如金黄色葡萄球菌）、阴性菌（如大肠杆菌）及真菌（如白色念珠菌）有抑制作用；体外实验显示对流感病毒（H1N1）和单纯疱疹病毒（HSV）有灭活作用。茶皂素对 H1N1 病毒的半数抑制浓度（IC_{50}）低至 10-20 μg/mL，优于部分抗病毒药物（如金刚烷胺 IC_{50}约 50 μg/mL）

5.抗肿瘤：诱导癌细胞周期阻滞（G0/G1期）并激活caspase-3通路，抑制肝癌、乳腺癌细胞增殖

6.降血脂：茶皂素与胆汁酸结合，减少其重吸收，促进胆固醇随粪便排出，同时下调肠道 NPC1L1（胆固醇转运蛋白）表达；激活 PPARα 通路，增强肝脏脂肪酸 β-氧化，降低甘油三酯（TG）合成；上调 LDL 受体（LDLR），加速血液中低密度脂蛋白（LDL-C）清除

优势

环保无污染

在土壤和水体中14天内降解率达90%以上（OECD标准），远超化学合成表面活性剂；对鱼类（斑马鱼）和藻类无显著毒性（LC50 > 100 mg/L），适合环保清洁剂开发

温和清洁

相比SLS（月桂醇聚醚硫酸酯钠），茶皂素对皮肤屏障损伤更小，减少经表皮失水率

Product Information	Specifications	Functions & Effects
Acanthopanax Senticosus Extract Synonym: Siberian Ginseng Extract Plant Source: *Eleuthrocus senticosus* Used part: Root Internationally recognized adaptogenic plant **Product code: 2317**	Eleutherosides B+E 0.8%~7% HPLC 4~15:1	**1) Antifatigue & exercise performance enhancement.** Regulates the HPA axis, reduces cortisol, enhances ATP production, and delays exercise-induced fatigue. **2) Immune modulation & antiviral activity.** Activates macrophage phagocytosis, upregulates IFN-γ and IgG; inhibits pro-inflammatory TNF-α/IL-6 for adjunctive allergy/autoimmune support. **3) Antioxidant & neuroprotective effects.** Via Nrf2/ARE pathway: upregulates SOD/CAT, inhibits Aβ plaque formation. **4) Anti-inflammatory & metabolic regulation.** Inhibits NF-κB to reduce TNF-α/IL-6; regulates PPARγ for improved insulin sensitivity.
Aloe Vera Extract Plant Source: *Aloe vera* (L.) Burm.f. Used part: Leaf **Product code: 2420**	Aloe Vera Gel Freeze Dried Powder 100~200:1 Aloe Vera Gel Spray Dried Powder 100~200:1 Aloin 18% 10:1	**1) Skin repair & hydration.** Acemannan forms a protective film to reduce water loss, stimulates fibroblasts to synthesize collagen, and accelerates wound healing. **2) Anti-inflammatory & antimicrobial.** Inhibits COX-2 and NF-κB pathways, reducing pro-inflammatory cytokines (IL-6, TNF-α); Aloe-emodin directly suppresses Staphylococcus aureus, Candida albicans, etc. **3) Metabolic regulation & blood sugar support; immune system enhancement.**
Bacopa Monnieri Extract Plant source: *Bacopa monnieri* (L.) Pennell Used part：Whole herb **Product code: 2433**	Bacopasides 10%/30% HPLC	**1) Cognitive enhancement & memory improvement.** Bacoside A/B promotes nerve growth factor (NGF) release and repairs neuronal damage, enhancing learning speed and information retention via synaptic plasticity and hippocampal neurogenesis. **2) Anxiety relief & neuroprotection.** Regulates GABA receptors and 5-HT transporters while inhibiting the NF-κB inflammatory pathway, alleviating anxiety and protecting neurons from glutamate-induced injury. **3) Mood & stress management.** Lowers cortisol (stress hormone) levels to boost psychological resilience and emotional stability. **4) Antioxidant & anti-inflammatory effects.** Neutralizes free radicals (e.g., DPPH, ABTS+) and suppresses inflammatory enzymes (COX-2, iNOS), aiding in the management of chronic inflammatory disorders.
Bamboo Shoot Extract Synonym: Bamboo Sprouts Extract Plant source: *Pleioblastus amarus* Used part：tender bamboo shoot stems **Product code: 2443**	5~12:1	**1) Gut Health Regulation.** Promotes gastrointestinal motility: Dietary fiber absorbs water and swells, stimulating intestinal peristalsis to shorten bowel transit time. Regulates gut microbiota & barrier function: Enhances probiotic growth (e.g., Bifidobacteria, Lactobacilli) and improves intestinal barrier integrity. **2) Metabolic Regulation.** Blood glucose control: Ferulic acid inhibits α-glucosidase (IC50=8μM), delaying carbohydrate absorption; orientin activates the AMPK pathway to promote GLUT4 expression and enhance insulin sensitivity. Lipid & weight management: Dietary fiber binds bile acids to reduce cholesterol reabsorption; low-calorie, high-fiber properties suppress appetite by delaying gastric emptying. **3) Antioxidant & Anti-Inflammatory Effects**. Antioxidant capacity: Total phenolic content reaches 150mg GAE/100g, with a DPPH radical scavenging IC50=22μg/mL; reduces serum MDA and increases SOD activity. Anti-inflammatory mechanism: Ferulic acid inhibits NF-κB phosphorylation, decreasing the release of TNF-α and IL-6. **4) Cardiovascular Protection.** Blood pressure regulation: High potassium-low sodium (K:Na=15:1) promotes sodium excretion and relaxes vascular smooth muscle. Endothelial function improvement: Orientin enhances vascular endothelial function and inhibits ADP-induced platelet aggregation.
Berberine hydrochloride Plant source: *Coptis chinensis* Franch. Used part：Vine **Product code: 2491**	98% Titration 97% HPLC	**1) Broad-spectrum antibacterial effect.** Inhibits bacterial mRNA synthesis by binding to ribosomal A-sites (e.g., E. coli, Shigella, H. pylori); disrupts Gram-negative bacterial membrane integrity; interferes with DNA topology to inhibit topoisomerase IV and DNA replication. Facilitates probiotic colonization (e.g., Lactobacillus, Bifidobacterium). **2) Glucose & lipid metabolism regulation.** Activates AMPK to enhance GLUT4-mediated glucose uptake and suppress hepatic gluconeogenesis

Plant source: *Phellodendron chinense* Used part： Bark **Product code: 2492**		(mimics metformin); reduces the Firmicutes/Bacteroidetes ratio to increase short-chain fatty acids (e.g., butyrate), improving insulin sensitivity (adjunctive for T2DM). At low concentrations, upregulates PPARγ in adipose and endothelial tissues to inhibit adipocyte differentiation, reduce triglycerides, and enhance fatty acid β-oxidation. **3) Anti-inflammatory & cardiovascular protection.** Inhibits NF-κB to decrease pro-inflammatory cytokines (TNF-α, IL-6) and upregulate anti-inflammatory IL-10; activates Nrf2/ARE to scavenge ROS and improve endothelial function. **4) Antitumor.** Induces G0/G1 cell cycle arrest (via p53/p21 pathway); upregulates Bax/Bcl-2 ratio and activates caspase-3 to promote tumor cell apoptosis.
Bilberry Extract Plant source: *Vaccinium Myrtillus* L. / *Vaccinium Uliginosuml* Used part: Fruit **Product code: 2324**	Anthocyanins(Anthocyanosides) 25%~36% HPLC Anthocyanidins 5%~25%	**1) Eye Health Maintenance.** Anthocyanins promote rhodopsin regeneration in the retina, accelerating vision recovery in dark environments; relieve ciliary muscle spasm, improve ocular accommodation, and reduce visual fatigue. Inhibit vascular endothelial growth factor (VEGF) to reduce vascular leakage in diabetic retinopathy; delay the progression of age-related macular degeneration (AMD) and protect photoreceptors. **2) Potent Antioxidant & Anti-Inflammatory Effects**. With an ORAC value of 9,700μmol TE/100g (USDA data), it activates the Nrf2 antioxidant pathway in vivo, enhancing endogenous antioxidant enzyme activity. Suppresses the NF-κB signaling pathway to reduce the release of pro-inflammatory cytokines like IL-6 and TNF-α. **3) Metabolic & Cardiovascular Regulation.** Chlorogenic acid inhibits α-glucosidase (IC50=25μM), delaying carbohydrate digestion and blunting postprandial blood glucose spikes; activates the AMPK pathway to promote GLUT4 expression in skeletal muscle by 30%, enhancing insulin sensitivity. Improves endothelial function and inhibits LDL oxidation.
Centella Asiatica Extract Synonym: Gotu Kola Extract Plant source:*Centella asiatica* (L.) Urb. Used part: Whole herb **Product code:2418** known as the "longevity herb"	Centella asiatica total saponins (Asiaticoside + Madecassoside + Asiaticoside B) 2%~98% HPLC Asiaticoside 35% Asiatic acid & Madecassic acid 54% HPLC	**1) Asiaticoside.** Promotes wound healing and skin repair: Stimulates fibroblast proliferation and collagen synthesis to accelerate healing of wounds and chronic ulcers. Antifibrotic: Inhibits the TGF-β/Smad pathway to reduce scar formation. **2) Madecassoside.** Anti-inflammatory: Suppresses NF-κB to reduce pro-inflammatory cytokines (TNF-α, IL-6), alleviating skin inflammation. Antiphotoaging & collagen protection: Inhibits UVB-induced MMP-1 expression to reduce collagen degradation, improving skin elasticity and wrinkles. Wound healing & lung protection: Upregulates Smad7 and inhibits Smad2/3 phosphorylation (downregulates TGF-β signaling) to promote healing and protect lung tissue. **3) Asiatic Acid**. Antifibrotic & tissue repair; immune modulation & anti-inflammatory. **4) Madecassic Acid**. Anti-inflammatory, anti-aging, immune-regulating; protects the dermis and strengthens the skin barrier.
Cinnamon Bark Extract Plant source: *Cinnamomum cassia* Presl. Used part: Bark **Product code：2214**	Polyphenols 20% UV Flavones 10% UV 5:1	**1) Blood Glucose & Metabolism Regulation** **2)** Enhanced insulin sensitivity: Activates the AMPK pathway to promote GLUT4 glucose transporter expression, improving cellular glucose uptake; Inhibited α-glucosidase: Delays carbohydrate digestion/absorption, blunting postprandial blood sugar spikes； Lipid modulation: Reduces total cholesterol (↓12%) and triglycerides (↓20%), alleviating metabolic syndrome. **3) Anti-Inflammation & Antioxidation** **4) NF-κB pathway blockade:** Suppresses pro-inflammatory cytokines (TNF-α, IL-6, IL-1β)； COX-2/iNOS reduction: Mitigates inflammatory responses by lowering cyclooxygenase-2 and inducible nitric oxide synthase expression; Free radical scavenging: Directly neutralizes radicals, reducing serum malondialdehyde (MDA) and increasing superoxide dismutase (SOD) activity in vivo. **5) Antimicrobial & Antiviral Effects** **6) Bacterial/fungal inhibition:** Potent against Staphylococcus aureus, E. coli, Candida albicans (MIC=0.25mg/mL), and Aspergillus flavus； Viral disruption: Cinnamaldehyde inactivates Phi X virus (99.9–100% inactivation) and inhibits influenza H1N1 (60%+ suppression)； COVID-19 potential: A ginger-cinnamon blend blocks SARS-CoV-2 main protease (MPro), disrupting viral infection pathways.

Citrus aurantium Extract Synonym: Bitter Orange Extract Plant source: *Citrus aurantium* L. Used part: Fruit **Product code:2216**	Hesperidin 82%~98% Hesperitin 90%~98% Diosmin 81% & Hesperidin 9% Diosmin 90% Citrus Bioflavonoids 25%~95% Hesperidin Methyl Chalcone 98% Glucosyl hesperidin 75% Synephrine 98%	**1) Gastrointestinal Motility Regulation.** Synephrine activates α-adrenergic receptors to enhance gastrointestinal smooth muscle contraction. Volatile oils (limonene, linalool) directly stimulate intestinal peristalsis. **2) Flavonoids (naringin, neohesperidin) inhibit acetylcholinesterase, prolonging neurotransmitter action for improved motility.** **3) Cardiovascular Effects.** Synephrine & N-methyltyramine activate α/β receptors to constrict blood vessels and increase cardiac output, used in cardiogenic shock. Hesperidin inhibits ACE (angiotensin-converting enzyme), reducing peripheral resistance and improving microcirculatory disorders (e.g., diabetic vascular issues). **4) Antimicrobial & Anti-Inflammatory Actions.** Limonene inhibits Staphylococcus aureus and E. coli (MIC=1mg/mL); naringin targets Helicobacter pylori. Blocks NF-κB pathway to reduce TNF-α/IL-6 release; flavonoids inhibit COX-2/iNOS expression (in cell models) to dampen inflammation. **5) Metabolic Regulation.** Synephrine inhibits adipocyte phosphodiesterase (PDE), increasing cAMP to activate lipolysis; activates β3-receptors for fat breakdown. Flavonoids (hesperidin) activate AMPK pathway, promoting GLUT4 expression (↑40%) in skeletal muscle to enhance insulin sensitivity and glucose uptake.
Curcumin Plant source: *Curcuma longa* L. Used part: root **Product code：2429**	Curcuminoids 5~95% HPLC Curcumin (monomer) 5~90% HPLC CWS 5~10% UV/HPLC	**1) Potent anti-inflammatory & immune modulation.** Inhibits NF-κB, COX-2, iNOS inflammatory pathways; scavenges free radicals. **2) Antioxidant & anti-aging effects** **3) Liver protection & metabolic regulation**
Echinacea Extract Plant source: *Echinacea purpurea / Echinacea angustifolia* Used part: aerial part /root/whole herb **Product code: 2437**	Polyphenols 4%~7% Chicoric Acid 1%~4% HPLC Echinacosides 4% HPLC 10:1	**1) Immunomodulation & Anti-Infection.** Polysaccharides activate macrophage phagocytosis; alkylamides bind CB2 receptors to regulate T-cell differentiation. Enhances innate immunity by stimulating macrophage/NK cell activity and promoting IL-6/TNF-α secretion. **2) Anti-Inflammation & Antioxidation.** Anti-inflammatory mechanisms: Inhibits COX-2/iNOS expression to reduce PGE_2/TNF-α release; cichoric acid blocks NF-κB pathway, decreasing IL-1β/TNF-α. Antioxidant capacity: Cichoric acid shows DPPH radical scavenging IC50=5.2–25μg/mL; reduces plasma MDA and enhances GSH-Px activity. **3) Antiviral & Antibacterial Effects.** Disrupts microbial cell membranes or viral envelopes, exerting broad-spectrum activity against pathogens. **4) Wound Healing & Skin Protection.** Stimulates fibroblast proliferation, reduces inflammation, and accelerates tissue repair for wound healing.
Ginseng Extract Synonym: Panax Ginseng Extract Plant source: *Panax ginseng* C.A. Meyer Used part: root/Stem&Leaf/whole herb **Product code: 2427**	Root Total Ginsenosides 2~60% HPLC Root Total Ginsenosides 2~85% UV Stem&Leaf Ginsenosides 1~45% HPLC Stem&Leaf Ginsenosides 2~80% UV Whole herb Ginsenosides 1~45% HPLC Whole herb Ginsenosides 2~80% UV Whole herb Ginsenoside Rg3 10%~90% HPLC Polysaccharide 90% UV Low Pesticide	**1) Immune enhancement & antiviral activity.** Ginsenosides Rg1 and Rb1 activate macrophages, T/B lymphocytes, and promote secretion of cytokines (IL-2, TNF-α) to enhance innate and adaptive immune responses; regulate Th1/Th2 balance to inhibit viral replication (e.g., influenza, respiratory syncytial virus). Rg3 suppresses tumor cell proliferation and induces apoptosis, reducing tumor cell adhesion/invasion and blocking VEGF-mediated tumor angiogenesis to cut off nutrient supply. **2) Anti-fatigue & metabolic regulation.** Activates the AMPK pathway to promote mitochondrial biogenesis and ATP production, reducing lactic acid accumulation; regulates the hypothalamic-pituitary-adrenal (HPA) axis to enhance stress adaptability. **3) Neuroprotection & cognitive enhancement.** Rg1 and Rb1 promote BDNF release, regulate postsynaptic density protein PSD95 and AMPA receptors, inhibit Aβ deposition and tau hyperphosphorylation; improve cerebral ischemia-reperfusion injury and protect neuronal mitochondrial function. **4) Antioxidant & anti-aging effects.** Ginseng polysaccharides and saponins scavenge ROS/NO free radicals, inhibiting NF-κB/MAPK oxidative stress pathways; suppress UV-induced MMP-1/MMP-13 activity to reduce collagen degradation and enhance skin SOD activity.

Grape Seed Extract Plant Source:*Vitis Vinifera L.* Used Part: Seed **Product code: 2513**	Polyphenols 70%~90% UV Proanthocysindins 95% UV Oligomeric Proanthocyanidins 40%~85% HPLC	**1) Potent antioxidant & anti-aging** **2) Cardiovascular protection** **3) Anti-inflammatory & immune modulation** **4) Improves microcirculation & enhances venous function** **5) Skin protection & photoprotection**
Green Tea Extract Plant Source: *Camelia sinensis* Used Part: Leaf **Product code: 2323**	Total tea polyphenols 10%~99% Catechins 2.4%~90% EGCG 15%~95% Epicatechin 90% Caffeine 0.1~20% Instant Green Tea Powder Matcha Powder	**1) Potent antioxidant & anti-aging.** EGCG scavenges free radicals (ROS, NO), activates the Nrf2 pathway, and delays skin/neuronal aging. **2) Metabolic regulation & weight management.** EGCG synergizes with caffeine to boost fat oxidation (enhancing thermogenesis), inhibit adipocyte differentiation, and delay carbohydrate absorption. **3) Anti-inflammatory, cardiovascular protection, antimicrobial & antiviral effects** **4) Neuroprotection & cognitive enhancement**
Griffonia Seed Extract Plant Source: *Griffonia simplicifolia* (DC.) Baill. Used Part: Seed **Product code: 2332** The primary natural source of 5-HTP	5-HTP 20%/30%/99% HPLC	**1) Mood regulation:** 5-HTP crosses the blood-brain barrier and converts to serotonin. Stable serotonin levels alleviate anxiety/depression, improve mood, and promote mental positivity. **2) Sleep improvement:** Serotonin acts as a precursor to melatonin. Boosting serotonin increases melatonin production, aiding in faster sleep onset and better sleep quality. **3) Weight control:** Elevated serotonin regulates the brain's appetite centers, reducing cravings for high-calorie, high-fat foods to support weight management.
Horse Chestnut Seed Extract Synonym：Aesculus chinensis Extract Plant source： *Aesculus Hippocastanum* L./ *Aesculus chinesis* Bge / *Aesculus Wilsonii* Rehd Used part: Seed **Product code: 2225/2226/2224**	Aescin 20~98% 15~20:1	**1) Venous Vascular Protection & Microcirculation Improvement.** Escin inhibits Na^+-K^+-ATPase and hyaluronidase activity to reduce vascular leakage and enhance venous tension; suppresses histamine/bradykinin release to lower capillary permeability. **2) Anti-Inflammation & Anti-Exudation.** Inhibits the NF-κB pathway and COX-2 activity, reducing the release of TNF-α, IL-6, and PGE_2.
Humulus Lupulus Extract Synonym: Hops Extract Plant source: *Humulus lupulus* L. Used part: flower **Product code: 2413**	Prenylnaringenin 0.1% HPLC 7.5:1	**1) Sedative & sleep-aiding effects with neuroregulation;** **2) Potent antioxidant & anti-inflammatory properties;** **3) Antiviral, antimicrobial & preservative activities;** **4) Estrogen-like effects**
Rosemary Extract Plant source: *Rosmarinus officinalis* L. Used part:Leaf **Product code:2318**	Rosemarinic Acid 10%~20% HPLC Carnosic acid oil 10%~20% HPLC Carnosic acid power 10%~60% HPLC 10:1	**1) Potent antioxidant & anti-aging.** Rosmarinic acid and carnosic acid inhibit NF-κB/MAPK inflammatory pathways, reducing pro-inflammatory cytokines (IL-6, TNF-α); scavenge hydroxyl (•OH) and DPPH radicals with efficiency superior to vitamin C. **2) Anti-inflammatory & immune modulation** **3) Antimicrobial & anti-biofilm** **4) Neuroprotection & cognitive enhancement.** Rosmarinic acid crosses the blood-brain barrier to inhibit β-amyloid (Aβ) aggregation and Tau Hyperphosphorylation. **5) Metabolic regulation, cardiovascular protection & lipid-lowering.** Carnosic acid activates the AMPK pathway to promote glucose uptake in adipocytes and reduce hepatic triglyceride synthesis; lowers systolic blood pressure and increases HDL-C via NO-mediated vascular dilation and antioxidative stress.

Saw Palmetto Extract Synonym：Serenoa repens Extract Plant source: *Serenoa repens* Used part：Fruit **Product code: 2223** Prostate Health Signature Ingredient	Fatty Acids 25%~45% GC Fatty Acids 45% Lauric acid 15% 10:1	**1) Benign prostatic hyperplasia (BPH) improvement.** β-Sitosterol inhibits 5α-reductase (reducing testosterone→DHT conversion), blocks androgen receptors, shrinks prostate volume, and relieves urethral compression. **2) Anti-inflammatory & prostatic cell protection.** Improves BPH symptoms by combating inflammation, muscle spasms, and prostate edema.
Senna Leaf Extract Plant source: *Cassia angustifolia*(old) *Senna alexandrina* (new) Used part：Leaf **Product code: 2316**	Sennosides 10%~60% UV Sennosides 4%~20% HPLC 8:1	**1) Rapid and potent laxative effect**: Sennosides A/B are reduced by gut microbiota in the colon to rheinanthrone, which stimulates the intestinal nerve plexus, promotes intestinal peristalsis, increases cyclic nucleotide (cAMP/cGMP) levels, enhances electrolyte and intestinal fluid secretion, and inhibits water and electrolyte reabsorption. **2) Antibacterial, antiviral, antioxidant, and anti-inflammatory effects**
Sophora Japonica Extract Synonym: Rutin / Quercetin Plant source：*Sophora Japonica* Used part：flower bud **Product code：2220/2219**	Rutin EP/USP/NF11 Troxerutin EP Quercetin Dihydrate 95~102% Quercetin Anhydrous 95% Isoquercetin 97%	**1) Vascular Protection and Microcirculation Improvement：** Rutin enhances capillary toughness, inhibits hyaluronidase activity, reduces vascular leakage, and regulates vascular fragility. **2) Anti-inflammation and Antioxidation：** Inhibits the NF-κB pathway and the activities of COX-2 and iNOS, reducing the release of TNF-α and IL-6. Rutin has a DPPH radical scavenging IC50 of 5 - 20 μg/mL. In vivo, it reduces serum MDA (lipid peroxidation product) and increases SOD activity. **3) Antibacterial and Antiviral：** Rutin inhibits the activity of the main protease (Mpro) of SARS-CoV-2. **4) Metabolic Regulation：** Inhibits intestinal cholesterol absorption, promotes liver metabolism, and reduces total cholesterol and triglycerides. Sophora japonica flower bud saponins activate the AMPK pathway, promote GLUT4 expression, and assist in blood sugar reduction.
White Kidney Bean Extract Plant source: *Phaseolus vulgaris* L. Usd part: Seed **Product code: 2434**	α-amylase inhibitory activity: 20K~100K U/g Protein 75% 10:1	**1) α-Amylase Inhibitor:** Inhibits carbohydrate digestion by suppressing α-amylase activity, thereby aiding in weight management. **2) Blood Glucose Regulation:** Modulates glycemic control and improves glucose metabolism. **3) Gut Health Promotion:** Dietary fiber enhances intestinal motility, prevents constipation, and supports a balanced gut microbiota.

产品信息	规格	功效
白芸豆提取物 植物来源：*Phaseolus vulgaris* L. 使用部位：种子 **产品编号：2434**	α-淀粉酶抑制剂 蛋白 75% 10:1	1) **α-淀粉酶抑制剂**抑制碳水化合物消化，辅助体重管理 2) **调节血糖，改善糖代谢** 3) **促进肠道健康**：膳食纤维增强肠道蠕动，预防便秘，并改善肠道菌群
刺五加提取物 植物来源：*Eleutherococcus senticosus* 使用部位：根 国际公认的适应原植物 **产品编号: 2317**	4~15:1 刺五加苷 B+E 0.8%~7% HPLC	1) **抗疲劳与增强运动表现**：调节 HPA 轴，降低应激激素皮质醇水平，提升 ATP 生成，延缓运动性疲劳 2) **免疫调节与抗病毒**：激活巨噬细胞吞噬功能，上调干扰素-γ（IFN-γ）和 IgG 水平；抑制促炎因子 TNF-α、IL-6 过度表达，适合过敏或自身免疫疾病辅助调理 3) **抗氧化与神经保护**：通过 Nrf2/ARE 通路上调 SOD、CAT 等抗氧化酶，抑制 Aβ斑块形成 4) **抗炎与代谢调节**：抑制 NF-κB 通路减少促炎因子（TNF-α、IL-6），调节 PPARγ改善胰岛素敏感性
番泻叶提取物 植物来源: *Cassia angustifolia*(旧) *Senna alexandrina* (新) 使用部位：叶 **产品编号: 2316**	番泻苷 10%~60% UV 番泻苷 4%~20% HPLC 8:1	1) **快速强效泻下作用**：番泻苷 A/B 在结肠被菌群还原为大黄酸蒽酮 Rheinanthrone，刺激肠壁神经丛，促进肠道蠕动，增加环核苷酸（cAMP/cGMP）水平，促进电解质分泌和肠液分泌，抑制水和电解质重吸收 2) **抗菌、抗病毒、抗氧化与抗炎作用**
黄连素 植物来源: *Coptis chinensis* Franch. 使用部位：藤 产品编号: 2491 植物来源: *Phellodendron chinense* 使用部位：树皮 **产品编号: 2492**	98% 滴定法 97% HPLC	1) **广谱抗菌**：嵌入细菌核糖体 A 位抑制 mRNA 合成（如大肠杆菌、痢疾杆菌、幽门螺杆菌）；破坏革兰氏阴性菌细胞膜完整性；细菌 DNA 双螺旋，抑制拓扑异构酶 IV 和 DNA 复制。为益生菌（如乳酸菌、双歧杆菌）定植提供竞争优势 2) **调节糖脂代谢：激活 AMPK**，促进葡萄糖转运（GLUT4 上调）并抑制肝糖异生，似二甲双胍作用；通过抑制厚壁菌门 / 拟杆菌门比例，增加短链脂肪酸（如丁酸）产生，改善胰岛素敏感性，辅助治疗 2 型糖尿病；低浓度时在脂肪和内皮组织中上调 PPARγ（过氧化物酶体增殖物激活受体γ），减少脂肪细胞分化，降低甘油三酯，增加脂肪酸 β- 氧化 3) **抗炎与心血管保护：**抑制 NF-κB，减少促炎因子（TNF-α、IL-6）释放，上调抗炎因子 IL-10；**激活 Nrf2/ARE**，清除 ROS 并改善内皮功能 4) **抗肿瘤潜力：**诱导 G0/G1 期阻滞（p53/p21 通路）；上调 Bax/Bcl-2 比值并激活 caspase-3，促进肿瘤细胞凋亡

槐米提取物 别名：芦丁/槲皮素 植物来源：*Sophora Japonica* 使用部位：花蕾 **产品编号：2220/2219**	芦丁 EP/USP/NF11 曲克芦丁 EP 槲皮素二水合物 95~102% 无水槲皮素 95% 异槲皮素 97%	**1) 血管保护与微循环改善**：芦丁通过增强毛细血管韧性、抑制透明质酸酶活性，减少血管渗漏，调节血管脆性 **2) 抗炎与抗氧化**：抑制 NF-κB 通路及 COX-2、iNOS 活性，减少 TNF-α、IL-6 释放；芦丁 DPPH 自由基清除率 IC50=5-20μg/mL。体内降低血清 MDA（脂质过氧化产物），提升 SOD 活性。 **3) 抗菌与抗病毒**：芦丁抑制 SARS-CoV-2 主蛋白酶（Mpro）活性 **4) 代谢调节**：抑制肠道胆固醇吸收，促进肝脏代谢，降低总胆固醇和甘油三酯。槐米皂苷激活 AMPK 通路，促进 GLUT4 表达，辅助降血糖。
积雪草提取物 植物来源：*Centella asiatica* (L.) Urb. 使用部位：全草 **产品编号：2418** 被誉为“长生草”	积雪草总皂苷（积雪草苷+羟基积雪草苷+积雪草苷 B） 2%~80% HPLC 积雪草苷 2~98% 积雪草苷 35% 积雪草酸+羟基积雪草酸 54% HPLC	**1) 积雪草苷：促进伤口愈合与皮肤修复**，通过刺激成纤维细胞增殖和胶原蛋白合成，加速伤口及慢性溃疡的愈合。**抗纤维化**，抑制 TGF-β/Smad 通路，减少瘢痕形成； **2) 羟基积雪草苷**：抑制 NF-κB 通路减少炎症因子（TNF-α、IL-6）,缓解皮肤炎症; 抑制 UVB 诱导的 MMP-1（基质金属蛋白酶）表达，减少胶原降解，改善皱纹与皮肤弹性；下调 TGF-β 的表达，通过增加 Smad7 的表达促进伤口愈合，通过抑制 Smad2/3 磷酸化起到保护肺的功能 **3) 积雪草酸：抗纤维化与组织修复；调节免疫与抗炎** **4) 羟基积雪草酸：抗炎，抗衰，调节免疫，保护真皮层，强化皮肤屏障**
加纳籽提取物 植物来源：*Griffonia simplicifolia* (DC.) Baill. 使用部位：种子 **产品编号：2332** 5-HTP 的最主要天然来源	5-羟基色氨酸(5-HTP) 20%/30%/99% HPLC	**1) 调节情绪**：5-HTP 能穿过血脑屏障转化为血清素，稳定的血清素水平可缓解焦虑、抑郁，改善心境，让人精神积极。 **2) 改善睡眠**：血清素是褪黑素的前体，提升血清素水平，增加褪黑素分泌，帮助快速入睡，提高睡眠质量。 **3) 控制体重**：提高血清素水平能调节大脑食欲控制区域，减少对高热量、高脂肪食物的渴望，辅助控制体重。
假马齿苋提取物 植物来源：*Bacopa monnieri* (L.) Pennell 使用部位：全草 **产品编号：2433**	假马齿苋皂苷 10%/30% HPLC	**1) 增强认知与记忆**：Bacoside A/B 促进神经生长因子（NGF）释放，修复神经元损伤，通过促进突触可塑性和海马体神经发生，显著提升学习速度和信息保留能力。 **2) 抗焦虑与神经保护**：通过调节 GABA 受体、5 - 羟色胺转运体及抑制 NF-κB 炎症通路，缓解焦虑症状，且对谷氨酸诱导的神经细胞损伤具保护作用。 **3) 改善情绪与压力管理**：可降低皮质醇（压力激素）水平，提升心理抗压能力。 **4) 抗氧化与抗炎**：清除自由基（如 DPPH、ABTS+），抑制 COX-2、iNOS 等炎症酶表达，辅助治疗慢性炎症相关疾病。
姜黄素 植物来源：*Curcuma longa* L. 提取部位：根 **产品编号：2429**	总姜黄素 5~95% HPLC 姜黄素单体 5~90% HPLC 水溶 5~10% UV/HPLC	**1) 强效抗炎与免疫调节**:抑制核因子 κB（NF-κB）、环氧化酶 - 2（COX-2）、诱导型一氧化氮合酶（iNOS）等炎症通路，清除自由基 **2) 抗氧化与抗衰老** **3) 肝脏保护与代谢调节**
锯棕榈提取物 别名：锯叶棕提取物	脂肪酸 25%/45% GC 脂肪酸 45% 月桂酸 15% 10:1	**1) 良性前列腺增生（BPH）改善**：β-谷甾醇抑制 5α- 还原酶（减少睾酮→DHT 转化），阻断雄激素受体，缩小前列腺体积，缓解尿道压迫 **2) 抗炎与前列腺细胞保护**：通过对抗炎症、肌肉痉挛和前列腺水肿来改

植物来源：Serenoa repens 使用部位：果实 **产品编号：2223** “前列腺健康”品类的标志性成分		善前列腺增生。
芦荟提取物 植物来源：*Aloe vera* (L.) Burm.f. 使用部位：叶子 **产品编码：2420**	芦荟凝胶冻干粉 100~200:1 芦荟凝胶喷干粉 100~200:1 芦荟苷 18% 10:1	**1) 皮肤修复与保湿:** Acemannan 乙酰化甘露聚糖形成保护膜减少水分流失，刺激成纤维细胞合成胶原蛋白，加速伤口愈合 **2) 抗炎与抗菌:**抑制环氧酶 - 2（COX-2）、核因子 κB（NF-κB）通路，减少 IL-6、TNF-α 等促炎因子；芦荟大黄素直接抑制金黄色葡萄球菌、白色念珠菌等 **3) 代谢调节与血糖辅助管理；增强机体免疫力**
绿茶提取物 植物来源: *Camelia sinensis* 提取部位: Leaf **产品编码：2323**	总茶多酚 10%~99% 儿茶素 2.4~90% EGCG 15%~95% 表儿茶素 90% 咖啡因 0.1%~20% 速溶绿茶粉 抹茶	**1) 强效抗氧化与抗衰老：**EGCG 清除自由基（ROS、NO），激活 Nrf2 通路，延缓皮肤和神经元衰老 **2) 代谢调节与体重管理：**EGCG 协同咖啡因促进脂肪氧化（增加产热）、抑制脂肪细胞分化，同时延缓碳水化合物吸收 **3) 抗炎、保护心血管、抗菌、抗病毒;** **4) 保护神经与认知增强。**
迷迭香提取物 植物来源：*Rosmarinus officinalis* L. 使用部位：Leaf **产品编号：2318**	迷迭香酸 10%~20% HPLC 鼠尾草酸 油 10%~20% HPLC 鼠尾草酸 粉 10%~60% HPLC 10:1	**1) 强效抗氧化与抗衰老：**迷迭香酸、鼠尾草酸通过抑制 NF-κB、MAPK 炎症通路，减少 IL-6、TNF-α 等促炎因子；清除羟基自由基（·OH）、DPPH 自由基能力优于维生素 C **2) 抗炎与免疫调节** **3) 抗菌与抗生物膜** **4) 神经保护与认知增强：**迷迭香酸穿透血脑屏障，抑制 β- 淀粉样蛋白（Aβ）聚集和 Tau 蛋白过度磷酸化 **5) 代谢调节与心血管保护，降血脂：**鼠尾草酸激活 AMPK 通路，促进脂肪细胞葡萄糖摄取，降低肝脏甘油三酯合成；降低收缩压、提高 HDL-C 水平，机制涉及 NO 介导的血管舒张和抗氧化应激
啤酒花提取物 植物来源：*Humulus lupulus* L. 使用部位：花 **产品编码：2413**	8-异戊烯基柚皮素 0.1% HPLC 7.5:1	**1) 镇静助眠与神经调节;** **2) 强效抗氧化与抗炎;** **3) 抗病毒抗菌与防腐；** **4) 雌激素样作用**
葡萄籽提取物 植物来源：*Vitis Vinifera L.* 使用部位：种子 **产品编码：2513**	多酚 70%~90% UV 原花青素 95% UV 低聚花青素 40%~85% HPLC	**1) 强效抗氧化与抗衰老** **2) 保护心血管** **3) 抗炎与免疫调节** **4) 改善微循环与增强静脉功能** **5) 保护皮肤与光防护**
娑罗果提取物 Horse Chestnut Seed Extract 别名：七叶树提取物	七叶皂苷 20~98% 15~20:1	**1) 静脉血管保护与微循环改善：**七叶皂苷通过抑制 Na^+-K^+-ATP 酶和透明质酸酶活性，减少血管渗漏，增强静脉张力；抑制组胺、缓激肽释放，降低毛细血管通透性。 **2) 抗炎与抗渗出：**抑制 NF-κB 通路和 COX-2 活性，减少 TNF-α、IL-6、PGE_2

植物来源：*Aesculus Hippocastanum* L. / *Aesculus chinesis* Bge / *Aesculus Wilsonii* Rehd 使用部位：种子 **产品编码：2225/2226/2224**		释放。
人参提取物 植物来源：*Panax ginseng* C.A. Meyer 使用部位：根/茎叶/全草 **产品编码：2427**	根 总皂苷 2~60% HPLC 根 总皂苷 2~85% UV 茎叶 总皂苷 1~45% HPLC 茎叶 总皂苷 2~80% UV 全草 总皂苷 1~45% HPLC 全草 总皂苷 2~75% UV 全草 人参皂苷 Rg3 10%~90% HPLC 人参多糖 90% UV 低农残	**1) 增强免疫与抗病毒：**人参皂苷 Rg1、Rb1 激活巨噬细胞、T/B 淋巴细胞，促进 IL-2、TNF-α等细胞因子分泌，增强先天性与适应性免疫应答；通过调节 Th1/Th2 平衡，抑制病毒复制（如流感病毒、呼吸道合胞病毒）；Rg3 抑制肿瘤细胞增殖与诱导凋亡，减少肿瘤细胞黏附、侵袭能力，尤其可抑制血管内皮生长因子（VEGF）介导的肿瘤血管生成，阻断肿瘤营养供应 **2) 抗疲劳与能量代谢调节：**激活 AMPK 通路，促进线粒体生物合成与 ATP 生成，减少乳酸堆积；调节下丘脑-垂体-肾上腺轴（HPA 轴），增强应激适应能力 **3) 神经保护与认知增强：**Rg1、Rb1 促进 BDNF 释放，调控突触后密度蛋白 PSD95 和 AMPA 受体，抑制 Aβ沉积及 tau 蛋白过度磷酸化；改善脑缺血再灌注损伤，保护神经元线粒体功能 **4) 抗氧化与抗衰老：**人参多糖及皂苷清除 ROS、NO 等自由基，抑制 NF-κB/MAPK 氧化应激通路；抑制紫外线诱导的 MMP-1/MMP-13 活性，减少胶原降解，提升皮肤 SOD 活性
肉桂提取物 植物来源：*Cinnamomum cassia* Presl. 使用部位：树皮 **产品编号：2214**	多酚 20% UV 黄酮 10% UV 5:1	**1) 降血糖与代谢调节：**增强胰岛素敏感性：激活 AMPK 通路，促进 GLUT4 葡萄糖转运蛋白表达，提升细胞对葡萄糖的摄取能力；抑制α-葡萄糖苷酶：延缓碳水化合物分解吸收，降低餐后血糖峰值。血脂调节：显著降低总胆固醇（↓12%）和甘油三酯（↓20%），改善代谢综合征。 **2) 抗炎与抗氧化：**通过阻断 NF-κB 通路，减少促炎因子（TNF-α、IL-6、IL-1β）释放。降低环氧化酶-2（COX-2）和一氧化氮合酶（iNOS）表达，减轻炎症反应。直接清除自由基，且体内降低血清丙二醛（MDA），提升超氧化物歧化酶（SOD）。 **3) 抗菌与抗病毒：**对金黄色葡萄球菌、大肠杆菌等有显著抑制作用。有效抑制白色念珠菌（MIC=0.25mg/mL）、黄曲霉等。肉桂醛可破坏病毒结构，对 Phi X 病毒（模拟动物病毒）失活率达 99.9%-100%；对流感病毒 H1N1 抑制率超 60%。抗新冠病毒潜力：高良姜-肉桂混合物通过抑制 SARS-CoV-2 主蛋白酶（MPro），阻断感染途径。
越橘提取物 植物来源：*Vaccinium Myrtillus* L. / *Vaccinium Uliginosuml* 使用部位：果实 **产品编码：2324**	花色苷 25%~36% HPLC 花青素 5%~25%	**1) 眼部健康维护：**花青素促进视网膜视紫红质再生，加速黑暗环境中视力恢复；缓解睫状肌痉挛，改善眼调节功能，减轻视疲劳。抑制血管内皮生长因子（VEGF），减少糖尿病视网膜病变血管渗漏；延缓年龄相关性黄斑变性（AMD）进展，保护感光细胞。 **2) 强效抗氧化与抗炎：**ORAC 值达 9,700μmol TE/100g（USDA 数据），体内激活 Nrf2 抗氧化通路，提升内源性抗氧化酶活性。抑制 NF-κB 信号通路，减少 IL-6、TNF-α 等炎症因子释放。 **3) 代谢与心血管调节：**绿原酸抑制 α- 葡萄糖苷酶（IC50=25μM），延缓碳水化合物消化，降低餐后血糖峰值；激活 AMPK 通路，促进骨骼肌 GLUT4 葡萄糖转运蛋白表达↑30%，增强胰岛素敏感性。改善内皮功能；抑制 LDL 氧化。

枳实提取物 植物来源：*Citrus aurantium* L. 使用部位：果实 **产品编码：2216**	橙皮苷 82%~98% 橙皮素 90%~98% 地奥司明 81%+橙皮苷 9% 地奥司明 90% 柑橘生物类黄酮 25%~95% 甲基橙皮甙查尔酮 98% 葡糖基橙皮苷 75% 辛弗林 98%	**1) 胃肠动力调节**：辛弗林激活α-肾上腺素受体，增强胃肠道平滑肌收缩。挥发油成分（柠檬烯、芳樟醇）直接刺激肠道蠕动。黄酮类（柚皮苷、新橙皮苷）抑制乙酰胆碱酯酶，延长神经递质作用时间。 **2) 心血管效应**：辛弗林和 N-甲基酪胺激活α/β受体，收缩血管、增加心输出量，用于心源性休克。橙皮苷抑制 ACE（血管紧张素转换酶），降低外周阻力，改善微循环障碍。 **3) 抗菌与抗炎**：柠檬烯抑制金黄色葡萄球菌、大肠杆菌（MIC=1mg/mL）；柚皮苷抑制幽门螺杆菌。抑制 NF-κB 通路，减少 TNF-α、IL-6 释放。黄酮类抑制 COX-2 和 iNOS 表达（细胞模型）。 **4) 代谢调控**：辛弗林抑制脂肪细胞磷酸二酯酶（PDE），提高 cAMP 水平，激活脂解作用。激活β-3 受体促进脂肪分解。黄酮类（橙皮苷）激活 AMPK 通路，促进骨骼肌葡萄糖摄取（GLUT4 表达↑40%），提高胰岛素敏感性。
竹笋提取物 植物来源：*Pleioblastus amarus* 使用部位：幼嫩笋茎 **产品编号：2443**	5~12:1	**1) 肠道健康调节：**促进胃肠蠕动：膳食纤维吸水膨胀，刺激肠壁蠕动，缩短粪便通过时间；调节肠道菌群与屏障功能。 **2) 代谢调控：降血糖作用：**阿魏酸抑制α-葡萄糖苷酶（IC50=8μM），延缓碳水吸收；荭草苷激活 AMPK 通路，促进 GLUT4 表达，增强胰岛素敏感性。调血脂与体重管理：膳食纤维结合胆汁酸，减少胆固醇重吸收。低热量高纤维特性降低食欲。 **3) 抗氧化与抗炎：**抗氧化能力：总酚含量达 150mg GAE/100g，DPPH 自由基清除率 IC50=22μg/mL。降血清 MDA，提升 SOD 活性；抗炎机制：阿魏酸抑制 NF-κB 磷酸化，减少 TNF-α、IL-6 释放； **4) 心血管保护：**高钾低钠（K:Na=15:1）特性促进钠排泄，松弛血管平滑肌。荭草苷改善血管内皮功能。抑制 ADP 诱导血小板聚集率。
紫锥菊提取物 植物来源：*Echinacea purpurea / Echinacea angustifolia* 使用部位：地上部分/根/全草 **产品编号：2437**	多酚 4%~7% 菊苣酸 1%~4% HPLC 紫锥菊苷 4% HPLC 10:1	**1) 免疫调节与抗感染**：多糖类成分激活巨噬细胞吞噬功能；烷基酰胺类结合 CB2 受体，调节 T 细胞分化；增强先天免疫：刺激巨噬细胞和 NK 细胞活性，促进 IL-6、TNF-α分泌。 **2) 抗炎与抗氧化**：抗炎机制：抑制 COX-2 和 iNOS 表达，减少 PGE_2和 TNF-α释放。菊苣酸抑制 NF-κB 通路，减少炎症因子（IL-1β、TNF-α）释放。抗氧化能力：菊苣酸 DPPH 自由基清除率 IC50=5.2-25μg/mL。降低血浆 MDA，提升 GSH-Px 活性 **3) 抗病毒与抗菌**：破坏微生物细胞膜或病毒包膜 **4) 伤口愈合与皮肤保护**：刺激纤维母细胞增殖，减少炎症反应，加速创伤愈合

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