

TOPSCIENCE BIOTECH

—— Leading Producer of Sterile Sodium Hyaluronate



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Company Overview

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Company Profile



山东尔山生物科技



Topscience Biotech was established in 2005 and is a biotechnological innovative enterprise focusing on the R&D, production, sales, and service of bioactives with microbial fermentation technology and sterile API production technology. Topscience Biotech's main products include biochemical APIs, tissue engineering raw materials, functional skincare ingredients, new dietary raw materials, etc.

The manufacturing site covering an area of more than 100,000m² is located in Lanshan District, Rizhao City, Shandong Province. There are more than 30 personnel with intermediate professional titles, and more than 30 Licensed Pharmacists. It has 8 GMP-compliant production workshops, and also, Topscience Biotech has established a sound quality control system conforming international standards such as ICH and GMP.

Factory Profile



Overhead view

Rizhao, Shandong

100,000m²

240+

8



Address



Total site area



Employees



Workshops

Company History(2005-2025)

2005

Established and began the research and production of Chondroitin Sulfate Sodium and Menotropin series.

2008

Went into the fasttrack for production, R&D, and sales for Sodium Hyaluronate.

2009

Completed and operationalized the second HA production base.

2015

Obtained the certificate of Suitability (CEP) for Sodium Hyaluronate. Entered the supply chain of Sodium Hyaluronate APIs in the EU.

2019

Obtained GMP certification in China, further opening the Chinese pharmaceutical market.

2025

Launched the first Medical Device Grade Chondroitin Sulfate Sodium raw material in China.

2024

Successfully developed "Medical Device Grade Chondroitin Sulfate Sodium".

2023

China's first Sterile Sodium Hyaluronate launch broke production barriers.

2021

Obtained "KDMF" & "Form41" API registration certification.



Technology



Professional R&D Team



Perfect Quality Management System



Advanced Inspection Equipment

Global Market

Business covers **70+**
countries and regions around the world

Provide services to nearly **2,000**
customers in the fields of medicine,
medical beauty, cosmetics, food, etc.

With **20** years of
global business service experience



Part 2

Product Overview

Sterile

Pharmaceutical

Medical

Personal Care

Food Nutrition

Core Advantages

Product List

● Sterile

- **STERILEHYA Sterile Sodium Hyaluronate**

● Pharmaceutical

- **PHARMAHYA Pharmaceutical Grade Sodium Hyaluronate**

PHARMAHYA-INJ Injection Grade Sodium Hyaluronate

PHARMAHYA-OPH Eye-drop Grade Sodium Hyaluronate

PHARMAHYA-PHA Pharmaceutical Grade Sodium Hyaluronate

PHARMAHYA-EXC Excipient Grade Sodium Hyaluronate

● Medical

- **MEDIHYA Medical Device Grade Sodium Hyaluronate**

MEDIHYA-I Medical Device Grade I Sodium Hyaluronate

MEDIHYA-M Medical Device Grade M Sodium Hyaluronate

MEDIHYA-S Medical Device Grade S Sodium Hyaluronate

MEDIHYA-T Medical Device Grade T Sodium Hyaluronate

- **Medical Device Grade Chondroitin Sulfate Sodium**

- **Polydeoxyribonucleotide (PDRN)**

Polynucleotide (PN)

● Personal care

- **COSMOHYA Cosmetic Grade Sodium Hyaluronate**

- **HYDHYA-致修 Hydrolyzed Sodium Hyaluronate**

- **SMOHYA-致泽 Cationic Hyaluronate**

- **ACEHYA-致润 Sodium Acetylated Hyaluronate**

- **Full Spectrum Sodium Hyaluronate**

- **Superfine Sodium Hyaluronate**

- **Zinc Hydrolyzed Hyaluronate**

- **L-Ascorbic Acid 2-Glucoside**

- **Alpha-Arbutin**

● Food Nutrition

- **NUTRIHYA Food Grade Sodium Hyaluronate**

Product Launch



- Conference Name: 2023 Biotechnology Industry Innovation Forum & New Product Launching Conference of Sterile Sodium Hyaluronate from Topscience Biotech
- Time: May 25, 2023
- Location: National Convention Center Beijing
- Theme: New Power of Sterile Sodium Hyaluronate Leading the New Future
- Event: Launched “White Paper of China Sterile Hyaluronic Acid”

Sterile Sodium Hyaluronate

Sterile raw materials can be categorized into two types based on production:

- Final Sterilization – Produced using terminal sterilization.
- Non-Final Sterilization – Manufactured under sterile conditions, with sterilization by filtration to ensure sterility.

Sterile Sodium Hyaluronate made via sterile processing can be directly used in sterile preparations and medical devices without additional sterilization.

✓ **Master Files Registration: M2025078-000**



Medical
Aesthetics



Orthopedic
treatment



Ophthalmological
treatment



Other



Pharmaceutical Grade Sodium Hyaluronate

	Injection Grade Sodium Hyaluronate	Eye-drop Grade Sodium Hyaluronate	Excipient Grade Sodium Hyaluronate
Intrinsic Viscosity	0.5 ~ 4.0 m ³ /kg	0.5 ~ 4.0 m ³ /kg	1.2 ~ 4.0 m ³ /kg
Application	Can be used in Ophthalmologic operations, Intra-articular injection surgery, Intradermal injection, Cure for the sickness of cartilage(joint) and muscle tendon, etc.	Can be used in Cure of xeroma, Eye-drop, Eye ointment, Adjuvant medication for ophthalmic surgery, etc.	Can be used in Eye lotion, Adjuvant therapy for sprains and burns (small molecular weight), Adjuvant medication for ophthalmic surgery, Adjuvant therapy for sprains and burns (with cell factors, chemotactic factors and other relevant factors), etc.
Specification	ChP, EP, JP		
Certification	CEP, GMP, FDA, KDMF, Form41 Y20210001081(A status), Y20170000992(A status), F20210000256(I status)		

Medical Device Grade Sodium Hyaluronate

Product	Description	Intrinsic Viscosity	Appilcation	Specification	Master Files Registration
MEDIHYA-I	Medical Device Grade I Sodium Hyaluronate	<ul style="list-style-type: none"> • 0.2 ~ 4.0 m³/kg • Tailor-made 	<ul style="list-style-type: none"> • Suitable for medical device of Class II and Class III. 	<ul style="list-style-type: none"> • Tested according to Ph. Eur. Last Edition • Bacterial endotoxins <0.015 IU/mg • Pass sterility test 	
MEDIHYA-M	Medical Device Grade M Sodium Hyaluronate	<ul style="list-style-type: none"> • 0.2 ~ 4.0 m³/kg • Tailor-made 	<ul style="list-style-type: none"> • Suitable for medical device of Class II and Class III. 	<ul style="list-style-type: none"> • Tested according to Ph. Eur. Last Edition • Bacterial endotoxins <0.05 IU/mg 	M2022071-000 M2022107-000 M2024075-000 M2024098-000 M2024319-000 M2024345-000 M2024315-000 M2025187-000 M2025116-000
MEDIHYA-S	Medical Device Grade S Sodium Hyaluronate	<ul style="list-style-type: none"> • 0.2 ~ 4.0 m³/kg • Tailor-made 	<ul style="list-style-type: none"> • Suitable for medical device of Class II. 	<ul style="list-style-type: none"> • Tested according to Ph. Eur. Last Edition • Bacterial endotoxins <0.5 IU/mg 	
MEDIHYA-T	Medical Device Grade T Sodium Hyaluronate	<ul style="list-style-type: none"> • 0.03 ~ 3.5 m³/kg • Tailor-made 	<ul style="list-style-type: none"> • Suitable for medical device of external application. 	<ul style="list-style-type: none"> • Tested according to Ph. Eur. Last Edition 	

Safety & Efficacy Test

Test project	Pyrogen test	Cytotoxicity test
Conclusion	No pyrogenicity	No potential cytotoxicity
Test project	Skin sensitization test	Acute systemic toxicity test
Conclusion	No obvious sensitization reaction observed	No obvious acute systemic toxicity observed

Topscience Biotech has also completed efficacy experiments on "Product Impermeability Absorption Effect Experiment" and "Wound Impermeability Effect Experiment", which fully comply with the requirements of the "Announcement on the Categories Management of Medical Sodium Hyaluronate Products(No. 103 of 2022)" that when Sodium Hyaluronate is applied as medical dressings, it cannot be absorbed by the human body and used for non-chronic wounds. Medical dressings are managed according to Medical Device Class II.



Product Launch



Filling the gap in the raw material field in the domestic medical device industry.

- ☑ Time: March 18, 2025
- ☑ Conference Name: Revitalize new raw materials and lead a new future
- ☑ Conference content: Over 100 industry experts and stakeholders attended the official launch of Medical Device Grade Chondroitin Sulfate.

Medical Device Grade Chondroitin Sulfate Sodium

Advantages

- **Protein:** $\leq 0.1\%$
- **Endotoxin:** $< 0.015\text{IU/mg}$
- **Inorganic impurities:** low residue and ash
- **Chloride:** $\leq 0.1\%$
- **Metallic elements:** strictly control 8 elements and 18 elements
- **Solvent residue:** residual solvent is far below the quality standard

1

Fish Source: Utilizes pharmaceutical-grade chondroitin sulfate sodium extracted from shark cartilage, which is highly compatible with the human body, resulting in low adverse reactions and easy absorption.

2

Enzymatic Hydrolysis Technology: Employing proprietary enzymes for hydrolysis is harmless to the human body and effectively removes excess protein while preserving product activity.

3

Ultrafiltration Technology: Significantly removes protein, impurities, and heavy metals from the hydrolyzed protein, thus purifying chondroitin sulfate sodium.

4

Precipitation Technology: Utilizes complex precipitation techniques to eliminate residual protein and impurities, resulting in a high product purity ($\geq 98.0\%$), exceeding pharmacopeia standards.

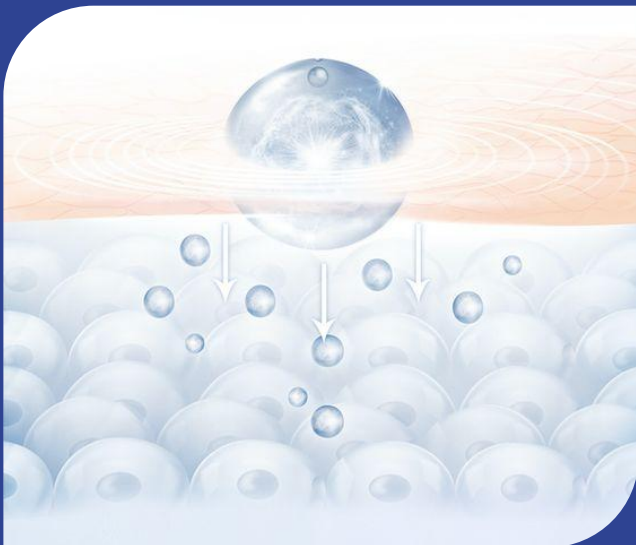
- ✓ **Completed:** skin sensitization test, animal intradermal reaction test, acute systemic toxicity test, cell gene mutation test, in vitro mammalian cell gene mutation test, pyrogen test, virus inactivation test.
- ✓ **Master Files Registration:** M2024112-000, M2024310-000, M20241308-000.

Polydeoxyribonucleotide (PDRN)/Polynucleotide (PN)

Product Overview:

Polydeoxyribonucleotide is a DNA fragment of a specific size extracted from salmon testes that has the ability to regenerate and repair damaged tissues. Due to its unique biological activity and safety, PDRN/PN has been widely used in the medical and beauty fields.

**More Comprehensive Tissue
Regeneration and Injury Repair**

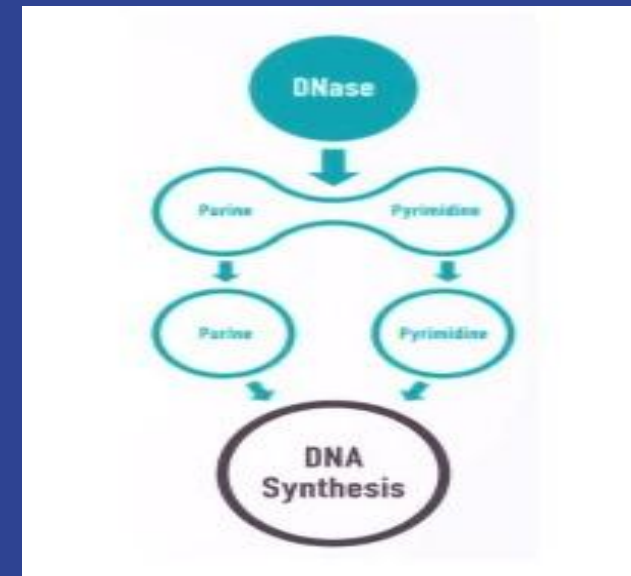


Anti-inflammatory
Increase of
anti-inflammatory factors

Promote cell growth
Increase of growth factors
Fibroblasts
Osteoblasts
Chondrocytes

Improve microcirculation
Promote angiogenesis

DNA "salvage synthesis pathway"



Quickly provide raw materials

Polydeoxyribonucleotide (PDRN)/Polynucleotide (PN)



Extracted from salmon testes, **raw materials are pure and traceable;**



Retains the original structure of DNA, high purity($\geq 99\%$);



Has good stability, low concentration sample is gelatinous after sterilization;

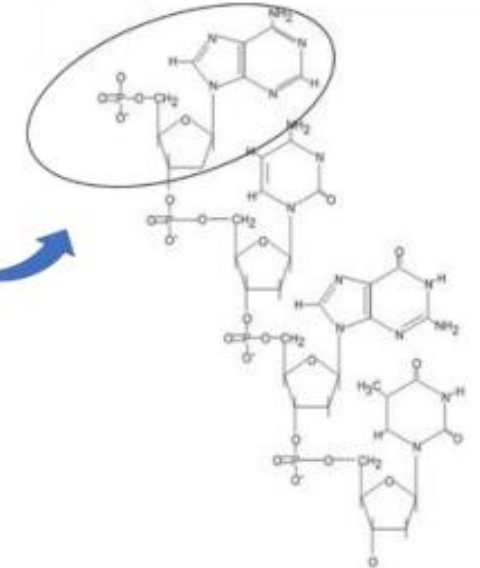
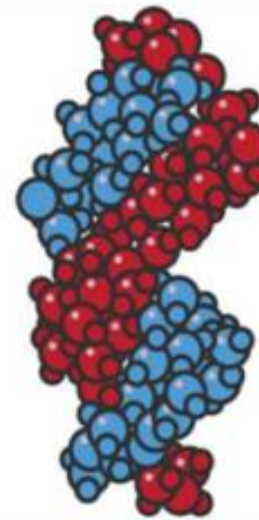


The light transmittance of the sample in aqueous solution is better;



Wide coverage of molecular weight, molecular weight customization.

Chemical Structure of Polydeoxyribonucleotide



Cosmetic Grade Sodium Hyaluronate

COSMEHYA has excellent moisturizing and lubricating properties, and is internationally recognized as a "natural moisturizing factor". It is widely present in the interstitial cells of various tissues of the organism.



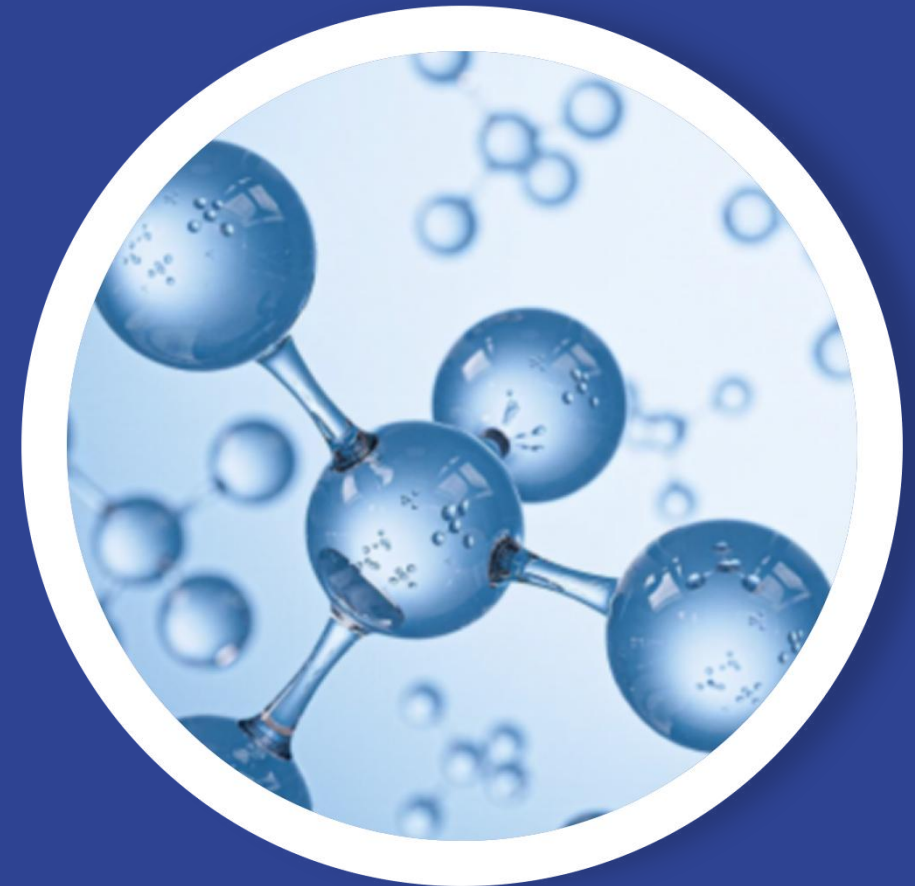
Type	Molecular weight	Material Submission Code
COSMEHYA H220	>1,800 kDa	006722-00507-2146
COSMEHYA M180	1,000-1,800 kDa	006722-00507-5506
COSMEHYA L100	400-1,000 kDa	006722-00507-3982
COSMEHYA SL40	10-400 kDa	006722-00507-5156
COSMEHYA VL01	<10 kDa	006722-00507-1212

- ✓ **Completed: Moisturizing test, acute eye irritation & corrosion test, multiple skin irritation test, skin allergy test, acute percutaneous toxicity test.**

HYDHYA-致修(Hydrolyzed Sodium Hyaluronate)

Production Features:

- Ultra-low molecular weight (<10 kDa): Enhances skin penetration, removes free radicals, nourishes cuticles, and repairs damaged barriers.
 - High absorbability: Supports cell metabolism, boosts vitality, maintains elasticity, and combats aging.
 - Circulation & sensitivity control: Improves blood flow, reduces irritation, and provides deep hydration/protection.
 - Bioactivity: Repairs UVA damage, accelerates wound healing, soothes inflammation, and regulates immunity via epidermal cell renewal.
- ✓ **Material Submission Code: 006354-00507-1939**
- ✓ **Completed: In vitro soothing and repairing efficacy test.**



SMOHYA-致泽(Cationic Hyaluronate)



Production Features:

- Natural moisturizer: Ideal for hair/scalp care, gentle and effective.
- Protective & soothing: Shields skin from surfactant irritation, enhances smoothness.
- Multi-functional: Adsorbs easily, penetrates deeply, forms a protective film.
- Active repair: Neutralizes free radicals, boosts metabolism.

✓ **Material Submission Code: 005242-00507-7324**

✓ **Completed: Hair adsorption test, hair scale repair efficacy test.**

ACEHYA-致润(Sodium Acetylated Hyaluronate)

Production Features:

- **Safe & Comfortable:** Mild with long-lasting hydration and superior skin affinity, reducing moisture loss.
 - **Double Hydration:** Amphiphilic structure enhances water retention in the stratum corneum, outperforming natural hyaluronate.
 - **Barrier Repair:** Stimulates epidermal cell growth, strengthens skin barrier, and boosts natural resilience.
-
- ✓ **Material Submission Code: 007772-00507-3414**
 - ✓ **Completed: acute skin irritation test, skin allergy test, acute percutaneous toxicity test, cytotoxicity test.**



Full Spectrum Sodium Hyaluronate



Production Features:

- The whole molecular weight range is covered, and different powder products have different proportions of different molecular weights.
 - Firming and Anti-wrinkle.
 - Moisturizing and Repairing.
 - Improving Skin Smoothness.
- ✓ **Material Submission Code: 006722-00507-9284**

Superfine Sodium Hyaluronate



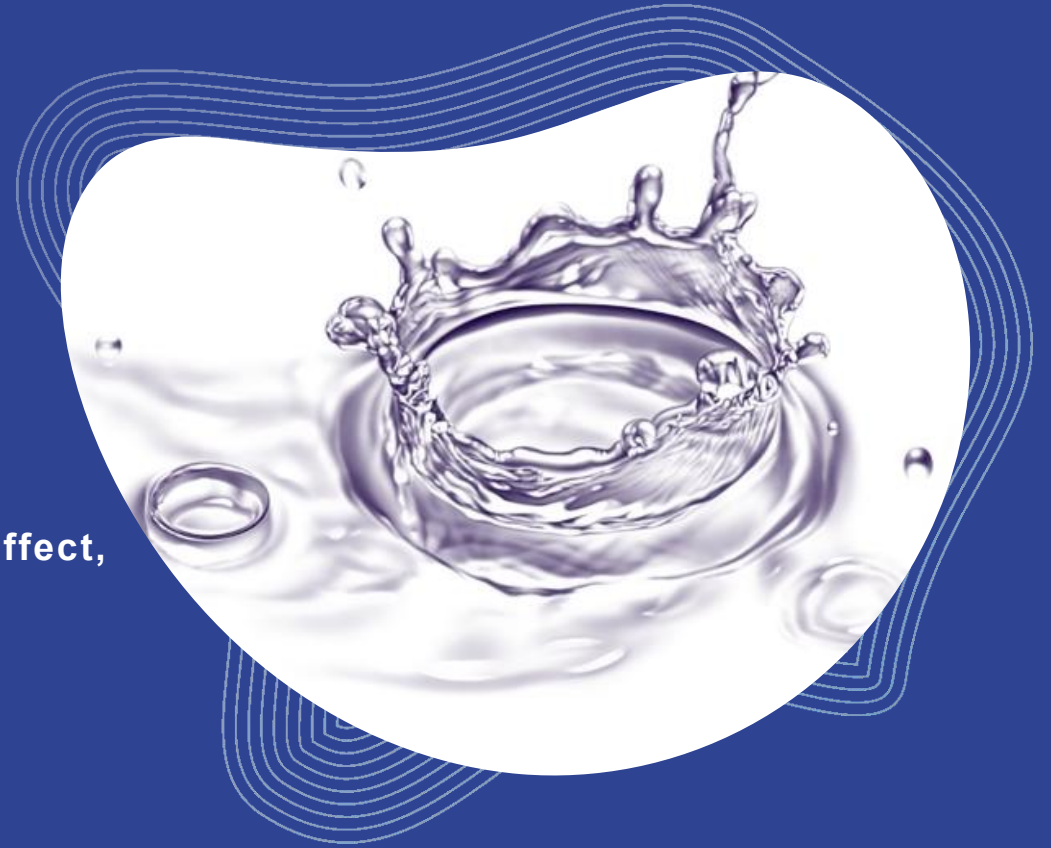
Production Features:

- Derived from conventional HA via micron-level grinding for uniform dispersion in oil-based formulas.
 - Delivers enhanced moisturizing, lubrication, and skin nourishment in cosmetic applications.
- ✓ **Material Submission Code: 006722-00507-8739**

Zinc Hydrolyzed Hyaluronate

Production Features:

- Strengthen the skin barrier.
 - Decrease the expression of inflammatory factors.
 - Up-regulate the ratio of collagen III/I to reduce scar formation.
 - Enhance Hydration capacity.
- ✓ **Material Submission Code: 008815-00507-1049**
- ✓ **Completed: Moisturizing effect, soothing effect, repairing effect, antioxidant effect tests.**

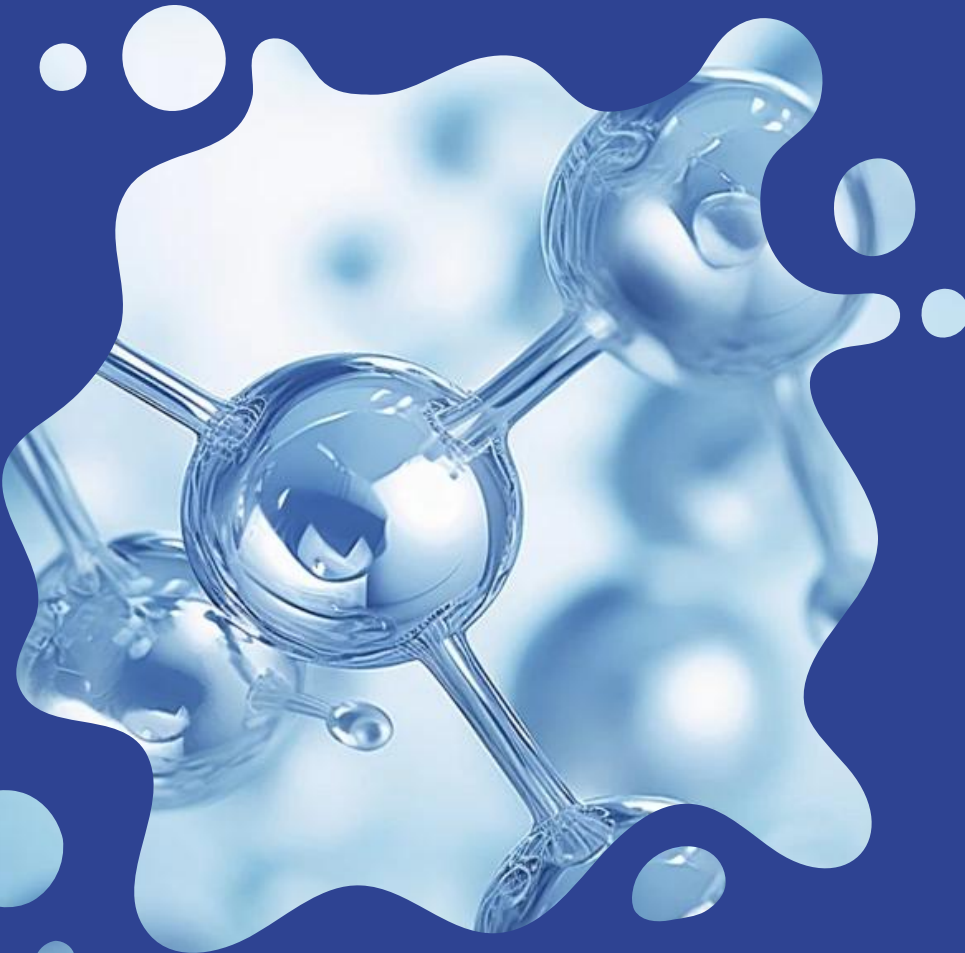


L-Ascorbic Acid 2-Glucoside

Production Features:

- Contains glucose-based stabilizers for enhanced heat/metal-ion resistance, preventing oxidation while preserving full efficacy.
- Brightens skin, fades pigmentation (age spots, freckles), boosts UV protection, and combats aging.

✓ **Material Submission Code: 004104-00507-6011**



Alpha-Arbutin

Production Features:

- Proven efficacy & safety: Recognized globally as a leading 21st-century brightening agent.
- Superior stability: 15x more stable than beta-arbutin, with zero hydroquinone production.
- Gentle yet powerful: Non-irritating (no cytotoxicity/allergies) while offering hydration, wound healing, and anti-inflammatory benefits.

✓ **Material Submission Code: 001005-00507-5669**



Food Grade Sodium Hyaluronate

- Oral intake could replenish the inadequate status in the human body. By digestion and absorption, Sodium Hyaluronate could make your skin moisturizing, soft, and elastic, delay aging, and prevent arthritis, arteriosclerosis, pulse disorder, encephalomalacia, and so on.
- In many developed countries such as the USA, EU, and Japan, it's widely applied in functional food.



Advantages:

01

Increase skin moisture and improve dry skin.

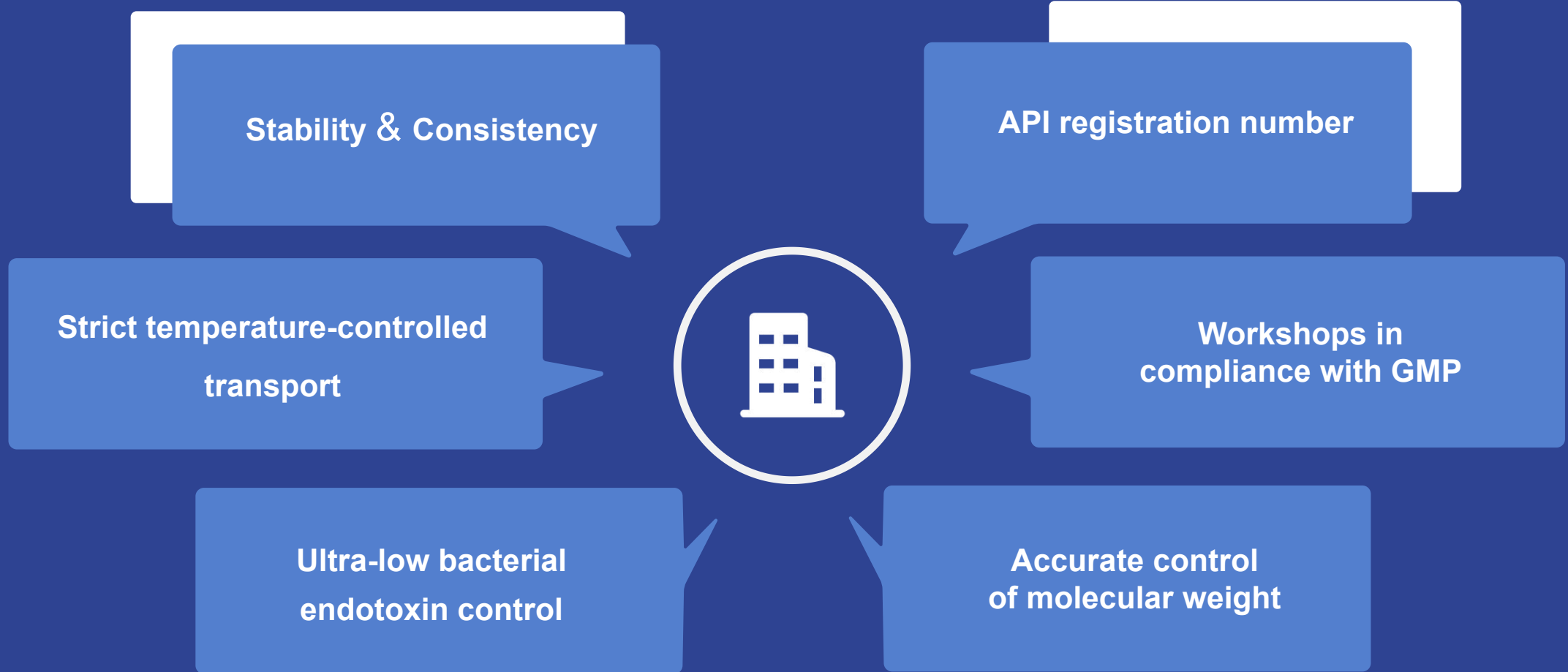
02

Modulate inflammation.

03

Make people energetic and youthful.

Core Advantages



Part 3

Company Advantages



Certificates



Honor

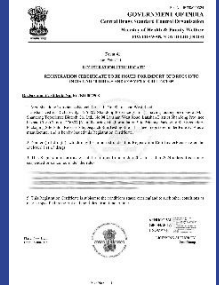
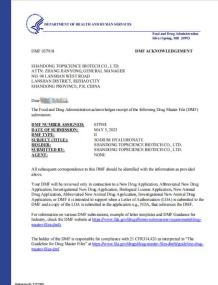


Patent



Technology Cooperation

Certificates



Pharma MFG License

GMP

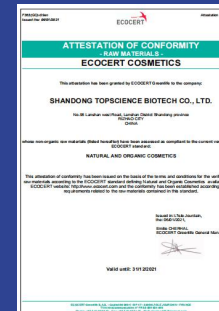
CEP

FDA

Form 41

KDMF

Halal



EU Written Confirmation

Kosher

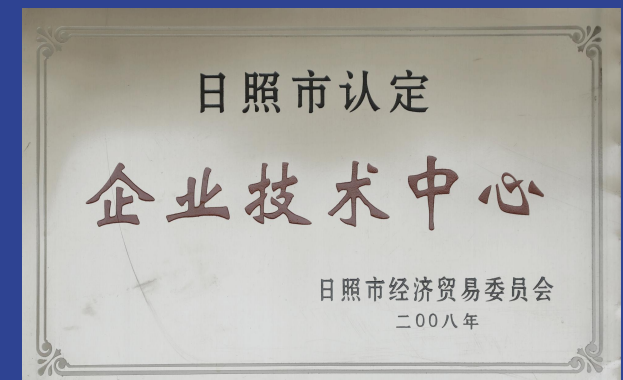
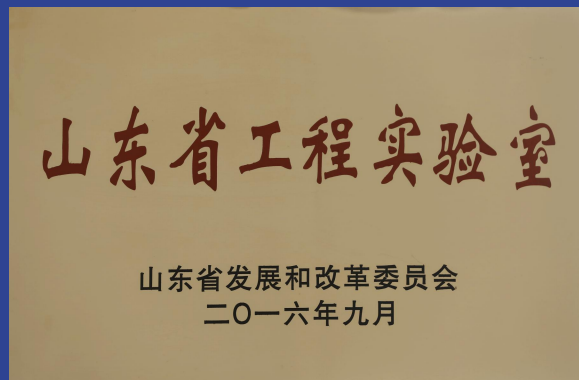
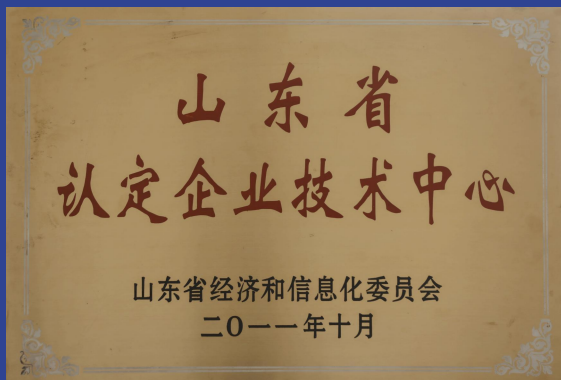
ISO

Vegan

ECOCERT & COSMOS

Honor

Topscience Biotech has been recognized as the "Leading producer of Sterile Sodium Hyaluronate in China" and the "Pioneer of Medical-Grade Sodium Chondroitin Sulfate in China" for its innovative achievements. The company has also earned numerous honors, including: "Shandong Provincial Specialized, Sophisticated, and Innovative Enterprise", "Rizhao City Gazelle Enterprise", "Rizhao City Sci-Tech Innovation Leading Enterprise", "Shandong Provincial Technology-Based SME", "Excellence Award for Innovation and Transformation", "Shandong Provincial Advanced SME", "Shandong Famous Brand", "Shandong Patent Award". Additionally, Topscience Biotech operates high-level R&D platforms such as Science & Technology Academician Expert Workstation, Shandong Provincial Engineering Laboratory, Shandong Provincial Certified Enterprise Technology Center, and Rizhou City Enterprise Technology Center.



Patents



Topsience Biotech holds more than 30 invention patents and utility model patents, including: "Method for Preparing Sodium Hyaluronate from Hyaluronic Acid Fermentation Broth", "Method for Producing Chondroitin Sulfate via Fermentation", "Method for Reducing the Viscosity of Sodium Hyaluronate", "A Crosslinked Hyaluronic Acid-Chondroitin Sulfate Compound and Its Applications".

Technology Cooperation



- Topscience Biotech has cooperated with universities and research institutions such as Shandong University, Zhengzhou University, China Pharmaceutical University, Ocean University of China, and Shenyang Pharmaceutical University, focusing on the fields of molecular biology, cell biology, and tissue engineering, and focusing on the research of the efficacy mechanism and application areas of biologically active substances such as Sodium Hyaluronate and Chondroitin Sulfate Sodium.

Part 4

Sustainable Development

ESG

EcoVadis Certification

Environment

Biological treatment: in line with national environmental protection policy requirements.

Implement standards such as sewage treatment standard GB/T31962-2015 and pharmaceutical industry atmospheric pollutant emission GB37823-2019.

ISO14001 Environmental Management System



Government

The Shareholders' Meeting is the company's highest authority, responsible for key decisions on business policies, investment plans, and financial budgets. In compliance with the Company Law and Articles of Association, we ensure proper governance, facilitate shareholder rights, and safeguard their legitimate interests.

Social

The company strictly complies with all labor laws and regulations, implementing fair and transparent HR policies, including the 'Staff Code of Conduct' and 'Employee Handbook,' to safeguard employees' rights and interests.

ISO45001 Occupational Health and Safety Management System Certification

EcoVadis Certification



Successfully ranked among the **top 15%** of the globally evaluated enterprises.

- In the context of the increasing awareness of corporate social responsibility (CSR) around the world, EcoVadis, as a leading global CSR rating agency, systematically evaluates the sustainable development performance of companies through the three dimensions of environment, society and governance (ESG).
- Based on the high recognition of this platform by many international customers, Topscience Biotech continues to promote the optimization and upgrading of the certification system, and won the "Silver Medal" excellence rating in the latest annual evaluation in May 2025.



Thank You !

—— Leading Producer of Sterile Sodium Hyaluronate

