

Bio- Sodium Hyaluronate

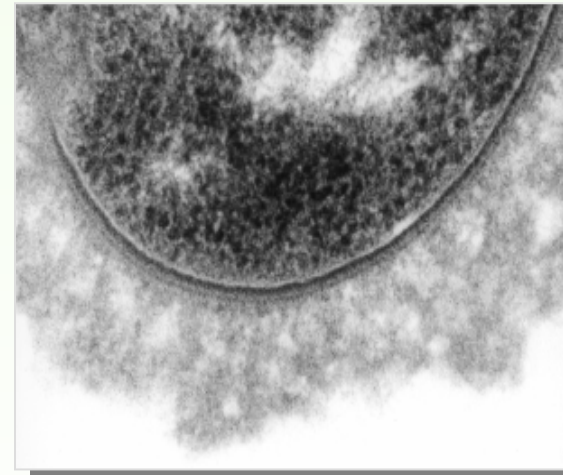
www.biolandltd.com

Bioland Ltd. 39-4, Songjeong, Byungchon, Chonan, Chungnam 330-863, KOREA
T. 82-41-564-8615~8 | F. 82-41-564-8619 | E-mail. bioland@biolandltd.com

Bioland
Nature, Science & Life

Hyaluronic Acid

- # Natural polymer found in nature, particularly in skin and connective tissues of human and animal.
- # Linear polysaccharide built from regularly alternating units of glucuronic acid and N-acetylglucosamine (10^2 to 10^4 units).
- # Molecular weight range from ten thousand to several Million Daltons.
- # The most hydrated biopolymer known.



Functions of Hyaluronic Acid

The amount of hyaluronic acid, water content, and elasticity of the skin related to aging.

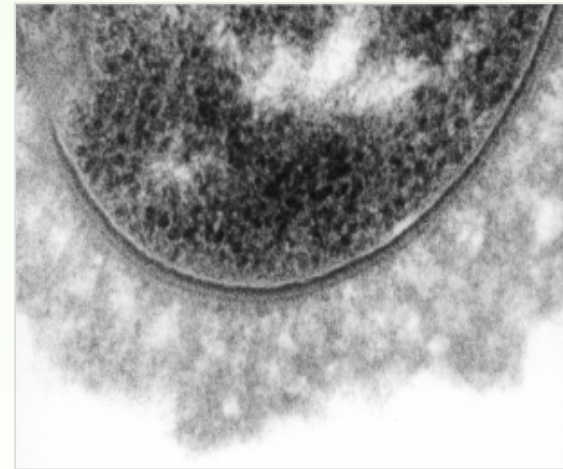
Hyaluronic acid forms a viscoelastic, colorless, transparent and non-occlusive film on skin

-> Moisturizing, increasing elasticity

Works as a lubricant and shock-absorbing agent for joints.

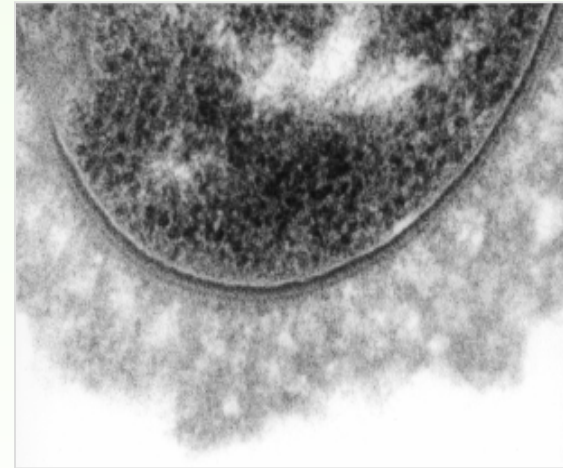
Protects body from external infections

Promotes wound healing.



Cosmetic Applications of HA

- # Skin care (Particularly treatment of dry skin)
- # Eye contour cream/gel
- # Liposome gel
- # After-sun lotion
- # Body lotion
- # Decorative cosmetic, specially for hair care products



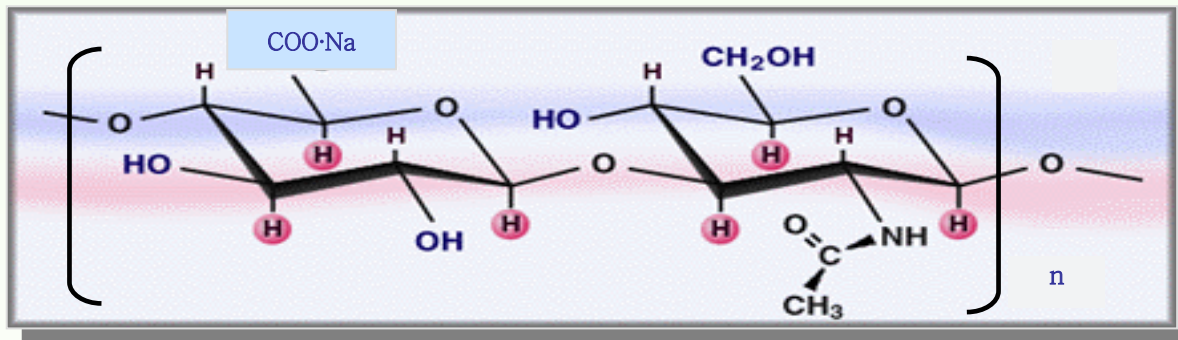
Bio Sodium Hyaluronate

- # Produced by biotechnology.
- # Free of contamination and proteins of animal origin.
- # High purity and quality.
- # Various molecular weights.



H A powder

Chemical Structure



A sodium salt of mucopolysaccharide having a straight chain structure made of repetitious disaccharide units of Glucuronic acid and N-Acetylglucosamine.

Bio Sodium Hyaluronate

Bio Sodium Hyaluronate MMW

Bio Sodium Hyaluronate LMW

Bio Sodium Hyaluronate HMW

Nutra HA

Standardized Solution (0.5%, 1%)

SPECIFICATION

■ **PRODUCT NAME : Bio Sodium Hyaluronate MMW**

Analytical Tests	Specifications
Description	White Powder
Appearance of 0.5% Soln.	Colorless, clear and viscous liquid
pH(0.5%)	5.0 ~ 8.0
Heavy Metals	Max. 20 ppm
Arsenic	Max. 2 ppm
Water Content (KF)	Max. 10.0%
Uronic Acid Content	45.0 ~ 48.4%
Sodium Hyaluronate	93.0 ~ 100.0%
Protein Content	Max. 0.1%
Residue on Ignition	Max. 10.0%
Other Acidic Mucopolysaccharides	Not Detected
Molecular Weight (GPC)	1.3 ~ 1.8 Mda
Total Plate Count	Less than 1×10^2 cfu/g
Hemolytic Streptococci	Not Detected

SPECIFICATION

■ **PRODUCT NAME : Bio Sodium Hyaluronate LMW**

Analytical Tests	Specifications
Description	White Powder
Appearance of 0.5% Soln.	Colorless, clear and viscous liquid
pH(0.5%)	5.0 ~ 8.0
Heavy Metals	Max. 20 ppm
Arsenic	Max. 2 ppm
Water Content (KF)	Max. 10.0%
Uronic Acid Content	45.0 ~ 48.4%
Sodium Hyaluronate	93.0 ~ 100.0%
Protein Content	Max. 0.1%
Residue on Ignition	Max. 10.0%
Other Acidic Mucopolysaccharides	Not Detected
Molecular Weight (GPC)	0.5 ~ 1.3 Mda
Total Plate Count	Less than 1×10^2 cfu/g
Hemolytic Streptococci	Not Detected

SPECIFICATION

■ PRODUCT NAME : Bio Sodium Hyaluronate HMW

Analytical Tests	Specifications
Description	White Powder
Appearance of 0.5% Soln.	Colorless, clear and viscous liquid
pH(0.5%)	5.0 ~ 8.0
Heavy Metals	Max. 20 ppm
Arsenic	Max. 2 ppm
Water Content (KF)	Max. 10.0%
Uronic Acid Content	45.0 ~ 48.4%
Sodium Hyaluronate	93.0 ~ 100.0%
Protein Content	Max. 0.1%
Residue on Ignition	Max. 10.0%
Other Acidic Mucopolysaccharides	Not Detected
Molecular Weight (GPC)	1.8 ~ 2.5 Mda
Total Plate Count	Less than 1×10^2 cfu/g
Hemolytic Streptococci	Not Detected

SPECIFICATION

■ **PRODUCT NAME : Nutra HA**

Analytical Tests	Specifications
Description	White Powder
Appearance of 0.5% Soln.	Colorless, clear and viscous liquid
pH(0.5%)	5.0 ~ 8.0
Heavy Metals	Max. 20 ppm
Arsenic	Max. 2 ppm
Water Content (KF)	Max. 10.0%
Uronic Acid Content	45.0 ~ 48.4%
Sodium Hyaluronate	93.0 ~ 100.0%
Protein Content	Max. 0.1%
Residue on Ignition	Max. 10.0%
Other Acidic Mucopolysaccharides	Not Detected
Molecular Weight (GPC)	0.5 ~ 1.1 Mda
Total Plate Count	Less than 1×10^2 cfu/g
Hemolytic Streptococci	Not Detected
Coli Form	Not Detected
Salmonella	Not Detected

SPECIFICATION

■ **PRODUCT NAME : Bio Sodium Hyaluronate 1% Soln.**

Analytical Tests	Specifications
Description	Colorless, clear and viscous liquid
pH	5.0 ~ 8.0
Heavy Metals	Max. 20 ppm
Arsenic	Max. 2 ppm
Sodium Hyaluronate	Min. 1.0%
Protein Content	Max. 0.001%
Other Acidic Mucopolysaccharides	Not Detected
Viscosity (Brookfield DVII+, 25°C, 12rpm, Spin 4)	Min. 10,000cps
Molecular Weight (GPC)	Min. 1.0Mda
Total Plate Count	Less than 1×10^2 cfu/g
Hemolytic Streptococci	Not Detected

SPECIFICATION

■ **PRODUCT NAME : Bio Sodium Hyaluronate 0.5% Soln.**

Analytical Tests	Specifications
Description	Colorless, clear and viscous liquid
pH	5.0 ~ 7.0
Heavy Metals	Max. 20 ppm
Arsenic	Max. 2 ppm
Sodium Hyaluronate	0.45 ~ 0.55%
Protein Content	Max. 0.01%
Other Acidic Mucopolysaccharides	Not Detected
Viscosity (Brookfield DVII+, 25°C, 12rpm, Spin 4)	1,000 ~ 2,000cps
Total Plate Count	Less than 1×10^2 cfu/g
Hemolytic Streptococci	Not Detected

Thank you!!!



39-4, SONGJEONG, BYUNGCHON, CHONAN, CHUNGNAM, 330-863, KOREA
TEL +82 41-564-8620 FAX +82 41-564-8619
WWW.biolandtld.com bioland@biolandtld.com

Bio Sodium Hyaluronate

14