

MELINE

SKIN BOOSTER



BIOSTANDARD is

Biostandard is a professional manufacturer of medical devices and cosmetics. Since its founding in 2015, it has continued to grow steadily by gathering experts in biomaterials and anti-aging fields to develop a variety of hyaluronic acid dermal fillers and functional cosmetics.

We have not only obtained ISO certification for quality control, but also GMP and ANVISA in Brazil. In addition, we have a mass production line, enabling fast and stable supply, and we strive to provide the best products through a thorough and systematic quality control system.

Through this expertise and effort, Biostandard promises to do its best for customer satisfaction through endless technological development and efforts to improve the best beauty and healthy quality of life.

Thank you.

Hystory

As a specialist manufacturer of medical devices and cosmetics, BioStandard Co., Ltd. has been experiencing steady growth since its establishment in 2015.

+ 2015

- 07 Establishment of BioStandard Co., Ltd.
- 07 Moved into the industry-academic cooperation of Hoseo University
- 08 Obtained medical device manufacturing and export license (the Ministry of Food and Drug Safety)
- 09 Establishment of an affiliated corporate research institute

+ 2016

- 09 Certified as a venture company (the Technology Guarantee Fund)
- 11 Acquired GMP certification (the Ministry of Food and Drug Safety)

± 2021

- 02 Completion of clinical trials for Meline No.3 Lidocaine
- 04 First acquisition of ISO:13485 certification (TtIV SOD)

+ 2022

- 07 Approval of product license for Meline No.3 Lidocaine (the Ministry of Food and Drug Safety)

+ 2023

- 01 Certification by Brazil's ANVISA
- 10 Patent registration(10-2021-0062138)

2024

- 06 Meline registration with Thailand FDA

2025

- 06 Establishment of a cosmetics manufacturing plant



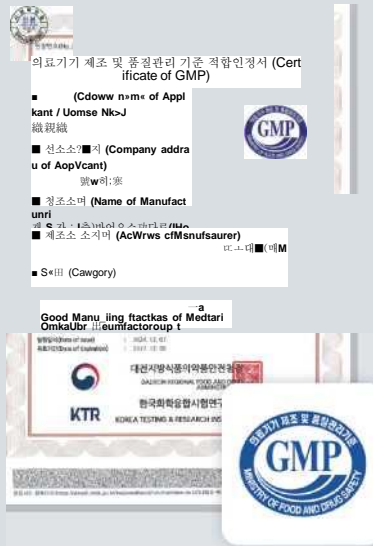
Certification.

We have obtained ISO13485, GMP, and ANVISA certifications, and we are committed to providing the highest quality products through a thorough and systematic quality management system.

ISO13485



GMP



ANVISA



Manufactured in South Korea under a strict quality management system.

Biostandard has secured the highest level of quality system by obtaining GMP and ISO13485 certification from Korea Ministry of Food and Drug Safety and ANVISA certification from Brazil and develops the products by establishing high-level quality control standards.

In particular, HA Dermal Filler produced by Biostandard has excellent safety and efficacy in removing temporary wrinkles, restoring lost volume, and regenerating contours.

Biostandard's research center and production team use the latest equipment to develop and produce the best products, and the quality control team complies with the GMP standards of the Korea Ministry of Food and Drug Safety to ensure the safety and stability of products, gaining the trust of customers.

Manufacturer

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INTRODUCTION.

MELINE SKIN BOOSTER SERIES is a revitalizer that acts directly on the dermis to regenerate aged skin, activating fibroblasts whose functions have declined due to aging to provide moisture, improve skin tone, and improve skin elasticity.

Fibroblasts are the main cells of the dermis layer and produce hyaluronic acid, elastin, and collagen, which are directly related to the moisture, elasticity, and density of the skin.

MELINE SKIN BOOSTER SERIES is based on biocompatible medical grade ingredients such as hyaluronic acid (high molecular weight/low molecular weight), PDRN, PN, and exosomes, and was developed using medical grade ingredients that directly penetrate the skin to maximize the effects of wrinkle improvement, cell activation, blood vessel creation, collagen creation, moisture replenishment, whitening, skin regeneration, elasticity, and skin tone improvement.

It helps you naturally regain young and healthy skin through professional procedure by professional practitioner.

Enhanced Skin Health & Function

Slows aging Process



**Benefits of
SkinhnnKtpr**



Quicker Recovery

Prolonged Results



HOW SKIN BOOSTER WORKS?

The activating components and mechanisms of fibroblasts are as follows

Activating ingredient	Mechanism
Hyaluronic Acid	Promotes cell proliferation and ECM (Extracellular Matrix) production by inducing intracellular signals through fibroblast receptors
PDRN/PN	DNA fragments stimulate regenerative gene expression in fibroblasts, promote cell proliferation and wound healing
Exosome	Binds to specific receptors on fibroblasts to induce intercellular signaling → increases collagen production, anti-inflammation, and growth factor expression
Physical stimulation such as Laser/ Microneedle/Ultrasound	By providing micro-damage and stimulation, growth factor secretion is induced by switching to and activating fibroblast regeneration mode during the damage recovery process.
Growth factor (EGF, FGF, etc.)	Binds to cell receptors to promote cell proliferation, cell differentiation, and collagen production

KEY POINTS

Since aged fibroblasts have a slowed response, a combined approach of hyaluronic **01** acid + exosomes + PDRN-PN, etc. is more effective. (Example : hyaluronic acid + exosomes + PDRN)

02 If fibroblast activation is not continuous, it may only have a temporary effect, so regular and consistent activation is necessary.

Maintenance (antioxidant, moisturizing, etc.) after activation must be performed in parallel for the effect to last long.

Why HA(Hyaluronic acid)?

- Hyaluronic acid is a biopolymer compound composed of N-acetylglucosamine and glucuronic acid.
- It is a biocompatible hydrophilic substance that absorbs and stores 300 to 1,000 times its own weight in water and is present in joint fluid, cartilage, tears, etc. along with collagen and elastin, and 1/3 of the body's reserves are degraded and absorbed every day.
- It helps to regenerate the skin by regulating the function of the skin barrier and moisturizing the wound quickly.
- In addition, hyaluronic acid is the most important substance that constitutes the human dermis along with collagen and elastin, has the lowest immune response and allergy induction rate, and it is 100% decomposed and absorbed by the human body's metabolism after injection and 100% discharged outside the body in the form of water.
- it absorbs and expands the surrounding moisture to fill the wrinkles and volume loss areas and brighten the skin color.
- High molecular weight hyaluronic acid (HMW HA - High Molecular Weight HA) prevents moisture loss and volume formation in the skin, while low molecular weight hyaluronic acid (LMW HA - Low Molecular Weight HA) maintains the flexibility and elasticity of the extracellular matrix and has a high absorption rate.

Mechanism of Hyaluronic Acid.





MELINE SKIN BOOSTER HYDRO HILO

MBH

Packaging

- 2.2mL x 1 prefilled Syringe •3
mLx5Vials/SET

Main Ingredients

- HA32mg/mL
- HMW HA - High Molecular Weight HA 16mg/mL
- LMW HA - Low Molecular Weight HA 16mg/mL

Main Efficacy

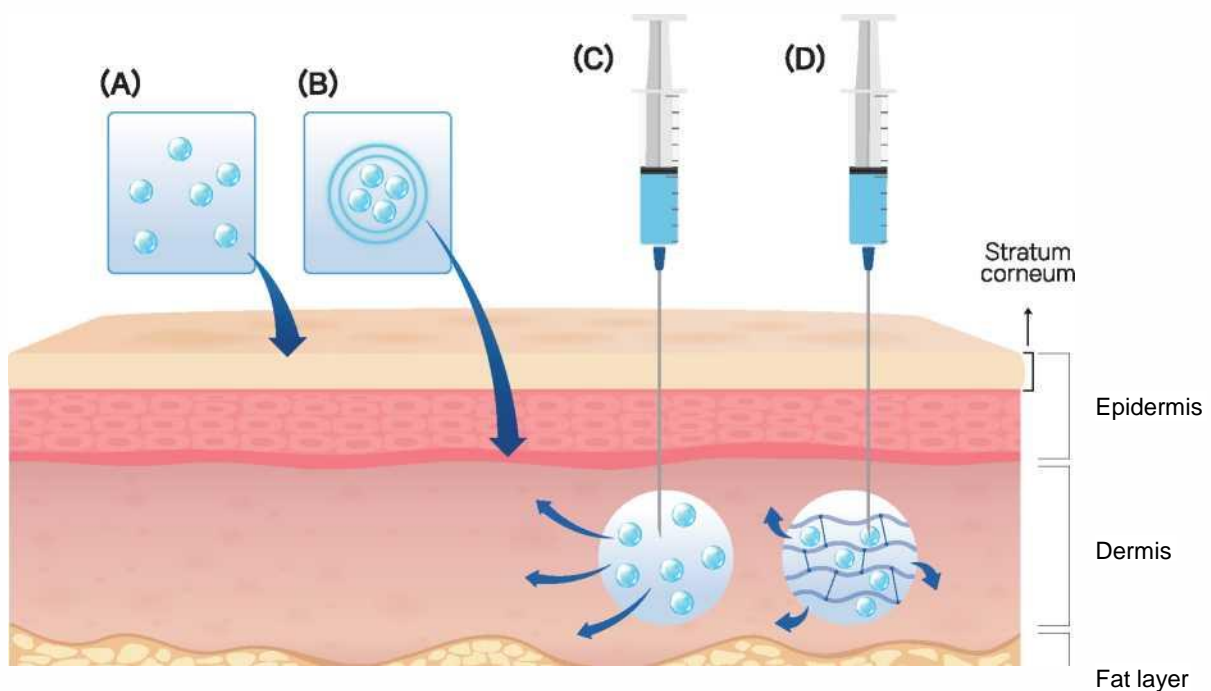
- Improvement of Wrinkle, Volume, Elasticity.



Why Niacinamide for Whitening?

Niacinamide is a type of vitamin B3 that helps improve various bodily functions and health. In particular, it inhibits the movement of melanosomes from melanocytes to keratinocytes, thereby providing a whitening effect to the skin.

Niacinamide formulation variants and their permeation/administration into the skin. The aqueous formulation (A) is highly limited as regards penetration in the stratum corneum. However, an oil-in-water formulation (B) is characterized by enhanced niacinamide permeation into the epidermis. For a more direct impact on the dermis, aqueous solution (C) and hydrogel (D) intradermal injections could offer increased niacinamide bioavailability and effectiveness.





MELINE SKIN BOOSTER ILLUMINA

MBW

Packaging

- 2.2mL x 1 prefilled Syringe •3
- mLx5Vials/SET

Main Ingredients

- HA15mg/mL
- PN 1mg/mL
- Niacinamide 1mg/mL + Mannitol 8mg/mL

Main Efficacy

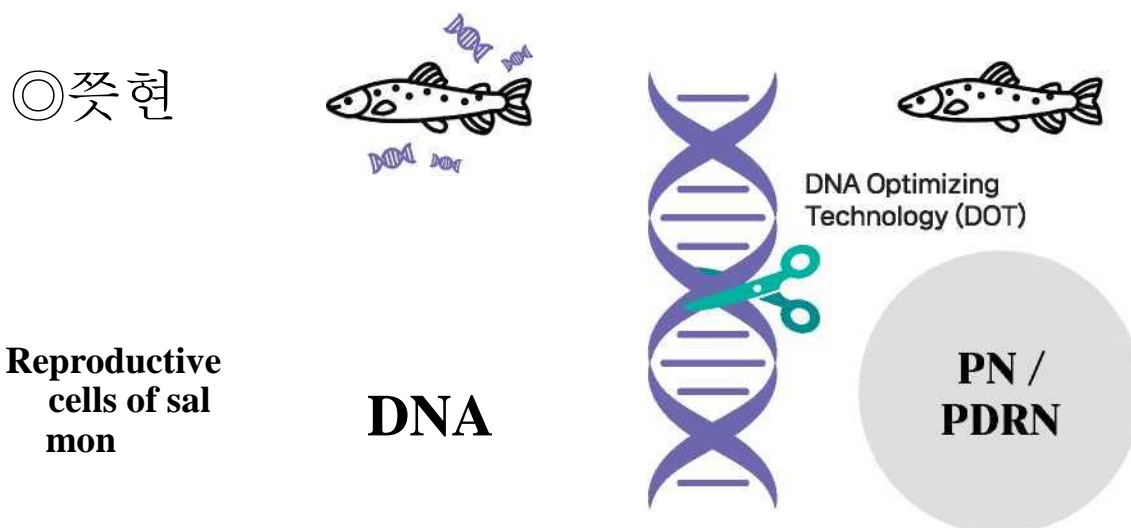
- Whitening
- Hydration
- Improvement of Fine wrinkle, Volume, Elasticity.

Why PDRN(PolyDeoxyRiboNucleotide) and PN(PolyDNucleotide)?

PDRN/PN is a tissue regeneration active substance that promotes self-regeneration of damaged cells and tissues. It is a raw material manufactured using DNA Optimizing Technology (DOT) technology with a mixture of polymers extracted from the sperm or testis DNA of male salmon and male trout.

It is a substance that overcomes the side effects of existing stem cell treatments and the ethical issues of human placenta-derived materials, and is emerging as a new treatment alternative for a wide range of diseases, from degenerative to intractable, due to its excellent tissue regeneration and wound healing effects.

It is a safe tissue regeneration raw material in the field of regenerative medicine that has been proven to be most suitable for human skin without causing any side effects.



PN VS PDRN *

	PN	PDRN
Main Efficacy	Dermi regeneration, collagen production	Inflammation relief, regeneration promotion
Collagen production ability	Strength (Dominant)	Normal (indirect)
Molecular size	Big (1,000~3,000kDa)	Small (50~150kDa)
Indications	Improvement of elasticity, fine wrinkles, and skin structure	Recovery, soothing, wound healing

MELINE SKIN BOOSTER ABSOLUTE PN

MBC



Packaging **Main Ingredients** **Main Efficacy**

- 2.2mL x 1 pre-filled Syringe
- PN 20mg/mL
- Skin regeneration and collagen production, skin barrier recovery
- 3mL x 5 Vials / SET
- Hydration
- Improvement of Wrinkle, Volume, and Elasticity

MELINE SKIN BOOSTER HYDRO PN

MBL



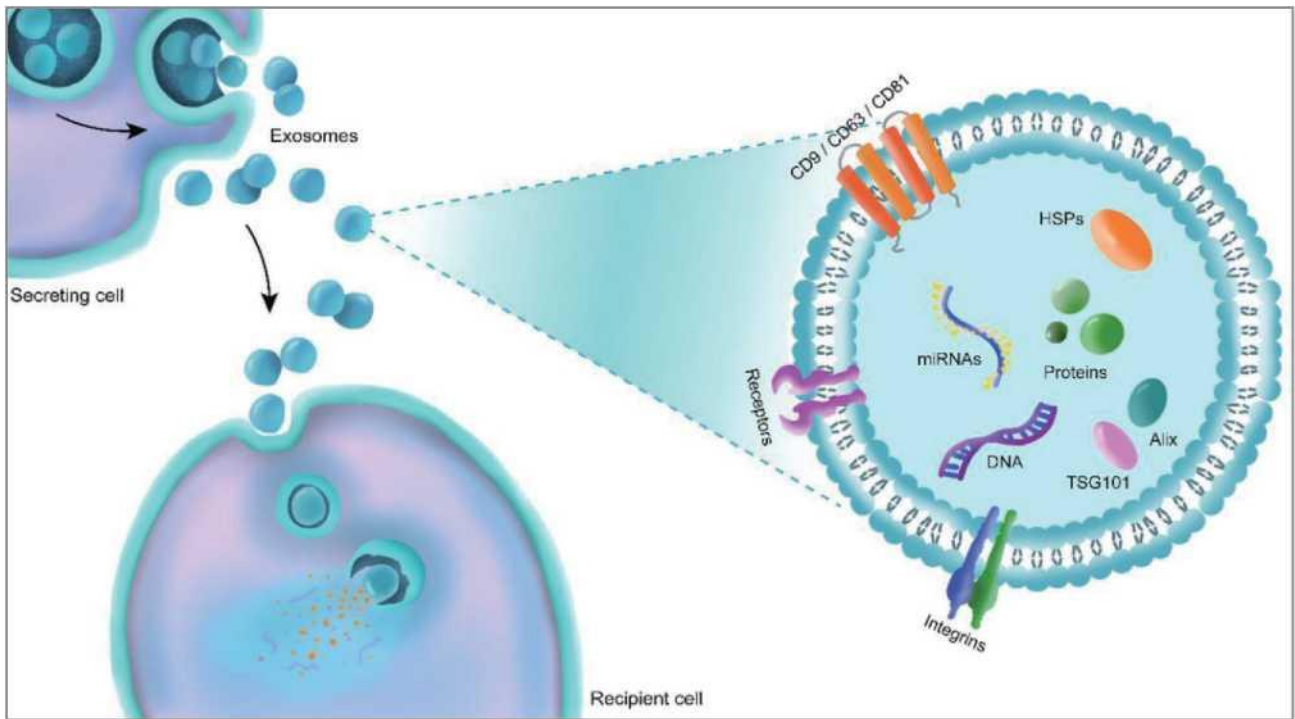
Packaging **Main Ingredients** **Main Efficacy**

- 2.2mL x 1 pre-filled Syringe
- PN 10mg/mL, HA 10mg/mL
- Lifting, Hydration
- 3mL x 5 Vials / SET
- HMW HA - High Molecular Weight HA 8mg/mL
- Improvement of Volume, Elasticity
- LMW HA - Low Molecular Weight HA 2mg/mL (Natural moisturizing factor)

Why EXOSOME?

Exosomes are nano-sized extracellular vesicles (30-150 nm) that are responsible for transmitting information between cells. They contain growth factors, proteins, microRNA, cytokines, etc., and play a key role in cell regeneration and function regulation.

Overcome the barriers of the skin : exosome therapy | Biomaterials Research



Schematic illustration of the exosome biogenesis

When administered directly to the dermis, exosomes exhibit various effects and contribute to skin regeneration as follows :



ANGIOGENIC ABILITY



COLLAGEN SYNTHESIS

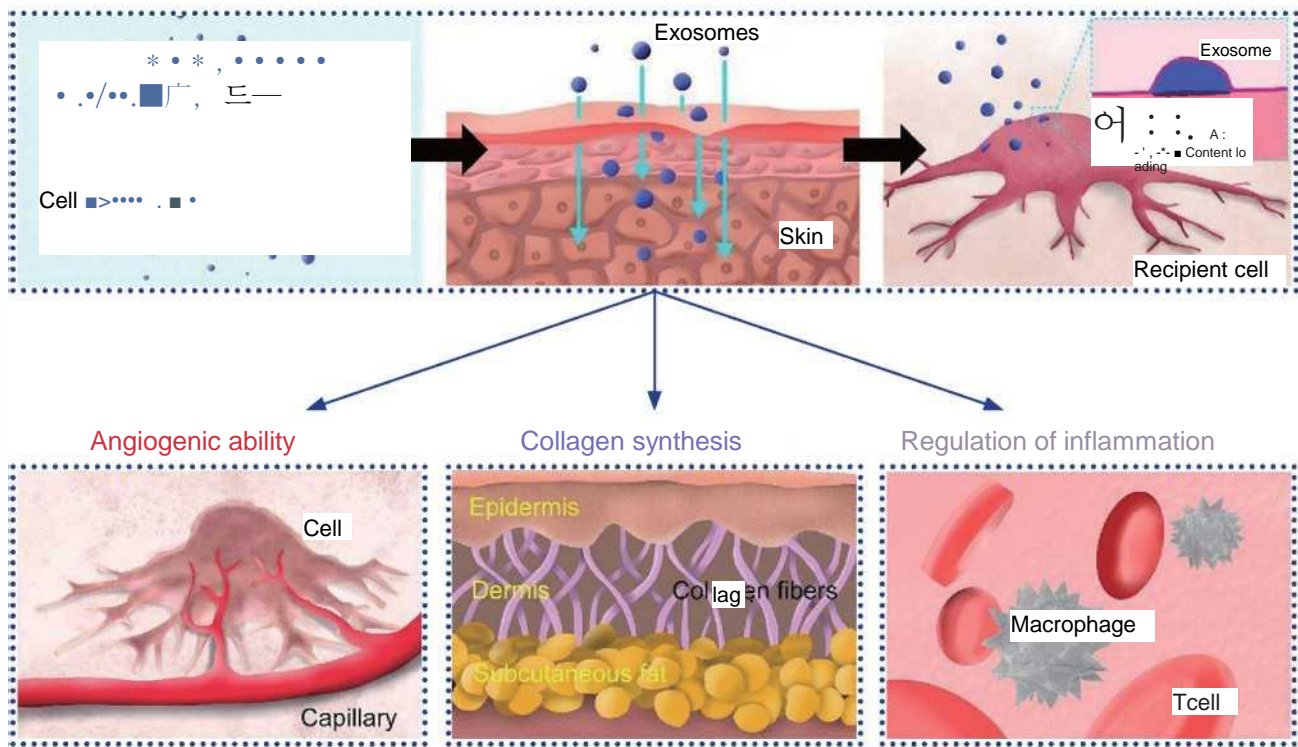


REGULATION OF INFLAMMATION

MicroRNAs are involved in vascular protection and angiogenesis, making a key contribution to wound healing and helping cell proliferation in damaged tissues.

Stimulates fibroblasts to induce collagen production in the dermis, thereby rebuilding the dermis.

Reduces skin inflammatory responses caused by skin barrier defects.



Schematic representation showing skin regenerative abilities of exosomes

MELINE SKIN BOOSTER EXOSOME is the product composed of high-purity exosomes derived from plants with a content of 10^8 /ml (100 million/ml) or more and ultra-nano particles.

It consists of Exosome Essential Step1, which is specialized for cell regeneration, anti-inflammation, wrinkle improvement, and moisture replenishment for preventive purposes, and Exosome Repair Step 2, which has cell regeneration, anti-inflammation, wrinkle improvement, angiogenesis, and scar suppression effects on damaged skin.



MELINE SKIN BOOSTER EXOSOME ESSENTIAL

MBXE

Main Ingredients

- Main Ingredients
- HA10mg/mL
- Exosome 10^8 /mL

Main Efficacy

- Anti-wrinkle
- Cell regeneration
- Hydration
- Anti-inflammation
- Improvement of Wrinkle, Elasticity & Skin barrier



MELINE SKIN BOOSTER REJUNEX

MBXR

Main Ingredients

- HA5mg/mL
- PDRN 5mg/mL
- Exosome 10⁸/mL

Main Efficacy

- Anti-wrinkle
- Skin revitalization
- Cell regeneration
- Improvement of Wrinkle, Elasticity & Skin barrier
- Promoting cell activity
- Tissue regeneration and rejuvenation
- Anti-inflammation

Combined Efficacy of Total Care.

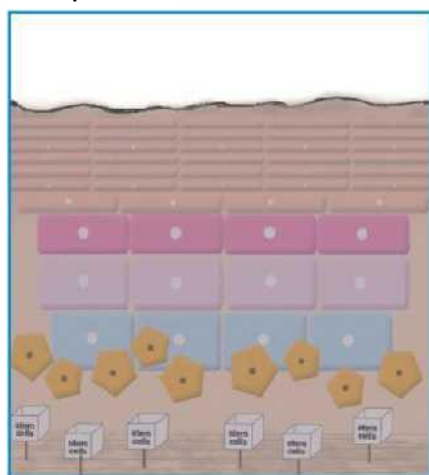
PN	Efficacy
HMW + LMW HA(Hyaluronic acid)	Wrinkle improvement, volume improvement, moisturizing and elasticity improvement (natural moisturizing factor)
Glycine, Alanine, Proline(amino acid)	Collagen synthesis and activation (3 types of cell activation amino acids)
L-Carnosine(peptide)	Anti-aging, cell activation
Nicotinamide(VitaminB3)	Whitening functional ingredient (Whitening)
Dexpanthenol(VitaminB5)	Regeneration of skin
Pyridoxine hydrochloride(VitaminB6)	Increased skin resistance
Tranexamic acid(amino acid)	Melasma removal, whitening functional ingredient (Whitening)
Copper Tripeptide(peptide)	Wrinkle improvement, cell activation

Mechanism of Peptides and Tranexamic Acid.

• Copper Tripeptide

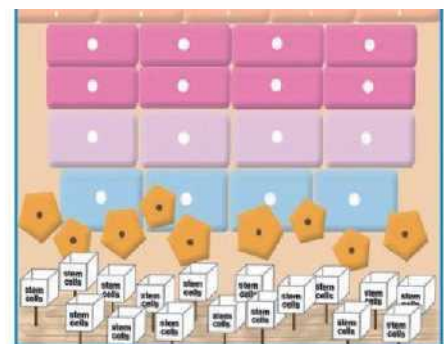
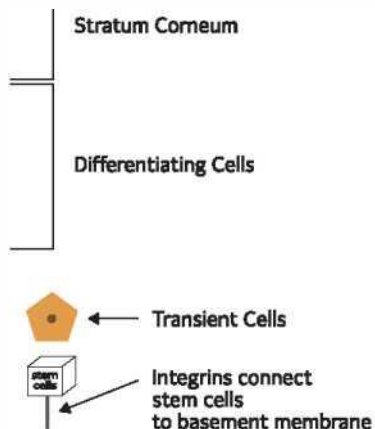
Wrinkle improvement effect by improving damaged skin (cell activation)

aged Epidermis :



Basement Membrane

Increased Skin Renewal & Repair :
GHK-Cu -
 ADDED



Integrins and p63 increase Stemness revived stem cells

Increased intracellular integrin and p63 protein

GHK-Copper Peptide in Skin Remodeling and Anti-Aging. SOFW-Journal Cosmetics 2010 ; 136(6) : 10-8

• Copper Tripeptide

Melasma removal, Whitening



MASI (Melasma area severity index) score improved by 31.8% at 8 weeks and 42.74% at 12 weeks. 86% of patients showed improvement in freckles and whitening effects. 次 Localized Intra-dermal Microinjection of Tranexamic Acid for Treatment of Melasma in Asian Patients : A Preliminary Clinical Trial. Dermatol Surg-Journal 2006 May ; 32(5) : 626-31.

MELINE SKIN BOOSTER TOTAL CARE



Main Ingredients

Sodium Hyaluronate HMW
Sodium Hyaluronate LMW
2 Peptides
3 Vitamins
4 Amino acids

Main Efficacy

14mg/mL
1mg/mL
2.05mg/mL
0.083 mg/mL
0.4mg/mL

- Improvement of Wrinkle & Volume, Elasticity, Melasma
- Moisturizing (Natural moisturizing factor), Whitening
- Collagen synthesis and activation
- Anti-aging, cell activation, skin regeneration,
- Increasing Skin resistance

ADVANTAGE of MELINE SKIN BOOSTER.

SKIN BOOSTER most suitable for the body environment

The osmotic pressure of the human body is approximately 300 mmol/kg, and the hydrogen ion concentration is around pH 7.0.

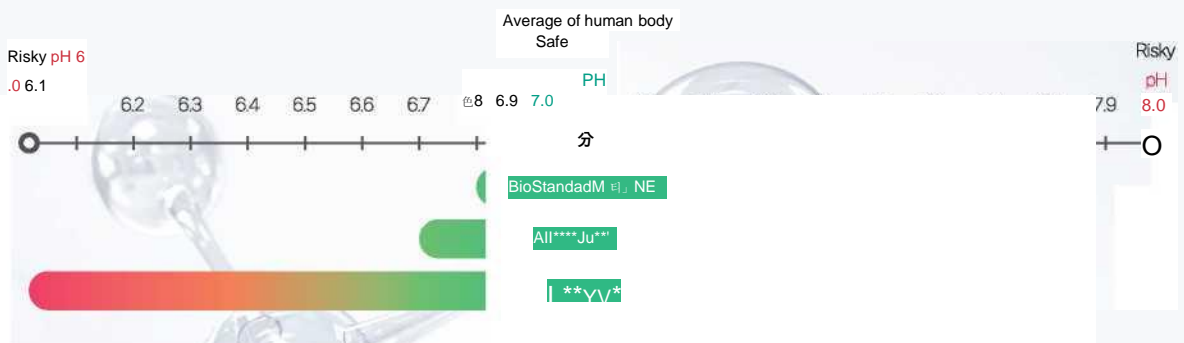
If there is a difference from the appropriate osmotic pressure of the human body, water in the cells escapes out of the cells, the cells shrink, lose activity, and pain may occur.

In addition, if the appropriate hydrogen ion concentration (pH) is not maintained, it can affect the function of cells and tissues, and cause side effects or toxicity in cells.

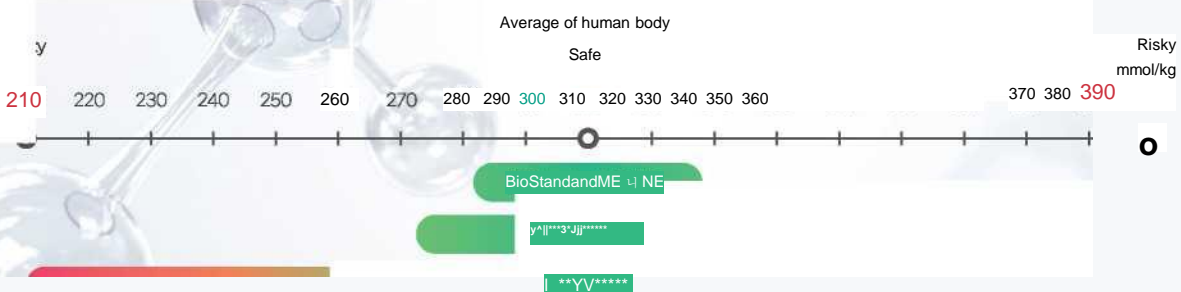
	Osmotic Pressure	pH Hydrogen Ion Concentration
MELINE SKIN BOOSTER	300 ± 50 mmol/kg	7.0 ± 0.5

BioStandard establishes and strictly adheres to clear quality standards that apply osmotic pressure and hydrogen ion concentration most similar to the human body.

Comparative analysis of pH

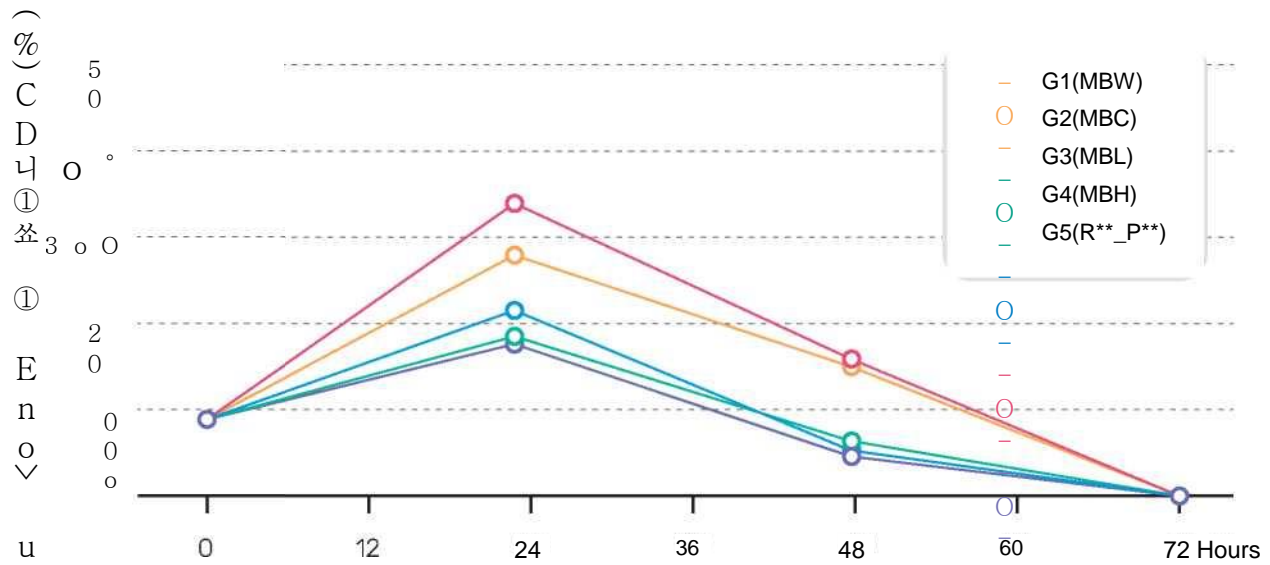


Comparative analysis of Osmolality



Effective Decomposition Characteristics for revitalization

MelineSkinBooster is the product with the highest level of excellent absorption (decomposition) characteristics, and all products are evenly distributed and absorbed deep into the skin within 72 hours. It provides excellent absorption (decomposition) characteristics to maintain natural skin without awkwardness even after time passes after the procedure, and provides only natural beauty without artificiality.



① Excellent collagen production effect

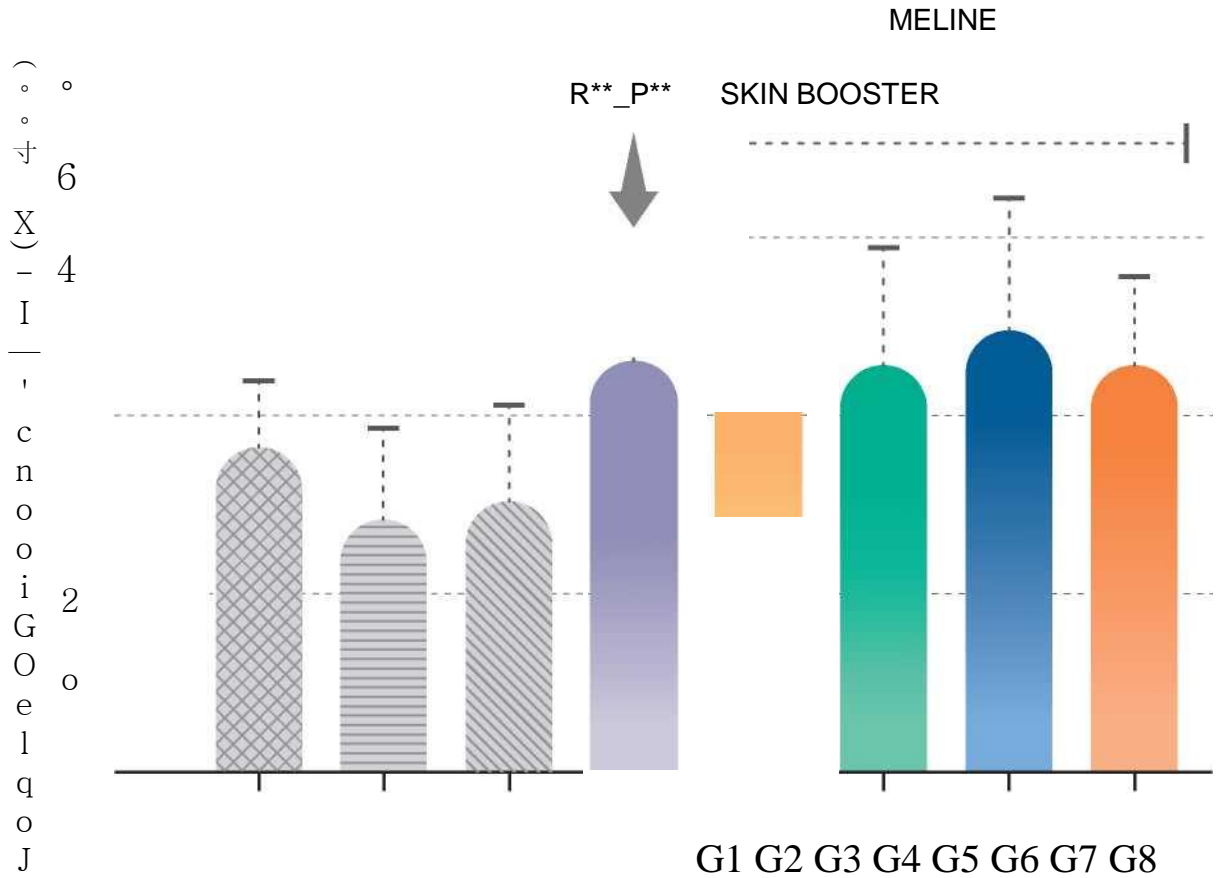
Collagen production is an essential element in maintaining skin health and youth.

Collagen production is an important part that strengthens skin barrier, protects the skin from external stimuli, maintains elasticity, and prevents wrinkles.

MELINE SKIN BOOSTER MBC, MBL showed a high increase in new collagen production specialized in cell healing, skin regeneration, and healing.



Measurement Fibroblast Numbers in Relation to Collagen Synthesis



G1 Control Group1(UV Irradiation X)

G2 Control Group2(UV Irradiation 0, Non-treatment)

G3 Control Group3(UV Irradiation 0,0.9% NS)

G4 Control Group4(UV Irradiation 0, R**_P**)

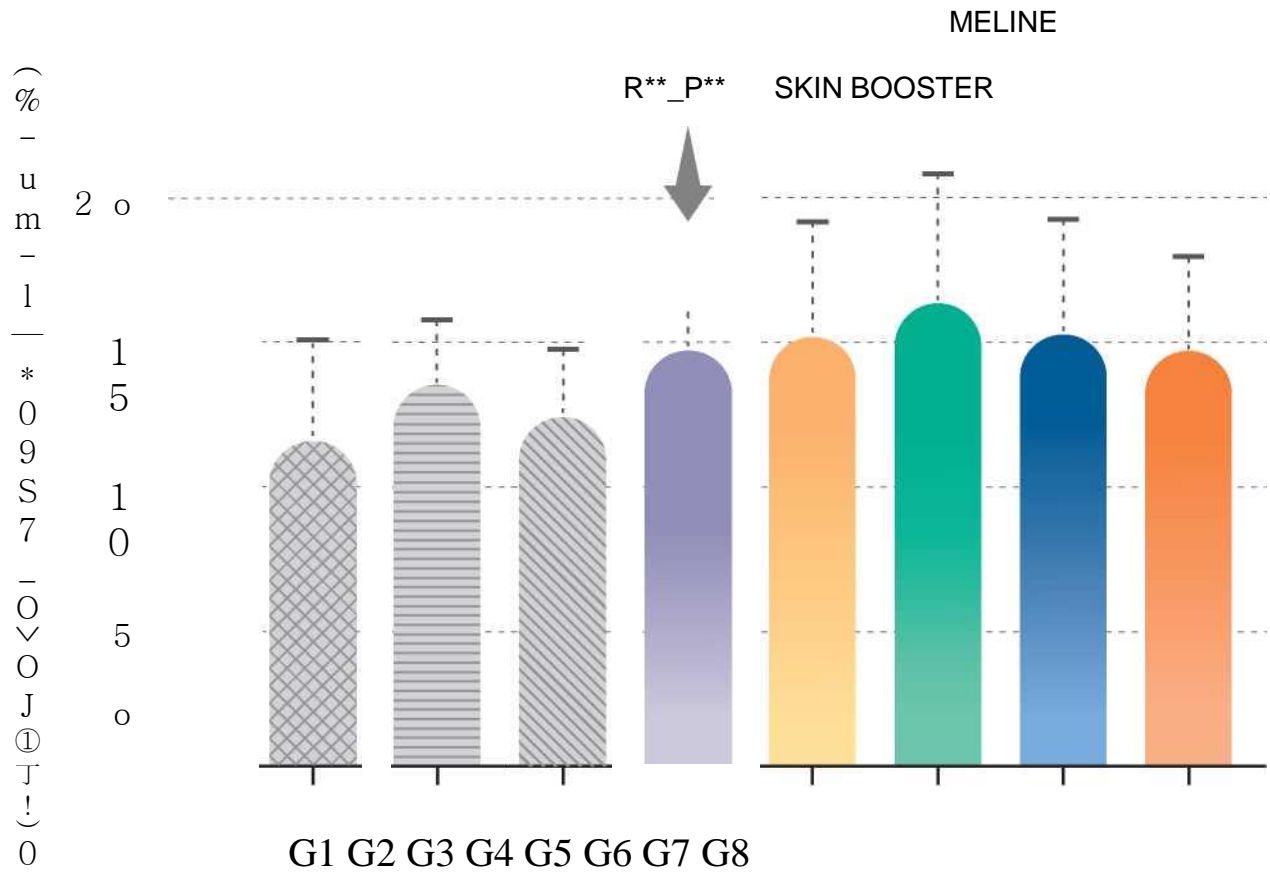
Experimental Group1(UV Irradiation 0, MBW) **G6**

Experimental Group1(UV Irradiation 0, MBC)

G7 Experimental Group1(UV Irradiation 0, MBL)

Experimental Group1(UV Irradiation 0. MBH)

Measurement of Newly Synthesized Collagen Area



- G1** Control Group1(UV Irradiation X)
- G2** Control Group2(UV Irradiation 0, Non-treatment)
- G3** Control Group3(UV Irradiation 0, 0.9% NS)
- G4** Control Group4(UV Irradiation 0, R**_P**)
- G5** Experimental Group1(UV Irradiation 0, MBW)
- G6** Experimental Group1(UV Irradiation 0, MBC)
- G7** Experimental Group1(UV Irradiation 0, MBL)
- G8** Experimental Group1(UV Irradiation 0, MBH)

Before & After.

- In the periorbital area, Melasma is improved, and the volume-deficient and irregular skin is restored to a smoother and more even contour.



- The Skin tone brightened, and damaged volume on the cheek was restored.

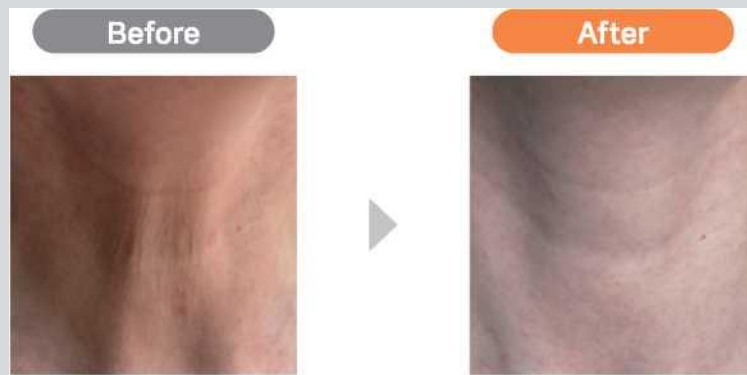


- Skin tightening is noticeable in the area of the corners of the lips, the angle of sagging changed.

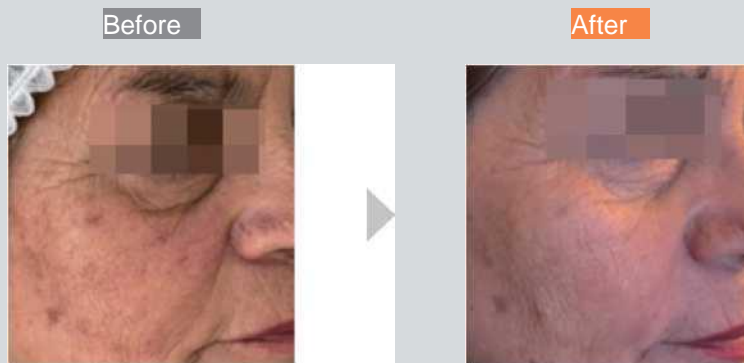
Before

After

• The neck visually tightened, the skin became more elastic.



• Melasma faded and skin tone brightened.



• Hollows under the eyes improved, skin tone brightened, and skin texture became smoother.

