



Innovative approach to collagen cycle by

Habooster

[Patent] international publication number: WO2015-108029



The history of Hyaluronic Acid

1934 Discovered from bovine eyes



1960 Launched as a surgical aid of ophthalmology in Austria



1987 Launched first hyaluronic acid based medicines for arthritis and vitreous replacement operation in Japan



The use of Hyaluronic acid

1930 1950 1970 1990 2000 2010

The development of Kewpie's hyaluronic acid

Cover

1st generation Skin surface
High molecular weight >1000 kDa
 Hyaluronsan HA-LQSH
 Hyaluronsan HA-LQH
 Hyaluronsan HA-LQ

Compensate

2nd generation Horny layer
Low molecular weight 10 kDa~100 kDa
 Hyalo-Oligo
 Hyalorepair

Activate

3rd generation Epidermis
Super low molecular weight 400 Da~5000 Da
HABooster

Cushion between cells

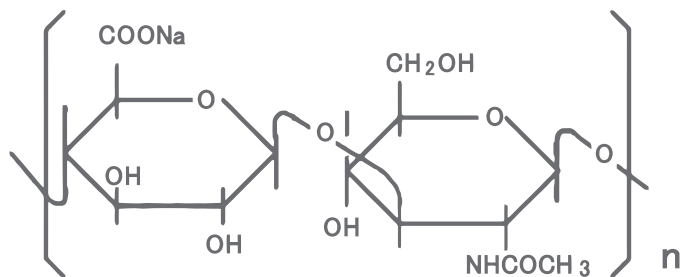
- Water-holding action, lubricating action
- The conservation of extracellular space
 - The transport of intracellular nourishment
 - The promotion of waste products elimination



Biological Signal

The control of cell function Inflammatory cytokine, neoangiogenesis, cell differentiation, and apoptosis

“Super low molecular weight hyaluronic acid which activates the skin”



High biological compatibility

High safety

High water retention ability

Effects on the collagen cycle

1970's **Moisturizing**



Early 1990's **Anti-oxidation**



Late 1990's **Anti-skin thinning**



Late 2000's **Anti-glycation**



2012~ **Stem cell cosmetics**



Launched in Aug. 2015
Shiseido
ELIXIR SUPERIEUR Enriched serum CB
35mL ¥7500

Double approach to
epidermal stem cell and dermal stem cell



Launched in Sep. 2014
KOSE
COSMEDECORTE Cellgenie cream LF
30g ¥8000

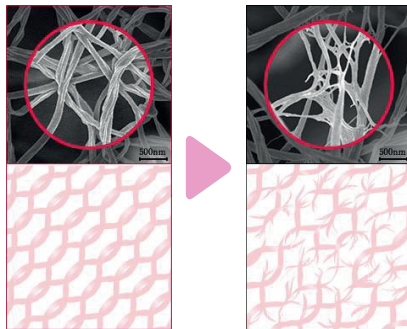
Strengthens skin recovery by
promoting the production of the anti-oxidative enzyme in the epidermal fibroblast

More essential approach,
which reproduces the original power of the skin

Functional changes for anti-aging cosmetics in Japan



Launched in Sep. 2016
 FUJI FILM
 ASTALIFT moist lotion
 130mL ¥3,800



Old collagen

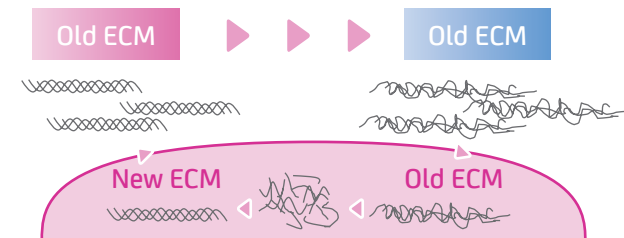
Focused on
 damaged collagen



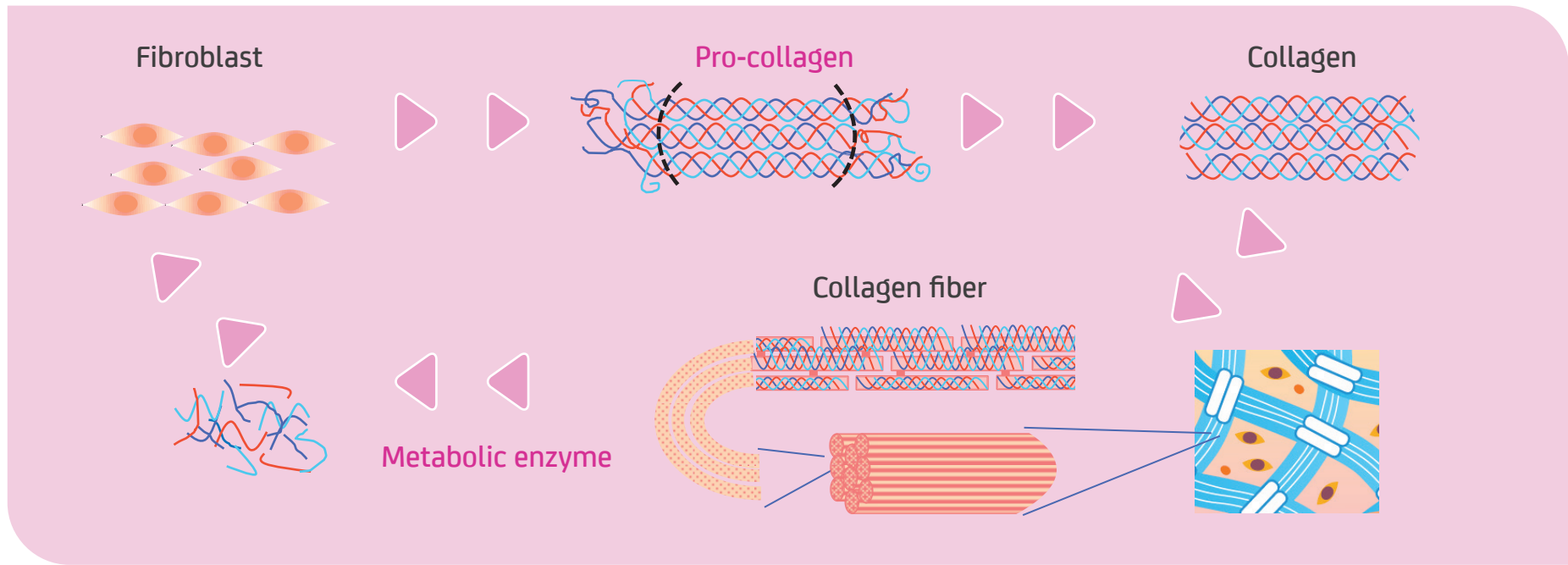
Launched in Aug. 2016
 POLA
 B.A serum rev up
 40mL ¥14,580



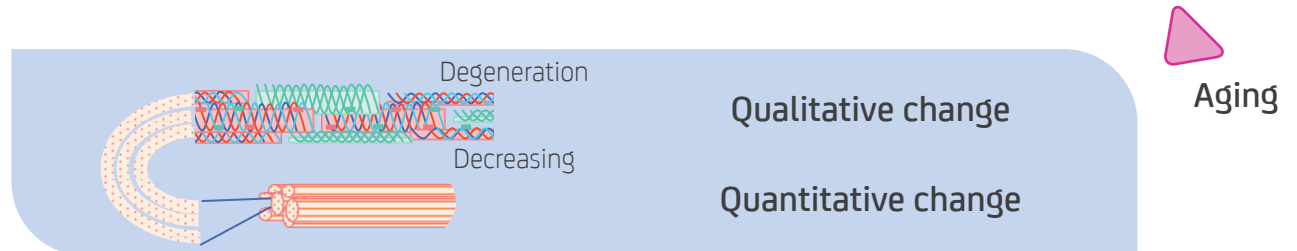
ECM : Extracellular matrix

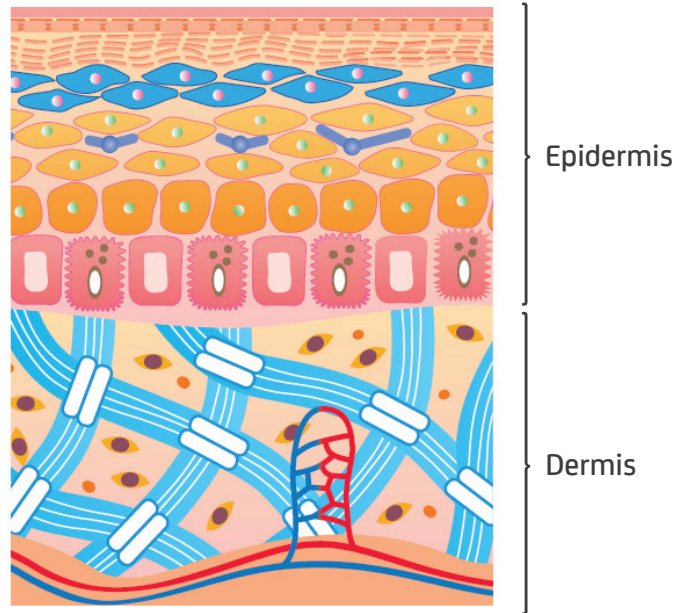


Focused on the
 self-cleaning function of old
 collagen and hyaluronic acid



HAboster promotes the collagen metabolism cycle by two approaches



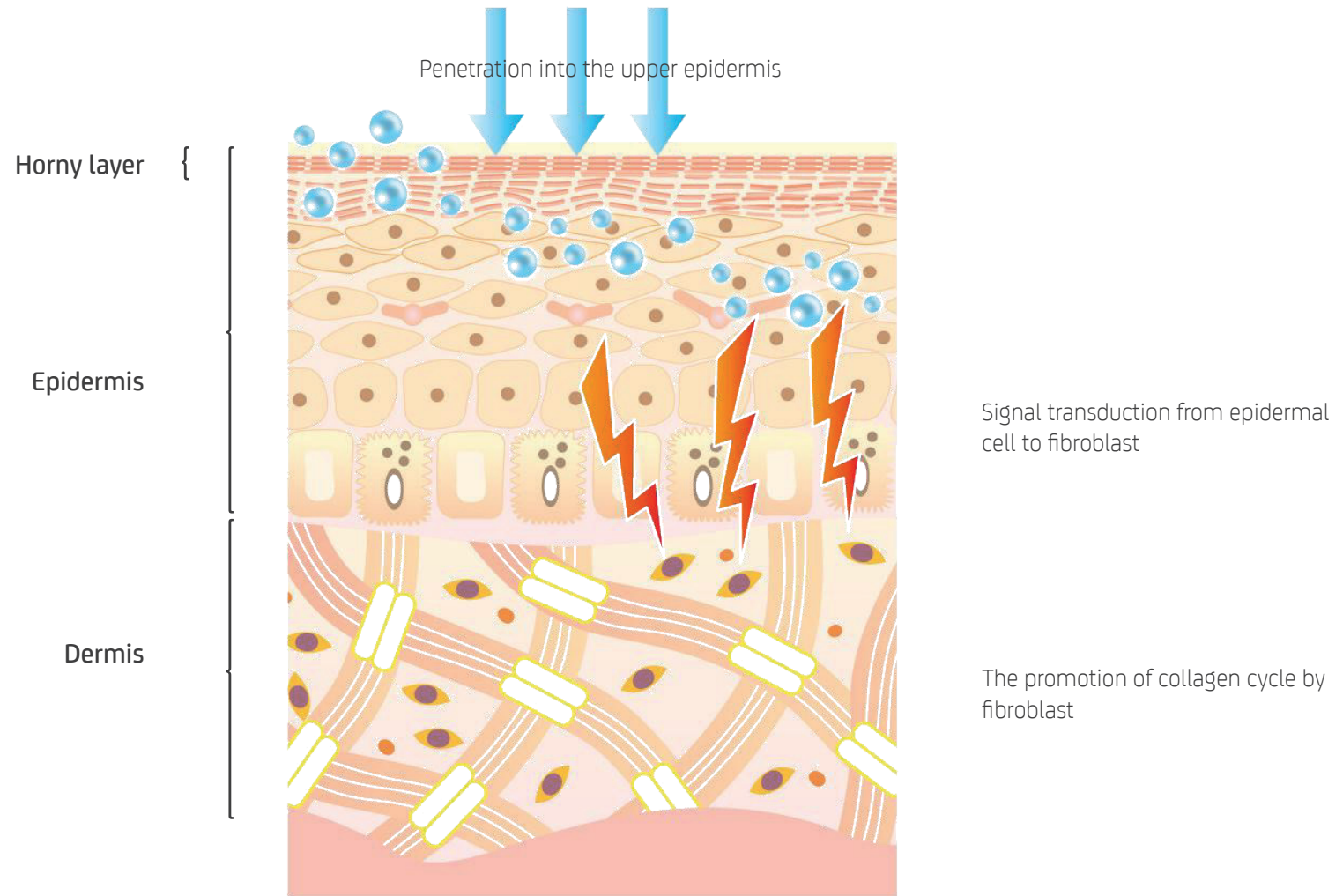


80%	Type I collagen	The most prominent collagen in a body. It gives elasticity to the skin.
15%	Type III collagen	Gives softness to the skin tissue. Its proportion decreases with age.
5%	Type V collagen	Controls the thickness of fiber.
-	Type VII collagen	Controls the character of the surface, combining basal cell layer with dermis.
-	Type IV collagen	Main component of basal cell layer.
-	Type XVII collagen	Combines epidermal cell with basal cell layer.

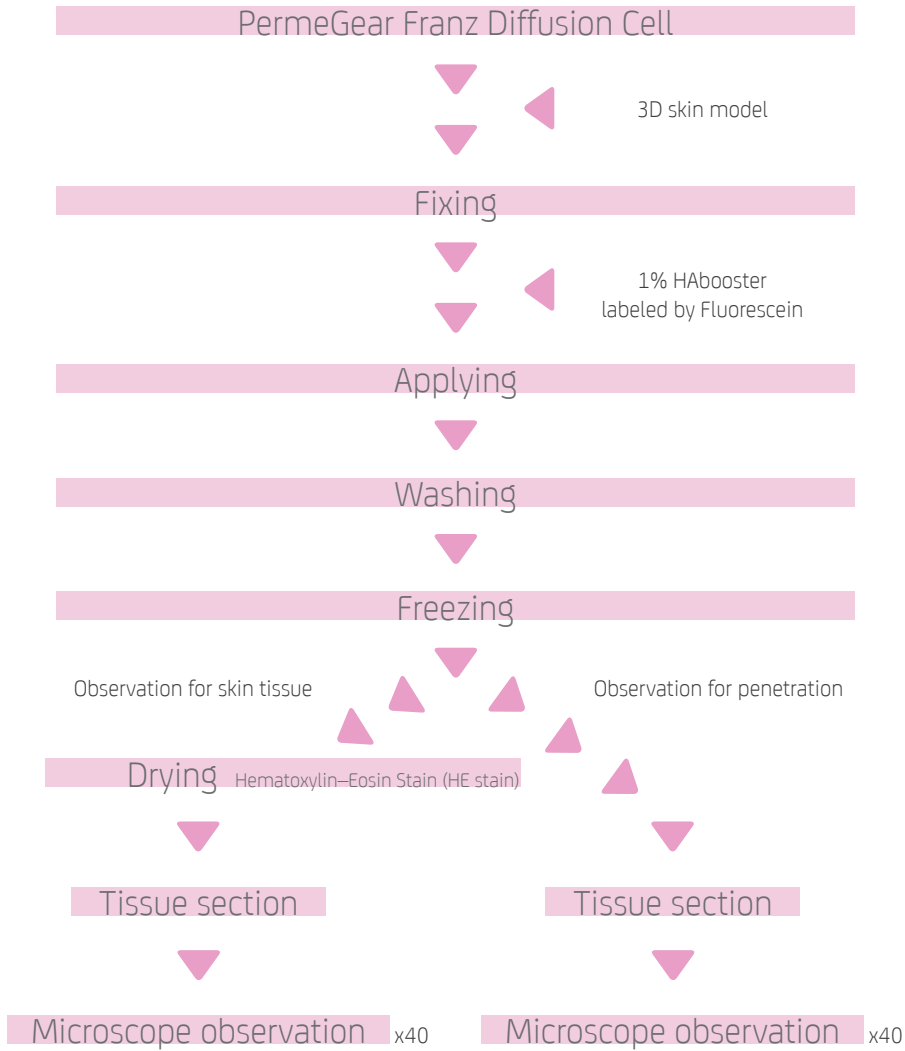
Cell adhesion

Maintaining normal tissue architecture and function

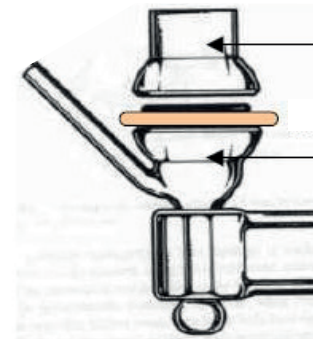
The mechanism how HAbooster works in the skin



The method for the penetration test with 3D skin model



EPI-606X kit Mat Tek Corp.



1% HAbooster labeled by Fluorescein

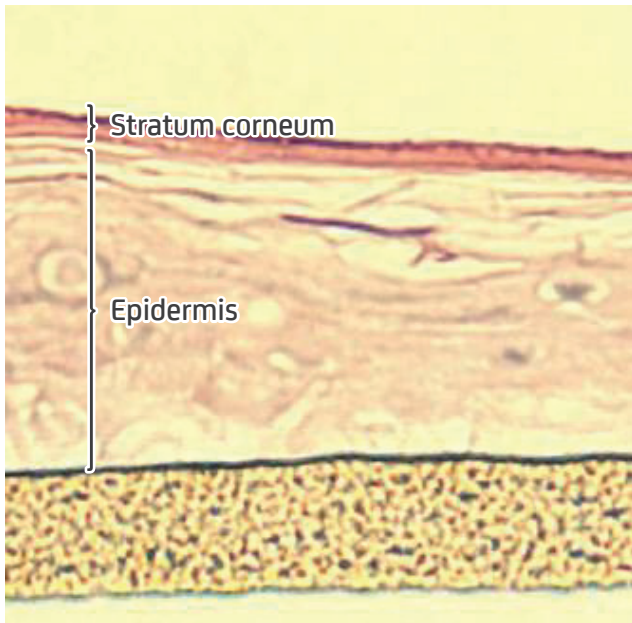
3D skin model

Thermoregulation fluid

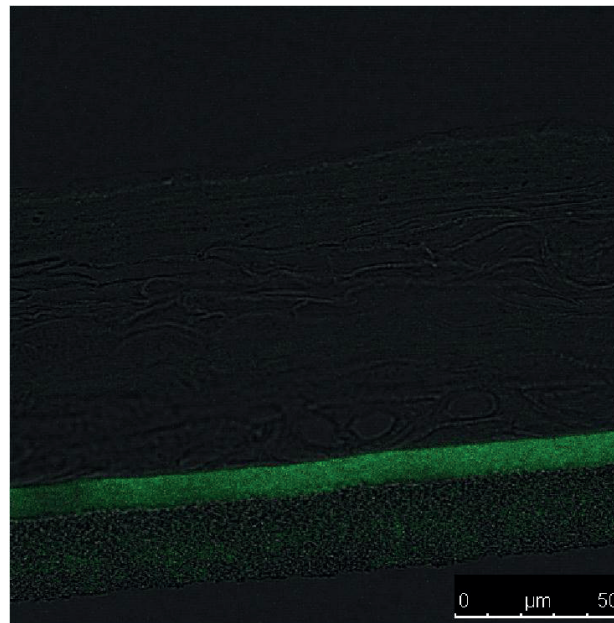
PermeGear Franz Diffusion Cell

Fluorescent picture

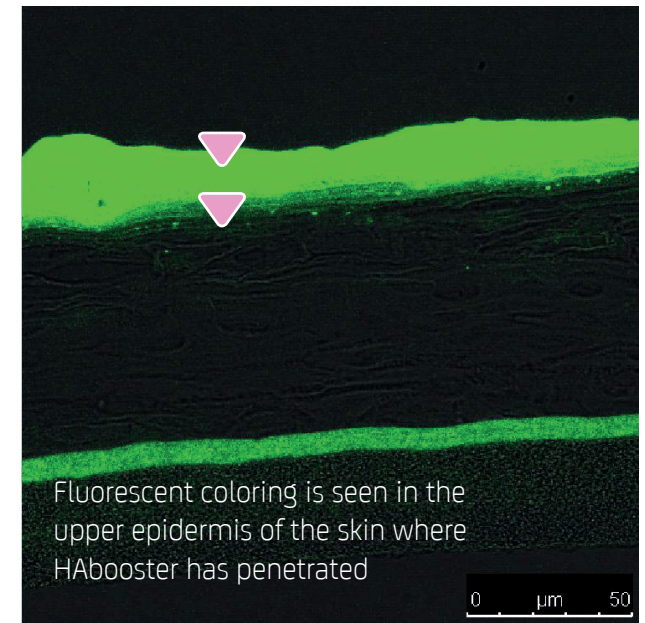
HE dying of skin model



Blank skin model



Skin model with HAbooster



HAbooster penetrates
into the upper epidermis of the skin

Test method

Precultured at 37°C
under 5% CO₂ for 24 h



Added water
or HAbooster (8 µg/mL)



Cultured at 37°C
under 5% CO₂ for 48 h

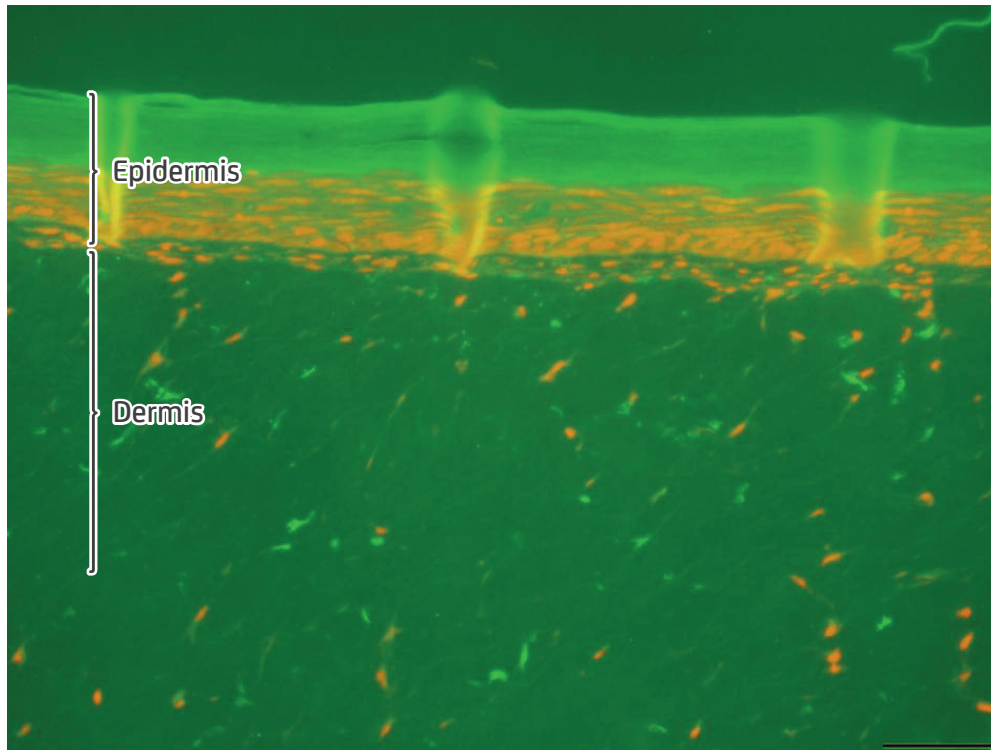


Made skin section and detected
by immunostaining of type I pro-collagen

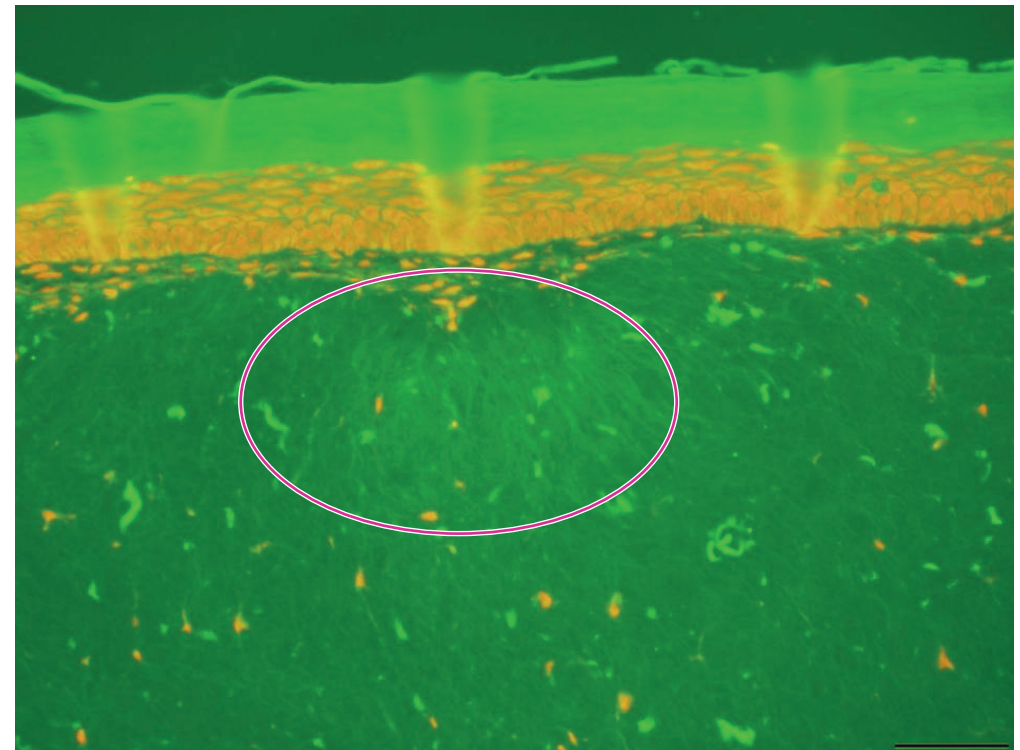


First antibody:
Anti-procollagen type I antibody [2Q576] (abcam corp.)
Second antibody:
Goat anti-rabbit IgG H&L (Alexa Fluor® 488) (abcam corp.)

Blank skin model

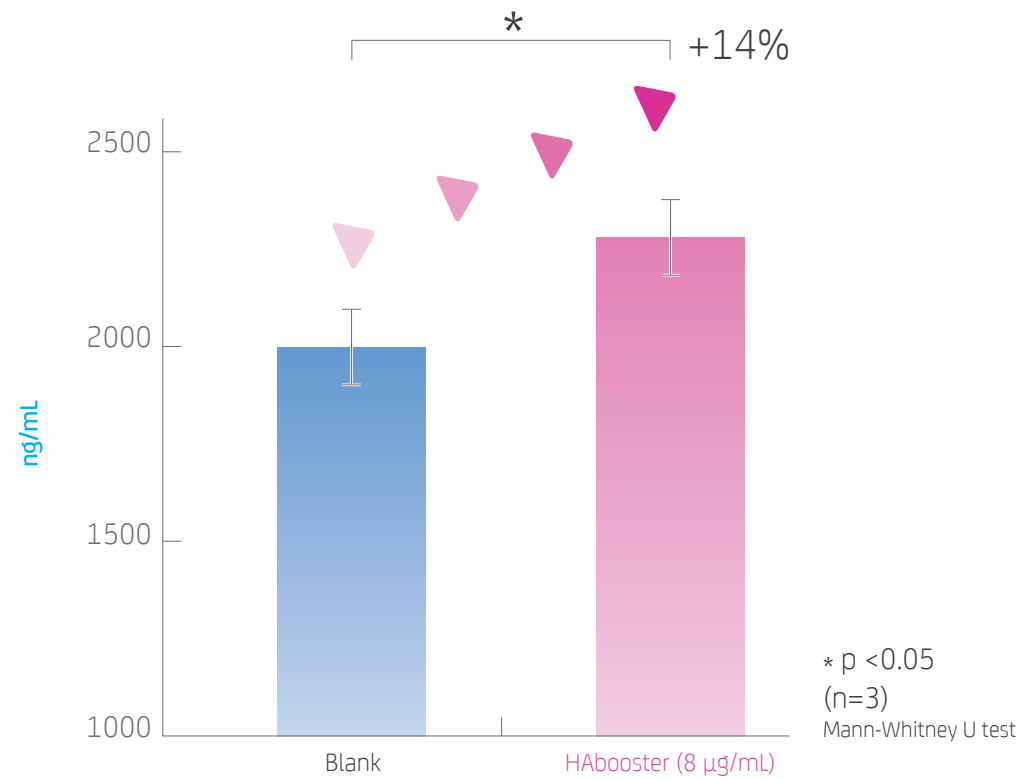


Skin model with HAbooster (8 µg/mL)



White thin fibers: Type I pro-collagen
Orange part: Cell nucleus

HAbooster promotes
production of Type I pro-collagen



**HAbooster significantly promotes
the production of Type I pro-collagen**

Test method

Precultured at 37°C
under 5% CO₂ for 24 h



Added water
or HAbooster (8 µg/mL)



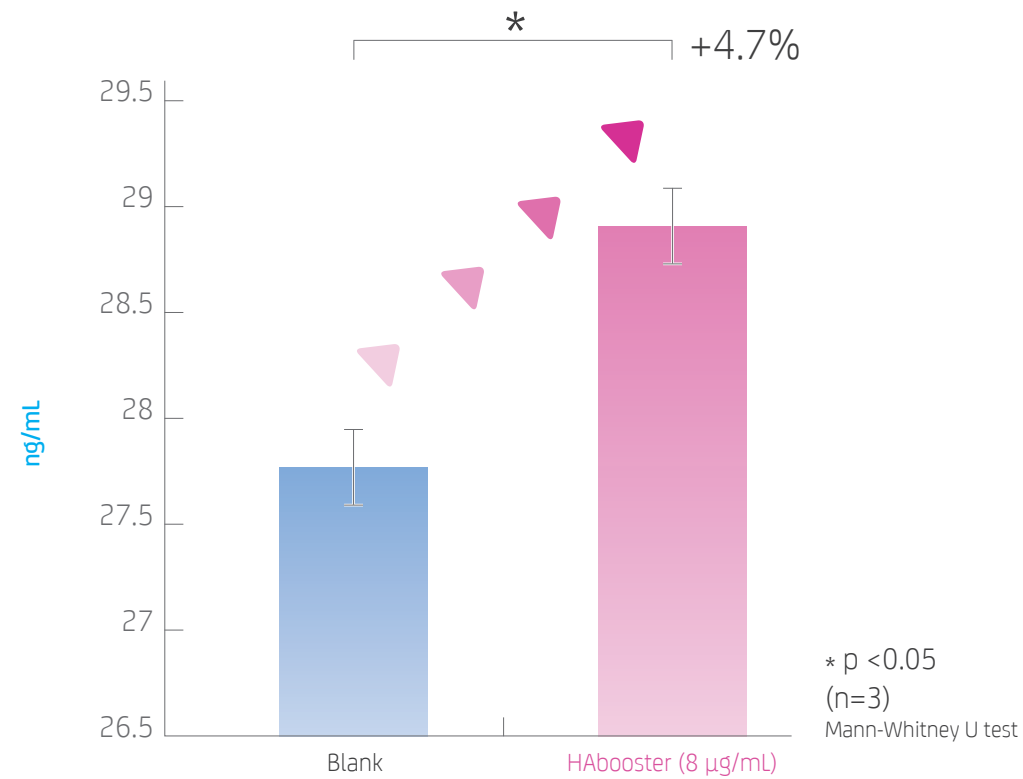
Cultured at 37°C
under 5% CO₂ for 48 h



Made skin section and detected
using ELISA



The effect of HAbooster on Metabolic enzyme (in vitro)



HAbooster promotes
the production of metabolic enzyme

Test method

Measurement part: The forearm(n=8)



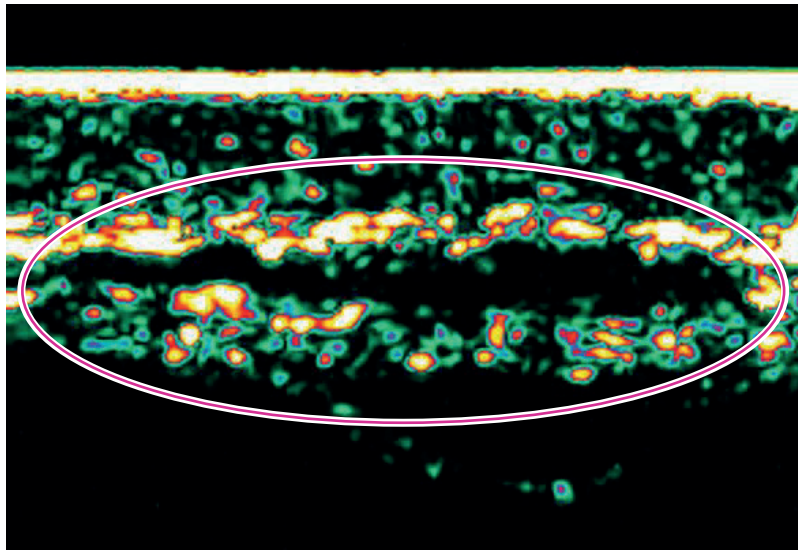
Test concentration: HAbooster 0.1% or Water



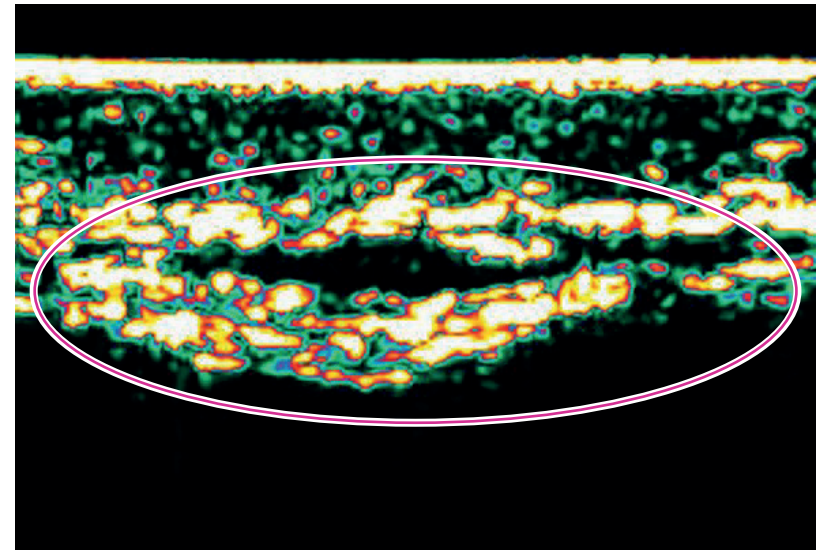
The duration of the test:4weeks or 8weeks



Measurement principle: The collagen density is measured by the supersonic.

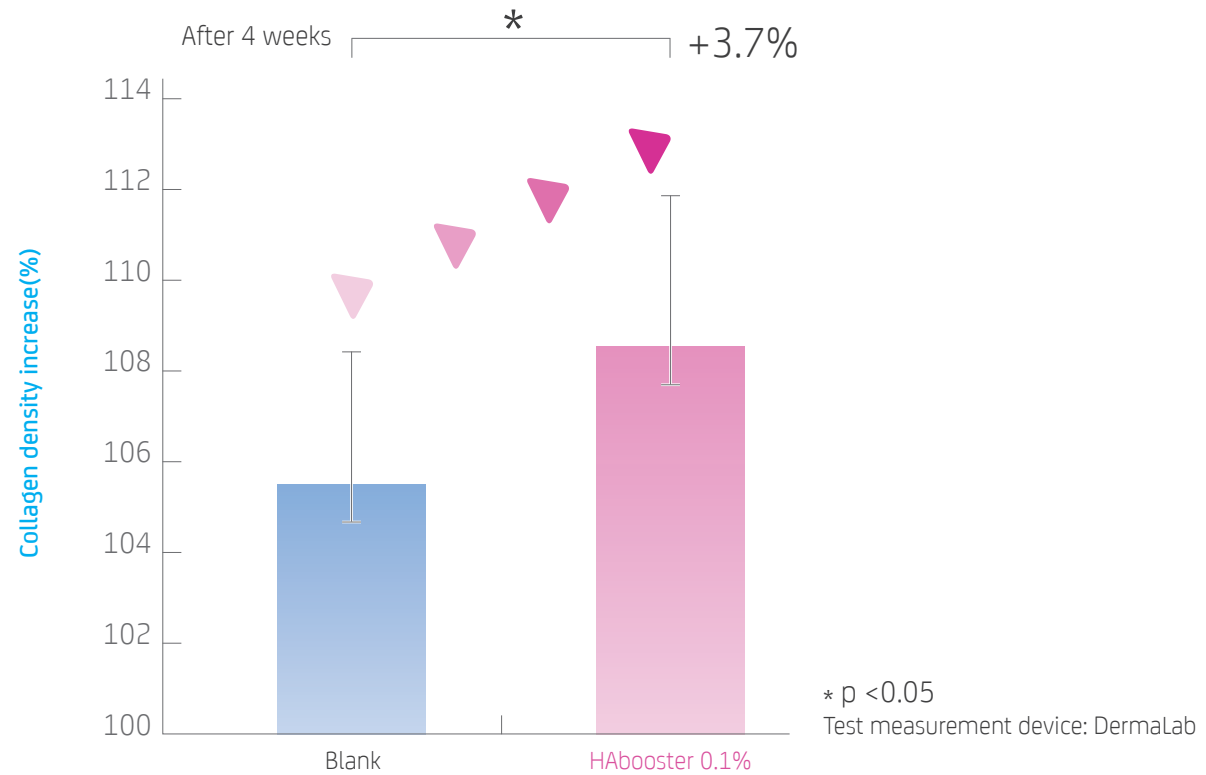


HAbooster 0.1% 0week

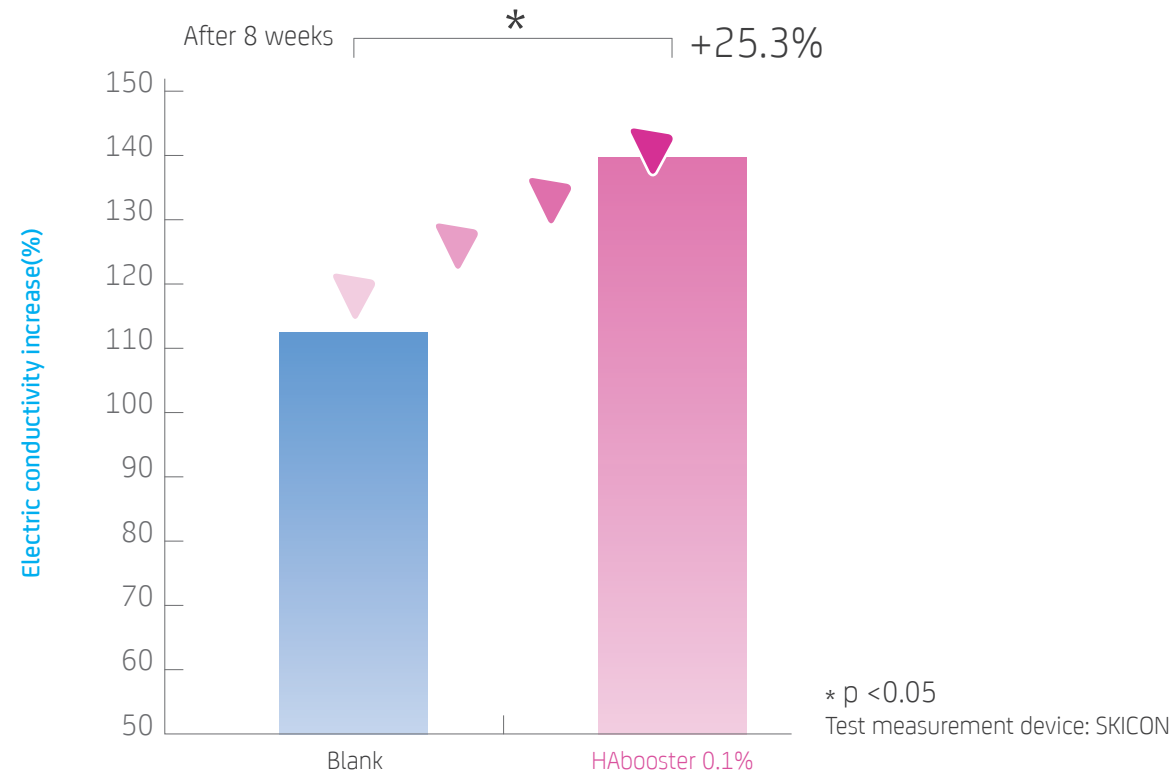


HAbooster 0.1% 4weeks

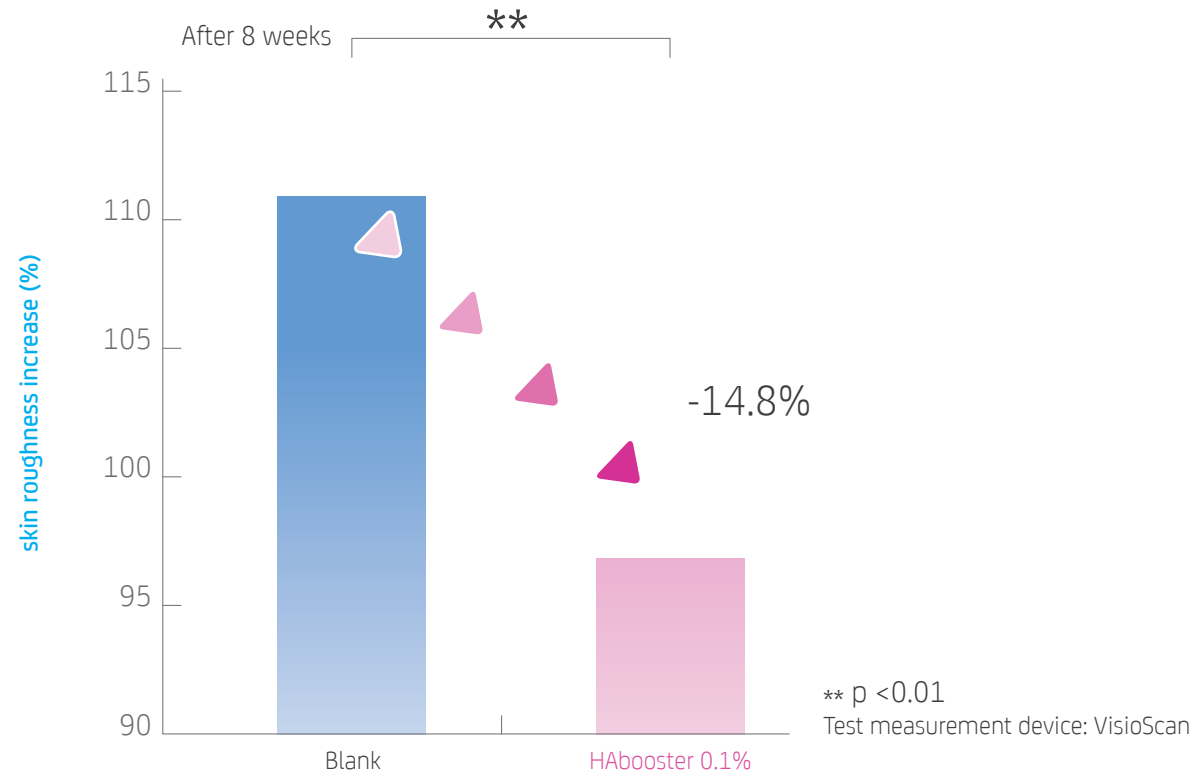
HAbooster promotes
production of collagen



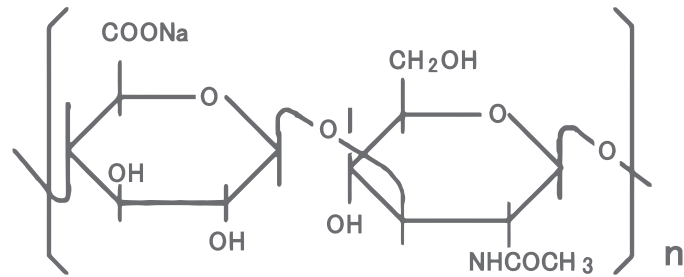
**HAbooster promotes
 production of collagen**



HAbooster increases
skin moisture



HAboster improves skin texture



High biological compatibility

High safety

High water retention ability

New function

Improvement of Wrinkles

1 Lotion

(Using HAbooster)
0.1% or 1%

2 Milky lotion

3 Cream

1 Lotion

(Without HAbooster)

2 Milky lotion

3 Cream

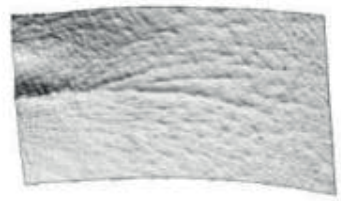
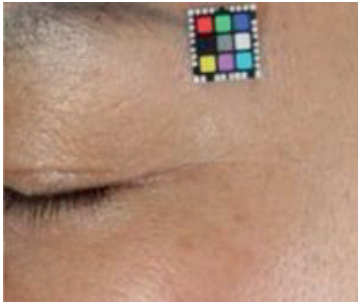
All application does not contain essential materials.
(ex:water ,glycerin,carbomer,phenoxyethnol)

- The test and controlled product was applied twice a day (morning and evening).
- Milky lotion and cream were used in order.

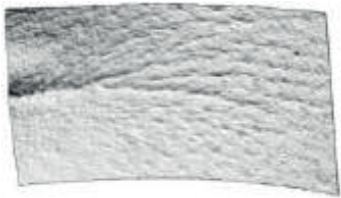
Standard optical image

3D image

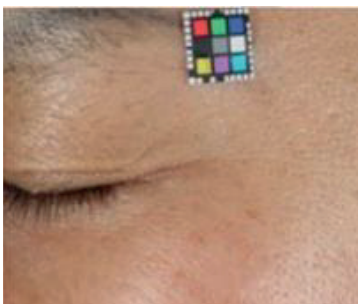
0 week



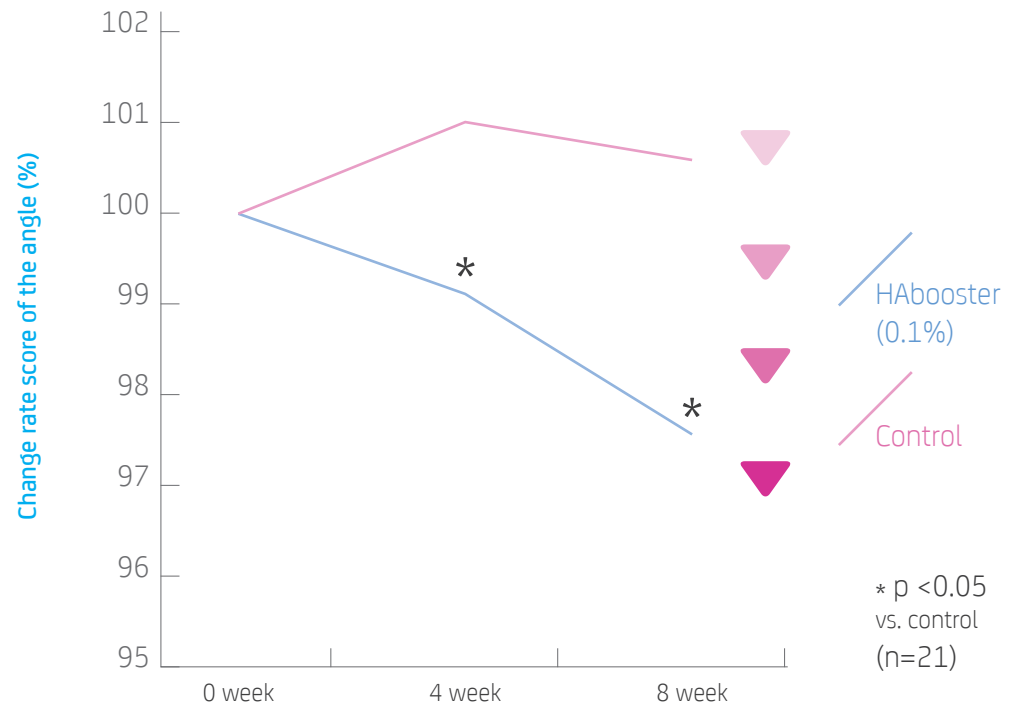
4 week



8 week

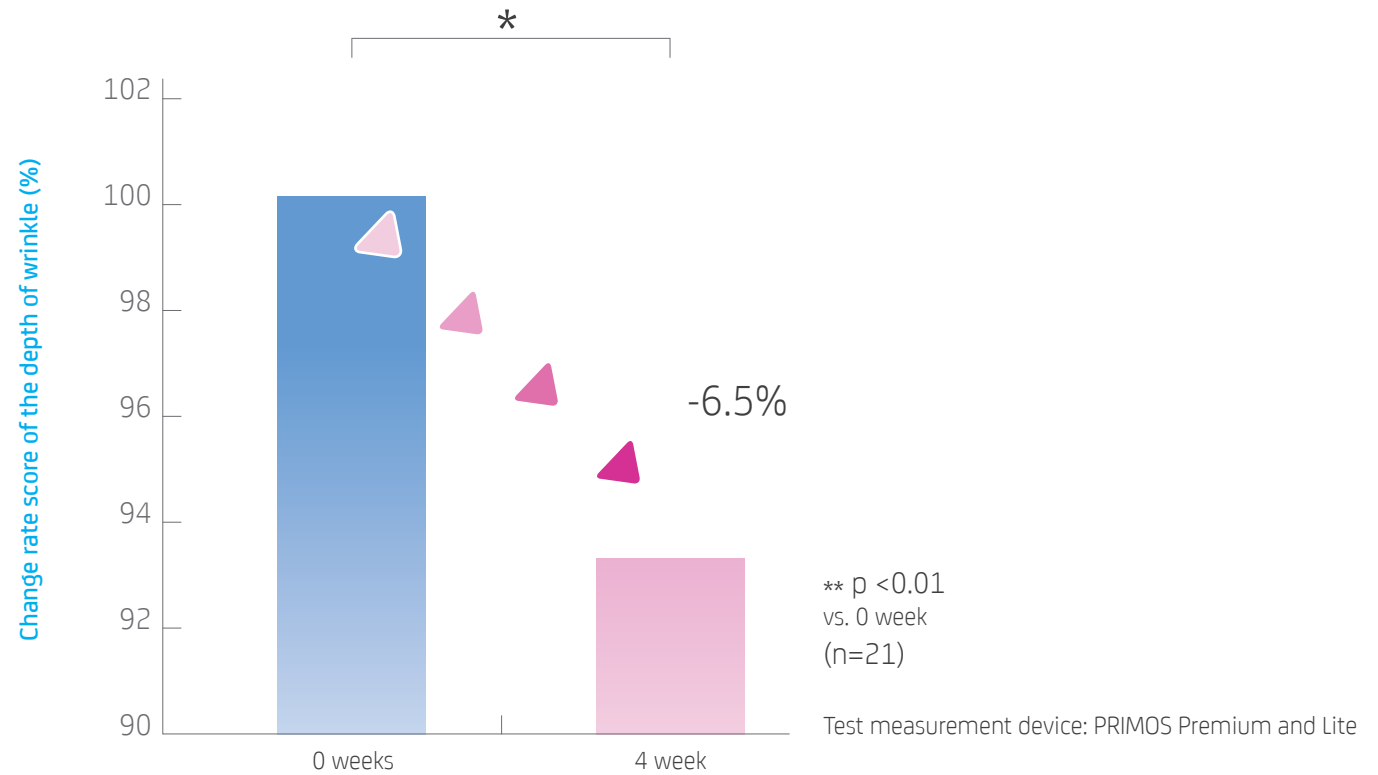


**HAboster
(0.1%)**



**HAboster improves
"Crow's feet" wrinkles**

Wrinkle Parameters of Crow's feet (Max.depth biggest wrinkle)



HAboster improves
 “Crow’s feet” wrinkles

Wrinkle Parameters of nasolabial folds

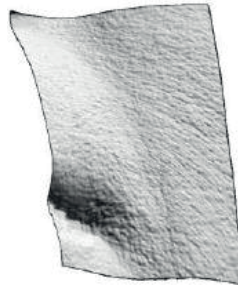
Standard optical image

3D image

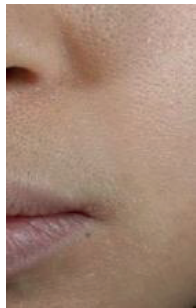
0 week



4 week



8 week

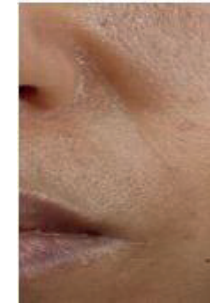


HAbooster (1%)

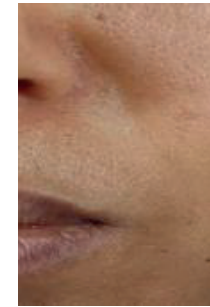
Standard optical image

3D image

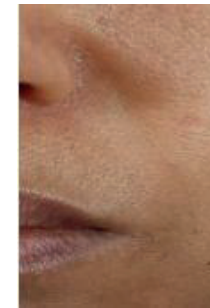
0 week



4 week

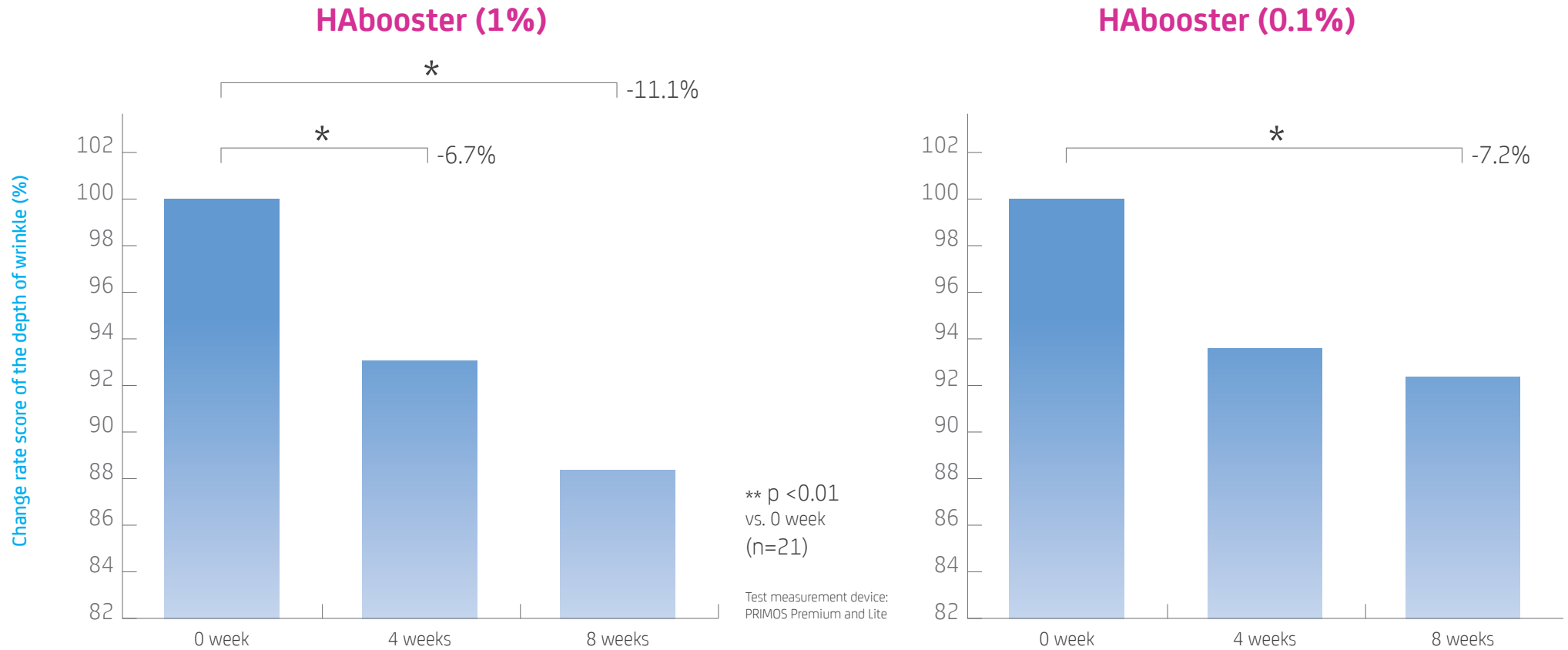


8 week

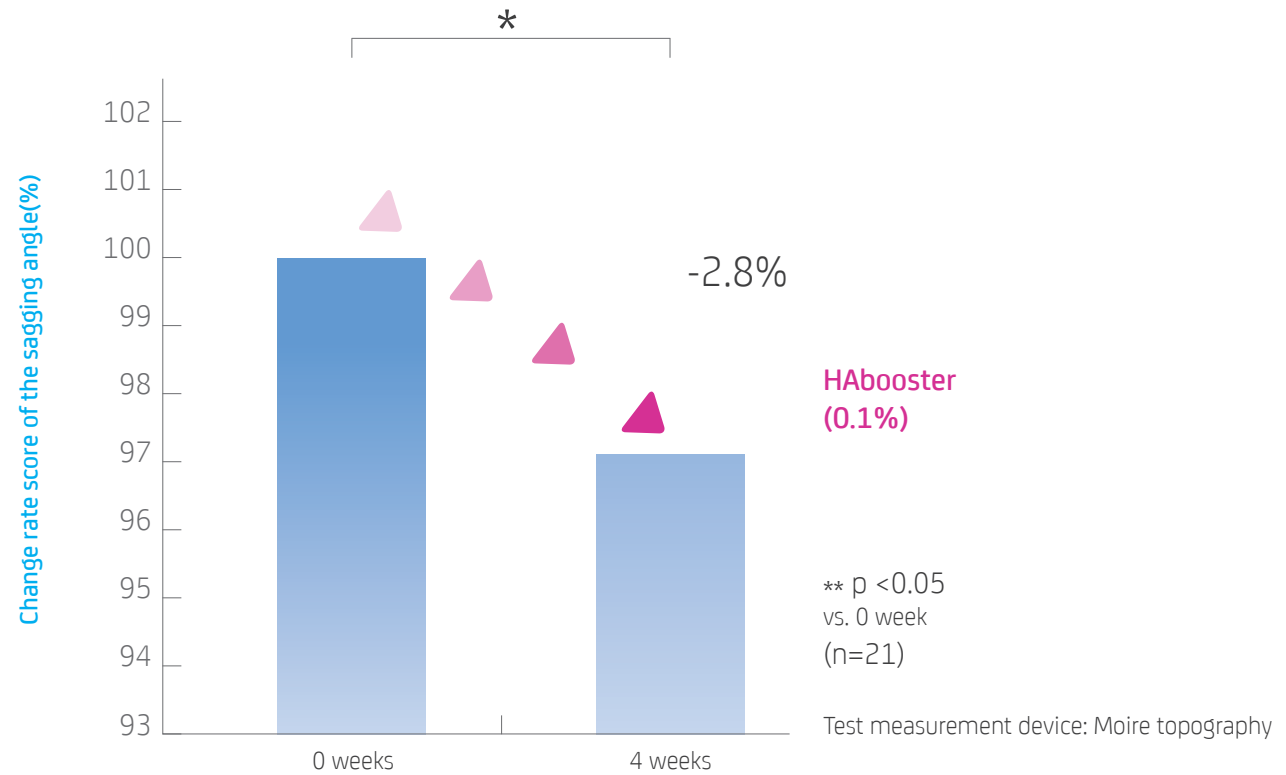


HAbooster (0.1%)

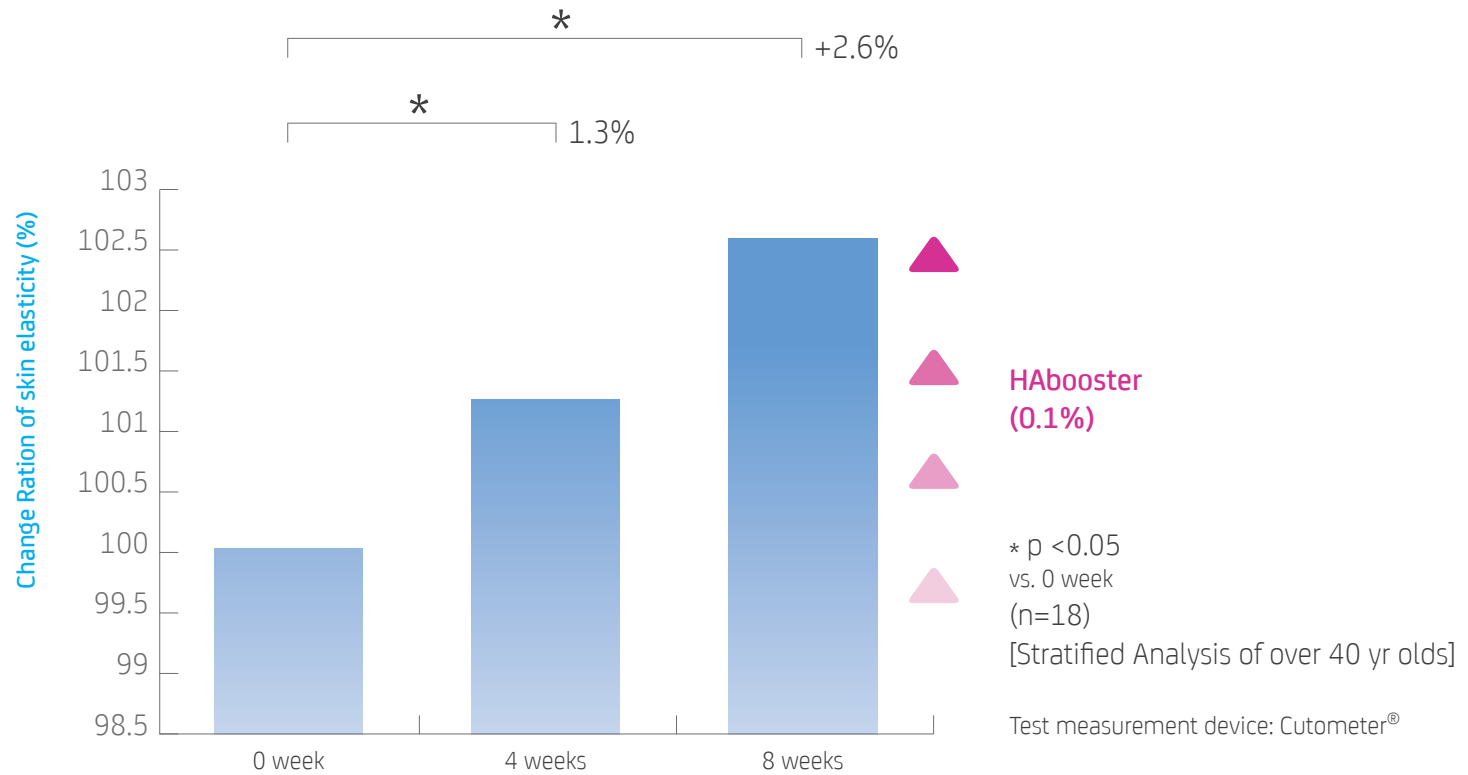
Wrinkle Parameters of Crow's feet (Max.depth biggest wrinkle)



HAbooster improves
 skin wrinkles on the nasolabial fold



HAboster improves skin sagging



Skin Elasticity improvement has been confirmed by HAboster

Safety data

In vitro Skin Irritation Test

BCOP Test

Ames Test

Human Patch Test

Repeat Insult Patch Test

Material information

Name	HABOOSTER
INCI Name	Hydrolyzed sodium hyaluronate 水解透明质酸钠
Average Molecular weight	Around 2,000
Recommended dosage	0.1% - 1.0%
Color	White to pale yellow
Solubility	Water
pH	5.0 - 7.0

Ingredient	Proportion (%)
Water	81.86
HABOOSTER	0.1
Glycerin	5
1, 3 - BG	5
Vegetable squalane	5
Deionized water	0.85
Phenoxyethanol	0.8
Mixture of Glycerin, Water, Carbomar, and Polyacrylic	0.5
Carbomer (Carbopol980)	0.42
30% Collagen	0.17
Methyl paraben	0.15
Sodium hydroxide	0.14
EDTA-4Na	0.01
Total	100