BA

POLA

Enhance your eye zone.

These days, most of us spend a lot of time
gazing at smartphone and computer screens,
looking for information to keep up with the times.

This puts a lot of stress on our eyes and the skin
around them. We tend to blink less, our eyelids droop,
and our facial expressions become less animated.

To help protect the skin around your eyes,
we focused on its unique structure, which is
thinner and more delicate than the rest of your skin.
We carefully studied its composition and developed
a new “3D Buildup Treatment” to enhance its beauty.

Enhancing the supple elasticity of your skin, so your
eye zone can glow with clear, transparent beauty.

Bring your natural beauty to life, and see
the world with bright, shining eyes.

Introducing POLA B.A EYE ZONE CREAM N.

Enhance your eye zone.
For an eye zone with revitalizing firmness and clarity,
and rich* vitality of expression

Introducing new B.A EYE ZONE CREAM

B.A was created in 1985 to study the science of our changing skin as we age. Under our brand policy of "broadening individual potential," we have continued to evolve by deepening our diverse research not only in the field of skin, but also in brain science, psychology, communication studies and more.

This time, B.A focused on the importance of the eye zone, which is the "impression zone" that influences the impression of a person's face. In recent years, factors such as the lengthy use of digital devices and the lifestyle of the "new normal" have affected our eye zones and their impressions.

New B.A EYE ZONE CREAM uses a new formulation that focuses on the unique structure of the eye zone, the "3D Build-up Formulation." In a 3-step texture transformation, the cream blends smoothly into the skin, as if melting into it, for an eye zone with revitalizing firmness and clarity, and rich vitality of expression.

Launching on October 1, 2022

B.A EYE ZONE CREAM

[Sold as: B.A EYE ZONE CREAM N]

26 g NET WT. 0.9 Oz.

◆ Allergy tested
(formulated to minimize the risk of allergy)

Design

The package design expresses the movement of carefree growth of the core, where various possibilities are hidden.

*: Refers to elasticity in the stratum corneum due to moisture

[Product Features]

Focuses on the unique structure*1 of the eye area

Theory

◆ NEW **Eye Core Build-up Theory**

Focuses on the unique structure of the eye zone. A theory that uses a feel of firmness created by moisture and a feel of volume due to luster to give the eye zone a three-dimensional look.

Ingredients

For an eye zone with revitalizing firmness and clarity, and rich*2 vitality of expression.

Contains the new POLA's original moisturizing complex "Mulberry Extract CB*3" and POLA's original moisturizing complex "CF Extract" and "MUS Extract."

Mulberries

Artichoke leaves

◆ **Supports succulent clarity:** Enriched with POLA's original moisturizing ingredients "YAC Extract" and "EG Clearing Extract," and moisturizing ingredients "Marjoram Extract" and "Hesperidin."

◆ **Supports a feeling of firmness with moisture:** Enriched with POLA's original moisturizing complex "BA Core Complex," and moisturizing ingredient "Alpinia Speciosa Leaf Extract."

◆ **Supports firm skin:** Enriched with POLA's original moisturizing complex "Amaranthus Caudatus Rosma."

*1: Structure of the stratum corneum *2: Refers to elasticity of the stratum corneum due to moisture *3: Complex of mulberry extract and artichoke leaf extract

Formulation

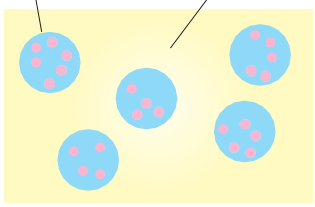
3D Build-up Formulation creates a feel of firmness and volume*1

Uses the 3D Build-up Formulation that contains even more Tension Oil than the previous product, and by creating a three-dimensional veil on the skin, produces a feel of firmness and volume.

Evolutionary Point 1

Thanks to the new formulation, the emulsion, which contains abundant*2 amount of Tension Oil to create a feel of firmness, penetrates to the stratum corneum.

Creates a feel of firmness and volume.

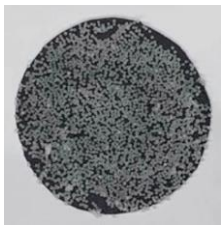


Blue: Water-based ingredients that include moisturizing ingredients
Pink: Tension oil
Yellow: Adherence oil

Evolutionary Point 2

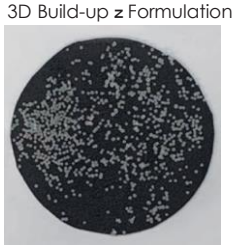
This is inherently difficult to achieve, but we have succeeded in adopting a smooth, non-greasy film that seems to become one with the skin, while at the same time creating firmness.

Previous formulation



Sticky
Many grains attach

3D Build-up **z** Formulation



Reduced stickiness
Few grains attach

Differences in the formulations produce differences in stickiness.

A set amount of cream was applied to artificial leather and placed on a set amount of solid paraffin grains. The amount that naturally attached was then compared.

(Researched by the B.A Research Center)

*1: Due to luster *2: Compared with the previous B.A EYE ZONE CREAM *Images are for illustrative purposes only

[Product Features]

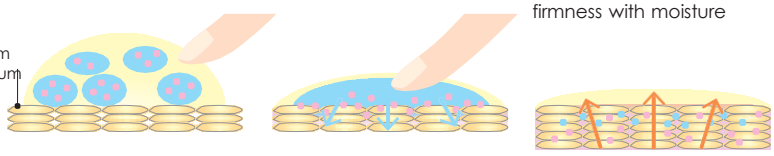
Texture — Texture transformation due to the 3D Build-up Formulation

The 3D Build-up Formulation causes gradual changes in the texture. The rich cream spreads as it melts into the skin, and from that feeling of permeation, the texture changes to a feel of firm adherence, as if stretching the eye area. Compared with the previous product, both the feel of permeation into the skin and the feel of firm adherence have evolved.

(1) Richness
Spreads richly

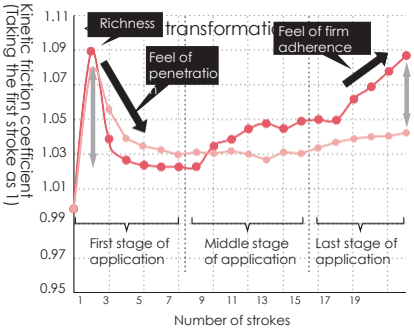
(2) Feel of penetration
Blends in to become one with the skin*

(3) Feel of firm adherence
Adheres as if stretching the eye area and creates a feel of firmness with moisture



Blue: Water-based ingredients that include moisturizing ingredients
Pink: Tension oil
Yellow: Adherence oil

*: Stratum corneum
*Images are for illustrative purposes only



n=3, representative example

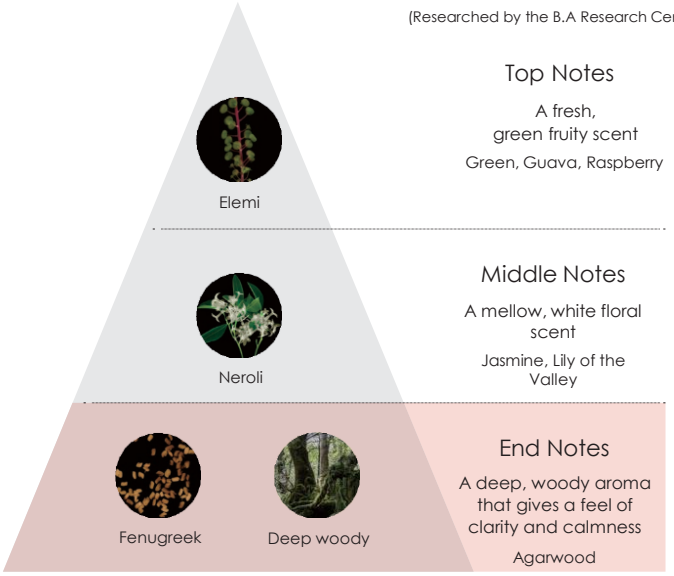
*: Artificial leather has low permeability, which means that it is difficult for transformation to occur in the number of strokes anticipated in actual usage, so we set it at 20 times to correspond with the feel on a person's skin.

(Researched by the B.A Research Center)

Aroma

"Chypre floral arrangement"

The chypre floral tone common to the B.A skincare products is accented with a deep woody note that evokes a sense of calmness and clarity. In order to elevate the skincare routine to a time to fulfill oneself, B.A adopted the "**chypre floral arrangement**" fragrance that changes with each product and with layering.



*Photographs are for illustrative purposes only

How to use

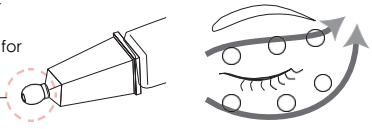
For daily morning and nighttime skincare, condition the skin with MILK, then take an appropriate amount in the hand.

(1) Place a drop in six places around the eye, and with one stroke from the inner corner of the eye toward the temple, gently spread it over the entire eye zone, as if lifting the eye area. Use the entire finger pad to spread it over a wide area.

(2) After blending the cream in while lifting the skin, hold the skin at the temple for three seconds so that the lifted shape stays in place.

Night: A pearl size for each eye
Morning: A pearl size for both eyes

The sphere on the tip of the tube is roughly the size of 1 pearl



POLA

Beauty techniques to enrich morning and night eye-care time

☼ Add a refreshed feeling to the impression zone

(1) Holding your forehead up, place your finger below the inner corner of the eye and slide it as if lifting the outer corner of the eye. (3 times)
Do the same on the other side.

(2) Press the edge of the bone above and below the eye socket. Use your thumb on the top section and your middle finger on the lower section to slowly make one circuit.

(3) Finally, press the temples.

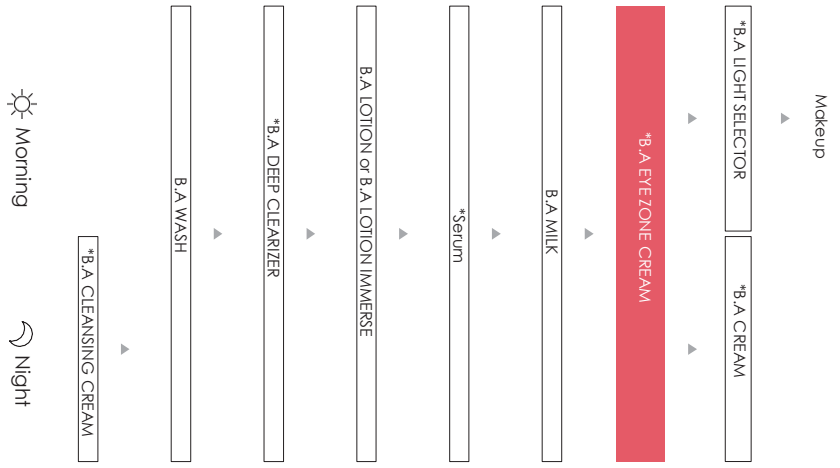
☽ Soothe the eye zone that has worked hard all day

(1) Slide your fingers diagonally from below the middle of the eyebrows upward. (4 times)

(2) Close your eyes, gently place your middle finger and ring finger on the eyelid and stroke all the way through to the temple. (3 times)
Massage the temples by drawing a circle with your fingers.

(3) Finally, press the temples.

Skincare Regimen



* Use according to your skin concerns and condition. Cleansing cream should always be used when removing makeup or sunscreen items.

Social and global environmental initiatives

Product packaging

Use of bio-based ink

Ink manufactured by extracting ingredients from biomass (resources from living organisms) is partially used to print on product boxes, which helps preserve the ecosystem.

Containers

Use of PE and PET derived from plants

Partial use of PET and PE derived from plants contributes to the conservation of fossil fuel resources and the reduction of carbon dioxide.

Raw materials

Use of Fairtrade perfumes

For "Elemi," "Neroli" and "Fenugreek," natural perfumes extracted from Fairtrade raw materials are used.

Use of forest-certified paper

Forest-certified paper made from timber grown under appropriate forest management is used.

Brochures

Adoption of online brochures

As a paperless initiative, we abolished paper brochures, and instead have adopted online brochures that allow users to view directions for use, all ingredients labels, and how-to-use videos by scanning the QR code printed on the box.

*Directions for use and usage amounts, etc., are also shown on the outer package.

*Available in 5 languages (Japanese, English, Traditional Chinese, Simplified Chinese, Thai)

POLA

Main ingredients

Purpose	Formulation ingredients	
Moisturizing ingredients	Mulberry Extract CB*	
	CF Extract*	
	MUS Extract*	
	Amaranthus Caudatus Rosma	
	BA Core Complex*	
	Alpinia Speciosa Leaf Extract	
	YAC Extract*	
	EG Clearing Extract*	
	Hesperidin	
	Marjoram Extract	

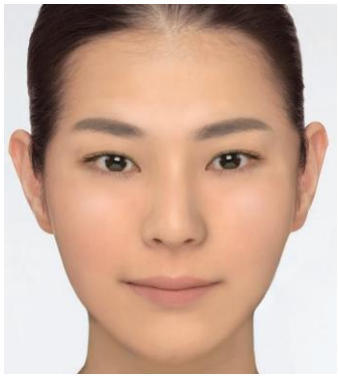
* indicates POLA's original complex or original ingredients. ◆ No color additives ◆ Allergy tested (formulated to minimize the risk of allergy)

[Reference Data & POLA Research]

Why POLA considers the "impression zone" eye area to be important

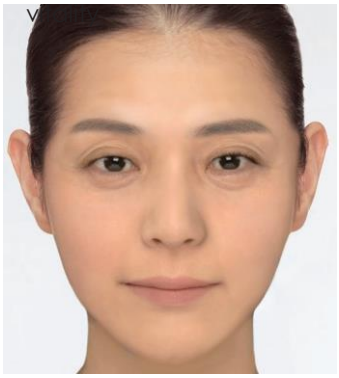
POLA believes the eye zone is an important "impression zone" that influences the impression of a person.
In fact, we know that the impression of the face as a whole changes according to whether the eye zone is rich in vitality or not.

An eye zone rich in vitality



A bright and lively facial impression with firmness and clarity

An eye zone without v



The impression of the face changes due to shape issues such as hollows and sagging, and color issues like dark circles and dullness

*Images are for illustrative purposes only

Our modern lifestyle affects the impression of the eye zone

In recent years, factors such as the lengthy use of digital devices and the lifestyle of the "new normal" have affected our eye zones and their impressions.

People today spend an average of four hours* a day on their smartphones

*Source: "Insta-Brain" by Anders Hansen

In the evening, after a full day on the computer, my eyes feel weak...
They look dull and lifeless

Now, POLA has defined the three factors that are key in determining the impression of the eye zone. In fact, as shown in the illustration on the right, when movement of the eyelid is good, it gives an impression of vitality.

The three factors that determine the impression of the eye zone

- [Shape] Firmness and elasticity & three-dimensionality
- [Color] Clarity and uniformity
- [Movement] Blinking, opening & closing of the eyes

Good eyelid movement gives an impression of vitality

We discovered that the faster the blinking speed, the livelier the impression. Eye zone movement is a key factor that influences the impression

*"Impression of vitality" is defined as an overall impression of "activeness," "cheerfulness," "confidence," and "energy"

The difference in psychological evaluation of an "impression of vitality" was analyzed using two videos in which only the speed of blinking was different (fast blinking = 170mm/s and slow blinking = 140mm/s), and the result was that the fast blinking was rated higher in impression of vitality. (n=39, $p<0.05$, Wilcoxon signed-rank test)

(Research conducted by the POLA Chemical Industries research center)

*Images are for illustrative purposes only

Key to the eye zone impression is the "orbicularis oculi muscle"

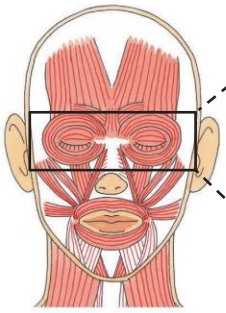
POLA has defined the three factors that determine the impression of the eye zone: "shape," "color," and "movement." What carries out an important role for these 3 factors is what could be called the "core" of the eye, the muscle that surrounds it,
the "orbicularis oculi." The orbicularis oculi muscle has two functions. One is to create thickness in the overall eye area and produce firmness. The other function is to act as a kind of embankment to prevent the orbital fat surrounding the eyeball from flowing out, thereby ensuring that the shape and body of the eye is maintained. A supple, flexible orbicularis oculi muscle is essential for an eye zone with vitality.

The three factors that determine the impression of the eye zone

[Shape]
Firmness and elasticity & three- dimensionality

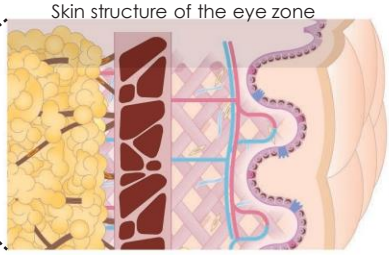
[Color]
Clarity and uniformity

[Movement]
Blinking, opening & closing of the eyes

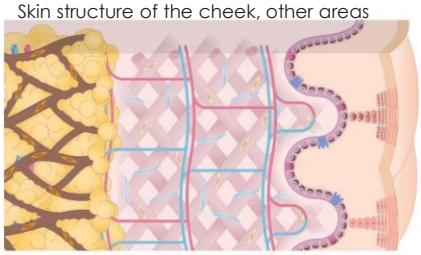


Orbicularis oculi muscle
Muscle that surrounds the eye in a donut shape

Skin structure of the eye zone



Skin structure of the cheek, other areas



The orbicularis oculi muscle is the core of the eye zone
The dermis around the eye zone is thin, and the orbicularis oculi muscle lies just below it.
In the eye zone, the orbicularis oculi muscle creates firmness and supports the skin and fat.

The subcutaneous skin support network (RC) and the dermis are the cornerstones of skin firmness & three-dimensionality

(Research conducted by the POLA Chemical Industries Research Center)

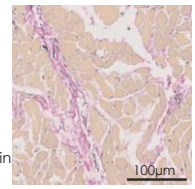
*Images are for illustrative purposes only

New Discovery

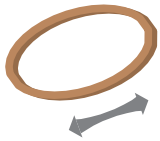
Fibrosis of the "orbicularis oculi muscle"

This time, POLA newly discovered that "fibrosis," which replaces muscle with connective tissue made of fibrous proteins, causes the orbicularis oculi muscle to lose elasticity and weaken.

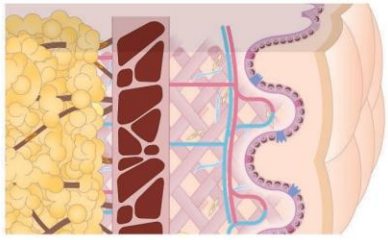
No fibrosis



Pink & black: Fibrous protein
Yellow: Muscle fibers



Supple and elastic



The orbicularis oculi muscle supports the eye structure, creating firmness. Because it can move flexibly, blood circulation is also good.

Fibrosis

What is fibrosis?
It is a phenomenon in which muscle fibers are replaced by connective tissue made of fibrous proteins

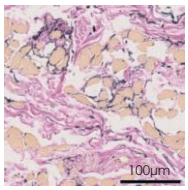
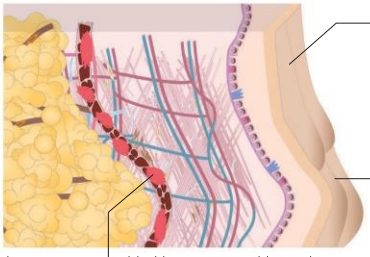


*Illustration shows the orbicularis oculi in its fibrotic state with the image of a rubber band

Weak, lacks elasticity



Shape issues such as sagging and eye hollows
The orbital fat can no longer be supported, dragging down the surrounding tissue and causing the whole area to collapse.

Color issues such as dark circles and dullness
Poor muscle movement causes poor blood circulation.

Movement issues
The elasticity of the orbicularis oculi muscle is lost as it is replaced by less flexible fibrous proteins.

(Research conducted by the POLA Chemical Industries Research Center)
*Images are for illustrative purposes only

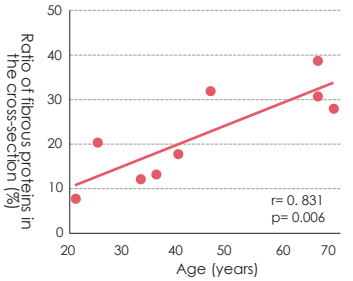
[Reference Data & POLA Research]

New Discovery

Aging advances fibrosis of the orbicularis oculi muscle

POLA discovered that fibrosis of the orbicularis oculi muscle advances together with aging.
We studied the relationship between age and the ratio of fibrous proteins in a cross-section of the orbicularis oculi muscle and discovered that the ratio increases with aging and that the orbicularis oculi muscle becomes more fibrotic.

<Change in the ratio of fibrous proteins in the orbicularis oculi muscle with aging>



We calculated the ratio of fibrous proteins in the cross-section of the orbicularis oculi muscle.
n=9 (Women in their 20s – 60s)
(r: Pearson's product-moment correlation coefficient,
p: P value of Pearson product-moment correlation analysis)

(Research conducted by the POLA Chemical Industries Research Center)

New Focus

One cause of fibrosis is immobility

One possible cause of muscle fibrosis is immobility. By not moving the muscle, fibrous proteins increase and "fibrosis" progresses. It is thought that the use of digital devices, for example, causes movement of the eye zone to become fixed, which leads to fibrosis of the orbicularis oculi muscle.

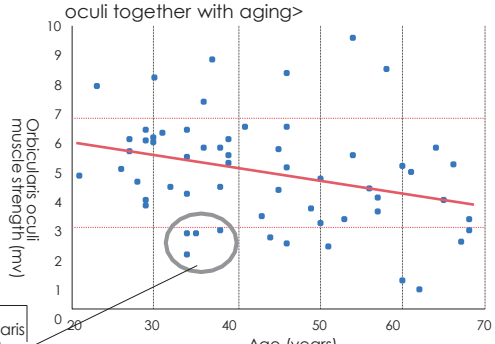
Blinking decreases when looking at computer or smartphone screens and movement of the eye zone becomes fixed

New Discovery

People with weakened orbicularis oculi muscle strength begin to emerge in their 30s

We discovered that the strength of the orbicularis oculi muscle declines as we age, and that people with reduced orbicularis oculi muscle strength begin to emerge in their 30s. It is possible that it is not just a matter of aging and that, even for young people, long hours spent on digital devices, for example, may begin to weaken the orbicularis oculi muscle.

<Change in muscle strength of the orbicularis oculi together with aging>



Measurement of orbicularis oculi muscle strength using muscle electrometer

n=60 (Women in their 20s – 60s)
Solid line: regression line
r=-0.299, p=0.020
(r: Pearson's product-moment correlation coefficient,
p: P value of Pearson product-moment correlation analysis)
Dotted line: sample average ± standard deviation
Standard values are included in this range

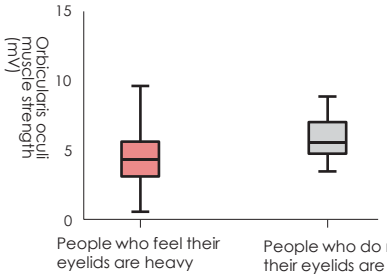
(Research conducted by the POLA Chemical Industries Research Center)

New Discovery

People who felt that their eyelids were heavy had low orbicularis oculi muscle strength

POLA newly discovered that people who feel that their eyelids are heavy have low orbicularis oculi muscle strength.
Together with the changes in lifestyle in recent years, the number of people who feel that their eyelids are heavy seems to be increasing due to the lengthy use of digital devices, etc.

<Relationship between eyelid heaviness and orbicularis oculi muscle strength>



We conducted a survey to find out whether respondents felt their eyelids were heavy, and compared two groups : those who answered they felt it ("I feel it often" and "I feel it sometimes") and those who answered that they did not feel it ("I don't feel it at all).
n=59, Welch test, p <0.10

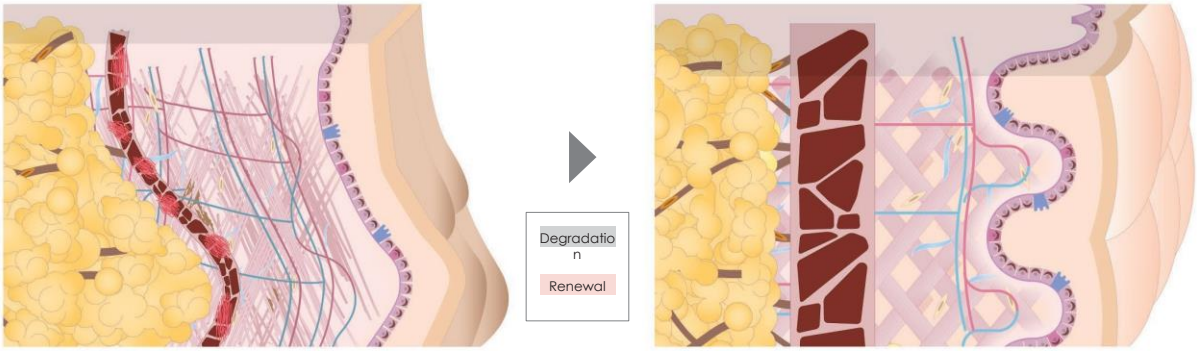
(Research conducted by the POLA Chemical Industries Research Center)

POLA

Industry First

Degrades old, fibrotic tissue and reconstructs new tissue

Increasing the quantity of muscle while the orbicularis oculi is fibrotic will not improve the quality of the muscle. This is where POLA first discovered a new potential of the orbicularis oculi muscle, which is first in the industry to break down fibrotic tissue and rebuild it into new fibers.



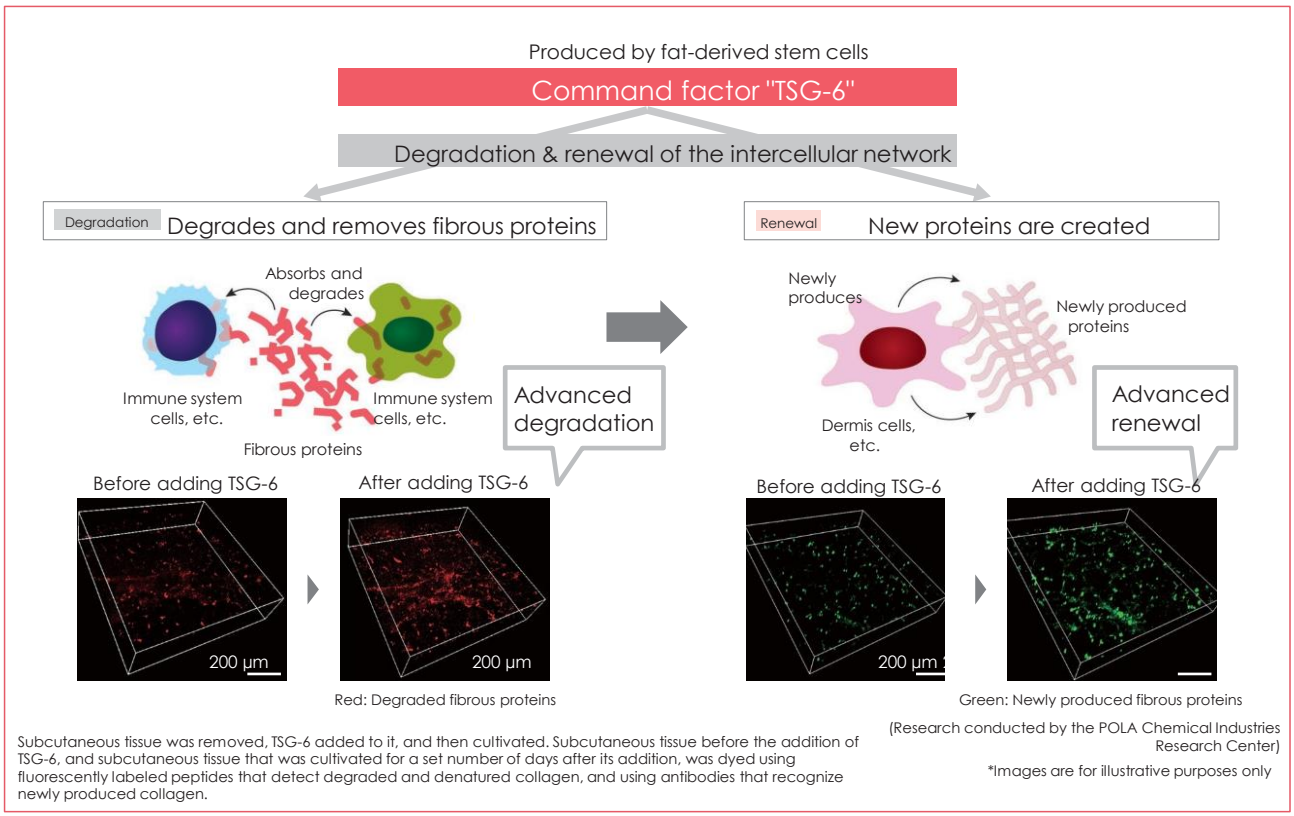
Reborn into strong and supple orbicularis oculi muscles.

*Images are for illustrative purposes only

New Discovery

"TSG-6," the command factor that activates degradation & renewal of fibrotic tiss

This time, POLA discovered that the command factor TSG-6 from fat-derived stem cells triggers degradation and renewal of fibrous proteins. It is thought that, thanks to this command factor, we each have the ability to degrade old, fibrotic tissue and reconstruct it into new fibers.



Red: Degraded fibrous proteins

Green: Newly produced fibrous proteins

Subcutaneous tissue was removed, TSG-6 added to it, and then cultivated. Subcutaneous tissue before the addition of TSG-6, and subcutaneous tissue that was cultivated for a set number of days after its addition, was dyed using fluorescently labeled peptides that detect degraded and denatured collagen, and using antibodies that recognize newly produced collagen.

(Research conducted by the POLA Chemical Industries Research Center)

*Images are for illustrative purposes only