

PRODUCT, DESCRIPTION AND EVIDENCE

REFERENCE: FS4-88

PUBLISH DATE: 18/05/2023

## RECOVER

A rich night cream with a luxurious velvety feel containing retinol, peptides and green tea that stimulate collagen production, accelerate skin cell renewal while also limiting the breakdown of collagen and elastin. This synergistic effect leads to firmer, more youthful looking skin with reduced appearance of fine lines and wrinkles. This night cream is also formulated with ceramide NG, vitamin B5, aloe vera and saccharide isomerate to give long-lasting skin hydration, reduced irritated and importantly a strengthened skin barrier.

### KEY BENEFITS

- Skin feels firmer and tighter
- Skin feels plumper and lifted
- Skin looks healthier and smoother
- Helps to protect the skin from oxidative damage
- Rich in peptides, ceramides, vitamins and fatty acids to nourish the skin
- Reduces the signs of ageing
- Improved skin hydration and strengthened skin barrier
- Improves the signs of dry skin
- Enhances skin barrier repair
- Skin looks more elastic and younger
- Up to 31% faster relaxation of facial muscles
- Boosts type 1 collagen by up to 25.9%
- Enhances synthesis of new collagen by 53.7%
- Wrinkle area reduced by 11% in 5 days
- Crow's feet appear 5.9% smoother
- Reduced appearance of fine lines by up to 14.7%
- Skin looks 13.8% more plump
- Facial muscles up to 11.1% more relaxed
- Decreases main wrinkle volume by up to 36%

### DIRECTIONS FOR USE

Apply nightly by gently massaging a small amount onto cleansed skin over face and neck areas. Avoid direct eye contact.

### WARNINGS

For external use only. Avoid contact with eyes. If this occurs wash affected area thoroughly with water. If irritation occurs, discontinue use. Keep out of children's reach. Keep in a cool dry place away from direct sunlight. Apply a high sun protection factor sunscreen when using this product and for up to one week after use has stopped. Whilst using this product, do not use or consume other products containing forms of Retinol. Not to be used for children. Should only be used after consultation with your Practitioner.

Store this product below 40°C.

### INGREDIENTS

Aqua, Silybum Marianum Ethyl Ester, Caprylic/Capric Triglyceride, Oenothera Biennis Oil, Olea Europaea Fruit Oil, Triticum Vulgare Germ Oil, Aloe Barbadensis Leaf Juice, Glycerin, Saccharide Isomerate, Arachidyl Alcohol, Cetearyl Alcohol, Panthenol, Behenyl Alcohol, Phenoxyethanol, Parfum, Phospholipids, Retinol, Arachidyl Glucoside, Camellia Sinensis Leaf Extract, Carbomer, C12-15 Alkyl Benzoate, Sodium Gluconate, Xanthan Gum, Sodium Hydroxide, Benzoic Acid, Tribehenin, Dehydroacetic Acid, Leuconostoc/Radish Root Ferment Filtrate, Citric Acid, Sodium Citrate, Ceramide NG, Sodium Benzoate, Glucose, Pantolactone, PEG-10 Phytosterol, Sodium Hyaluronate, Potassium

Sorbate, Lactic Acid, Tocopherol, Acetyl Hexapeptide-8, Palmitoyl Hexapeptide-12.

### ACTIVE INGREDIENTS

Acetyl Hexapeptide-8 10mg\*  
Palmitoyl Hexapeptide-12 1mg\*  
Retinol 0.5%  
Camellia Sinensis Leaf Extract 4000mg\*  
Ceramide NG 175mg\*  
Panthenol 1.125%  
Saccharide Isomerate 1.872%  
Silybum Marianum Ethyl Ester 4.9975%  
Oenothera Biennis Oil 4%  
Olea Europaea Fruit Oil 4%  
Triticum Vulgare Germ Oil 4%  
Aloe Barbadensis Leaf Juice 3%  
Leuconostoc/Radish Root Ferment Filtrate 400mg\*  
Pantolactone 150mg\*  
Sodium Hyaluronate 100mg\*

### ACETYL HEXAPEPTIDE-8

Ingredient claims:

Up to 31% faster relaxation of facial muscles	Reduced appearance of fine lines by up to 14.7%
Boosts type 1 collagen by up to 25.9% in aged skin	Skin looks 13.8% more plump
Enhances synthesis of new collagen by 53.7%	1.5% reduction in skin sagginess
Wrinkle area reduced by 11% in 5 days	Facial muscles up to 11.1% more relaxed
Crow's feet appear 5.9% smoother	

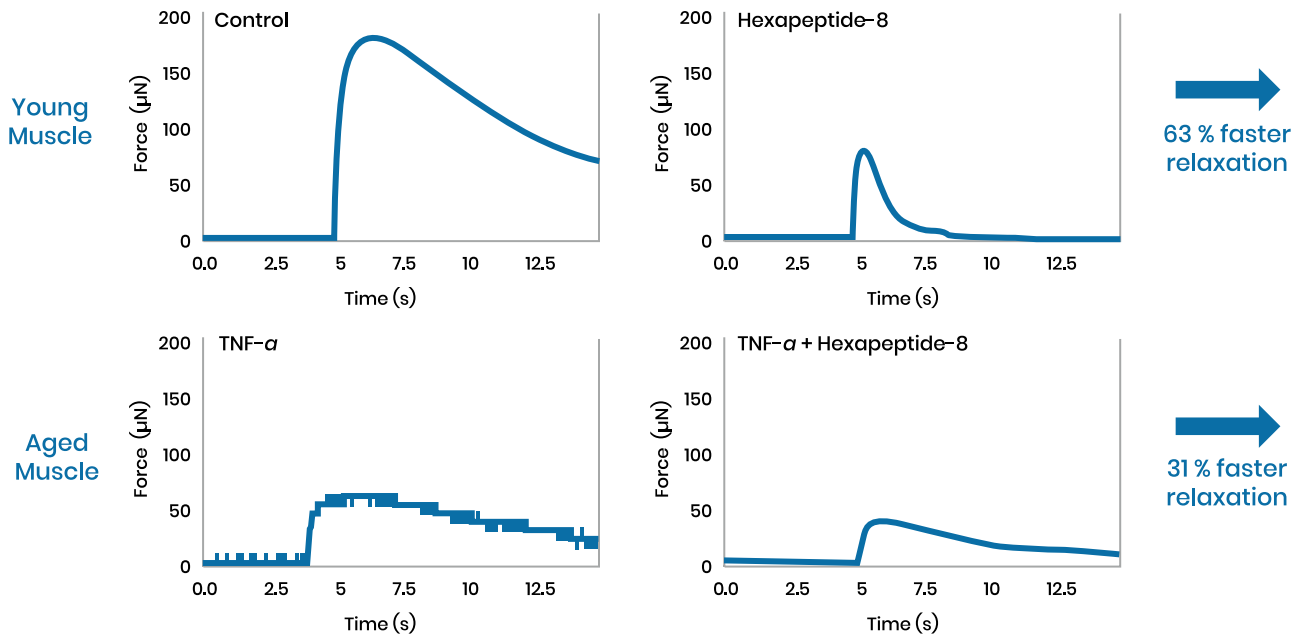
Commonly referred to as “Botox in a jar” because it inhibits the release of neurotransmitters and relaxes the facial muscles, this relaxation of facial muscles in turn reduces the appearance of expression lines and wrinkles. Acetyl Hexapeptide-8 is a peptide compound that is used to reduce the appearance of wrinkles brought on by repeated facial expressions. It is composed of chains of amino acids known as peptides. Fine lines and wrinkles around the eyes and mouth typically form due to repeated facial expressions (such as smiling, frowning, or furrowing the brow in deep concentration or frustration). Acetyl Hexapeptide-8 can temporarily remove the wrinkles by intercepting messages from the brain to facial muscles, thereby preventing muscle contractions that can lead to wrinkles.

In addition to reducing the appearance of expression lines, Acetyl Hexapeptide-8 can also improve the texture of the skin. It stimulates collagen production, which helps to firm and tighten the skin, giving it a smoother and more youthful appearance.

Skin hydration also improves with Acetyl Hexapeptide-8 application. It increases the production of hyaluronic acid, which is a natural moisturiser that helps to keep the skin hydrated and plump.

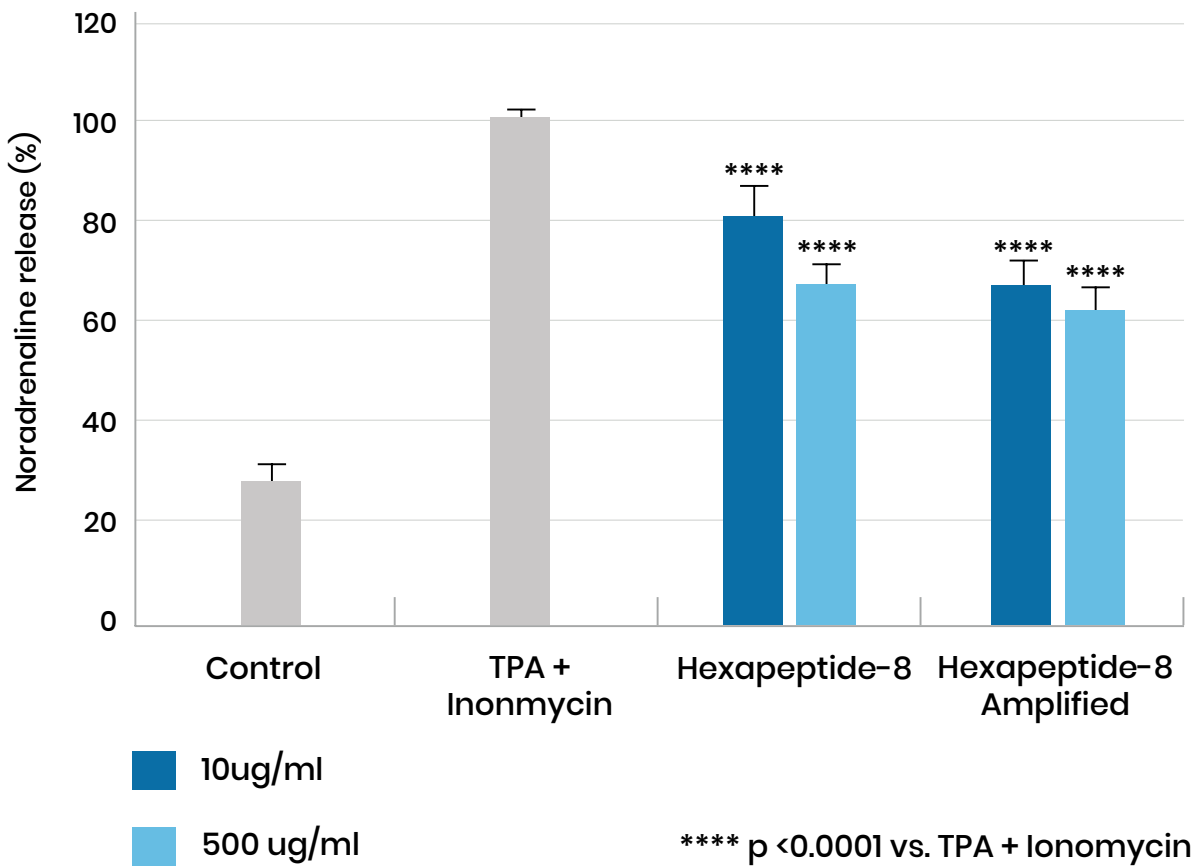
Reduced muscle contraction in 3D bioprinted muscles in both young and aged muscle. Faster muscle relaxation in both groups.

TPA + Ionomycin= calcium binding agent



The peptide helped decrease the relaxation half-time of young and aged muscles by 63% and 31%, respectively.

The peptide reduced the strength of muscle contraction, while also providing a faster muscle relaxation, helping to recover the skin appearance after facial expressions.



## Collagen boosting in aged conditions

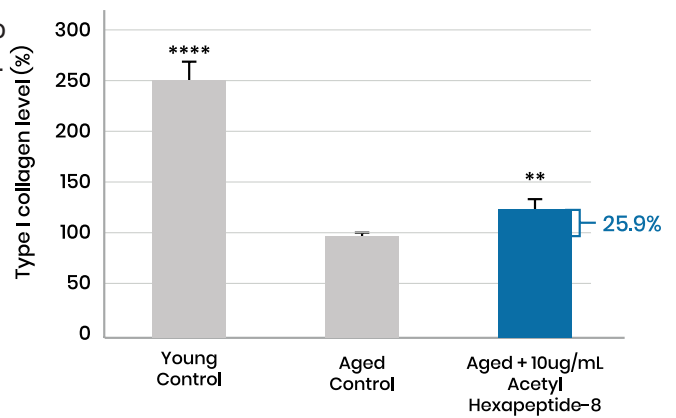
This test was performed to evaluate the ability of the peptide to induce type I collagen synthesis even under ageing conditions.

Replicative senescence was induced in human dermal fibroblasts while these were treated with 10µg/ml Hexapeptide-8 peptide or were left untreated control underwent half of the passages of the aged non-treated control.

Type I collagen levels were quantified by alphaLISA assay, and β-galactosidase staining was performed to ensure the state of senescence of the culture.

β-galactosidase is an enzyme considered a biomarker of senescence. When cells are treated with the substrate of galactosidase previously linked to a dye, if galactosidase is present and yields an insoluble coloured compound that stains the cells in blue colour. Therefore, the higher the number of senescent cells, the more blue colour in the images.

## Collagen boosting in aged conditions

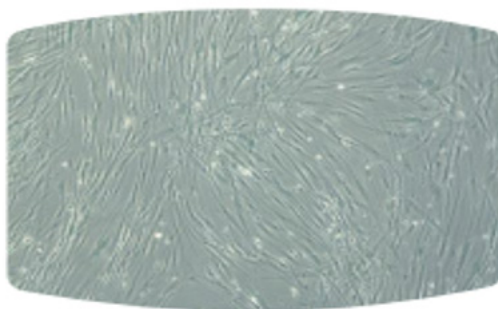


25.9% higher type I collagen levels even under aging conditions

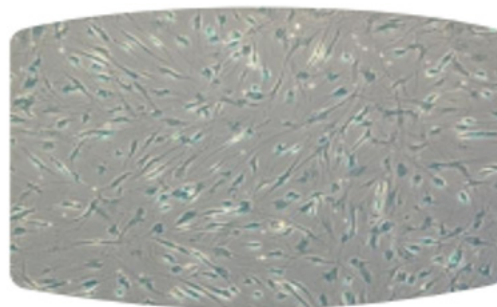
Control non-treated cells vs. Aged control: \*\*p<0,01 / \*\*\*\*p<0,0001

## Senescence marker (β-galactosidase)

Young fibroblasts



Aged fibroblasts



Human fibroblasts stained with β-galactosidase (in blue), a biomarker to identify senescent cells.

## Increase in Type 1 collagen production

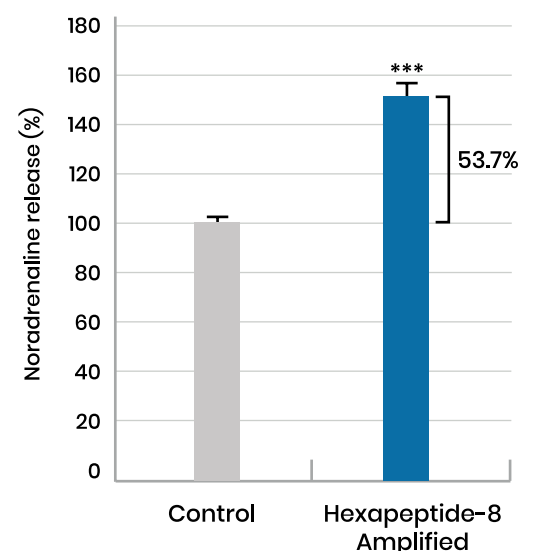
This test was performed to evaluate the ability of Acetyl Hexapeptide 8 to enhance the production of new collagen by non-senescent skin cells.

Human dermal fibroblasts co-cultured with human keratinocytes were incubated with 0.5µ/ml Hexapeptide-8 for 48hr or were left with only the medium as a control.

Then, the protein levels of type I collagen were evaluated by using an alphaLISA assay.

A notable increase in the level of new type 1 collagen was found after the treatment with Acetyl Hexapeptide 8. It has the ability to enhance the synthesis of new collagen by 53.7%.

## Type 1 collagen levels produced by the skin cells



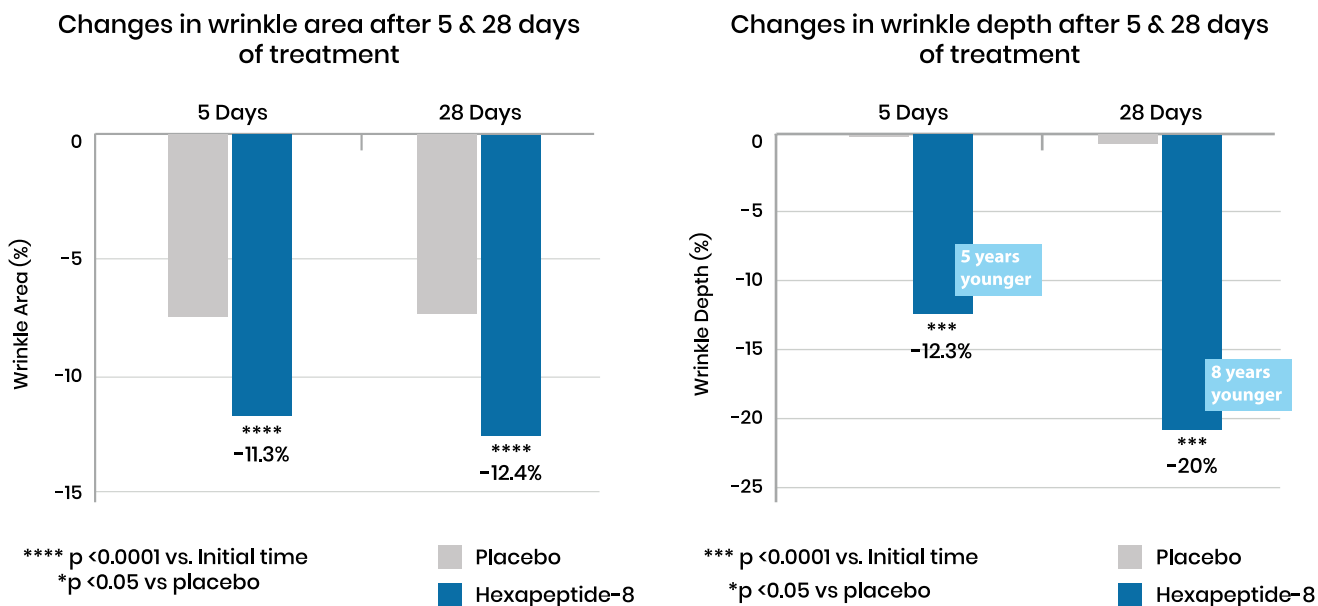
\*\*\* p < 0.0001 vs. control

## Improving the appearance of expression wrinkles

### In-Vivo Efficacy

The aim of this study was to evaluate the ability of Acetyl Hexapeptide 8 to minimise expression wrinkles.

Two panels of 41 and 40 female volunteers between 34 and 60 years old applied either a cream containing 2% or 5% Acetyl Hexapeptide 8 solution on half face and a placebo cream on the other half, twice a day for 28 days.



After only 5 days the area (tested at 2%) and depth (tested at 5%) of wrinkles decreased by an average of 11.3% and 12.3%, respectively.

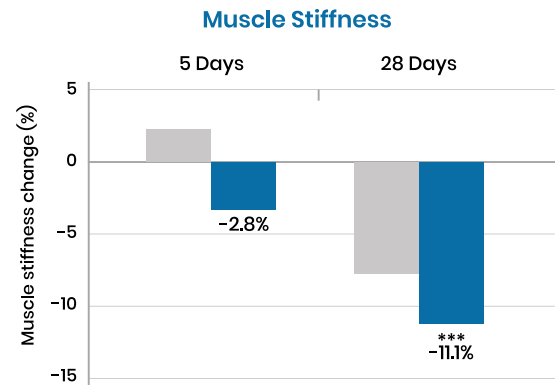


The ability of Acetyl Hexapeptide 8 to recover and relax the skin appearance after facial expressions was assessed by evaluating muscle stiffness and expression wrinkles after smiling.

## Muscle Stiffness

41 female volunteers between 35 & 59 years old applied a cream containing 2% Acetyl Hexapeptide 8 solution on half face and a placebo cream on the other half, twice a day for 28 days.

The stiffness of facial muscles, which increases with ageing and reflects the loss in the capacity to relax after a contraction, was measured by myotonometry on the masseter muscle.



Less stiff and more relaxed facial muscles, which are linked to a youthful state with less expression wrinkles

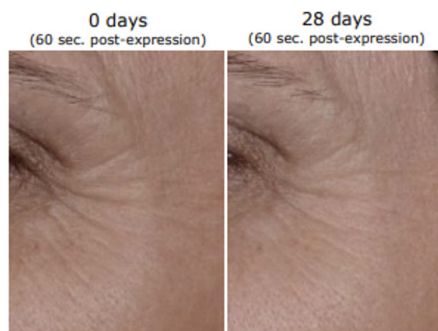
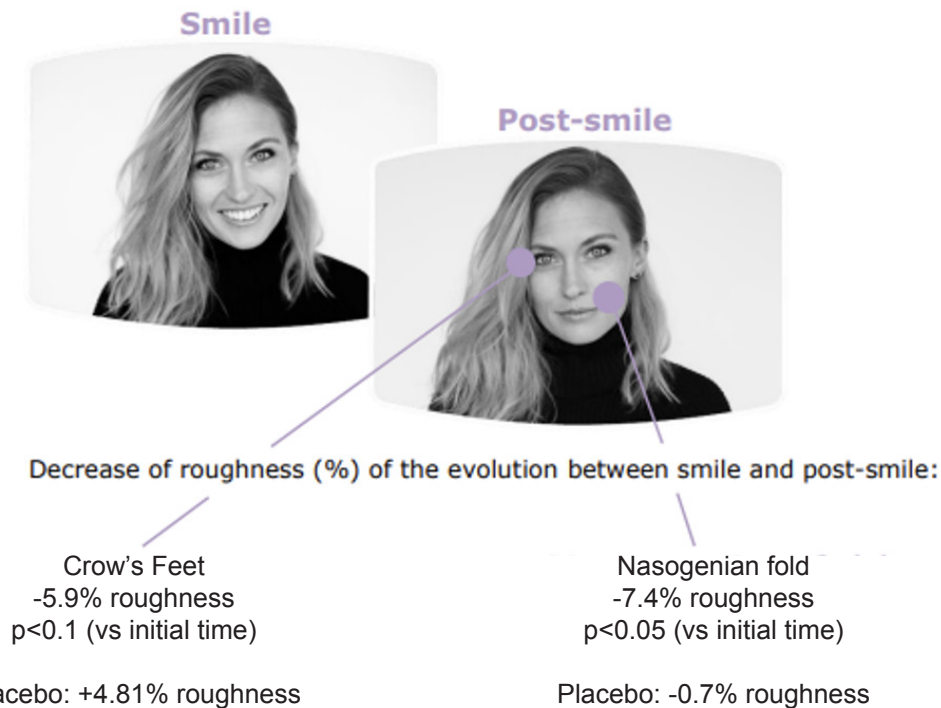
vs initial time: \*\*\*  $p < 0.001$  (28 days)

Placebo

Acetyl Hexapeptide-8

## Relaxation of facial expressions

43 female volunteers between 35 & 60 years old applied either a cream containing 2% Acetyl Hexapeptide 8 solution or a placebo cream on the whole face, twice a day for 28 days. The reduction in skin roughness was analyzed by means of 3D microtopography imaging system based on fringe projection (PRIMOS) 60 seconds after relaxing smiling facial expressions. The same evaluation was performed before and after 28 days of treatment.



Images of the crow's feet and nasogenian fold of two different volunteers 60 seconds after smiling.

Improved post-expression relaxation, so you won't stop smiling.

## Multi-level improvement in tissue functionality

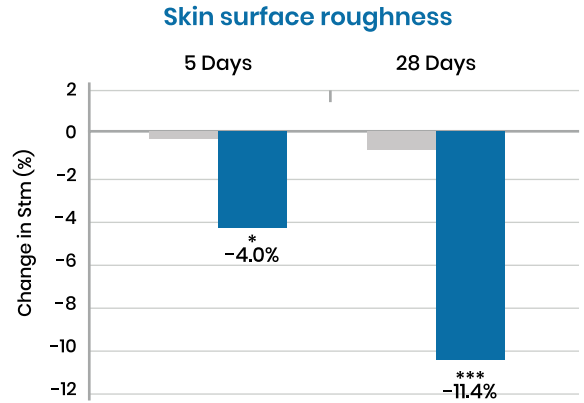
The multifunctionality of Acetyl Hexapeptide 8 was evaluated in this complete clinical study.

Two panels of 41 and 40 female volunteers between 35 and 60 years old applied a cream containing 2% Acetyl Hexapeptide 8 solution on half face and a placebo cream on the other half, twice a day for 28 days.

Different parameters related to a better and younger-looking skin were evaluated at different time points during the treatment.

### Skin surface roughness

The homogeneity of the skin was assessed by measuring the skin surface roughness by means of 3D microtopography imaging system based on fringe projection (PRIMOS). The change in the average maximum height (Stm) of the skin profile, which corresponds to the average of the vertical distance between the 5 highest and 5 lowest points, was calculated.

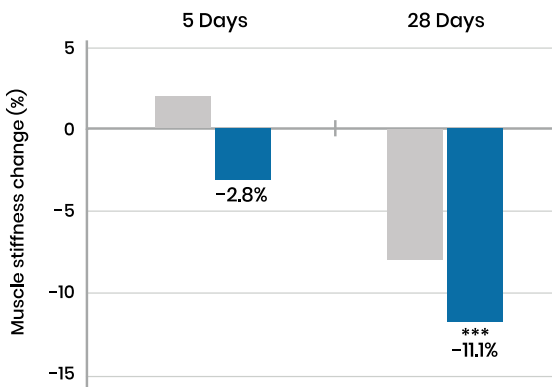


Smoothing effect on the profile of the skin surface

vs initial time: \* p<0,05 (5 days) \*\*\* p<0,001 (28 days)  
vs placebo: \* p<0,05 (5 days) \*\*\* p<0,001 (28 days)

Placebo  
Acetyl Hexapeptide-8

### Changes in muscle stiffness after 5 & 28 days of treatment



\*\*\* p < 0.001 vs. Initial time

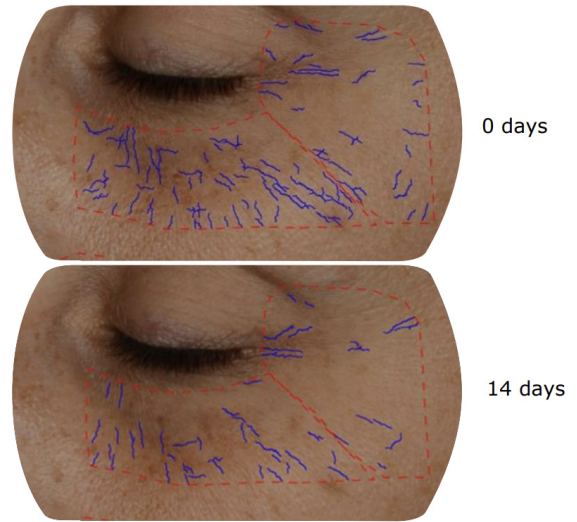
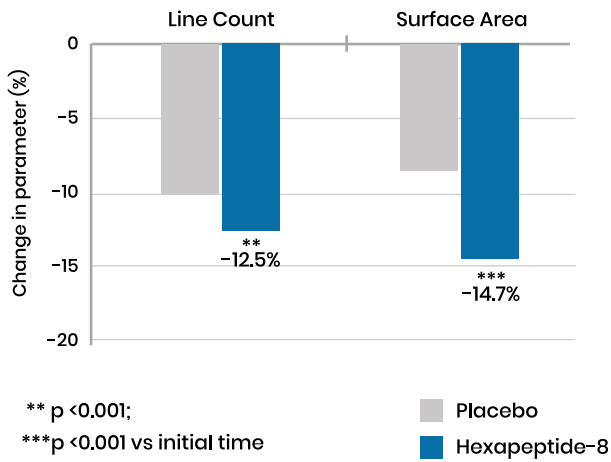
Placebo  
Hexapeptide-8

Less stiff and more relaxed facial muscles, which are linked to a youthful state with less expression wrinkles.

## Fine lines

The presence of fine lines in the skin surface was measured on the crow's feet area and underneath the eye, after 14 days.

Changes in line count and surface area after 14 days of treatment

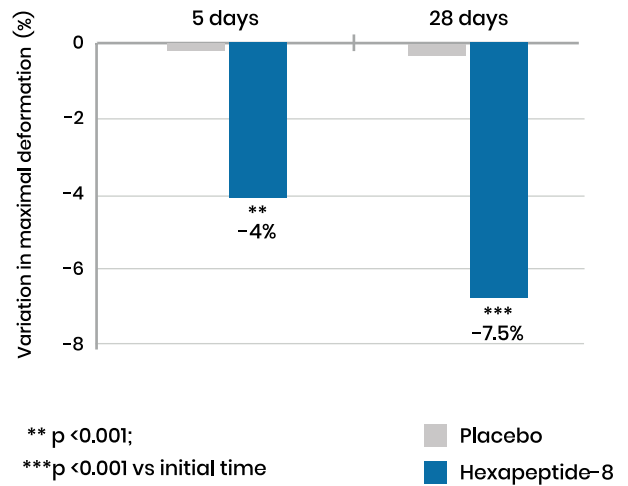


Global reduction of visible fine lines.

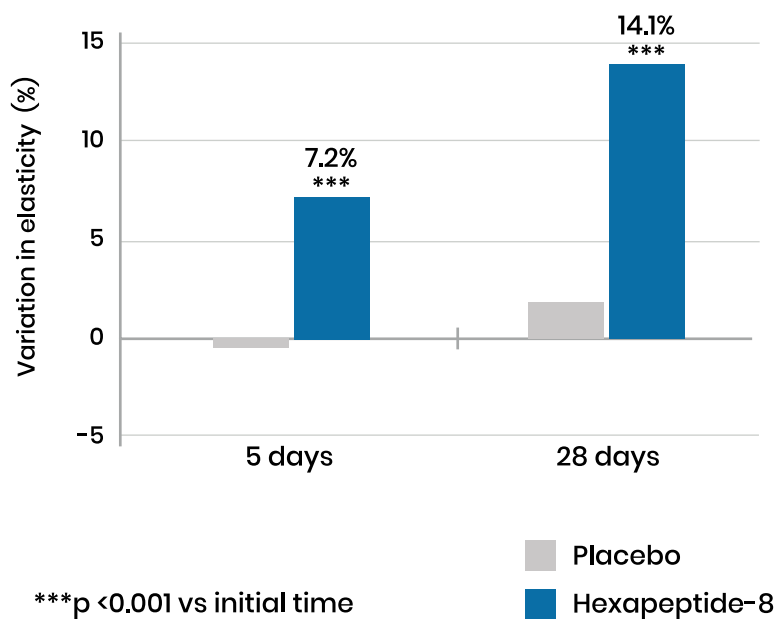
## Firmness and elasticity

Maximal deformation (R0): represents the passive behaviour of the skin when a pulling force is applied. It is inversely related to firmness.

Changes in maximal deformation



Elasticity (R2): gross elasticity of the skin. It corresponds to how easily the skin returns to its original state after releasing a suction force.

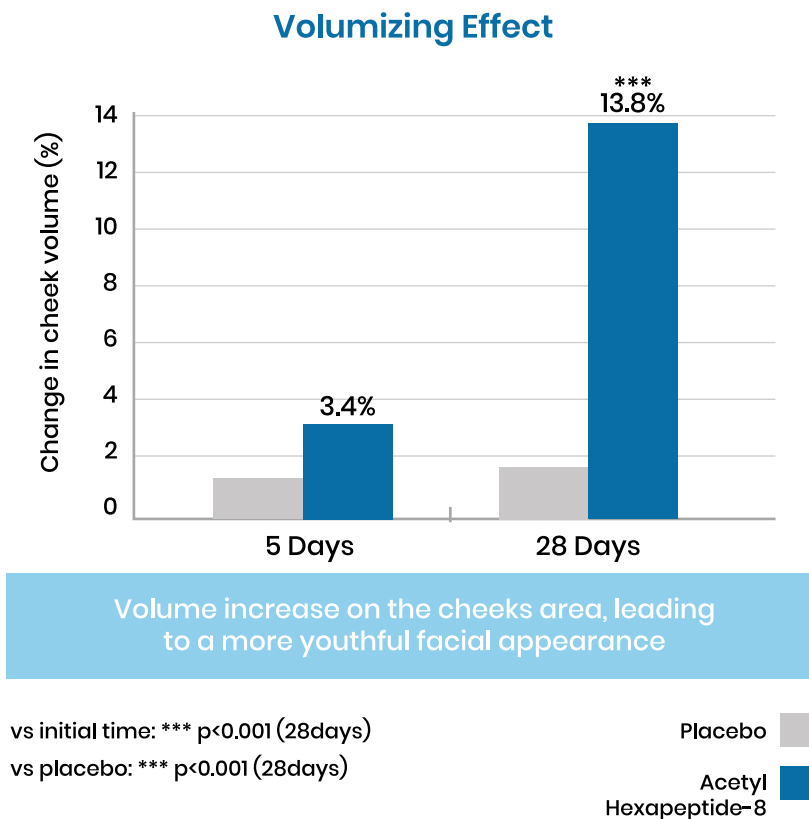


Increase in firmness and elasticity for a tensor effect.



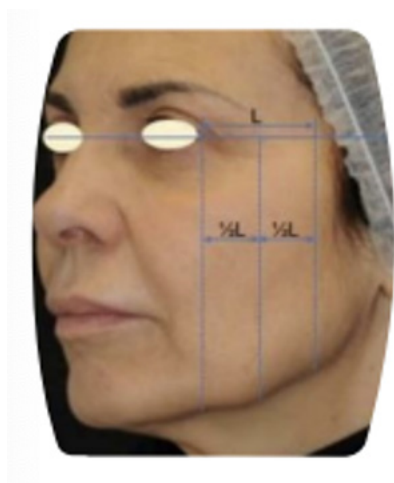
## Volumising effect

Changes in facial volume were evaluated on the cheeks by means of an image analysis involving the measurement of the distance between the cheekbone profile and a line passing vertically through the ear. A decrease in cheek distances (mm) corresponds to an increase in volume (%).



## Lifting effect

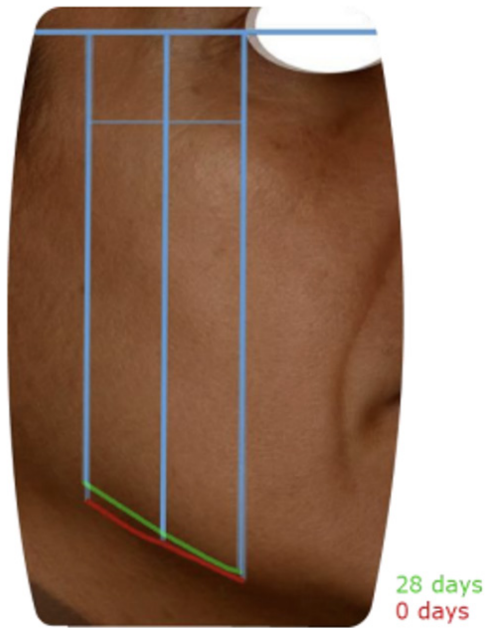
An image analysis was carried out in order to determine the lifting effect of the ingredient. The analysis consisted of drawing 3 vertical lines and analyzing the lines by means of a specific software as reported in the image below.



The first vertical line is drawn at the end of the eye, the third one is drawn at “the end of the face” where the sagging ends, and the second one is drawn in the middle of the distance between the first and third vertical lines.

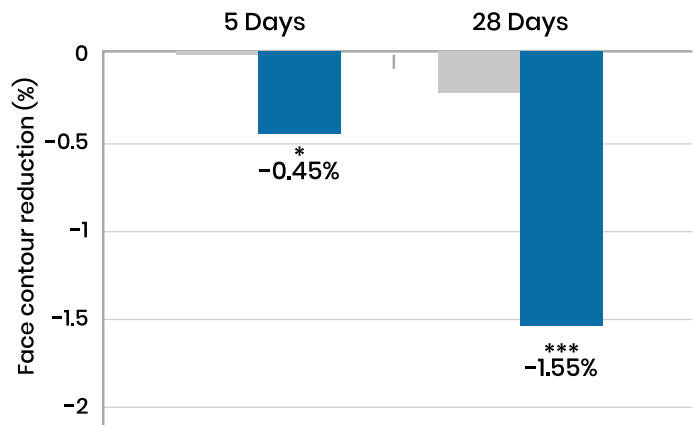
The three vertical lines are drawn along the skin sagging on the face profile and they should cover the whole sagging in order to evaluate the tensor effect.

The shorter the distance of the 3 vertical lines, the bigger the lifting effect.



Superimposed before and after images of a volunteer, showing a visible lifting effect at the end of the treatment.

### Lifting Effect



Acetyl Hexapeptide-8 helps reduce skin sagginess

vs initial time: \* p<0.05, \*\*\* p<0.001

vs placebo: \* p<0.01 (5days), \*\*\* p<0.001 (28days)

Placebo

Acetyl Hexapeptide-8

Links:

<https://pubmed.ncbi.nlm.nih.gov/24754410/>

<https://pubmed.ncbi.nlm.nih.gov/23417317/>

<https://www.ncbi.nlm.nih.gov/m/pubmed/29371611/?i=1&from=Argireline>

[Data on file](#)

### PALMITOYL HEXAPEPTIDE-12

Ingredient Claims:

Decreases wrinkle depth by up to 27%	Decreases main wrinkle volume by up to 36%
Reduces skin inflammation	Stimulates collagen and elastin production

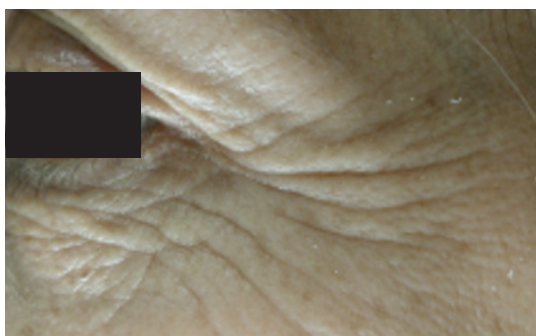
This peptide is a blend of the fatty acid palmitic acid with several amino acids, including glycine, histidine, and lysine, also known as palmitoyl oligopeptide. A lipopeptide, it helps form layers around and in between skin cells, creating a barrier that keeps natural moisture intact and prevents it from escaping. Palmitoyl Hexapeptide-12 is a lipopeptide molecule consisting of a lipid connected to Hexapeptide-12. Unlike water soluble peptides, Palmitoyl Hexapeptide-12 is highly biocompatible with skin's natural structure.

It interacts with cell membranes to boost and revitalise the natural function of the skin cells, renewing them to maximum growth potential. It boosts skin cells' natural productivity levels and is considered to be one of the most natural powerful anti-aging agents.

Palmitoyl hexapeptide-12 also acts as a neurotransmitter and stimulates production of collagen and other major extracellular matrix proteins.

Palmitoyl hexapeptide-12 is believed to work by reducing the production of interleukin-6 (IL-6) by key skin cells, keratinocytes and fibroblasts. IL-6 is a molecule that promotes inflammation, which, in turn, leads to faster degradation of the skin matrix, and thus contributes to the development of wrinkles, and loss of skin firmness and elasticity. Palmitoyl hexapeptide-12 is an elastin fragment used to stimulate collagen and elastin synthesis.

Study performed using 24 female volunteers aged from 42 to 66 years. Daily application of a liquid foundation (pigmented or non-pigmented) containing Palmitoyl Hexapeptide-12, for two months. Evaluation by image analysis (profilometry). Since pigments tend to accentuate the appearance of wrinkles, photographs were taken with and without foundation, before and after 56 days of treatment.



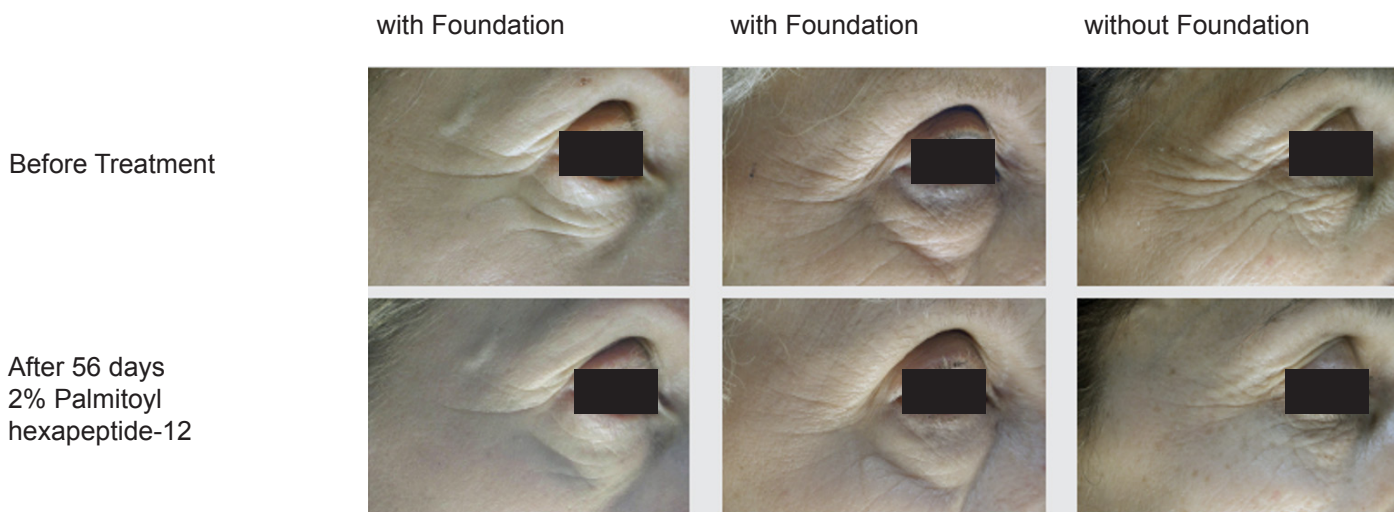
Before



After 56 days

Reduction of the main wrinkle volume up to -36%.

Values	Mean	Maximum
Volume of the main wrinkle	-13.7%	-36%
Depth of the main wrinkle	-10.1%	-27%
Surface occupied by deep wrinkles	-40.3%	-98%
Surface occupied by medium wrinkles	-24.5%	-86%



Links:

<https://www.mdpi.com/2079-9284/7/4/91>

<https://www.creative-peptides.com/article/palmitoyl-hexapeptide-12-a-natural-powerful-antiager-145.html>

<https://www.mdpi.com/2079-9284/4/2/16>

## RETINOL

Ingredient Claims:

Stimulates collagen production	Accelerates skin cell renewal
Reduces appearance of age spots	Evens skin tone
Limits collagen degradation	Improves skin texture
Stimulates the creation of new blood vessels in the skin, leading to nourished, healthier looking skin	Reduces the appearance of fine lines and wrinkles

Retinol is a precursor of retinoic acid and is an effective anti-ageing treatment widely used in cosmetic medicine and is classed as part of the group of topical Vitamin A based drugs called retinoids. Retinoids are widely studied and have been shown to reduce fine lines and wrinkles by increasing the production of collagen. They also stimulate the production of new blood vessels in the skin, which improves skin colour. Additional benefits include fading age spots and softening rough patches of skin. Topical application of retinol significantly affects both cellular and molecular properties of the epidermis and dermis. Tretinoin, was the first retinoid. It was used as an acne treatment in the 1970s, but researchers later discovered that it also fades actinic keratosis spots, evens pigmentation, and speeds the turnover of superficial skin cells.

Vitamin A and its derivatives are among the most effective substances slowing the ageing process. Retinoids regulate the cell apoptosis, differentiation and proliferation. Anti-wrinkle properties of retinoids promote keratinocyte proliferation, strengthen the protective function of the epidermis, restrain trans epidermal water loss, protect collagen against degradation and inhibit metalloproteinases activity.

Links:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2699641/>

<https://www.ncbi.nlm.nih.gov/pubmed/26578346>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6791161>

<https://pubmed.ncbi.nlm.nih.gov/17515510/>

<https://pubmed.ncbi.nlm.nih.gov/7097042/>

## CAMELLIA SINENSIS LEAF EXTRACT - GREEN TEA EXTRACT

Ingredient Claims:

Reduces oxidative stress in the skin to minimise the signs of ageing	Protects the skin against damaging pollutants
Improves the appearance of sun-damaged skin	Skin feels smoother and more even
Inhibits the activity of collagen and elastin degrading enzymes	Improves skin microcirculation for healthier-looking skin
Soothes irritated skin	

Research has established that topical application of green tea leaves or extracts have many benefits for skin, including anti-ageing properties. The polyphenols in green tea possess potent antioxidant and skin-soothing properties, and show significant promise for improving the appearance of sun-damaged skin. Epigallocatechin gallate (EGCG) is one of the active constituents of green tea believed to be responsible for its many health and appearance benefits, both orally and topically. The primary benefit of green tea is an antioxidant boosting skin against environmental pollutants. Research also shows that the catechins in Green Tea Extract act as a sunblock and as a way to reduce signs of ageing in sun-damaged skin.

Green tea is an anti-inflammatory agent, so it will soothe skin and help prevent redness.

#### Antioxidant:

- Tea Catechins, regarded as the most important antioxidant substance in the human diet, contribute a lot to the beneficial effects to the skin. Oxidative stress is the most important factor in the aging of the skin. Natural oxidants like this are helpful in the prevention of this process. Polyphenols in this extract can have moisturizing and protective effects. Skin roughness is significantly reduced with its use.

#### Photoprotective Activity:

- Ultraviolet radiations ranging from 280-400 nm are very detrimental to the skin. This extract can absorb ultraviolet radiation in harmful range and may also have scavenging properties for radicles produced by UV radiations.

#### Anti-ageing:

- Multiple enzymes including collagenases, hyaluronidase, metalloproteinases, lipoxygenases can have a destructive effect on skin cement lipid. So, Camellia Sinensis by inhibiting these enzymes delays the aging of the skin by preserving hyaluronic acid, elastin, collagen important for the skin. Alkaloids, phenols, and catechins are effective in preventing the formation of cellulite thus further aiding anti-ageing objective.

#### Anti-Inflammatory:

- By inhibiting platelet aggregation, cyclooxygenase (COX-1), and thromboxane synthase (TXAS) production in platelet, it produces anti-inflammatory effect even stronger than commonly used non-steroidal anti-inflammatory drug aspirin. It improves skin microcirculation and protects intracellular cement lipids.
- 

#### Sebum Production/Acne:

Oily skin, a result of excessive sebum production, accompanied by the problem of acne can be solved by the topical application of its extract. It helps reduce sebum production and have anti-greasy effect too.

#### Conclusion:

Camellia Sinensis and its extracts can improve skin regeneration by its anti-oxidant, anti-inflammatory, and toning properties. It is strongly soothing, protects against harmful environmental influencers, eliminates excess sebum, and improves skin hydration.

Link: <https://www.spandidos-publications.com/ijo/18/6/1307>

Link: <https://www.degruyter.com/view/journals/chem/open-issue/article-10.1515-chem-2015-0100/article-10.1515-chem-2015-0100.xml>

Link: <https://pubmed.ncbi.nlm.nih.gov/23742288/>

Link: <https://pubmed.ncbi.nlm.nih.gov/23742288/>

Link: <https://www.ajol.info/index.php/tjpr/article/view/67947>

Link: [Chu D.H. Overview of Biology, Development, and Structure of Skin. In Fitzpatrick's Dermatology in General Medicine, 7th ed; Wolff, K., Goldsmith, L.A., Katz, S.I., Gilchrest, B.A., Paller, A.S., Leffell, D.J., Eds.; McGraw-Hill: New York, NY, USA, pp. 57–73](#)

Link: [Hodge, Archibald, and Benjamin B. Warfield. Inspiration. Wipf and Stock Publishers, 2008.](#)

Link: <https://pubmed.ncbi.nlm.nih.gov/12719785/>

Link: <https://pubmed.ncbi.nlm.nih.gov/24009859/>

Link: <https://pubmed.ncbi.nlm.nih.gov/19397954/>

Link: <https://www.sciencedirect.com/science/article/pii/S0102695X17306725?via%3Dihub>

Link: <https://pubmed.ncbi.nlm.nih.gov/20846135/>

## CERAMIDE NG

### Ingredient Claims:

Strengthens skin barrier function	Protects the skin against moisture loss and environmental stressors
Improves skin hydration	Improves skin texture and appearance of fine lines

Ceramides are lipids that are found naturally in high concentrations in the uppermost layers of skin. They make up over 50% of skin's composition and play a vital role in determining skin appearance and how it responds to environmental threats. Ceramides act like the mortar between bricks—if the bricks are your skin cells.

Ceramide NG is a type of ceramide, which is a naturally occurring lipid (fat) that is found in the skin's barrier. Ceramide NG is similar in structure to the ceramides found in the skin and is known for its ability to improve the skin's barrier function.

Ceramides help hold skin together by forming a protective layer that limits moisture loss and protects against visible damage from pollution and other environmental stressors. In addition, ceramides are one of the anti-ageing ingredients responsible for supporting skin's dynamic nature.

Ceramides are the major lipid constituent of lamellar sheets present in the intercellular spaces of the stratum corneum. These lamellar sheets are thought to provide the barrier property of the epidermis. It is generally accepted that the intercellular lipid domain is composed of approximately equimolar concentrations of free fatty acids, cholesterol, and ceramides. Ceramides are a structurally heterogeneous and complex group of sphingolipids containing derivatives of sphingosine bases in amide linkage with a variety of fatty acids. Differences in chain length, type and extent of hydroxylation, saturation etc. are responsible for the heterogeneity of the epidermal sphingolipids. It is well known that ceramides play an essential role in structuring and maintaining the water permeability barrier function of the skin.

Some of the skin benefits of ceramide NG include:

- **Moisturisation:** Ceramide NG helps to improve the skin's ability to retain moisture, which can help to keep the skin hydrated and plump. This can be particularly beneficial for those with dry or dehydrated skin.
- **Barrier repair:** Ceramide NG helps to repair and strengthen the skin's barrier function, which can be compromised by factors such as harsh cleansers, environmental stressors, and aging. A strong skin barrier can help to protect the skin from damage and prevent moisture loss.
- **Anti-ageing:** Ceramide NG has been shown to help reduce the appearance of fine lines and wrinkles, as well as improve the overall texture and tone of the skin. It also helps to protect the skin from environmental stressors that can cause premature ageing.
- **Soothing:** Ceramide NG has anti-inflammatory properties, which can help to calm and soothe the skin. It can be particularly beneficial for those with sensitive or irritated skin.
- **Protection:** Ceramide NG helps to protect the skin from external stressors such as pollution, UV rays, and harsh weather conditions. It helps to reinforce the skin's natural defence mechanisms and prevent damage.

Overall, Ceramide NG is a beneficial ingredient for promoting healthy, hydrated, and protected skin.

### Links:

- <https://www.ncbi.nlm.nih.gov/pubmed/1255385>
- <https://pubmed.ncbi.nlm.nih.gov/12553851/>
- <https://pubmed.ncbi.nlm.nih.gov/24656726/>
- <https://pubmed.ncbi.nlm.nih.gov/27222347/>

## PANTHENOL (VITAMIN B5)

Ingredient Claims:

Provides intense moisturisation	Improves skin elasticity
Promotes wound healing	Improves skin texture and skin tone
Soothes red, irritated skin	Enhances skin barrier function

Also known as pro-vitamin B5, Panthenol effectively penetrates the skin and provides a number of benefits:

- **Moisturising:** Panthenol is a humectant, which means that it helps to attract and retain moisture in the skin. This can help to improve the skin's hydration levels by decreasing trans epidermal water loss and reduces dryness and flakiness.
- **Soothing:** Panthenol has anti-inflammatory properties that can help to calm and soothe irritated or sensitive skin. This makes it useful for people with conditions like eczema, rosacea, or acne.
- **Healing:** Panthenol can help to support the skin's natural healing process by promoting cell regeneration and tissue repair. This can help to reduce the appearance of scars and improve overall skin health.
- **Anti-ageing:** Panthenol can help to improve the appearance of fine lines and wrinkles by increasing the skin's elasticity and suppleness. It can also help to improve skin texture and tone.
- **Enhances skin barrier:** Panthenol can help to strengthen the skin's natural barrier function, reducing moisture loss and protecting the skin from external stressors.

Links:

<https://pubmed.ncbi.nlm.nih.gov/21982351/>

<https://pubmed.ncbi.nlm.nih.gov/27545858/>

<https://www.scinapse.io/papers/3564442>

<https://www.tandfonline.com/doi/full/10.1080/09546634.2016.1214235>

[Data on file.](#)

## SACCHARIDE ISOMERATE

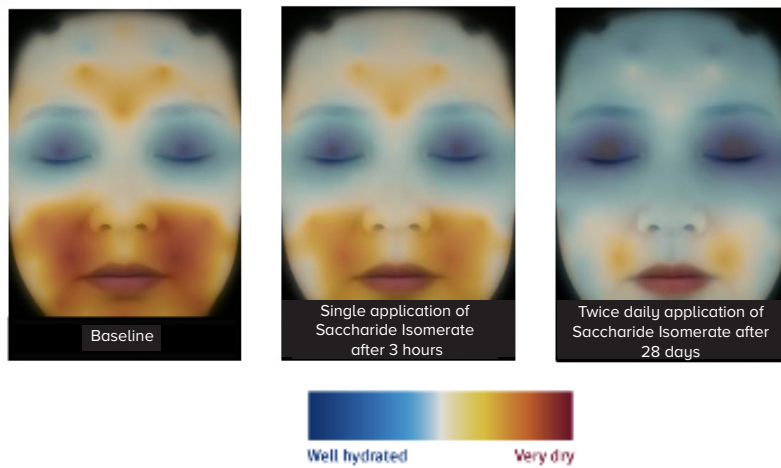
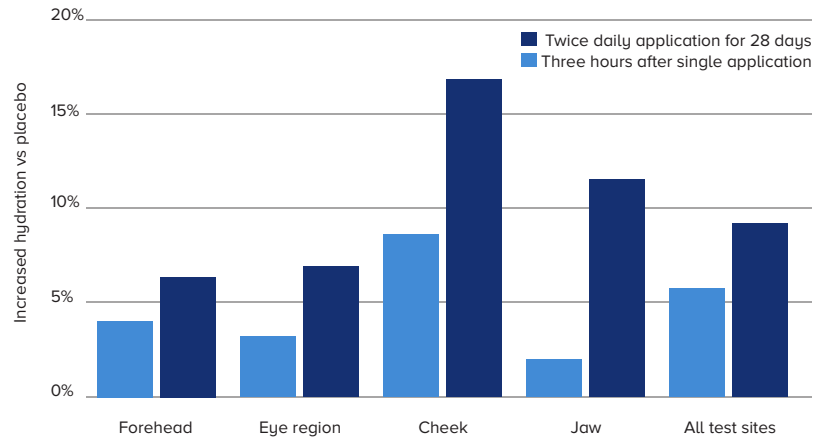
Ingredient Claims:

20% reduction in trans epidermal water loss	Long-lasting skin hydration up to 72 hours
Strengthens skin barrier function	Improves the signs of dry skin by 20%

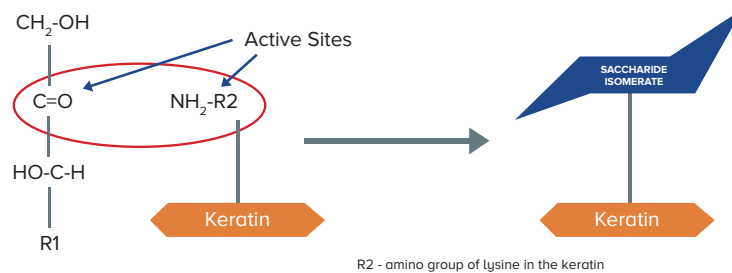
Saccharide Isomerate Complex is a 100% plant-derived carbohydrate complex, similar to that found in human skin. The molecules bind to the skin, preventing epidermal water loss, delivering immediate & long-lasting hydration for up to 72 hours. As a vegan hyaluronic acid booster, Saccharide Isomerate complex contains no animal by-products, so you can be confident that this product is cruelty-free and highly efficacious.

Saccharide Isomerate Complex is clinically proven to provide short and long-term hydration. The case study image below shows the increase in hydration to the stratum corneum after 3 hours and after 28 days, where Saccharide Isomerate Complex was applied twice per day.

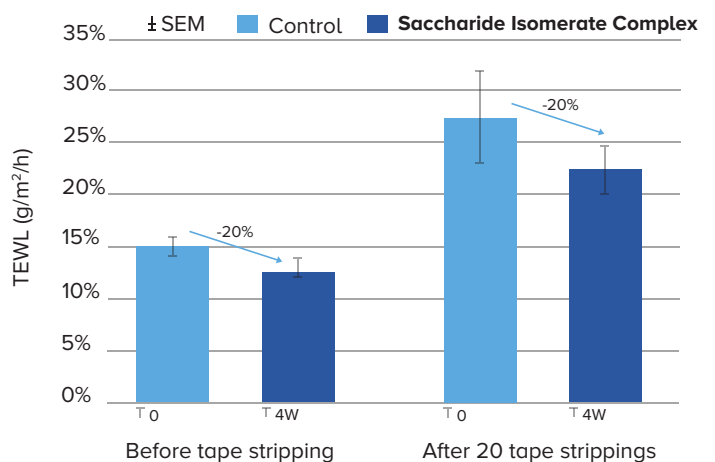
Saccharide Isomerate vs. Placebo  
 After twice daily application of Saccharide Isomerate Complex, there is a significant improvement in hydration across all facial areas. Just 3 hours after a single application, the excessively dry cheek area is significantly more hydrated.



The in-vivo and in-vitro studies have proven the unique binding of this Saccharide Isomerate Complex to the free amino group of lysine in keratin. After 4 weeks of continuous use, Saccharide Isomerate improves the signs of dry skin by 20%, with effects lasting long after the final application 6 days later. This binding function allows the Saccharide Isomerate Complex to connect with the top layer of the skin, locking in moisture.

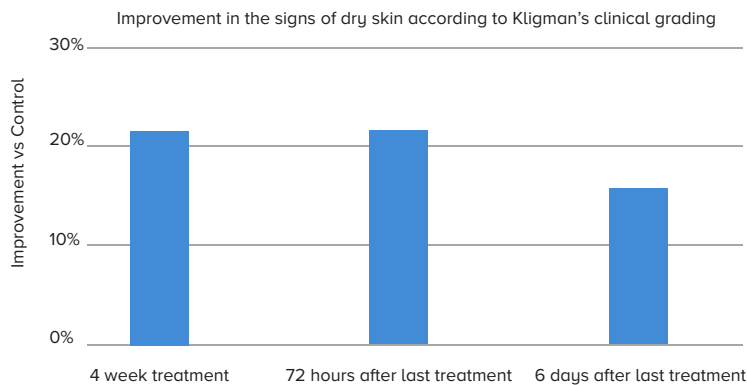


Saccharide Isomerate Complex in an aqueous solution improves and strengthens the skin barrier function as shown by the 20% reduction in trans-epidermal water loss before and after 20 successive tape strips after a 28-day application.





After 4 weeks of continuous use, Saccharide Isomerate Complex improves the signs of dry skin by 20%, with effects lasting long after the final application 6 days later.



Link: [1. International Journal of Cosmetic Science, 2015, 37, 595-605](#)

Link: [2. International Journal of Cosmetic Science, 2016 38, 217-223](#)

Link: [3. Data on file.](#)

Link: [4. Data on file.](#)

Link: [5. G.Padberg, J. Soc.Cosmetic Chemists 23, 271-279, 1972](#)

## SILYBUM MARIANUM

Ingredient Claims:

Reduces breakdown of collagen and elastin	Protects the skin from oxidative damage
Improves skin hydration levels	Reduces skin irritation and inflammation

Silybum marianum, a milk thistle extract is a potent source of flavonolignans is found to exhibit anti-collagenase and anti-elastase activity, two enzymes which can destroy the elasticity and firmness of the skin. Inhibition of these could help to protect the skin and prolong the appearance of a more youthful glow. Obtained from milk thistle, an original plant for cosmetics, has the same proportions of fatty acids as the oil from which it is made. This fatty acid forms part of the natural composition of the skin barrier. Adding extra linoleic acid reinforces and thus improves the preservation of the skin's ideal hydration level.

The esters typically used in formulation come from saturated fatty acids, mostly from coprah and palm oil: caprylic, lauric, myristic, palmitic and stearic acids. These esters are not essential fatty acids and do not confer this benefit.

Directly exposed to the external environment, the epidermis, and more particularly the stratum corneum, provides a protective role against mechanical damage, dryness and trans epidermal water loss, but also a barrier function to pathogens, UV rays, etc.

Indeed, consisting mainly of the corneocytes, the hydrolipidic film and a lipid cement, the stratum corneum forms a resistant and waterproof barrier. The intercellular cement between the corneocytes is composed of lipid bilayers, which are themselves composed of free fatty acids, ceramides and cholesterol arranged in a very orderly manner. The latest research has illustrated the importance of linoleic acid in ensuring the intercellular cement strength and the efficacy of the skin barrier. The knowledge on the stratum corneum have evolved from a simple system made of two-compartment (model «brick and cement») to a system with a regulated metabolic activity related to the deeper layers of the skin. Indeed, among the major components involved in the formation of the skin barrier, there is also the filag- grin protein, a marker of the barrier function derived from the grains of keratohyalin present in the granular layer underlying stratum corneum layer.

Silybum Marianum has been shown to have anti-inflammatory properties, which may help reduce redness and irritation in the skin. It is also a potent antioxidant that can help protect the skin from free radical damage caused by environmental factors like pollution and UV radiation.

Links:

<https://pubmed.ncbi.nlm.nih.gov/30875758/>

<https://pubmed.ncbi.nlm.nih.gov/30000830/>

<https://www.sciencedirect.com/science/article/abs/pii/S0031942200978385>

<https://www.hindawi.com/journals/omcl/2015/709628/>

## OENOTHERA BIENNIS OIL (EVENING PRIMROSE OIL)

Ingredient Claims:

Improves skin elasticity	Skin feels softer and smoother
Improved skin complexion	Reduces skin dryness and irritation
Strengthens the skin barrier	Nourishes and promotes healthy looking skin

Derived from the seeds of a plant native to North America, Oenothera Biennis Oil (evening primrose oil) is known for its healing properties primarily due to its omega-6 fatty acids (particularly gamma-linolenic acid content). Evening primrose oil helps to soften and smooth the skin in addition to reducing trans epidermal water loss for improved skin hydration.

Used cosmetically or topically, evening Primrose Oil soothes and moisturises the skin, scalp, and hair while enhancing elasticity. Furthermore, it promotes a healthy, clear, rejuvenated complexion with enhanced radiance and addresses roughness, wrinkles, redness, dryness, and irritation.

Evening primrose oil has many properties that are beneficial to the health of your skin. Not only does evening primrose oil moisturise and soothe, but it can also enhance the texture and elasticity of skin, addressing dryness, irritation, roughness and wrinkles.

Evening primrose oil is made up of a number of different beneficial constituents, including Omega-6 acids, Omega-9 acids, and Stearic Acid. The key ingredients in evening primrose oil are essential fatty acids that help strengthen the skin barrier and reduce moisture loss. Linoleic Acid which is found in evening primrose oil is an Omega-6 fatty acid that promotes skin health by reinforcing the skin barrier, preserving water in the epidermis and regulating sebum production. If your skin is deficient of essential fatty acids it can lead to dry, rough, or scaly skin.

Links:

<https://pubmed.ncbi.nlm.nih.gov/18492193/>

<https://pubmed.ncbi.nlm.nih.gov/34957578/>

<https://pubmed.ncbi.nlm.nih.gov/10442214>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6116039/>

<https://pubmed.ncbi.nlm.nih.gov/20000302/>

## OLEA EUROPAEA FRUIT OIL (OLIVE FRUIT OIL)

### Ingredient Claims:

Reduces inflammation in the skin and soothes irritation	Protects the skin from oxidative damage
Minimises signs of ageing such as fine lines and wrinkles	Rich in skin nourishing vitamins and fatty acids to promote healthy-looking, radiant skin

Commonly known as olive fruit oil, it is a nourishing and moisturising oil that is rich in oleic, palmitic, and linoleic acids fatty acids to help treat dry skin. Olive fruit oil is rich in antioxidants, such as vitamin E and polyphenols, that help to neutralise free radicals and prevent oxidative damage to the skin. This can help to reduce the appearance of fine lines, wrinkles, and other signs of aging.

Olive fruit oil contains oleocanthal, a compound that has anti-inflammatory properties. This makes it effective for soothing and reducing inflammation in the skin, such as redness and irritation.

In addition, Olive fruit oil contains vitamin A and vitamin K, which help to promote the growth and repair of skin cells. This makes it effective for healing and preventing skin damage, such as scars and sun damage.

### Links:

<https://pubmed.ncbi.nlm.nih.gov/28871681/>

<https://pubmed.ncbi.nlm.nih.gov/20106659/>

<https://pubs.rsc.org/en/content/articlelanding/2022/FO/D2FO01945K>

<https://pubmed.ncbi.nlm.nih.gov/19167997/>

## TRITICUM VULGARE GERM OIL

### Ingredient Claims:

Rich in vitamins, minerals and fatty acids to promote healthy-looking skin	Promotes skin healing
Protects the skin from oxidative damage	Hydrates the skin and improves skin elasticity
Helps to regulate sebum production, reducing the chance of clogged pores	Reduces the signs of ageing

Wheat germ oil is derived from the germ of the wheat kernel and is rich in vitamins A, D, E, antioxidants, minerals, and essential fatty acids. Some of the skin benefits of wheat germ oil include:

- **Moisturisation:** Wheat germ oil is a natural emollient and moisturiser that helps to soothe and hydrate the skin. It is easily absorbed by the skin and helps to improve the skin's elasticity.
- **Anti-ageing:** Wheat germ oil is rich in vitamin E, which is a powerful antioxidant that helps to fight free radicals that can cause skin damage and premature ageing. Regular use of wheat germ oil can help to reduce the appearance of fine lines and wrinkles.
- **Skin healing:** Wheat germ oil is rich in vitamin B6 and folic acid, which help to promote the growth and regeneration of skin cells. This makes it effective for healing and preventing skin damage such as scars, stretch marks, and dry skin.
- **Sun protection:** Wheat germ oil contains a high level of antioxidants, including vitamin E, which helps to protect the skin from damage caused by UV rays. Regular use of wheat germ oil can help to prevent sunburn and other types of sun damage.

- Acne treatment: Wheat germ oil contains linoleic acid, which is an essential fatty acid that helps to regulate sebum production. This makes it effective for treating acne-prone skin by reducing oiliness and preventing clogged pores.

Overall, wheat germ oil is a natural and effective ingredient that supports the skin's natural process of regeneration. It leaves the skin very smooth by nourishing and helping the skin to heal, promoting healthy, radiant skin.

Links:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3141305/>

<https://pubmed.ncbi.nlm.nih.gov/31033133/>

## ALOE BARBADENSIS LEAF JUICE (ALOE VERA)

Ingredient Claims:

Soothes irritated skin	Moisturises and hydrates dry skin
Reduces trans epidermal water loss	Encourages skin healing and improves skin's overall condition
Improve skin elasticity	

The botanical name of Aloe Vera is Aloe Barbadensis miller. It belongs to Asphodelaceae (Liliaceae) family, and is a shrubby or arborescent, perennial, xerophytic, succulent, pea-green colour plant. The Aloe vera plant has been known and used for centuries for its health, beauty, medicinal and skin care properties. The name Aloe vera derives from the Arabic word "Alloeh" meaning "shining bitter substance," while "vera" in Latin means "true". 2000 years ago, the Greek scientists regarded Aloe vera as the universal panacea. The Egyptians called Aloe "the plant of immortality.

It grows mainly in the dry regions of Africa, Asia, Europe and America. Aloe Barbadensis is a useful additive for cosmetics as it has many different properties to counteract the effects of ageing and to protect the skin. Aloe barbadensis, or Aloe Vera, is a succulent plant which offers many benefits and is suited for all skin types, especially dry, damaged, broken, sensitive and irritated skin. It offers anti-inflammatory, antimicrobial, antioxidant, humectant and soothing and anti-itch properties for skin. Aloe Vera contains Vitamin B complex, folic acid, Vitamin C and carotene, which is a precursor of Vitamin A.

Aloe soothes the skin, prevents trans epidermal water loss (TEWL). It cools and hydrates the skin, moisturises and promotes healing from breakouts. Aloe vera contains 75 potentially active constituents: vitamins, enzymes, minerals, sugars, lignin, saponins, salicylic acids and amino acids.

Links:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2763764/>

[https://www.researchgate.net/publication/334123567\\_Review\\_on\\_Aloe\\_Vera](https://www.researchgate.net/publication/334123567_Review_on_Aloe_Vera)

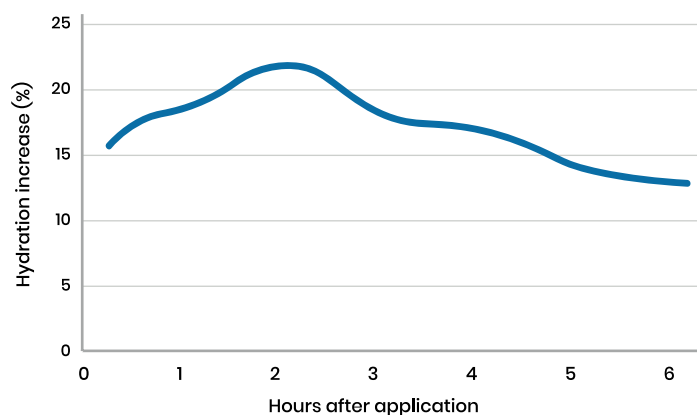
## SODIUM HYALURONATE

Ingredient Claims:

Boosts skin hydration	Supports the skin barrier
Promotes wound healing	Protects the skin from environmental damage
Skin feels smoother and tighter	Supports collagen and elastin formation

Hyaluronic Acid and Sodium Hyaluronate can replace some of the water lost in the dermis, and potentially fight wrinkles and other signs of ageing. Because of its relatively high molecular weight it is not absorbed following application to the skin. Instead, it forms a thin, light, permeable, invisible, viscoelastic surface film. This fixes the moisture on the surface of the skin. The Hyaluronic Acid (HA) film supports the skin's natural protective mechanism. Since it is an excellent water reservoir leading to a perceptible and visible improvement in skin condition.

**Results: Up to 25% increase of skin hydration  
2 hours after application**



**In vitro**

High-molecular-weight (up to 2000 kDa) Sodium Hyaluronate improves skin hydration and elasticity when compared to placebo.\*

**Study**

0.025% Sodium Hyaluronate (1.4 MDa) in an emulsion vs placebo  
8 Volunteers  
Parameter: skin hydration (Corneometer CM 820 PC)

Sodium Hyaluronate is the salt form of Hyaluronic Acid, a water-binding ingredient that has the ability to fill the spaces between the connective fibres known as collagen and elastin. Hyaluronic Acid hydrates and separates the skin, allowing it to retain water and create a plumping effect. Sodium Hyaluronate has been used for moisturisation and wound healing since its discovery in the 1930s. It is comprised of small molecules that penetrate the skin easily and can hold up to 1000 their own weight in water. Because the skin naturally loses its water composition as it ages (going from 10% - 20% water to less than 10%).

Links:

[Data on file](#)

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3583886>

\*mg/kg