Clinical Evidence

PRODUCT, DESCRIPTION AND EVIDENCE
REFERENCE: FS8-76-2
PUBLISH DATE: 01/04/2025

H_2^{∞}

This luxury silky moisturiser is formulated to keep skin optimally hydrated and in peak condition. Blended with Tara Seed Extract, Tripeptide-1, Tetrapeptide-7 and Vitamins B & C, it will help calm and restore the skin's natural moisture barrier, boost moisture levels and help minimise future dehydration. Visibly softening fine lines, improving skin texture, and defending against oxidative stress.

KEY BENEFITS

- Provides up to 72-hour hydration and reduces trans-epidermal water loss by 20%.
- Improves skin luminosity by 150% for a more radiant, glowing complexion.
- Reduces wrinkle depth by up to 19.9% and wrinkle density by 32.9%.
- Visibly reduces crow's feet, fine lines and puffiness.
- Stimulate collagen synthesis for firmer, more elastic skin
- Improve skin tone by 16%
- Visibly smooth skin by up to 16%
- Improves signs of dry skin by 20%
- Strengthens skin barrier function and improves overall skin texture and resilience.

DIRECTIONS FOR USE

Apply to clean skin by massaging over face and neck until absorbed, avoiding direct eye contact. Re-apply as required.

WARNINGS

For external use only. Avoid contact with eyes. If this occurs wash affected area thoroughly with water. If irritation occurs, discontinue use. Store this product below 40°C.

INGREDIENTS

Aqua, Glycerin, Coco-Caprylate/Caprate, Cetearyl Alcohol, Saccharide Isomerate, Helianthus Annuus Seed Oil, Glyceryl Stearate, Persea Gratissima Oil, Simmondsia Chinensis Seed Oil, C15-19 Alkane, Butyrospermum Parkii Butter, Theobroma Grandiflorum Seed Butter, Cetyl Alcohol, Hydrolyzed Corn Protein, Panthenol, Hydrolized Wheat Protein, Hydrolized Soy Protein, Vaccinium Vitis-Idaea Fruit Extract, Tocopherol, Caesalpinia Spinosa Gum, Xanthan Gum, Butylene Glycol, Allantoin, Leuconostoc/Radish Root Ferment Filtrate, Dicetyl Phosphate, Ceteh-10 Phosphate, Parfum, Carbomer, Palmitoyl Tripeptide-1, Palmitoyl Tripeptide-7, Sodium Gluconate, Benzoic Acid, Dehydroacetic Acid, Citric Acid, Sodium Citrate, Sodium Lactate, Pantolactone, Gluconolactone, Calcium Gluconate, Sodium Benzoate, Sodium Hydroxide, Polysorbate 20, Phenoxyethanol, Acetyl Cedrene, Linalool, Citronellol.

ACTIVE INGREDIENTS

Saccharide Isomerate 3%
Persea Gratissima Oil 2%
Simmondsia Chinensis Seed Oil 2%
Butyrospernum Parkii Butter 1%
Theobroma Grandiflorum Seed Butter 1%
Hydrolyzed Corn Protein 0.78%
Panthenol 0.75%
Tocopherol 0.72%
Hydrolyzed Wheat Protein 0.64%
Hydrolyzed Soy Protein 0.54%
Vaccinium Vitis-Idaea Fruit Extract 0.22%
Allantoin 0.2%
Caesalpinia Spinosa Gum 0.84mg*
Palmitoyl Tripeptide-1 0.005mg*
Palmitoyl Tetrapeptide-7 0.0025mg*

SACCHARIDE ISOMERATE

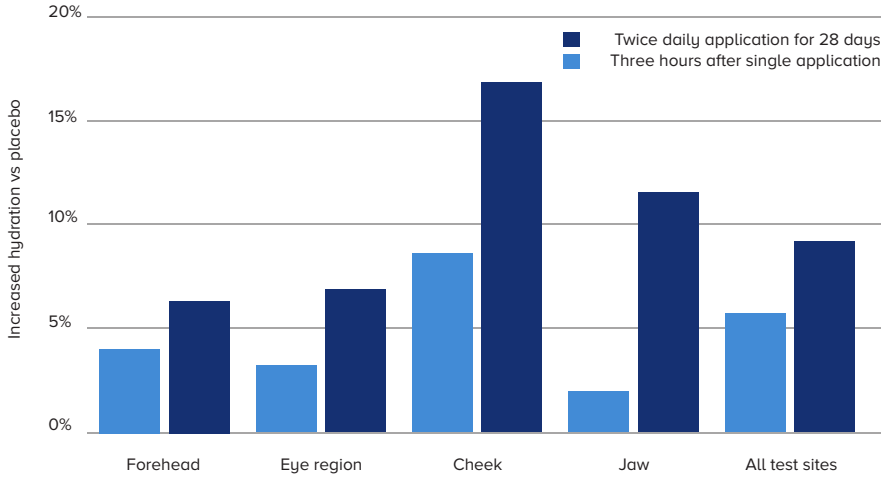
Ingredient Claims:

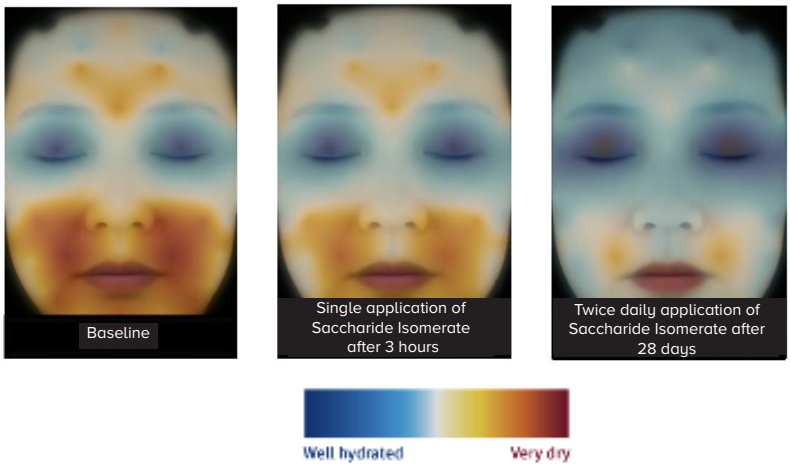
20% reduction in trans epidermal water loss	Long-lasting skin hydration up to 72 hours
Strengthens skin barrier function	Improves the signs of dry skin by 20%

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.

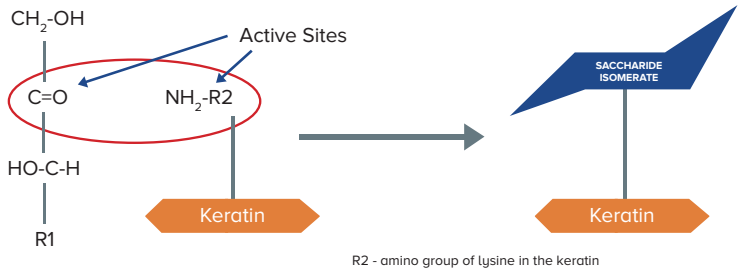
Saccharide Isomerate Complex is clinically proven to provide short and long-term hydration. The case study image below shows the increase in hydration to the stratum corneum after 3 hours and after 28 days, where Saccharide Isomerate Complex was applied twice per day.

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.

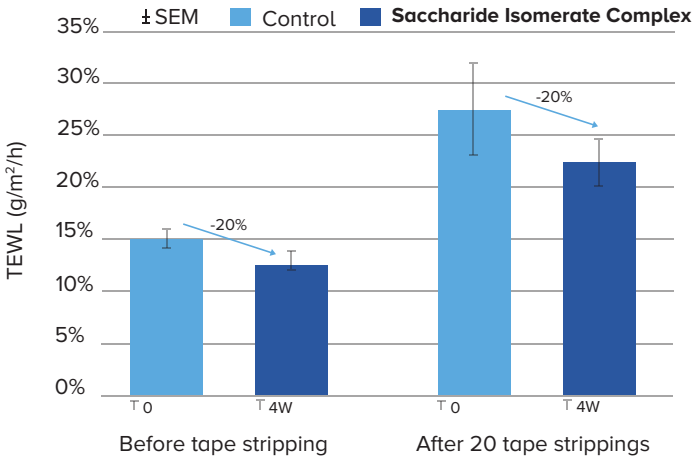




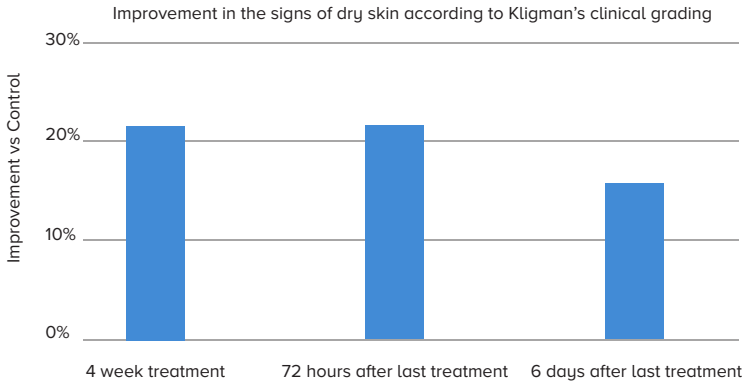
The in-vivo and in-vitro studies have proven the unique binding of this Saccharide Isomerate Complex to te free amino group of lysine in keratin. After 4 weeks of continuous use, Saccharide Isomerate improves the signs of dry skin by 20%, with effects lasting long after the final application 6 days later.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

PERSEA GRATISSIMA FRUIT EXTRACT (AVOCADO FRUIT EXTRACT)

Ingredient Claims:

Stimulates antioxidant activity and protect stems cells from stress	Improves skin luminosity by 150%
Reduces appearance of dark circles by 180%	Reduces puffiness by 12.5%
Skin appears brighter and firmer	

Native to Mexico: consumed 10,000 years ago by Aztecs & Mayas, imported to Europe in the 17th century.

Key Benefits:

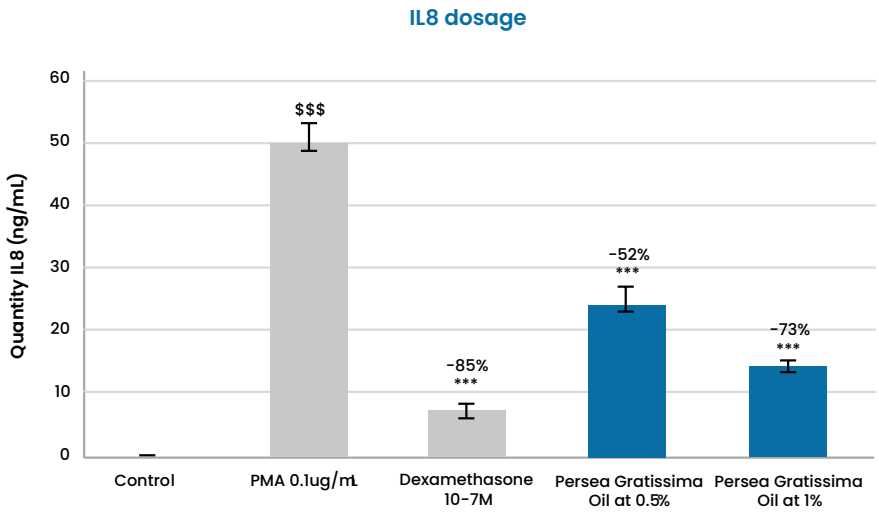
- Lightens complexion, reduces dark circles, reduces eye bags.
- Acts on: Inflammation, Pigmentation irregularity, Vascular and lymphatic permability, Blood circulation and Fatty deposits.
- It inhibits tyrosinase activity and reduces adipocytes size.
- Reduces appearance of eye bags and dark circles
- Antioxidant
- Reduce appearance of wrinkles
- Improved skin elasticity

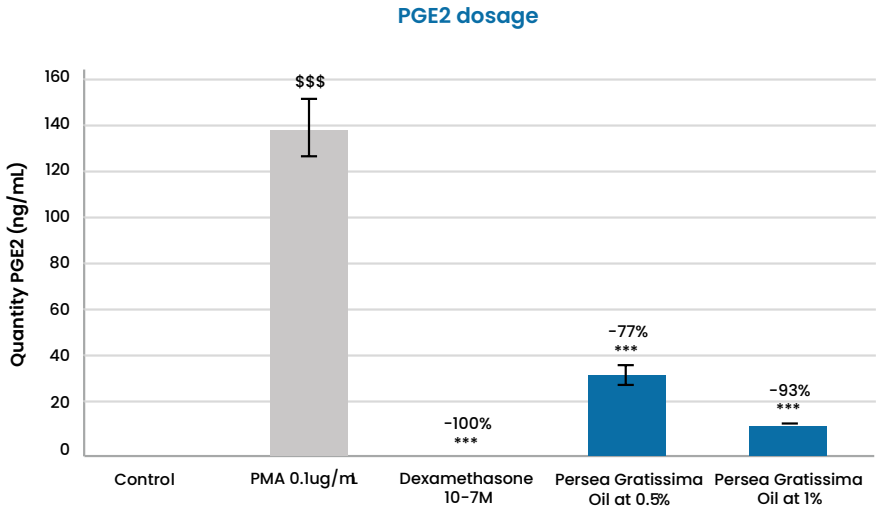
Reduced Interleukin 8 (IL8) activity, reduced synthesis of Prostaglandin E2 (PGE2) (induces skin ageing).

Keratinocytes incubated for 24hr with Persea Gratissima Oil vs Dexaméthasone

Stimulation with PMA (Phorbol 12-Myristate 13-Acetate) for 24hr

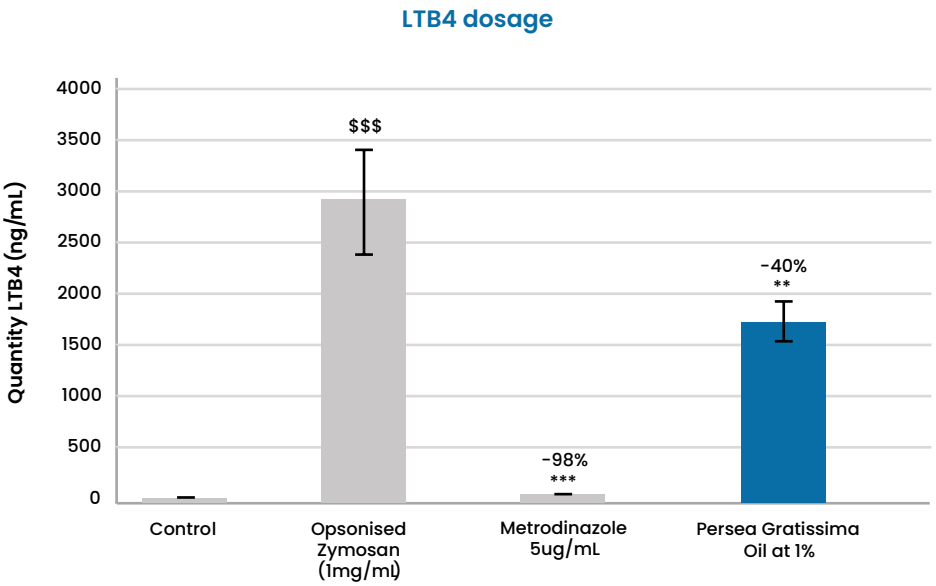
$$$ p<0.001 vs temoin no stimulated
*** p<0.001 vs PMA





Reduced Oedema formation-reduces inflammation.

LTB4: chemotactic factor
Chemotactic factor activated in response to inflammation, increases vasular permeability.

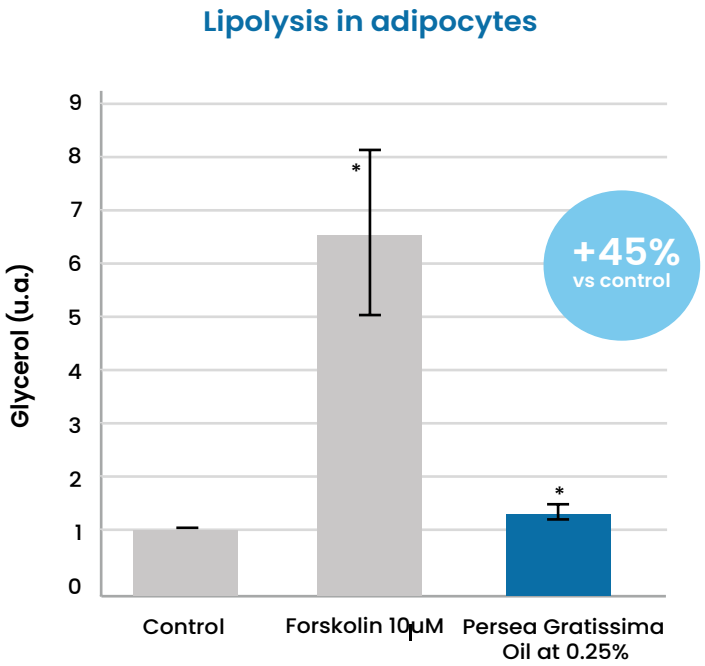


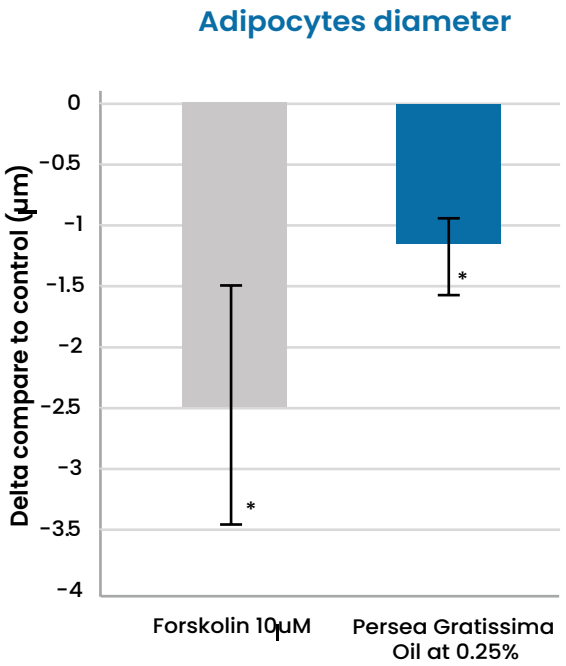
Human neutrophils incubated with Persea Gratissima Oil or Métronidazole at 5µg/mL, for 15 minutes

Stimulation by opsonised zymosan (1mg/ml) for 10 minutes

$$$ p<0,001 vs control
* p<0.05
** p<0.01 vs zymosan

Stimulates lipolysis to reduce puffiness



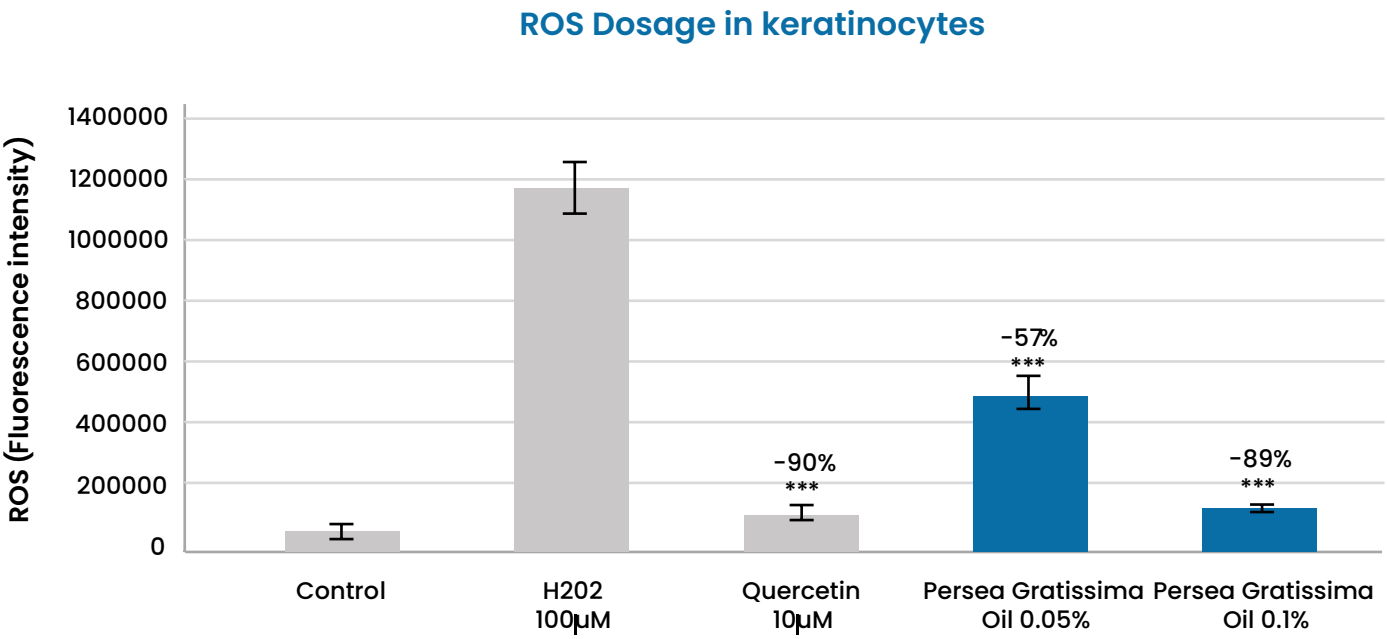


Mature adipocytes treated for 4hr with Persea Gratissima Oil or Forskolin, Glycerol released measurement

Measure of adipocyte diametre using a cell-size counter

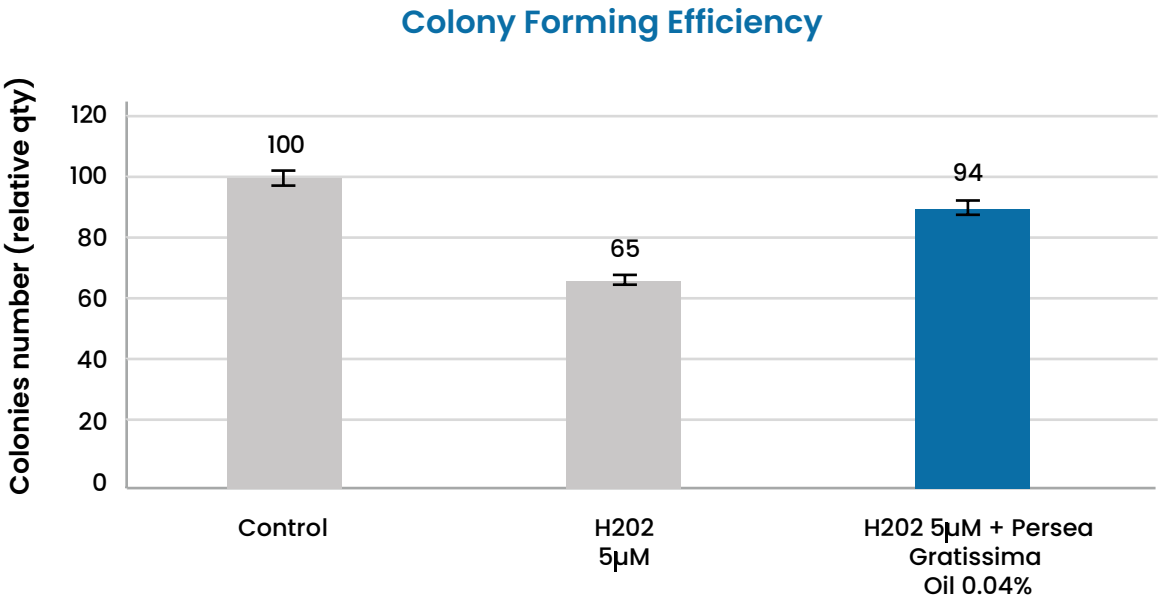
* p<0.05

Stimulates antioxidant activity and protects stem cells from oxidative stress.



Keratinocytes pre-treated for 24hr then treated for 20mins by H202.

*** p<0.001



Epidermal progenitor cells exposed to H202; 5uM for 15mins.
Assessment of colony-forming capacity.

Conclusion:

- Increase in Microcirculation
- Decrease in inflammation
- Decrease vascular & lymphatic permeability
- Decongestion
- Oedema reduction

Dark Circles

Lightening Effect
- Decrease Melanogenesis
- Decrease Tyrosinase

Eye Bags

Decrease fatty deposits
- Increase Lipolysis
- Adipocytes diametre

Clinical Case Study 1

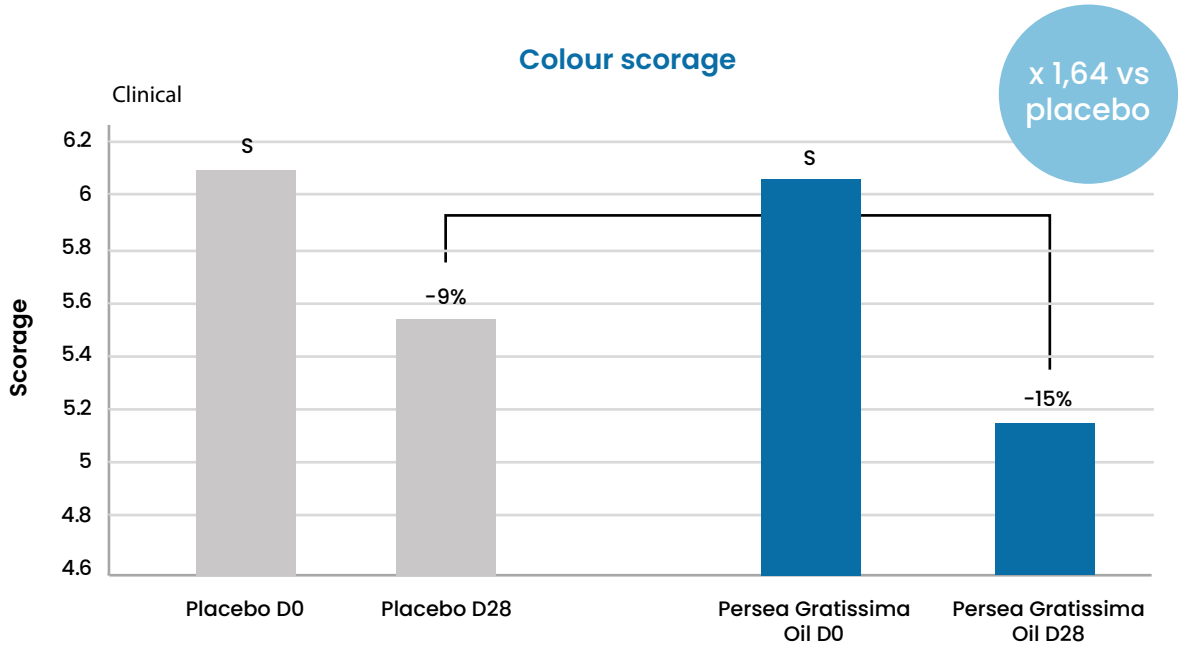
Population
- 20 healthy female volunteers
- 22 to 66 years old (average age 40 years old)

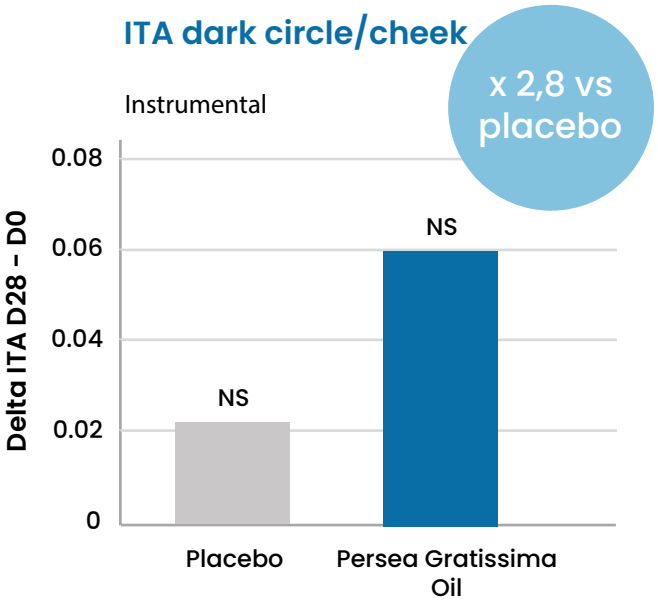
Inclusion Criteria
- Randomised double blind study vs placebo
- Dark circle on the face

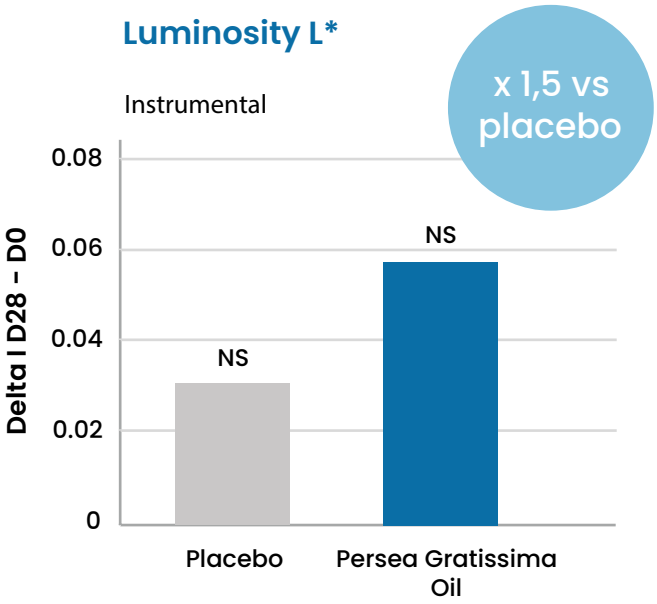
Protocol
- Use of a cream containing 3% of Persea Gratissmia Oil or a placebo
- Hemi face
- Twice a day
- During 28 days

Colour Results

Persea Gratissmia Oil decreases the intensity of dark circles.



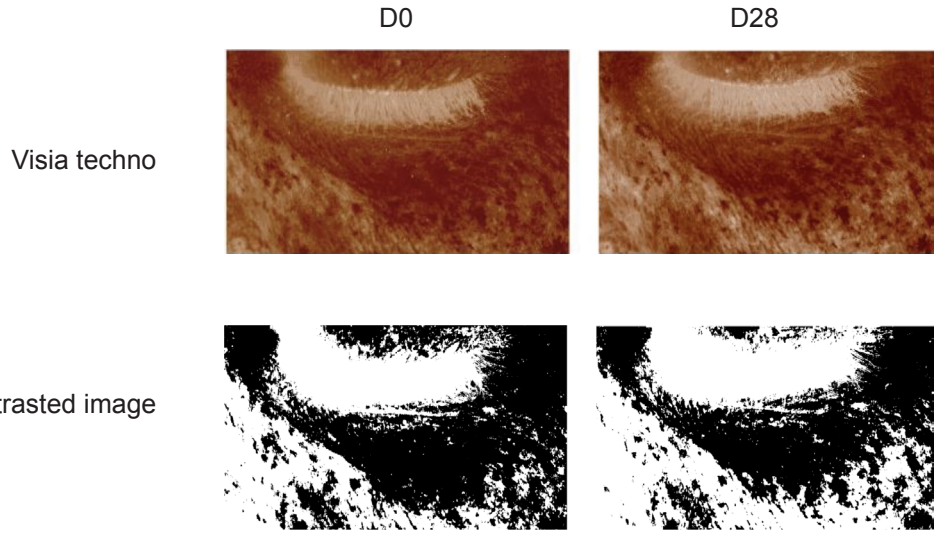




Colour of dark circles (skin colour infraorbital)

- Score 0 : skin colour similar to other skin areas
- Score 9 : dark circle very intense and visible

Results on dark circles



Clinical Case Study 2

Population

- 23 healthy female volunteers
- 44 to 70 years old (average age 63 years old)

Inclusion Criteria

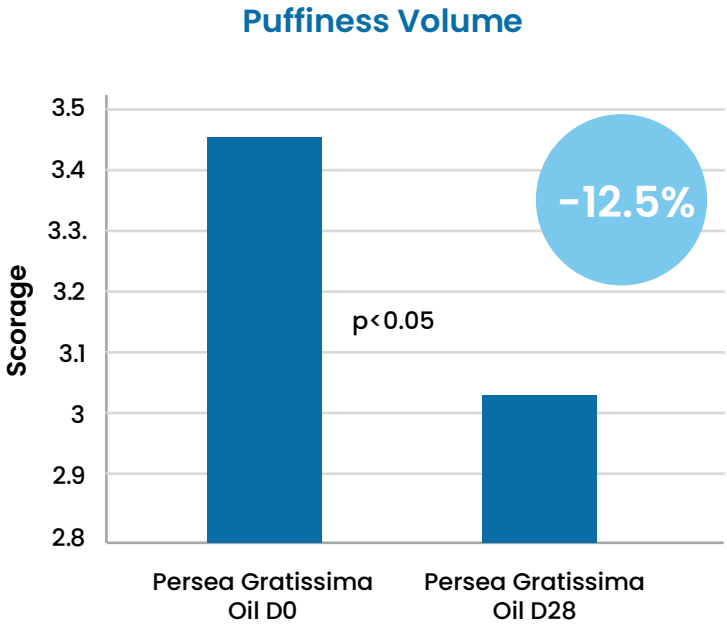
- Eye bags on the face (Bazin scale superior to grade 2)

Protocol

- Use of a cream containing 3% of Persea Gratissmia Oil
- Face
- Twice a day
- During 28 days

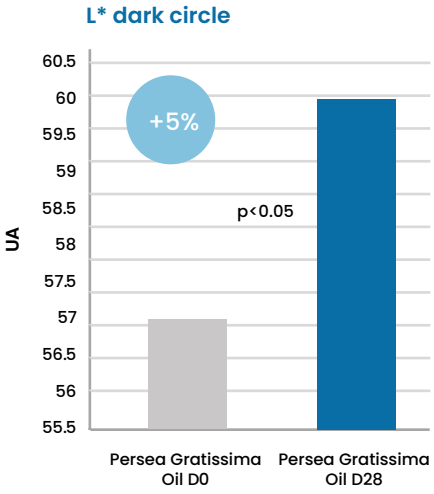
Results on puffiness

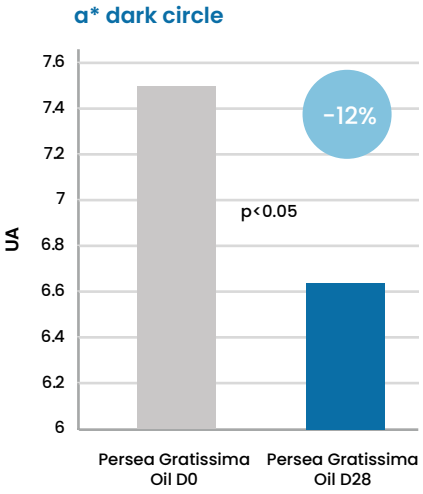
Persea Gratissmia Oil reduces the volume of puffiness

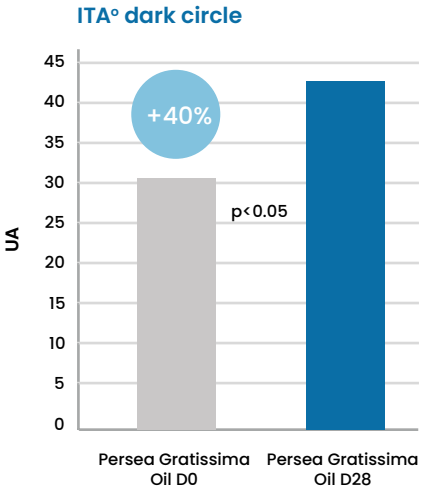


Results on dark circles

Persea Gratissmia Oil lightens the dark circles







Link: Data of file
Link: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6887779/

Avocado Oil is rich in Vitamins A, D and E and can penetrate quickly into the lower skin layers to promote healing, skin regeneration and protection from the ageing effects of UV light and pollution. Used topically, vitamin-rich Avocado Oil smooths wrinkles, helps to tighten the skin and diminish blemishes. It is also gentle enough to be used on dry, ageing, rough or sensitive skin.

The main chemical constituents of Avocado Oil are: Palmitic Acid, Palmitoleic Acid, Stearic Acid, Oleic Acid, Linoleic Acid, Alpha Linoleic Acid. These chemical constituents all carry their own set of beneficial skin properties: Palmitic Acid has emollient properties; Palmitoleic Acid helps delay the appearance of premature ageing, moisturises and tightens skin, enhances skin complexion and skin elasticity; Stearic Acid has cleansing properties and can balance out excess sebum and soften skin; Oleic Acid helps skin suppleness and helps reduce the signs of ageing Linoleic Acid has anti-inflammatory properties and promotes moisture retention in skin.

Sources
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6887779/
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3249906/
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6600360

SIMMONDSIA CHINENSIS SEED OIL (JOJOBA OIL)

Ingredient Claims:

Improves skin moisturisation	Balances sebum production
Provides anti-inflammatory benefits	Protects the skin against oxidative damage
Helps to improve skin texture	Suitable for sensitive skin

Jojoba oil is a liquid wax derived from the seeds of the jojoba plant (Simmondsia chinensis). Despite its name, it is not an actual oil but rather a unique substance with a similar composition to the sebum, the natural oil produced by our skin. The jojoba plant is native to arid regions of North America, particularly the southwestern United States and northern Mexico. Jojoba oil has been used for centuries by indigenous cultures for its medicinal and cosmetic properties. It gained popularity in the beauty and skincare industry due to its numerous beneficial qualities. Here are some key characteristics of jojoba oil:

- Moisturises the skin: Jojoba oil has a similar composition to the sebum produced by our skin, making it an excellent natural moisturiser. It forms a protective layer on the skin, preventing moisture loss and keeping the skin hydrated. Jojoba oil is predominantly composed of fatty acids, including oleic acid, gadoleic acid, and erucic acid. These fatty acids help to moisturise and nourish the skin, keeping it soft and supple.

- Balances oil production: Jojoba oil is non-greasy and can help regulate the skin's oil production. If your skin is oily, it can help control excess sebum. Similarly, if your skin is dry, it can provide the necessary hydration.

- Soothes and calms the skin: Jojoba oil contains phytosterols, which are plant compounds that have anti-inflammatory properties. They can help reduce redness and irritation in the skin and promote a more balanced complexion.

- Non-comedogenic and acne-fighting: Jojoba oil has a low comedogenic rating, meaning it is less likely to clog pores. It helps dissolve excess sebum and impurities, reducing the occurrence of acne breakouts. Its antimicrobial properties can also help inhibit the growth of acne-causing bacteria.

- Protects against environmental damage: Jojoba oil is rich in antioxidants, such as vitamins E and C, which can help protect the skin from damage caused by free radicals and environmental stressors like pollution and UV radiation.

- Improves skin texture: Regular use of jojoba oil can help improve the overall texture of the skin. It softens and smoothens the skin, giving it a more youthful and healthy appearance.

- Reduces the appearance of fine lines and wrinkles: Jojoba oil is rich in vitamin E, a powerful antioxidant that helps protect the skin from damage caused by free radicals. It also promotes skin healing and can improve the overall texture and appearance of the skin. The moisturising and antioxidant properties of jojoba oil can help diminish the appearance of fine lines and wrinkles, promoting a more youthful complexion.

- Gentle and suitable for sensitive skin: Jojoba oil is generally well-tolerated by most skin types, including sensitive skin. It is hypoallergenic and rarely causes any adverse reactions.

Links:
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5796020/
https://pubmed.ncbi.nlm.nih.gov/34073772/
https://pubmed.ncbi.nlm.nih.gov/24442052/

BUTYROSPERMUM PARKII BUTTER (SHEA BUTTER)

Ingredient Claims:

Deeply moisturises the skin and reduces trans epidermal water loss	Rich in vitamins and fatty acids that nourish the skin and promote healthier-looking skin
Reduces signs of skin inflammation, irritation, and redness	Promotes healing of scars and tissue regeneration
Improves and softens skin texture	Promotes the production of collagen

A botanical ingredient derived from the seeds of the African Shea Tree. Also known as shea butter, it acts as a skin conditioning agent. Firstly, it helps the skin to retain moisture and lessen the loss of water by forming a barrier on the skin's surface, making it particularly beneficial for dry or sensitive skin types. Secondly, it works to reduce the appearance of rough patches and dry flakes on the skin and acts as a deep moisturiser because of its content of unsaponifiable fats meaning that, unlike other fatty oils, it does not turn into soap when in the presence of a potent alkali, thus retaining its moisturising abilities.

Shea butter contains natural anti-inflammatory agents that can help reduce inflammation and irritation in the skin and also contains antioxidants, such as vitamins A and E, which can help protect the skin from free radicals and reduce the signs of aging, such as fine lines and wrinkles. Shea butter has been shown to help reduce the appearance of scars by promoting tissue regeneration and increasing collagen production. In addition, shea butter contains a natural SPF of around 6, which can help protect the skin from the damaging effects of UV radiation. Lastly, shea butter can help improve the texture and softness of the skin by promoting cell regeneration and reducing roughness.

Links:
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5796020
https://pubmed.ncbi.nlm.nih.gov/33565186/
https://academic.oup.com/bjd/article-abstract/134/2/215/6681786
https://www.tandfonline.com/doi/abs/10.1080/10408398.2011.604142

THEOBROMA GRANDIFLORUM SEED BUTTER (CUPUACU BUTTER)

Ingredient Claims:

Rich in nutrients to nourish to skin and improve overall complexion	Helps to protect the skin from oxidative damage
Highly effective at hydrating the skin	Plant-based alternative to lanolin

Cupuacu Butter, also known as Theobroma grandiflorum seed butter, from the Cupuacu Tree is found in Northern Brazil in the Amazonian rain forest. The pulp of the fruit that the tree bears provides cupuacu butter. It is a modern plant-based alternative to lanolin, which is a major sensitizer and produces untoward allergies and side effects in many individuals. Cupuacu's ability to penetrate the skin quickly (transdermal penetration), and then retain moisture, is unparalleled and far superior to shea butter or lanolin. A simple water absorption study was performed in the lab.

Water was added to each of the following: cupuacu, shea butter and lanolin, with stirring, until separation was observed. Cupuacu could support 440% of its weight in water, which means that 1 kg of cupuacu butter could absorb 4.4 kg of water before any division of phases was noted. Cupuacu butter offers the capacity to attract water allowing it to function much more effectively as a skin hydrator and plumper.

It is rich in antioxidants such as phytosterols and tocopherols which help to neutralise unstable, free radicals presents on the skin, limiting the damage they can cause to skin cells. Cupuacu is also rich in various vitamins and minerals such as vitamin A, B1, B2, calcium, magnesium, phosphorus, zinc, copper and manganese which help to nourish the skin for a healthy, youthful glow.

Links:
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4495740/
https://pdfs.semanticscholar.org/d8df/98791f10a70175b034121bc5ed79702d476f.pdf

HYDROLYSED PROTEINS - CORN, WHEAT & SOY

Ingredient Claims:

Improves skin hydration	Reduces trans epidermal water loss
Reduces skin irritation	Improves skin conditioning

Derived from sources such as corn, wheat and soy, proteins undergo a process called hydrolysis which breaks down larger protein molecules into smaller peptides. In the skin, Hydrolysed proteins are among a group of key nutrients that are often referred to as the natural moisturising factor (NMF). These compounds are responsible for maintaining moisture content and suppleness of the skin by attracting and retaining water to keep the outer layer of the stratum corneum hydrated. Hydrolysed proteins derived from plants such as corn, wheat and soybeans are substantive to both skin and hair.

When applied to the skin, these proteins penetrate the outer layers of the stratum corneum to provide hydrating benefits while forming a film that minimises trans-epidermal water loss (TEWL).

Hydrolysed proteins have also been shown to reduce irritation caused by surfactants typically used in shampoos and cleansers.

These Hydrolysed proteins derived from wheat, corn and soybeans, which combined can enhance moisturisation and conditioning properties of a wide variety of skin care and hair care applications, in addition to, providing film forming and anti-irritant benefits to leave skin and hair hydrated and healthy.

Links:
Data on file.
https://gut.bmj.com/content/26/7/694.abstract
https://www.sciencedirect.com/science/article/abs/pii/S0738081X08000734

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.

TOCOPHEROL (VITAMIN E)

Ingredient Claims:

Protects the skin from oxidative damage caused by environmental stressors	Promotes scar healing
Soothes dry, irritated skin	Helps to protect the skin from sun damage
Promotes skin cell turnover	Potent antioxidant that reduces the signs of ageing

Tocopherol or Vitamin E is an important fat-soluble antioxidant and has been in use for more than 50 years in dermatology. It is an important ingredient in many cosmetic products. It protects the skin from various deleterious effects due to solar radiation by acting as a free-radical scavenger.

Vitamin E is one of the most well-known and researched antioxidants for the body and for skin. Vitamin E occurs naturally in human skin but can become depleted due to constant environmental exposure in the absence of sun protection.

Vitamin E has been shown to help reduce the appearance of scars by promoting tissue regeneration and increasing collagen production. Vitamin E also has anti-inflammatory properties that can help soothe irritated skin and reduce redness and swelling. In addition, vitamin E exhibits brightening properties that help improve the appearance of dark spots and uneven skin tone by promoting cell turnover and reducing melanin production.

Experimental studies suggest that vitamin E has photoprotective properties and is a powerful antioxidant.

Link: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4976416/

VACCINIUM VITIS-IDAEA FRUIT EXTRACT

Ingredient claims:

Improves skin moisturisation by 13%	Reduces wrinkle number by 35%
Reduces oxidative skin damage by 44%	Reduces wrinkle volume by 13%
Promotes skin turnover to reduce dark spots and improve skin tone	Calms and soothes irritated skin
Skin feels 7.4% smoother	17% improvement in skin elasticity

Vaccinium Vitis-Idaea Fruit Extract is a natural active ingredient obtained from plant stem cells using an environmentally friendly biotechnological process that provides a higher level of efficacy. Vaccinium Vitis-Idaea is able to repair and protect skin against the oxidative damage caused by solar radiations such as UV and IR-A, improving skin's antioxidant activity, reducing wrinkles and spots, and improving moisturisation, firmness and elasticity. The result is skin with a young and healthy appearance, which is more resilient against sun damage.

35%
reduction in the number of wrinkles

13%
reduction in wrinkle volume

18%
reduction in subepidermal low-echogenic band (SLEB)

24%
increase in SLEB density

13%
increase in skin moisturisation

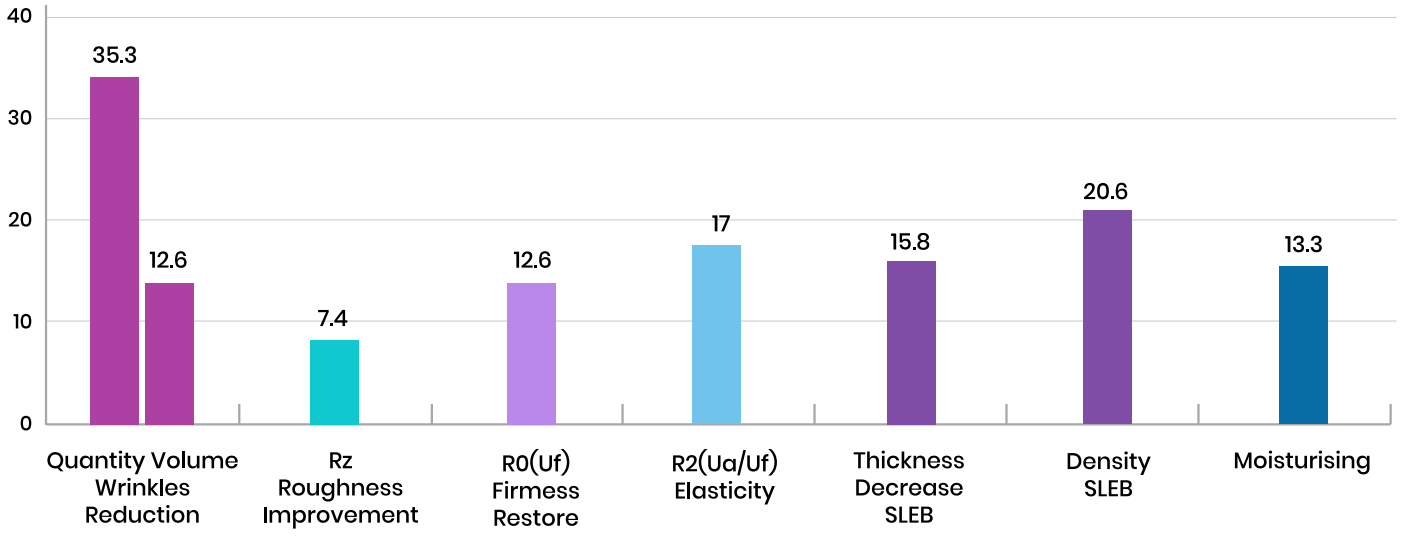
44%
reduction in cellular oxidative stress

Vaccinium Vitis-Idaea Fruit Extract and its preventive action

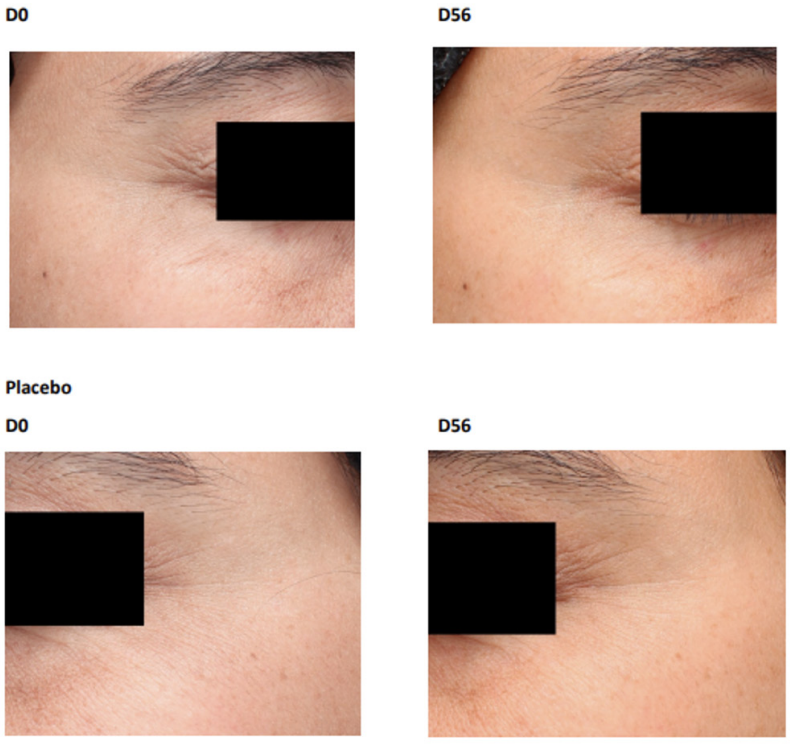
The study took place in Portugal during 56 days in order to study the preventive action of this active ingredient at the timne of year when the skin suffers the most from sun aggression.

Caucasion volunteers aged between 30 and 60 were chosen. Volunteers were to be exposed to the sun every day and spend between 10 to 15 days performing an outdoor activity, such as going to the beach, the countryside, the pool etc.

The placebo and active ingredient at 1.5% were applied on the face, with placebo on one half and the active ingredient on the other half, twice a day, in addition to using a sunscreen production. Measurements were take at day 0 and day 56.



Graph in vivo study on the preventive action of Vaccinium Vitis-Idaea Fruit Extract



Links:
https://pubmed.ncbi.nlm.nih.gov/31611784/
Data on file

ALLANTOIN

Ingredient Claims:

Soothes skin irritation	Helps to prevent skin dryness and aids the skin retaining moisture
Promotes skin cell regeneration	Mildly exfoliating to help promote cell turnover
Aids wounds healing	Protects the skin from environmental aggressors and irritants

Extracted from the root of the comfrey plant, Comfrey is a perennial shrub that is native to Europe and some parts of Asia. Fond of moist soils, comfrey has a thick, hairy stem, and grows 2 to 5 feet tall. Its flowers are dull purple, blue or whitish, and densely arranged in clusters. Comfrey contains mixed phytochemicals including Allantoin is a non-irritating ingredient that soothes and protects the skin. With the ability to help soothe the skin, it's a great all-rounder for keeping skin at the top of its game. It effectively softens the skin and helps to protect it, making it suitable for sensitive skin in need of a little extra TLC. Allantoin has potent healing and soothing properties, and for centuries comfrey leaves were used to help heal minor skin injuries and swelling. Additionally, it can be found in a variety of plants such as beets, chamomile, wheat sprouts, and even tobacco seeds.

Studies have shown that chronic wounds are often arrested in an inflammatory state, preventing proliferation and re-modelling of the epithelium. Allantoin has also been shown to have multiple properties/effects expected to facilitate transition of a wound from an inflammatory to a proliferative state, including antioxidant and anti-inflammatory properties, direct antimicrobial effects, and keratolytic activity facilitating wound healing. Allantoin has been shown to facilitate proliferation of healthy tissue by promoting cell proliferation and extracellular matrix synthesis. Allantoin may also have a role in tissue formation and differentiation, specifically in stimulating the development of granulation tissue and epithelialisation. Allantoin may also reduce scar formation by preventing epidural fibrosis, as tested in a rat hemilaminectomy model.

Key Benefits:

- Skin Soothing: Allantoin has soothing properties that help calm and alleviate skin irritations, such as redness, inflammation, and itching. It can be beneficial for sensitive or reactive skin types.
- Moisturising: Allantoin has humectant properties, which means it helps to attract and retain moisture in the skin. It can aid in preventing dryness and promoting skin hydration, leaving the skin feeling soft and supple.
- Skin Regeneration: Allantoin promotes skin cell regeneration, helping to accelerate the natural healing process of the skin. It can aid in repairing damaged skin tissues and reducing the appearance of scars, wounds, and blemishes.
- Exfoliation: Allantoin has mild exfoliating properties that can assist in gently removing dead skin cells from the surface of the skin. By promoting cell turnover, it helps to improve the overall texture and smoothness of the skin.
- Wound Healing: Due to its regenerative properties, allantoin can aid in wound healing by promoting tissue repair and cell growth. It can be particularly beneficial for minor cuts, burns, and abrasions.
- Skin Protection: Allantoin forms a protective barrier on the skin's surface, shielding it from environmental aggressors and irritants. It can help enhance the skin's natural defence mechanisms and maintain its overall health.

Links:
https://www.jaad.org/article/S0190-9622(17)30663-1/fulltext
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3491633/
https://pubmed.ncbi.nlm.nih.gov/20877959/
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4885180/
https://clinicaltrials.gov/ct2/show/NCT04046783

CAESALPINIA SPINOSA GUM (TARA GUM)

Ingredient claims:

Natural Moisturiser: Provides immediate and long-lasting hydration by reducing water loss	Strengthens the skin's natural barrier
Antioxidant Protection: Neutralises free radicals	Contributes to a smoother, more refined skin texture
Helps prevent the formation of AGEs, maintaining skin elasticity and reducing signs of ageing.	

Caesalpinia Spinosa Gum, commonly known as Tara Gum, is a natural polysaccharide derived from the seeds of the Caesalpinia spinosa tree, native to Peru. Renowned for its multifunctional properties, Tara Gum is widely utilised in skincare formulations for its hydrating, film-forming, and antioxidant benefits.

Skin Benefits of Caesalpinia Spinosa Gum

- Immediate and Long-Lasting Hydration: Tara Gum's galactomannan content enables it to form a protective film on the skin's surface, reducing transepidermal water loss (TEWL) and enhancing moisture retention. This results in immediate and sustained skin hydration, contributing to a smoother and more homogeneous appearance.

- Antioxidant Properties: Extracts from Caesalpinia spinosa exhibit significant antioxidant activity, effectively scavenging free radicals. This action protects skin cells from oxidative stress induced by environmental factors such as UV radiation and pollution, thereby aiding in the prevention of premature skin ageing.

- Enhanced Skin Barrier Function: By forming a breathable, protective layer, Tara Gum strengthens the skin's natural barrier. This fortification helps shield the skin from environmental aggressors and reduces sensitivity, making it particularly beneficial for individuals with dry or sensitive skin types.

- Improved Skin Texture: The film-forming capability of Tara Gum contributes to a smoother skin texture by providing a soft, velvety after-feel. Its inclusion in formulations enhances product spreadability and imparts a pleasant sensory experience without a sticky residue.

- Anti-Ageing Effects: The antioxidant properties of Tara Gum help mitigate the formation of advanced glycation end-products (AGEs), which are associated with skin aging. By reducing glycation, Tara Gum aids in preserving skin elasticity and firmness, contributing to a more youthful appearance.

Links:

Rigano, L., et al. "A New Gelling Agent and Rheology Modifier in Cosmetics: Caesalpinia spinosa Gum." Cosmetics, 2019.
Chambi, F., et al. "Antioxidant Potential of Hydrolyzed Polyphenolic Extracts from Tara (Caesalpinia spinosa) Pods." Industrial Crops and Products, 2013.
Paula's Choice Skincare Ingredient Dictionary. "Caesalpinia Spinosa Gum."
Personal Care Magazine. "Caesalpinia spinosa for Skin Ageing Protection." 2022.

PALMITOYL TETRAPEPTIDE-1 & PALMITOYL TETRAPEPTIDE-7

Ingredient Claims:

Decreased wrinkle depth by up to 19.9%	Upregulates collagen synthesis for firmer, more elastic looking skin
Decreased wrinkle density by up to 32.9%	16% improvement in skin complexion
Skin appears up to 16% smoother	15.5% improvement in skin tone

A blend of two peptides: Palmitoyl Tripeptide-1 and Palmitoyl Tetrapeptide-7. Peptides are short chains of amino acids that can have various benefits for the skin. Peptide can benefit the skin in several ways, such as:

- Stimulate collagen production: Collagen is a protein that gives the skin its elasticity and firmness. Peptides can stimulate the production of collagen, which can help improve the appearance of fine lines and wrinkles and make the skin look more youthful.
- Improve skin texture: Peptides can also improve the texture of the skin by increasing its thickness and density. This can help reduce the appearance of fine lines, wrinkles, and other signs of ageing.
- Boost skin hydration: Peptides can help boost skin hydration levels by improving the skin's ability to retain moisture. This can help keep the skin soft, supple, and plump.
- Enhance skin elasticity: Peptides can also help enhance the skin's elasticity, which can help prevent sagging and improve the overall appearance of the skin.
- Reduce inflammation: Peptides can have anti-inflammatory properties, which can help reduce redness, irritation, and other signs of inflammation in the skin.

A blind, randomised clinical study with 28 volunteers twice daily applying cream including the active compound to half their face and one of their forearms and a placebo cream to the other half of the face and other forearm confirmed anti-wrinkle efficacy, reduction of wrinkle depth, volume and density, skin roughness and complexity, as well as a decrease of the area occupied by deep wrinkles, and an increase in skin tone.

Repair of the papillary dermis

28 female volunteers aged from 51 to 72 years, mean age 59. Twice daily application of cream containing 3% of Palmitoyl Tripeptides for 2 months to one half of the face and the forearm (inner and UV-exposed outer forearm) against placebo.

after 2 months	Inner Forearm	Outer Forearm
THICKNESS	**-9.8%/TO** up to **-23%**, p<0.01	**-9.8%/TO** up to **-33%**, p<0.01
	93% volunteers	86% volunteers
	-11%/placebo, p<0.01	**-14.4%/placebo**, p<0.01
DENSITY	**+11.4%/TO** up to **+44%**, p<0.01	**+11.5%/TO** up to **+45%**, p<0.01
	68% volunteers	82% volunteers
	+15.2%/placebo, p<0.01	**+15.1%/placebo**, p<0.01
AGE GAIN	**-3.8 YEARS**	**-5.5 YEARS**

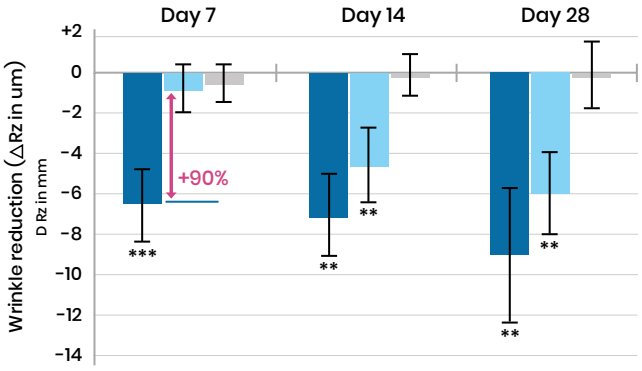
Comparison of the effects of
Palmitoyl Tripeptides vs. placebo after 56 days (2 months)

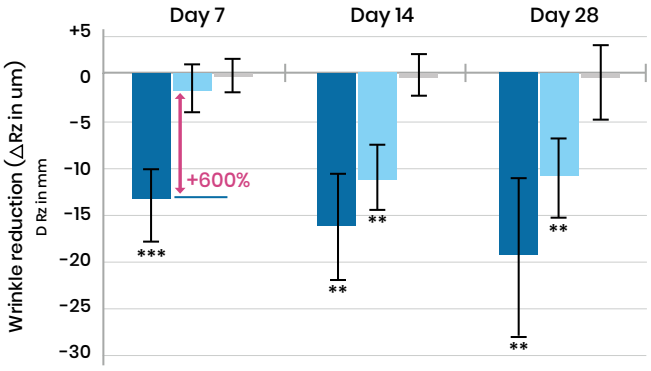
Compared to TO (%)	Palmitoyl Tripeptides	Placebo
Surface occupied by deep wrinkles	-39.4**	4.3$^{n.s.}$
Main wrinkle density	-32.9**	-9.9$^{n.s.}$
Main wrinkle average depth	-19.9**	-3.2$^{n.s.}$
Main wrinkle average volume	-23.3**	-8.7*
Roughness	-16.0**	-1.4$^{n.s.}$
Complexity (Lifting effect)	-16.2**	4.2$^{n.s.}$
Elasticity	+5.5*	4.1$^{n.s.}$
Skin tone	+15.5**	6.5$^{n.s.}$

Comparison of the effects of
Palmitoyl Tripeptides vs. placebo after 56 days (2 months)

Parameters	Palmitoyl Tripeptides	Placebo
% area occupied by wrinkles > 200 um	-39.4**	4.3$^{n.s.}$
Wrinkle density	-32.9**	-9.9$^{n.s.}$
Roughness	-16.0**	-1.4$^{n.s.}$
Complexity	-16.2**	-4.2$^{n.s.}$
Mean volume of a main wrinkle	-23.3**	-8.7*
Mean depth of a main wrinkle	-19.9**	-3.2$^{n.s.}$

n.s.: non-significant
*: significant ($p < 0.05$)
**: highly significant ($p < 0.01$)

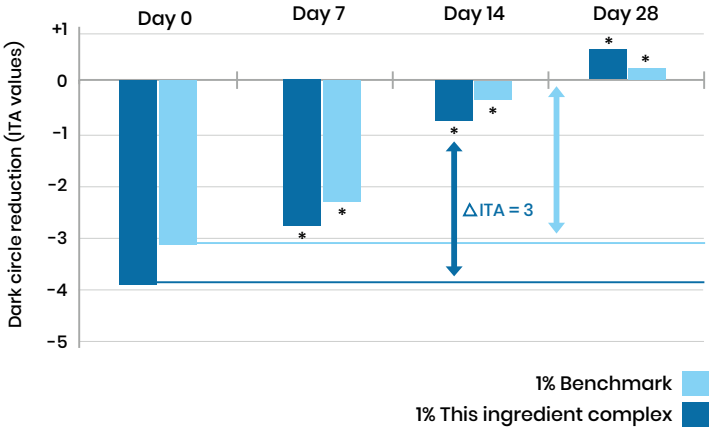




**vs. day 0 & Placebo
***vs. day 0, Benchmark & Placebo p<0.05

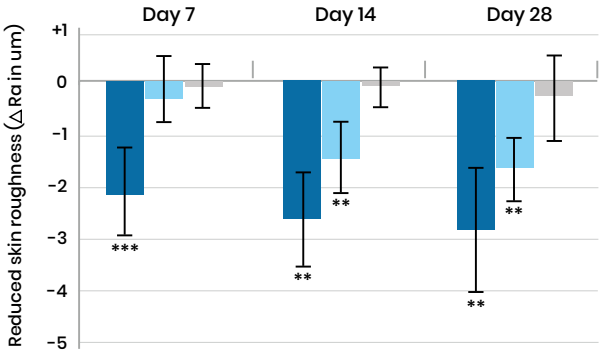
Significant effects compared to benchmark and placebo and day 0

Placebo
1% Benchmark
1% This ingredient complex



1% Benchmark
1% This ingredient complex

Significant compared to benchmark and placebo



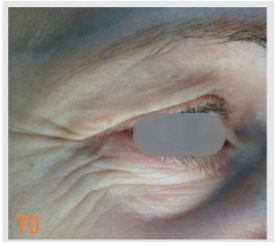
**vs. day 0 & Placebo
***vs. day 0, Benchmark & Placebo p<0.05

Placebo
1% Benchmark
1% This ingredient complex

Anti-wrinkle efficacy, skin tone and elasticity

23 female volunteers aged from 42 to 67 years / Twice daily application on one half of a cream containing 3% of Palmitoyl Tripeptides against placebo, for 2 months. Assessment of the anti-wrinkle efficacy by profilometry, cutometry and photography compared to TO

Compared to TO (%)	Palmitoyl Tripeptides	Placebo
Surface occupied by deep wrinkles	-39.4**	4.3$^{n.s.}$
Main wrinkle density	-32.9**	-9.9$^{n.s.}$
Main wrinkle average depth	-19.9**	-3.2$^{n.s.}$
Main wrinkle average volume	-23.3**	-8.7*
Roughness	-16.0**	-1.4$^{n.s.}$
Complexity (Lifting effect)	-16.2**	4.2$^{n.s.}$
Elasticity	+5.5*	4.1$^{n.s.}$
Skin tone	+15.5**	6.5$^{n.s.}$



n.s. : non-significant
*: significant/TO (p<0.05)
**: significant/TO (p<0.01)

Variation in DEJ macromolecules/papillary dermis with age;
effect of **Palmitoyl Tripeptides** on these components 5 days after topical application

	Collagen I	Collagen IV	Collagen VII	Collagen XVII	Nidogen-1
Variation with age (in %)	(↓) -8%; p<0.2	(↓) -11%; p<0.05	(↓) -17%; p<0.01	(↓) -31%; p<0.01	(↓) -15%; p<0.01
Placebo (AFU)	20.80 + 4.02	10.51 + 2.95	12.56 + 2.01	4.64 + 1.05	5.09 + 2.55
Palmitoyl Tripeptides 3% (AFU)	23.79 + 2.96	11.18 + 2.28	14.99 + 3.75	5.37 + 2.29	5.83 + 4.04
Variation (%) vs. placebo	(↑) +14.40%; p<0.01	(↑) +6.4%; p<0.05	(↑) +20.30%; p<0.01	(↑) +15.84%; p<0.01	(↑) +14.49%; p<0.01

AFU: Arbitrary Fluorescence Unit; (↑) = increase (↓) = decrease

After 2 months of daily application of Palmitoyl Tripeptides, the following points were observed:
• reduction in the mean depth of the main wrinkle (-19.9%) and in its volume (-23.3%).
• reduction in roughness (-16%) and complexity (-16.2%), a surface “lifting” parameter.
• decrease in the area occupied by deep wrinkles (>200 µm)
(-44%), giving rise to a decrease in density (-32.9%).
• increase in skin tone (+15.5%).

A blind, randomised clinical study with 28 volunteers twice daily applying cream including the active compound to half their face and one of their forearms and a placebo cream to the other half of the face and other forearm confirmed anti-wrinkle efficacy, reduction of wrinkle depth, volume and density, skin roughness and complexity, as well as a decrease of the area occupied by deep wrinkles, and an increase in skin tone.

Links:
https://www.mdpi.com/2079-9284/4/2/16#B16-cosmetics-04-00016
Data on file

PALMITOYL TRIPEPTIDE-1

The various forms of peptides act upon collagen found in the body and particularly the skin. The most abundant form of collagen in the body is type collagen I, which is the collagen primarily responsible for repairing the skin. Collagen type III is found alongside collagen type I and works much in the same way, though it is not as tough as collagen I. Palmitoyl Tripeptide–1 mimics the relationship between the growth factors involved in the skin’s healing process and the production of collagen. Essentially, Palmitoyl Tripeptide-1 tricks the skin into producing more collagen to repair the skin, improve elasticity and minimise the appearance of fine lines and wrinkles. Palmitoyl Tripeptide–1 is a powerful skincare ingredient to combat aging, but like most skincare ingredients it works more effectively when used in combination with other anti-ageing peptide ingredients. When used as part of a good skin-care routine, Palmitoyl Tripeptide–1 can help skin repair damage by stimulating collagen production. The result is younger, smoother and stronger skin.

In a study with 15 women, a cream containing palmitoyl tripeptide-1 was applied twice daily for four weeks, leading to statistically significant reductions in wrinkle length, depth and skin roughness. Another study applied both vehicle and palmitoyl tripeptide-1 to the skin of 23 healthy female volunteers for four weeks.

Links:
https://www.mdpi.com/2079-9284/4/2/16/html
https://farma.com.ro/articles/2021.3-4/RJPhP_2021_3-4_Art-01.pdf
https://pubmed.ncbi.nlm.nih.gov/18503476/

PALMITOYL TETRAPEPTIDE-7

Palmitoyl Tetrapeptide-7 (It was also formerly known and marketed as Palmitoyl Tetrapeptide-3. Palmitoyl Tetrapeptide-7 consists of a short chain of four amino acids (a.k.a. GQPR peptide or glycineglutamineproline-arginine) connected to palmitic acid.
Palmitic Acid is a fatty acid added to improve the peptide's oil solubility and thus skin penetration. Palmitoyl Tetrapeptide-7 serves as an anti-inflammatory after exposure to UVB-irradiation. In vivo reflectance confocal microscopy studies indicated that a blend of Palmitoyl Oligopeptide and Palmitoyl Tetrapeptide-7 enhanced the extracellular matrix structure compared to placebo. Sixty healthy photoaged volunteers were tested over 12 months with a formulation containing Palmitoyl Tetrapeptide-7. A reduction of facial wrinkles was documented by this long-term use.

Palmitoyl Tetrapeptide-7 used in conjunction with Palmitoyl-Oligopeptide. They can boost the growth of the connective tissues and naturally increasing the production of collagen in the skin; when the production of collagen is increased, the skin can heal and rejuvenate itself.

It serves as an anti-inflammatory after exposure to UVB-irradiation. In vivo reflectance confocal microscopy studies indicated that a blend of palmitoyl oligopeptide and palmitoyl tetrapeptide-7 enhanced the extracellular matrix structure compared to placebo.

A reduction of facial wrinkles was documented by this long-term use. Better skin appearance was related to the deposition of fibrillin-rich microfibrils in the papillary dermis of treated skin.

Sources
https://pubmed.ncbi.nlm.nih.gov/25817264/
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4950680/
https://pubmed.ncbi.nlm.nih.gov/19438432/

*mg/kg