

Natural Algae Eye Mask

Summary of Scientific Evidence

MedSkin
Solutions

Dr. Suwelack



Agenda

Summary of Scientific Evidence – Natural Algae Eye Mask

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Natural Algae Eye Mask

At a Glance

Key Facts

- ✓ Active Biomaterial- - Natural Biomatrix extracted from pure brown algae
- ✓ Actives: Alginate, Calcium
- ✓ pH: 3.4
- ✓ rinse-off product
- ✓ Professional and home use
- ✓ Free from preservatives, fragrances, mineral oils, silicones & colorants
- ✓ Freshly activated in the moment of use for maximum potential

Natural Algae Eye Mask is a freeze-dried anti-aging mask for instantly more rehydrated, plumped and visibly firmed eye area.

The active ingredients are incorporated in a matrix of algae fibers from brown seaweeds.

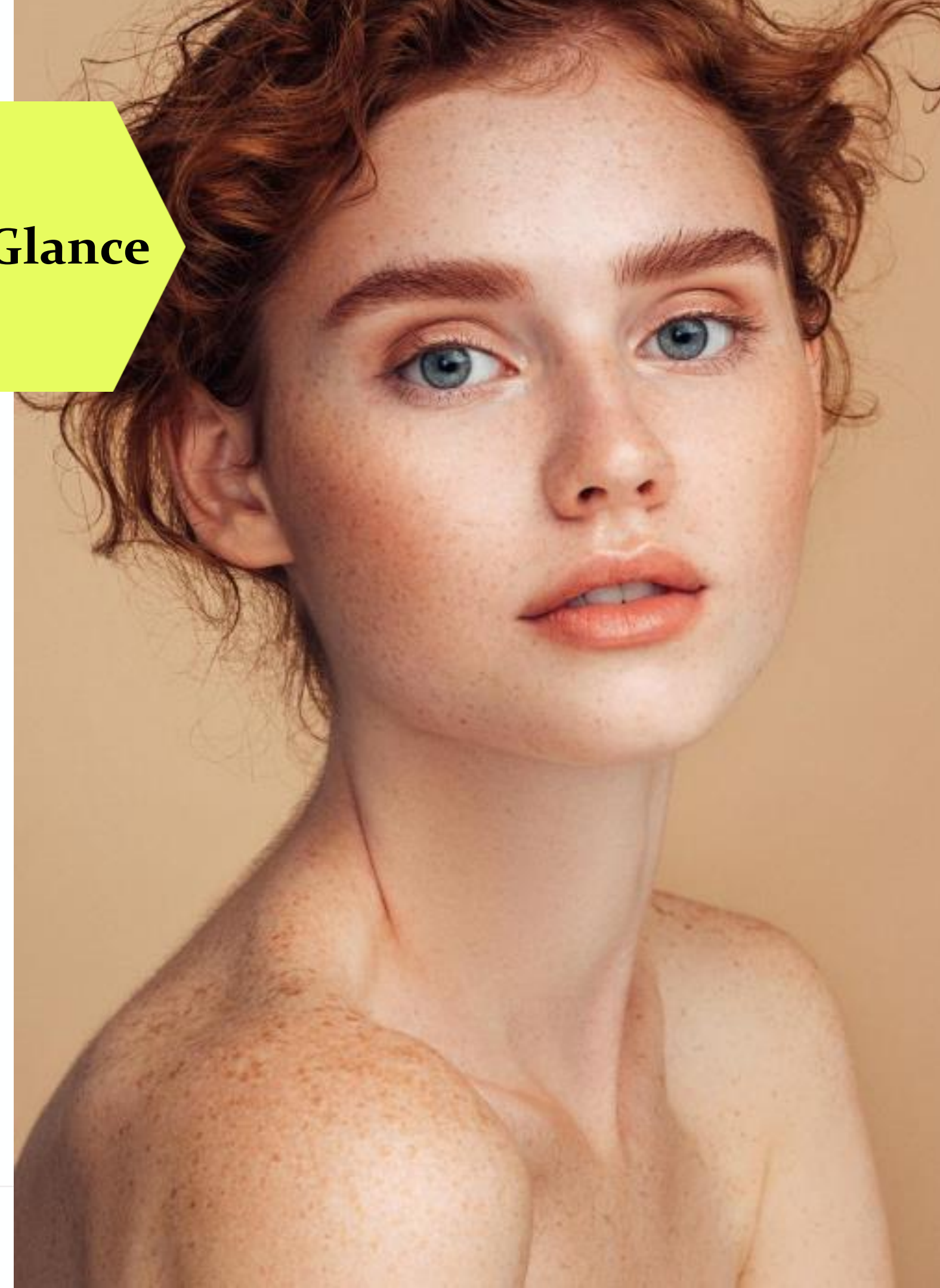
INCI Eye Mask

Algin, Cellulose Gum, Glycerin, Calcium Sulfate, Caprylic/Capric Triglyceride, Citric Acid, Sorbitol

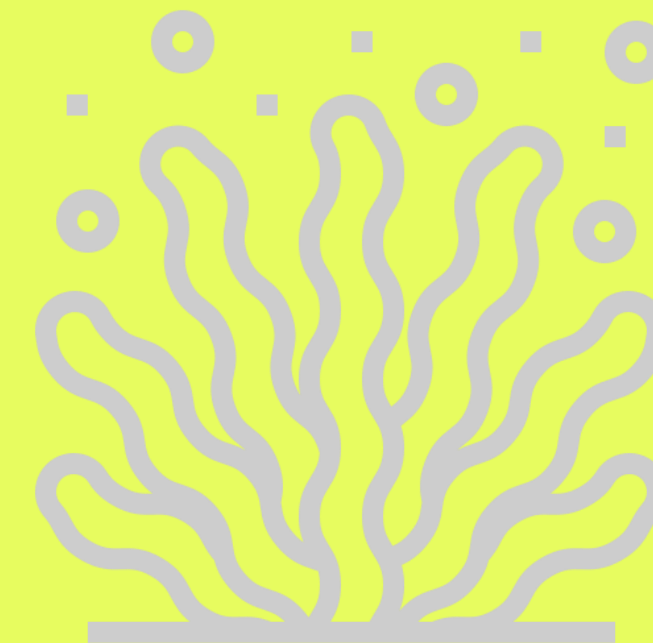
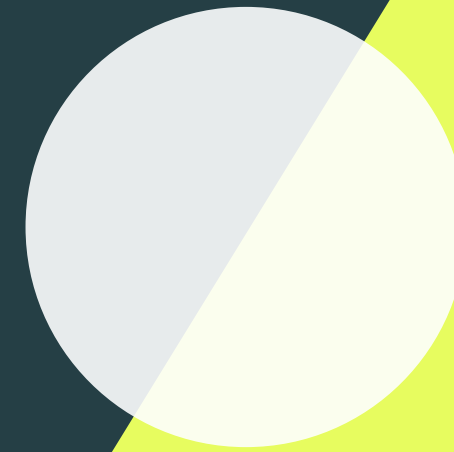
INCI Activation Liquid 13L

Aqua (Water), Butylene Glycol, Glycerin, 1,5-Pentanediol, Leuconostoc / Radish Root Ferment Filtrate**, Sodium Hyaluronate

** Leuconostoc / Radish Root Ferment Filtrate is a natural preservative, not on the black list of the EU regulation (KVO).



It's all about the skin



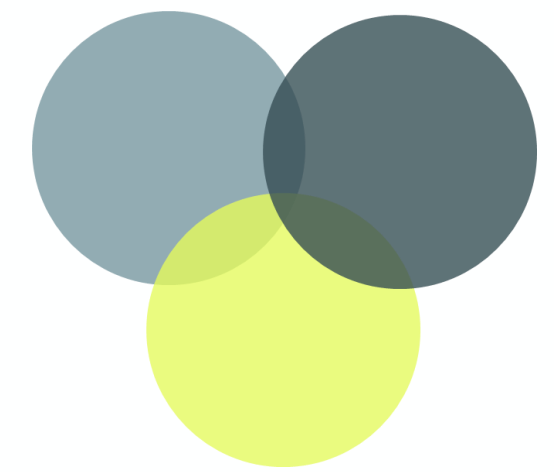
Introduction

Skin aging starts **very early** in the eye area. The first signs of aging can be seen more noticeable due to the very thin skin and include lines, wrinkles, dark circles, swelling and changes in skin tone. During the skin aging process, osmosis and cell volume decrease, as does the **number and mobility of aquaporins (AQPs)**. **Changes in the epidermal calcium gradient** also promote a disturbed barrier function and increase water loss. The skin around the eyes becomes more dry and rough and more susceptible to irritation. A key role in the targeted care of the eye area therefore plays the restoration of volume, the enrichment and transport of moisture and the modulation of the calcium gradient.

AQPs, an important **water channel** in the skin, are considered as critical transport mediators that are involved in many physiological functions, such as transepithelial fluid, cell migration and the formation of the Cornified Envelop (CE), which provide a chemical and physical stability to dead keratinocytes. The formation of the CE during the **cornification process** is to a considerable extent depend on calcium. The activity and expression of many of the involved enzymes and structural proteins are regulated by calcium. Additionally, Calcium **strengthens the cell-cell connection**, as it is an essential co-factor for desmosome binding (binding between cells). A **calcium gradient**, existing during young age and in healthy individuals, is lost during old age and various skin diseases, e.g. atopic dermatitis and psoriasis vulgaris. This loss has a remarkable influence on the composition of the CE and its barrier function.

Tobin, Introduction to Skin Aging. J Tissue Viability. 2017;26(1):37-46

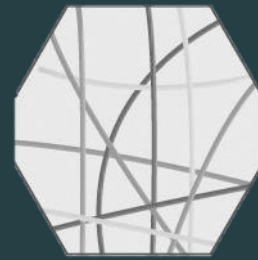




Ingredients explained in short

Ingredient	Function in cosmetic product	What that means
Algin	Humectant	Preserves skin moisture
Cellulose Gum	Binding	Hold together the ingredients
Glycerin	Humectant	Preserves skin moisture
Calcium Sulfate	Binding	Hold together the ingredients
Caprylic/ Capric Trglceride	Emollient	Medium-chain fatty acids; makes the skin smooth and soft.
Citric Acid	Buffering	Buffering agent to control pH level
Sorbitol	Humectant	Preserves skin moisture
Aqua	Solvent	-
Butylene Glycol	Humecant	Adds moisture and conditions skin
Glycerin	Humectant	Preserves skin moisture
1,5-Pentanediol	Solvent	Moisturizing ingredient with good solubilizing properties
Leuconostoc/ Radisch Root Ferment Filtrate	Skin Conditioning	Moisturizes and conditions skin
Sodium Hyaluronate	Humectant	Preserves skin moisture

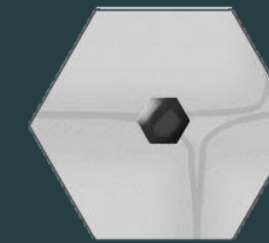
Hero Active Ingredients



Marine Polysaccharides [4]:

Natural Algae Mask consists of an ion biomatrix extracted from pure brown algae, where the component alginate (a polysaccharide) forms the carrier for minerals and vitamins. Alginate can **absorb more than several hundred times its weight in water**. Thus, it fulfills several cosmetic functions simultaneously. Alginate serves as a consistency agent, forms a **moisture-repellent surface film** and can bind heavy metal ions involved in oxidative processes and radical formation. **Slight tightening** is also achieved with superficial filming.

- [1] Conner et al. Journal of Biological chemistry, 2012; 287 (14).
- [2] Elias et al. Journal of Investigative Dermatology, 2002; 119.
- [3] Watt et al. Journal of Cell Biological, 1984; 99.
- [4] Kosmetische Praxis 2009 (4), 12-15.

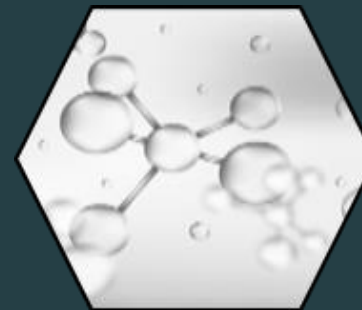


Calcium:

Calcium is one of the fundamental skin nutrients needed for the skin's balance. In the healthy human skin an **epidermal calcium-gradient** is build. This gradient is important for barrier properties by controlling the maturation of corneocytes and by **modulating the desquamation process** (speed of cell turnover). Additionally, calcium is known to stimulate a variety of processes including the **differentiation of keratinocytes** [2], the **building of water channels (Aquaporins)** to ensure appropriate membrane permeability to water molecules [1], and the **reactivation of the cohesion between cells** (e.g. formation of desmosomes [3]).

The result: reduced fine lines and wrinkles in the eye area and improved skin dryness and roughness. The substitution of calcium supports the epidermal keratinization process, helps to stabilize the epidermal barrier and gives the thin skin more resistance.

Hero Active Ingredients

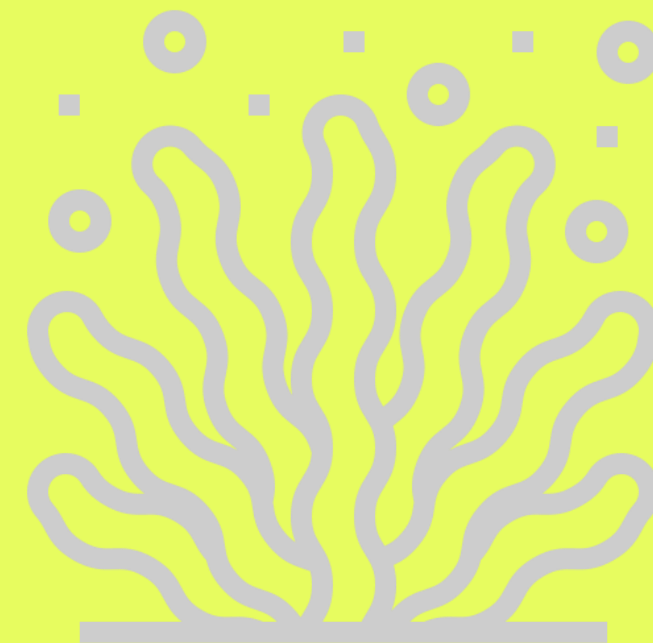


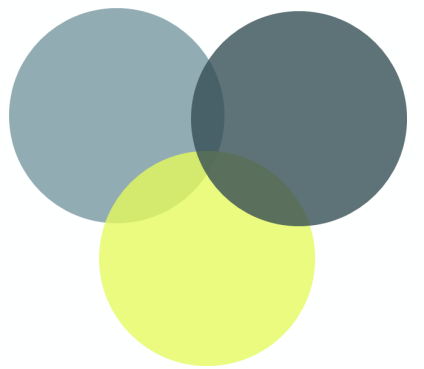
Sodium Hyaluronate (water-soluble salt form of hyaluronic acid) [2, 3] is a polysaccharide, which occurs in different sizes (low molecular and high molecular) almost everywhere in the human body. 50% of the body's hyaluronic acid content is found in the skin. The amount of hyaluronic acid decreases with age. Hyaluronic acid is responsible for the moisture and elasticity of the skin, helping to promote a more revitalized and youthful complexion. It smoothes the appearance of wrinkles and improves the skin's texture

[2] Papakonstantinou et al., Dermato-Endocrinology, 2012, 4.

[3] Pavicic et al., Journal of Drugs in Dermatology 2011, 10 (9).

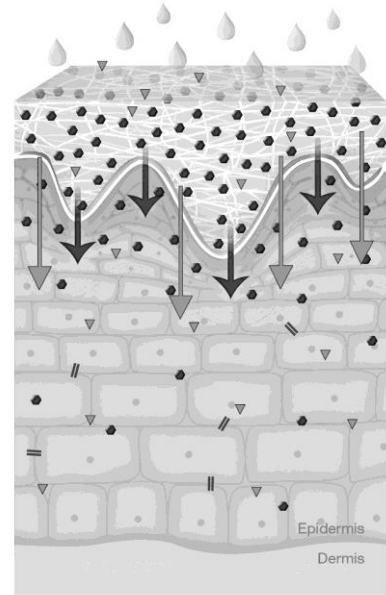
Mode of Action





Mode of Action

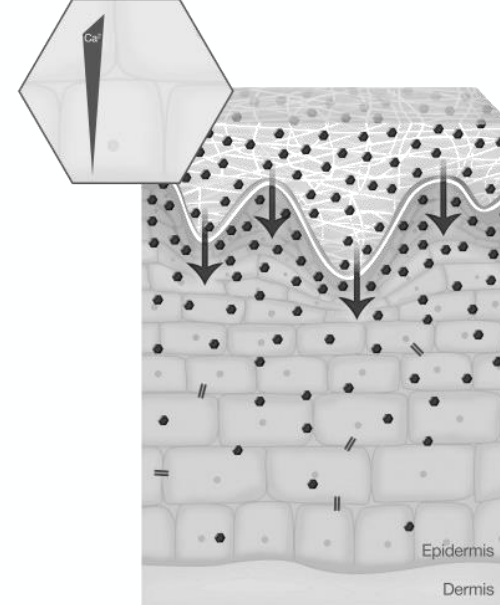
Activation & Release of Active Ingredients



Activation:

- Brown Algae Fiber network acts as delivery system into skin.
- Release of Marine Mineral Complex onto skin surface.
- Soluble calcium ions are activated & released into skin

2 Adjustment of Calcium Gradient

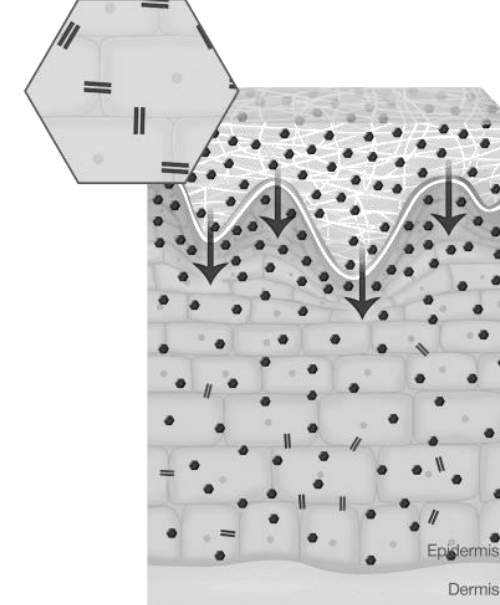


- Generation of an optimal calcium concentration in the skin for the osmotic uptake of water into the skin
- Adjustment of epidermal Calcium gradient to a youthful profile.

1st Benefits:

- Intensively hydrates skin.
- Smooths lines & wrinkles.
- Strengthens skin barrier.

3 Stimulation of Aquaporin Re-production

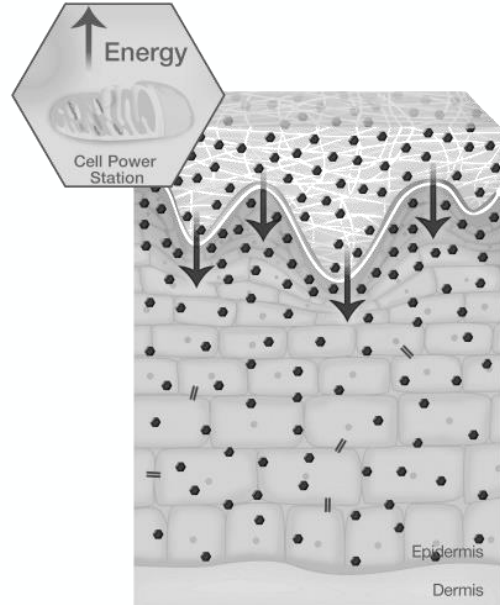


- Osmotic stimulation by Calcium ions positively influences the expression of additional water channels (Aquaporines).
- Supporting skin's own skin moisture and skin barrier functions.

3rd Benefits:

- Intense provision and storage of hydration.
- Plumps & fills wrinkles.

4 Stimulation of Cell Energy

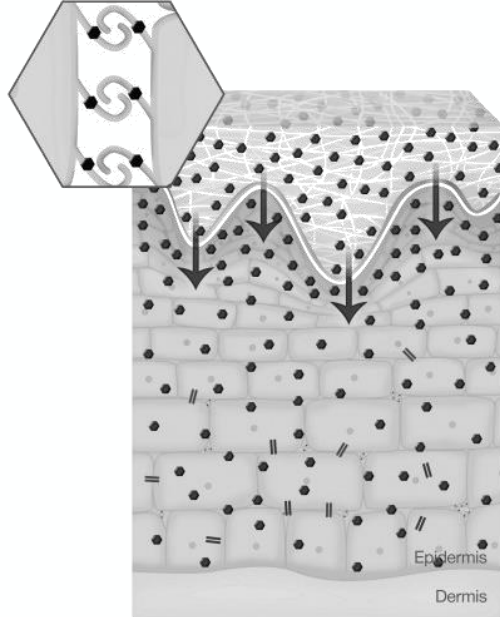


- Calcium ions are known to activate enzyme activity in the cells which leads to cell metabolism stimulation.
- Higher energy levels enable cells to build large molecular structures.

2nd Benefits:

- Revitalizes skin.

5 Strengthening of Cell-to-Cell attachment



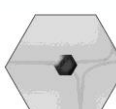
- Extracellular attachment structures are linked by Calcium ions which are specialized for cell-to-cell adhesion.
- Calcium-induced stabilization of desmosomes.
- Calcium Ions support membrane strength.

4th Benefits:

- Firms skin.
- Improves skin structure.
- Restores skin barrier.



Brown Algae Fiber network

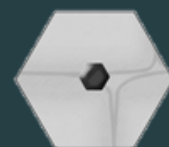


Calcium Ions

5 Significant Lifting & Contouring Results



Calcium Ions



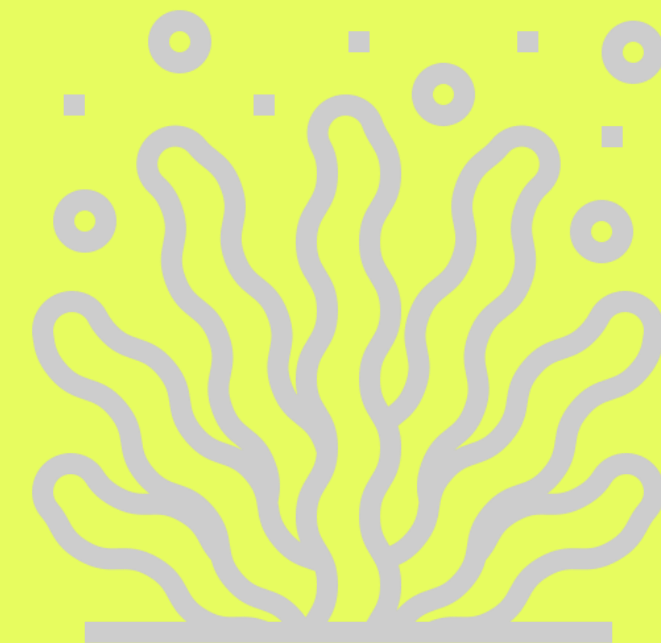
Summary of benefits

Result of Natural Algae Energy:

- Intensively hydrated skin.
- Smoothed lines & wrinkles.
- Firmed & densed skin.
- Plumped & filled wrinkles.
- Lifting & contouring effect.
- Revitalized skin.



Scientific Studies



Scientific Studies



In vitro analysis of Calcium Concentration



In vitro analysis of cellular viability



Ex vivo analysis: SEM for skin smoothing



Dermatological Evaluation: Skin soothing effect



Ophthalmological Examination



Patch Test



Proven Calcium Penetration



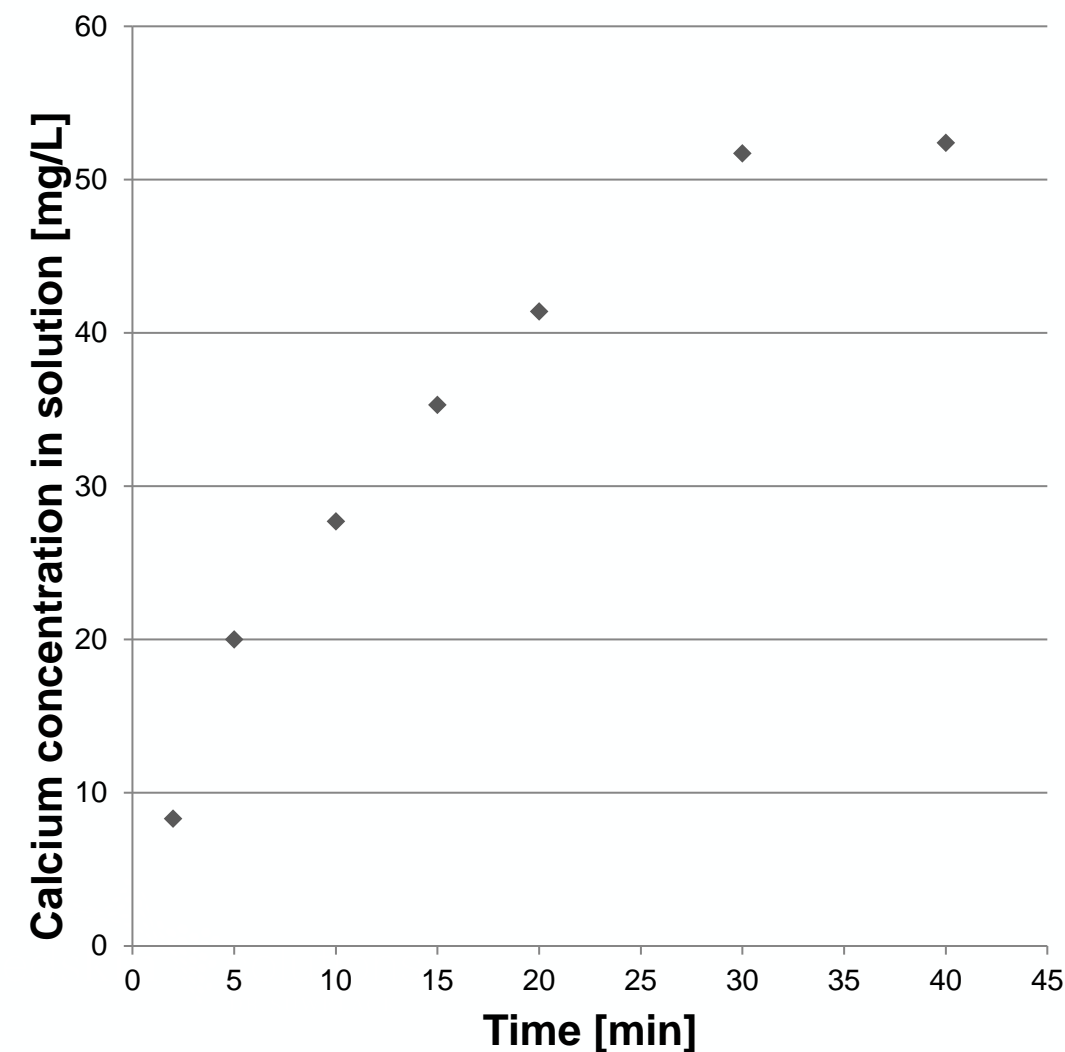
In vitro

Franz
Diffusion
cell

Natural
Algae
Mask

Determination
of Calcium
concentration

Period of
measurement:
40 min



Result:

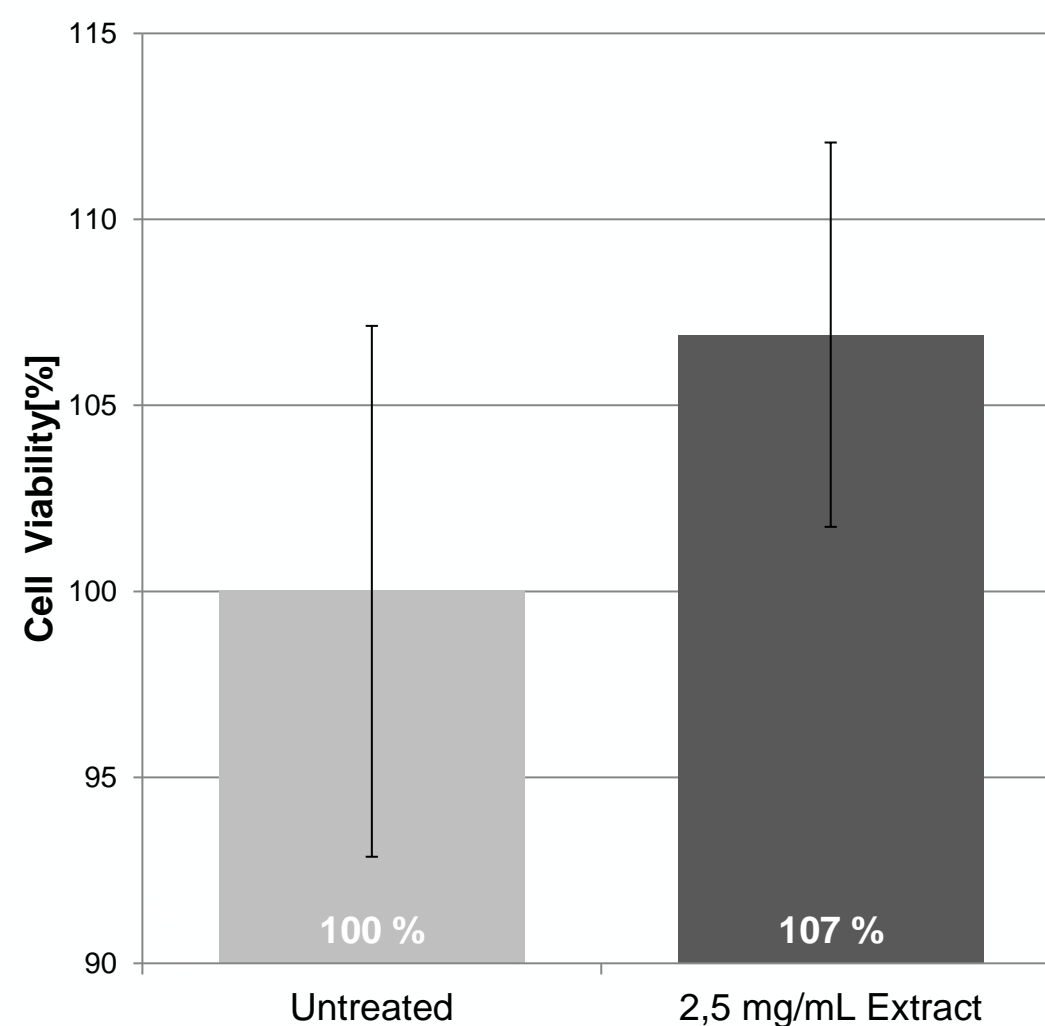
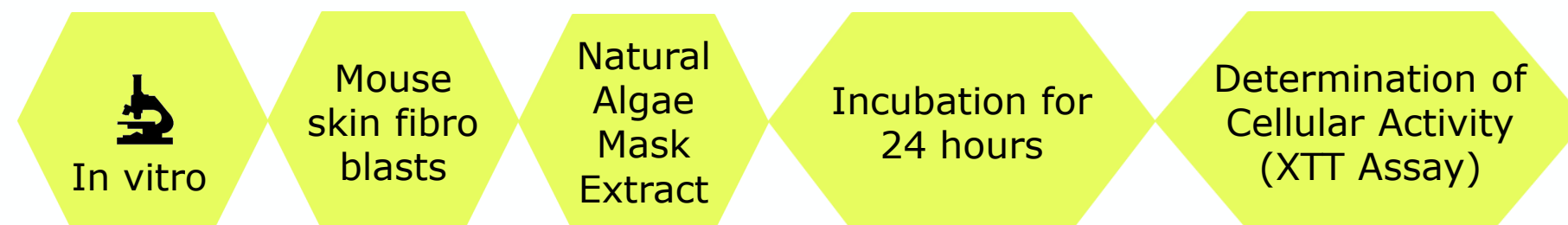
- Calcium Ions penetrate through membrane
- Calcium Concentration increases over time

What that means:

- Soluble calcium ions are activated & released into skin.



Increased Cellular Vitality

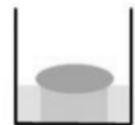


Result:

- Cellular viability is increased by 7% compared to untreated control cells

What that means:

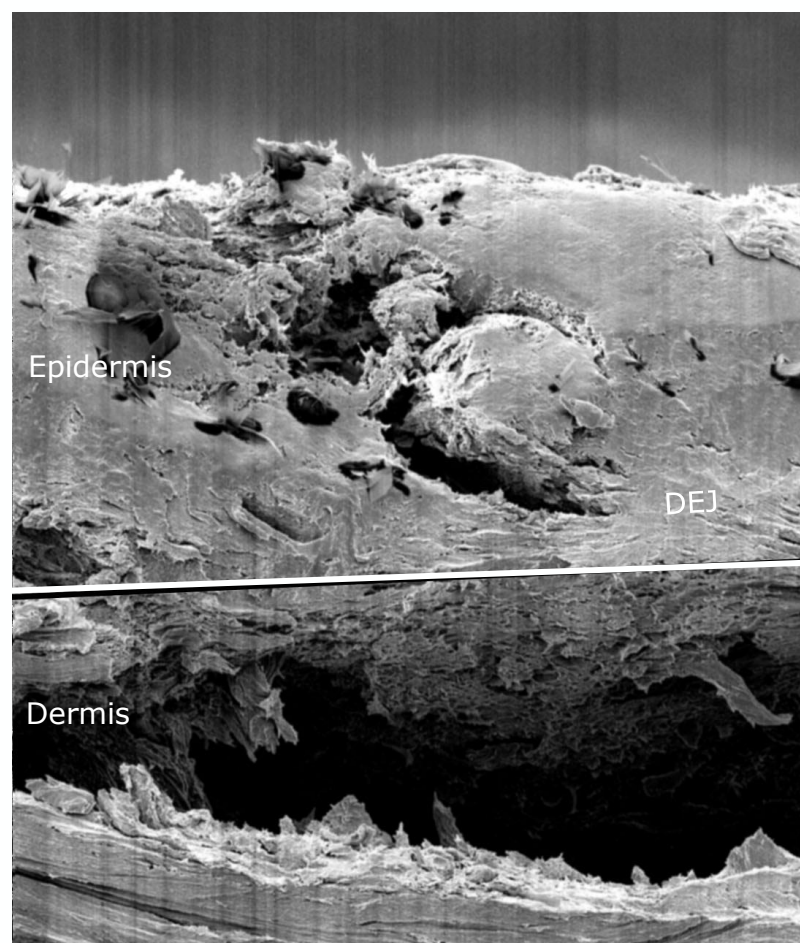
- Soluble calcium ions are activated & released
- Cellular vitality is increased for revitalized skin



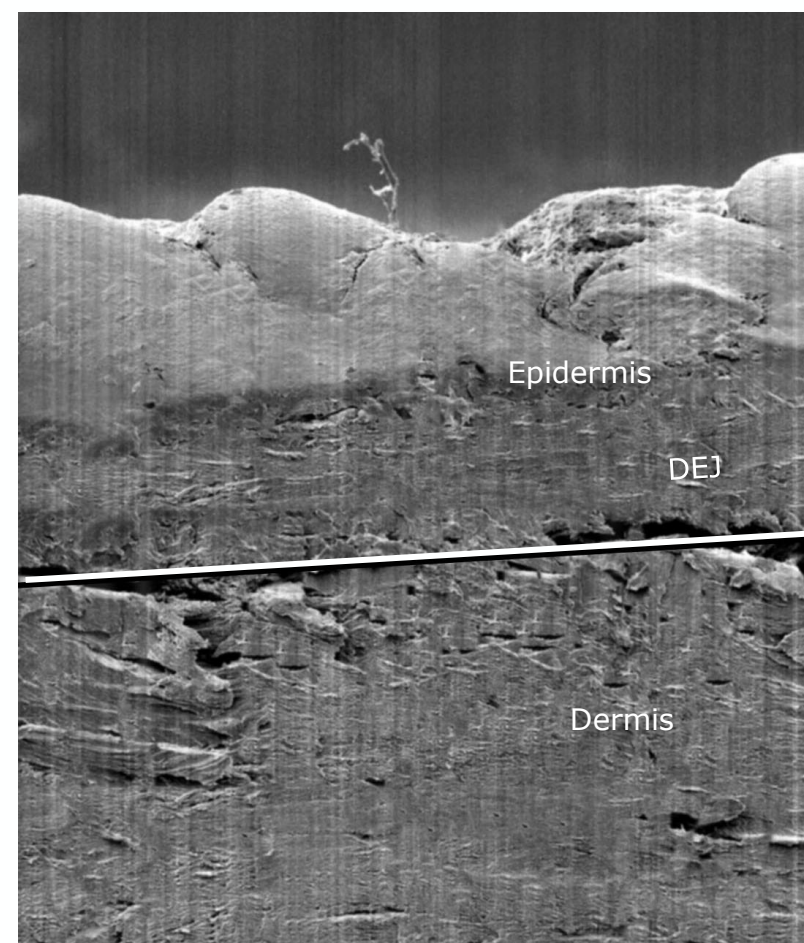
Proven Skin smoothing and plumping effect



Before mask application



After mask application



Result:

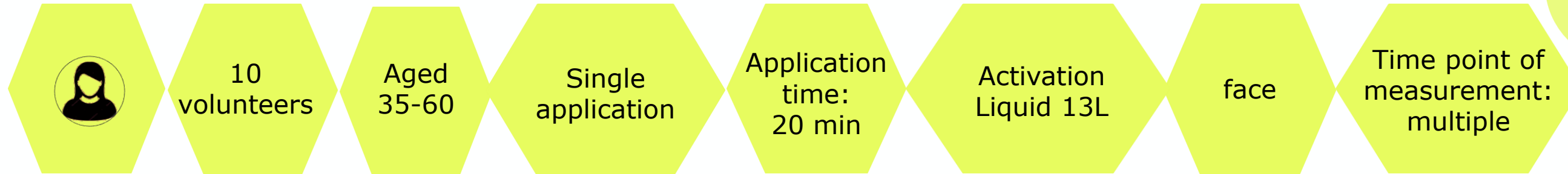
- Irritated and rough skin without Natural Algae Mask
- Smoothed, calmed and plumped skin with Natural Algae Mask

What that means:

- Smoothed, plumped and calmed skin



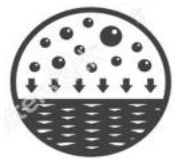
Controlled Dermatological Study



Study title: Clinical-dermatological application study in 10 volunteers with single application and activation with Activation Liquid 13L¹

Study centre: Dermatest GmbH, Germany, 2013

Parameter: Determination of



skin moisture
Corneometer

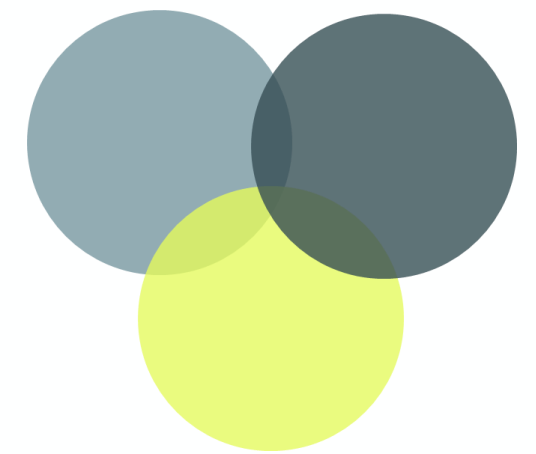


skin roughness
PRIMOS



Participant Opinion
Questionnaire

¹ Study was performed as split face study with 4 different Activation Liquids (known as Activator Study). Listed here are results relevant for this product



Intense skin moisture effect

Method:

- ◊ Corneometer (skin hydration)

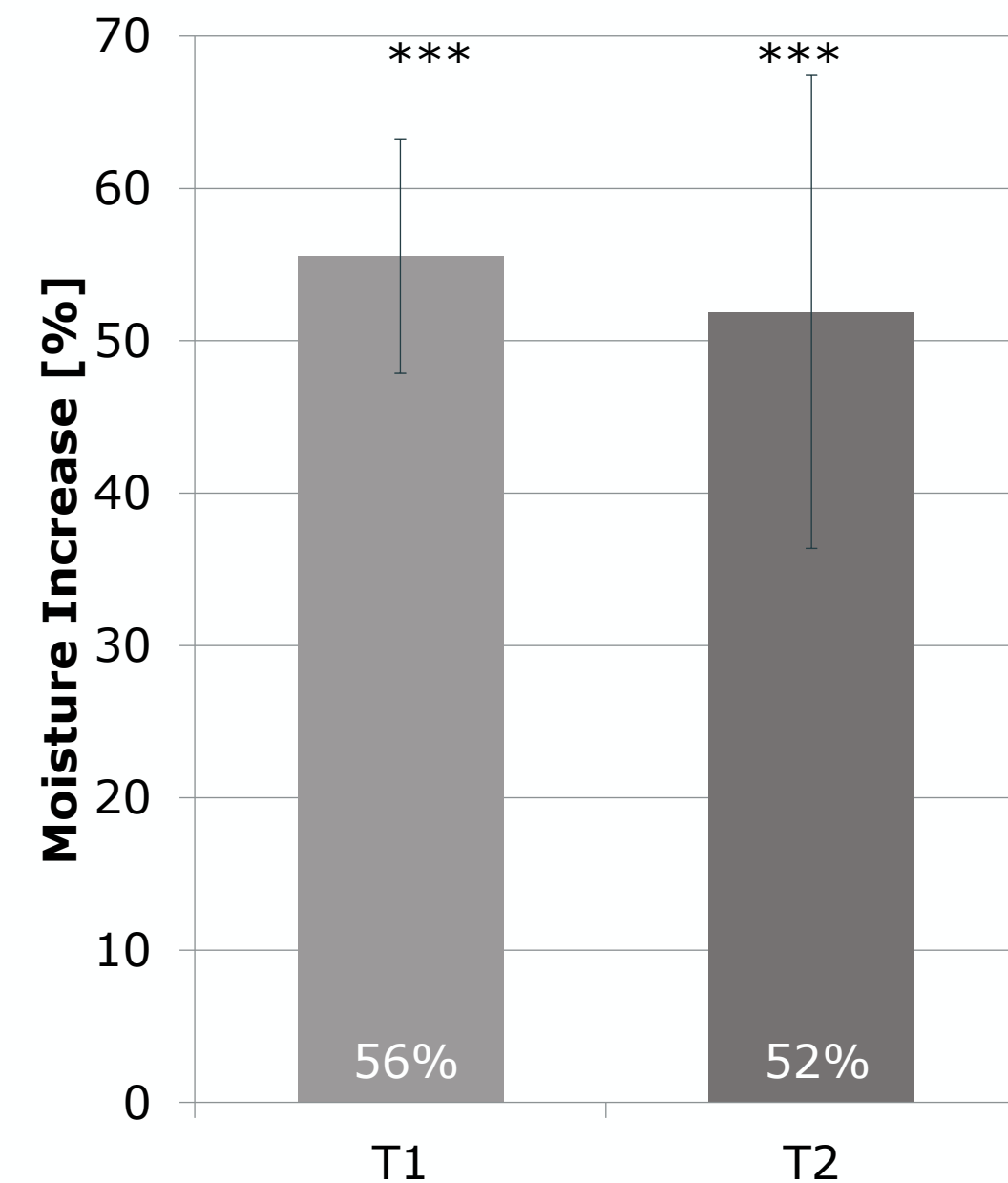
Results:

- ◊ Freshly activated with Activation Liquid:
 - ◊ After 15 min: Significant increase by 56 %
 - ◊ After 2 hours: significant increase by 52 %

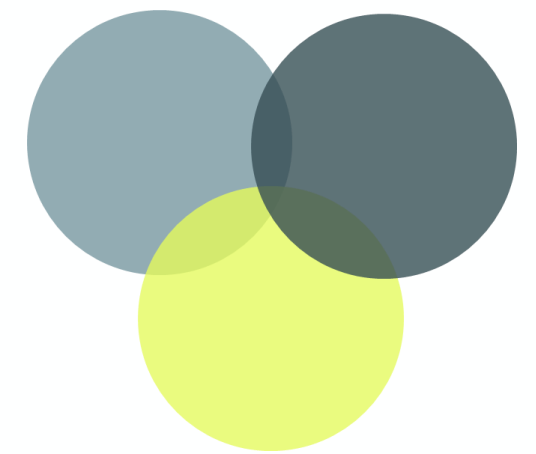


What that means:

- ◊ Outstanding increase in skin hydration for skin moisture effect.



Average increase in moisture after 15 minutes (T1) and two hours (T2). *** $p \leq 0,001$



Intense skin smoothing effect

Method:

- ◊ PRIMOS (skin roughness)

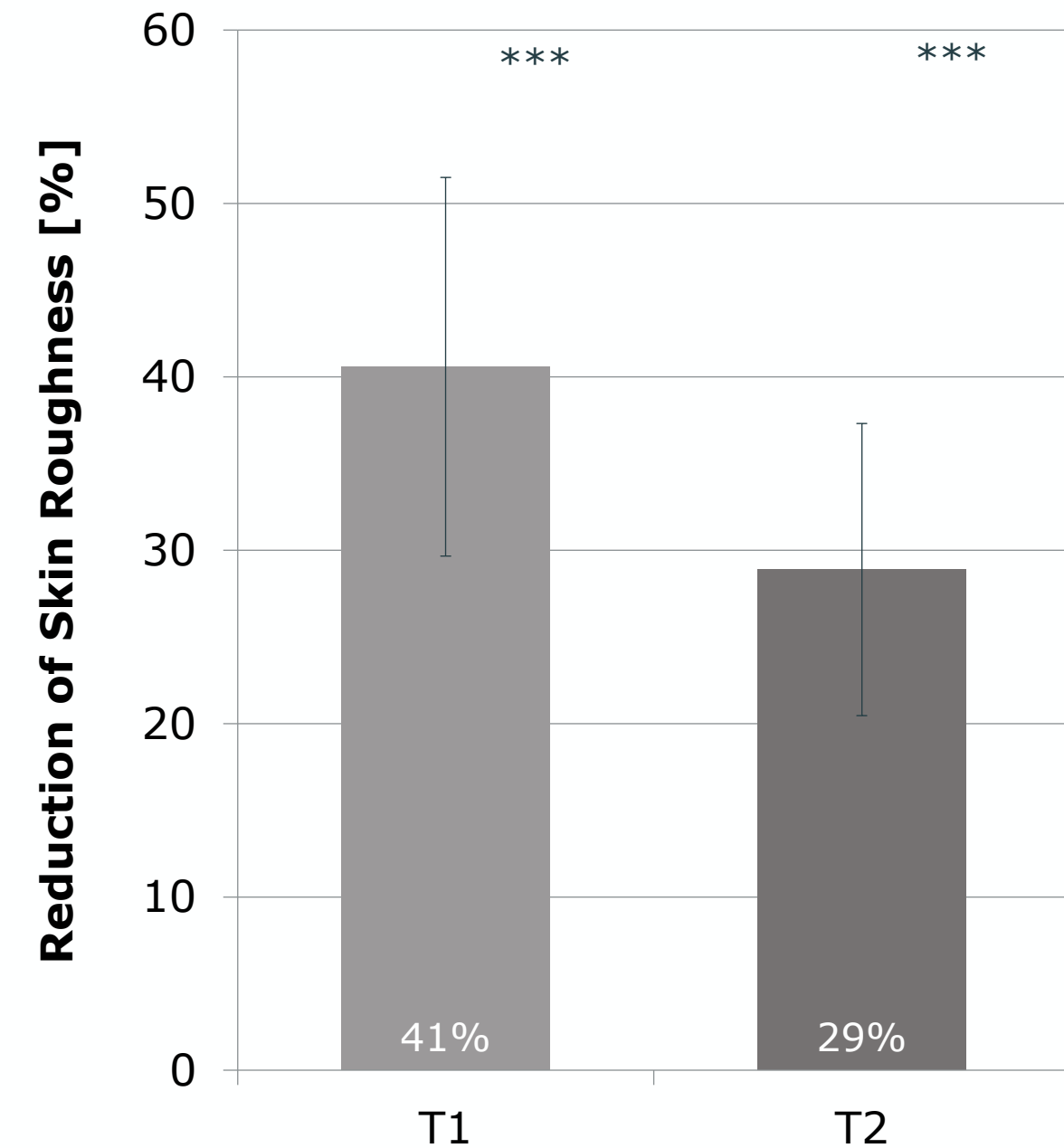
Results:

- ◊ Freshly activated with Activation Liquid:
 - ◊ After 15 min: Significant Improved by 41%
 - ◊ After 2 hours: significant Improved by 29%

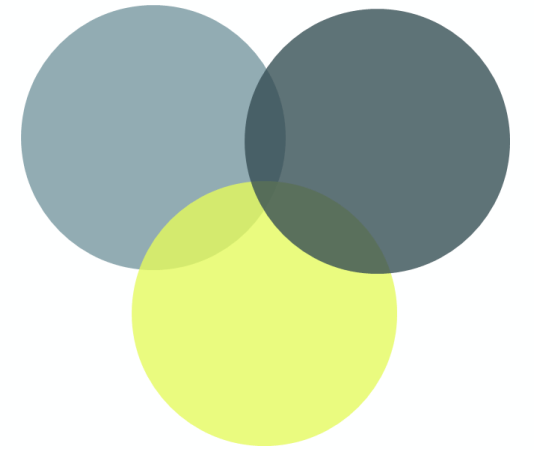
What that means:



- ◊ Significant reduction of skin roughness for a skin smoothing effect. The skin appears younger!



User Satisfaction



Method:

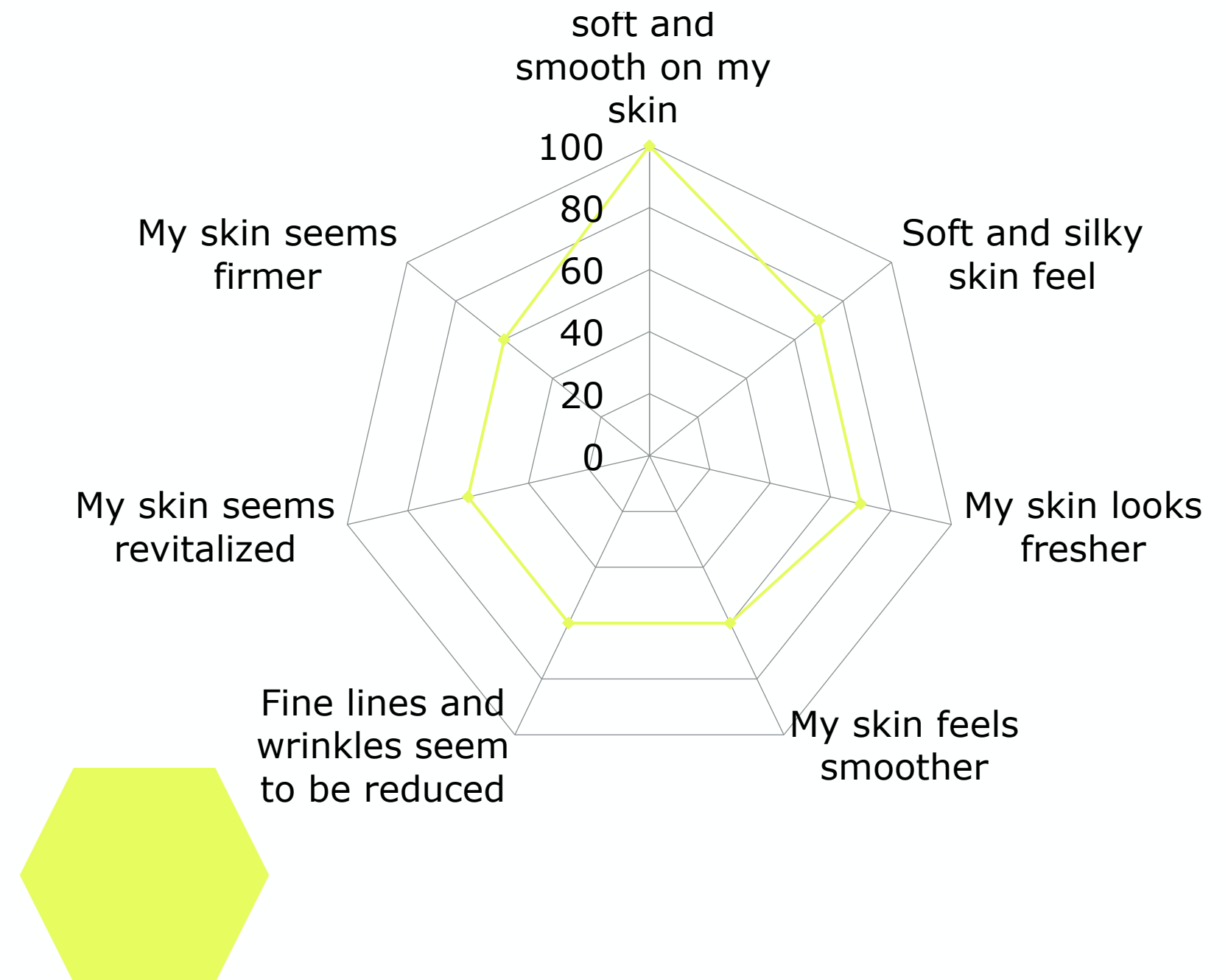
- Participant Questionnaire

Results:

- Natural Algae Eye Mask Pure has a positive effect on subjective skin feeling and appearance:
 - skin feels soft and silky (70 %), smoother (60 %).
 - Fine lines and wrinkle seems to be reduced (60%) and skin is firmer (60%)
 - Skin looks revitalized (60 %) and fresher (70%).

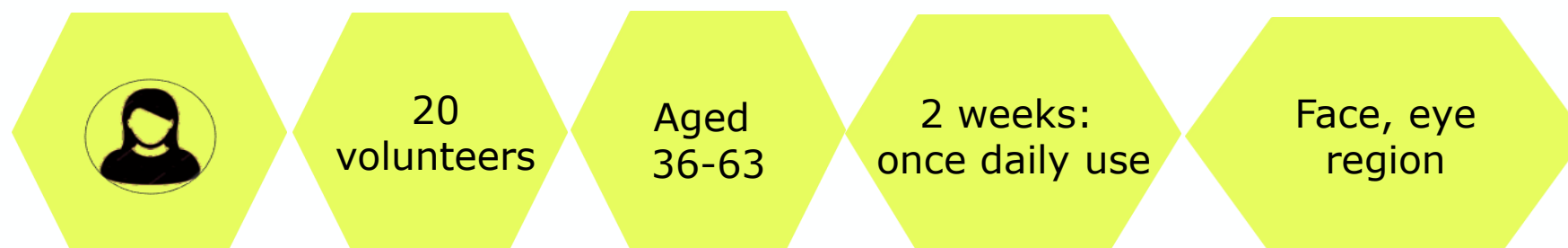
What that means:

- The skin is revitalized and regenerated for a fresh and silky skin feeling.





Ophthalmological Examination



Study title: Ophthalmological Test – Controlled User Test of the Product

Study centre: Derma Consult GmbH, 2014

Protocol: Product applied once daily

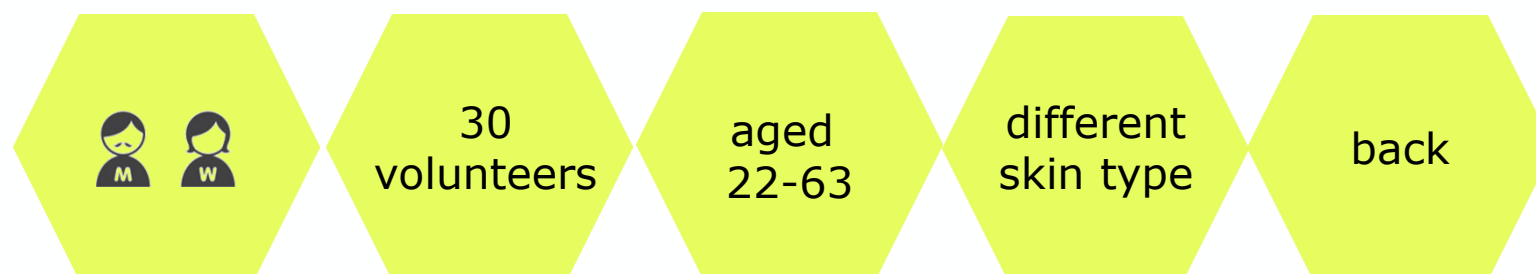
Examination of the eyes, eyeground, and eye area by an ophthalmologist

Result: All subjects showed a healthy eye before, during and after the application study. No pathological changes of the eye and eye mucosa were found in any form. The product was very well tolerated, and did not lead to ophthalmological relevant skin changes in any subject.





Patch Test



Study title: Dermatological report on human Open Patch Test after single application

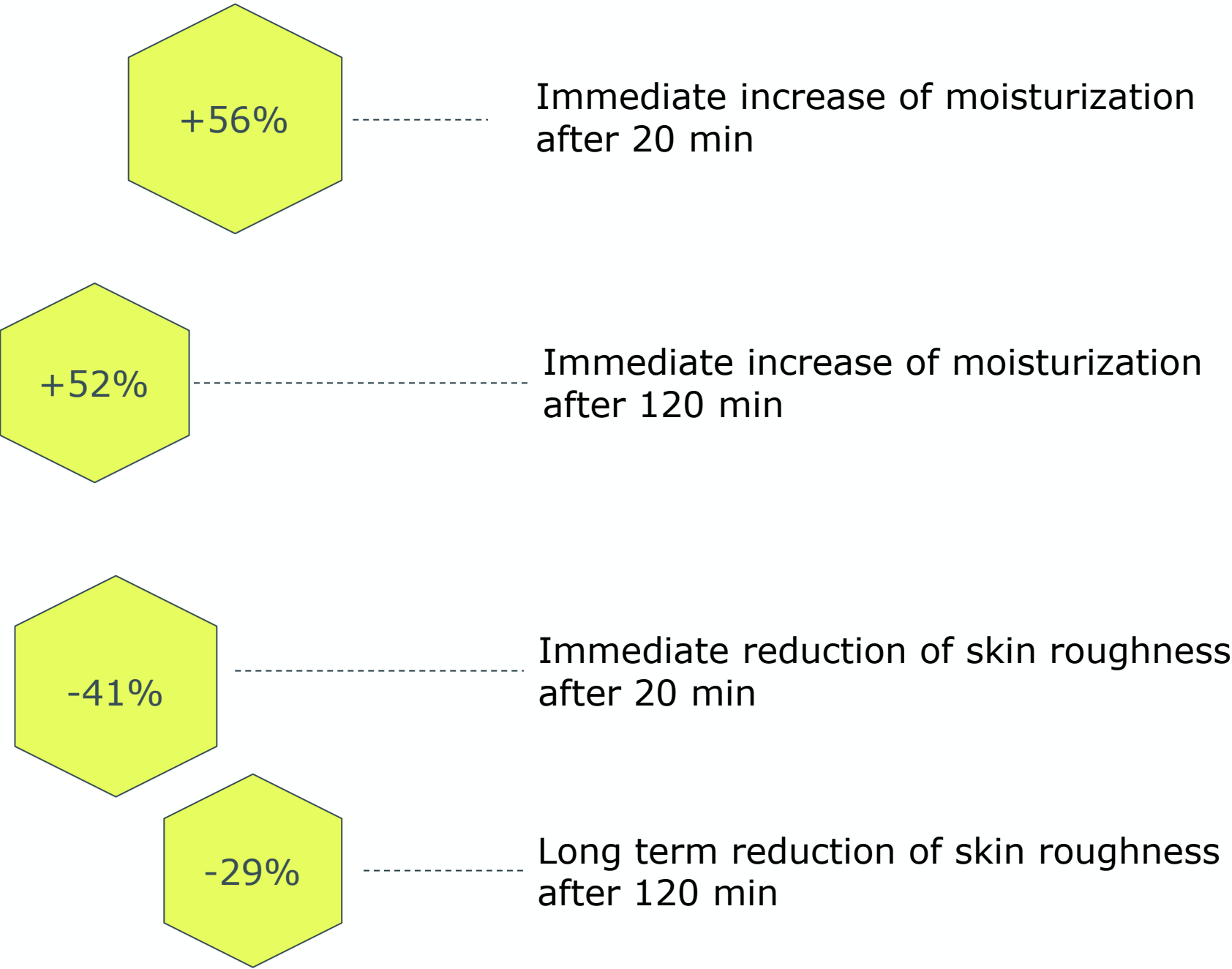
Study centre: Dermatest GmbH, Germany, 2017

Protocol: Application of the product under occlusion. Evaluation of the test areas 20, 30 and 60 min after exposition.

Result: None of the subject showed any reaction to the test product. It can be concluded that the use of the product will not cause any unwanted skin reactions due to an irritating effect.



Summary



Hydration

Smoothing

Thank you for your attention

Our proprietary Advanced CryoSafe™ Method preserves and refines the natural properties of biomaterials. Our science-based Specialty Care solutions demonstrate excellence through superior efficacy and optimal skin compatibility.



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