

Natural Algae Mask

Summary of Scientific Evidence

MedSkin
Solutions

Dr. Suwelack



Agenda

Summary of Scientific Evidence – Natural Algae Mask

- ◊ Contents
- ◊ Introduction
- ◊ Active Ingredients
- ◊ Mode of Action
- ◊ Scientific Studies
- ◊ Patch Tests
- ◊ Summary
- ◊ Contact Details



Natural Algae Mask

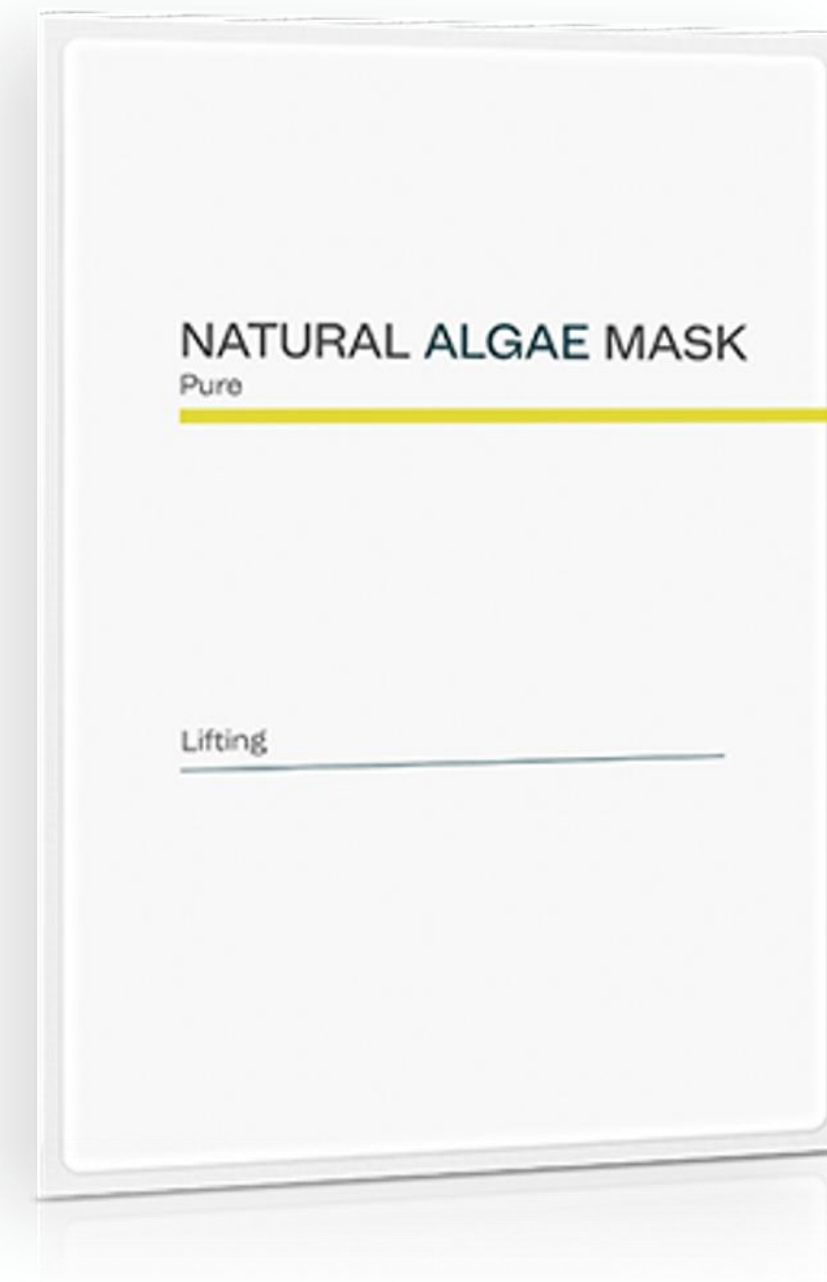
At a Glance

Key Facts

- ✓ Active Biomaterial - Natural Biomatrix extracted from pure brown algae
- ✓ Actives: Alginate, Calcium
- ✓ pH: 3.35 (activated with water)
4.28 (activated with Activation Liquid 17SF)
- ✓ Professional usage
- ✓ rinse-off product
- ✓ Free from Preservatives, fragrances, mineral oils, silicones & colorants
- ✓ Freshly activated in the moment of use for maximum potential

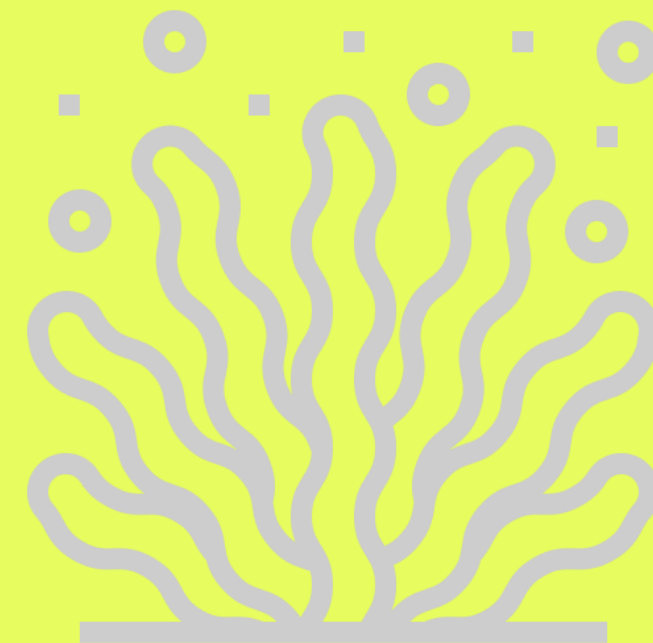
Natural Algae Mask is a freeze-dried anti-aging mask for instantly more rehydrated, plumped and visibly firmed skin.

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



INCI Mask
Algin · Cellulose Gum · Glycerin · Calcium Sulfate ·
Caprylic/Capric Triglyceride · Citric Acid · Sorbitol

It's all about the skin



Introduction

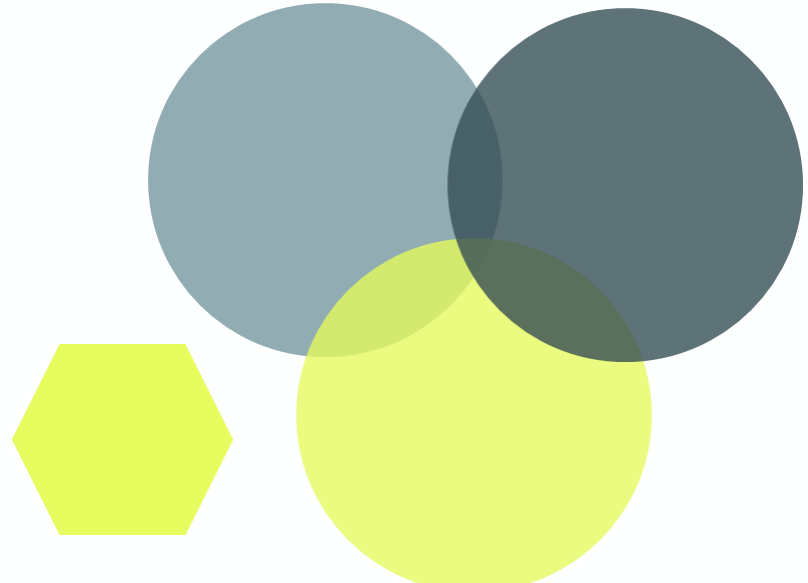
Skin ageing is a complex process and can be seen by lines, wrinkles, strong dehydration or changes in skin tone. During the skin aging process, osmosis and cell volume decrease, as does the number and **mobility of aquaporins** (AQPs). Changes in the **epidermal calcium gradient** also promote a disturbed barrier function and increase water loss. The skin becomes more dry and rough and more susceptible to irritation. A key role in the targeted care 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

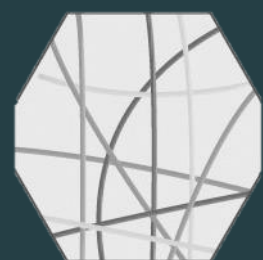




Ingredients explained in short

Ingredient	Function in cosmetic products	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 and delivery of Calcium Ions
Carprylic/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

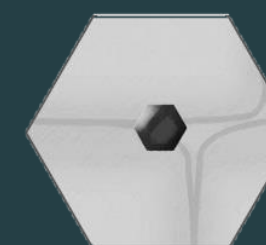
Hero Active Ingredients



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 Biology, 1984; 99.
- [4] Kosmetische Praxis 2009 (4), 12-15.

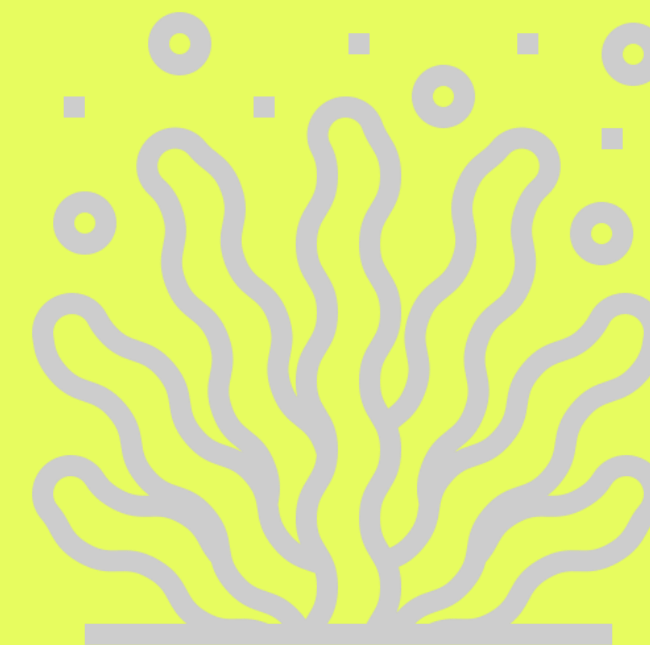


Calcium:

Calcium is one of the fundamental skin nutrients needed for the skin's balance. In the healthy human skin an **epidermal calcium-gradient** is built. 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.

Mode of Action

How does the Lifting effect work on the skin?





**KEEP THE WATER
INSIDE**

**BY
STRENGTHENING
THE ENVELOPE**

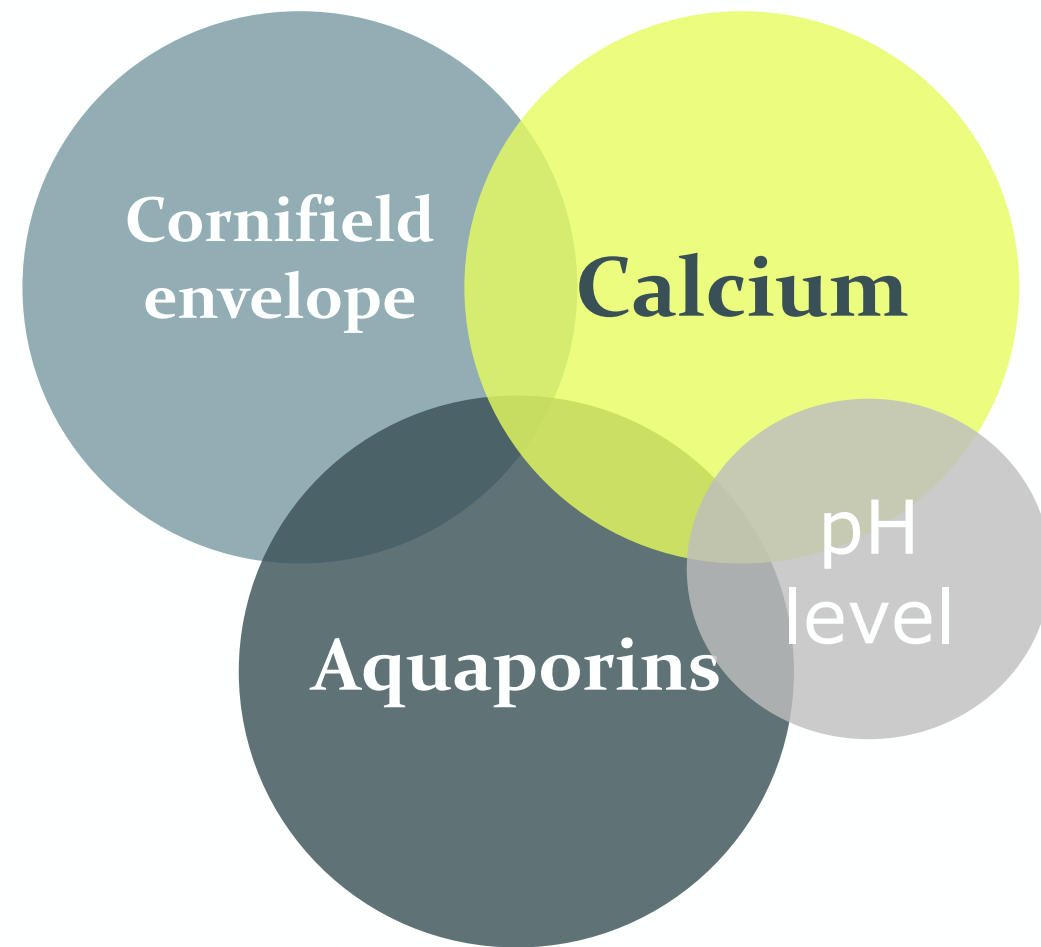
A wide-angle photograph of a massive concrete dam, likely the Grossglockner Dam in Austria, situated in a high-altitude mountain valley. The dam is a long, curved structure made of grey concrete, with water cascading over its spillways. Behind the dam, a calm lake reflects the surrounding landscape. The background features steep, rugged mountains with patches of snow and green alpine vegetation. The sky is blue with some light clouds. A large yellow hexagon is overlaid on the left side of the image, containing text. A smaller cyan hexagon is visible on the far left edge.

**KEEP THE WATER
INSIDE**

**BY
STRENGTHENING
THE ENVELOPE**

When we get older

More and more moisture is lost from the skin



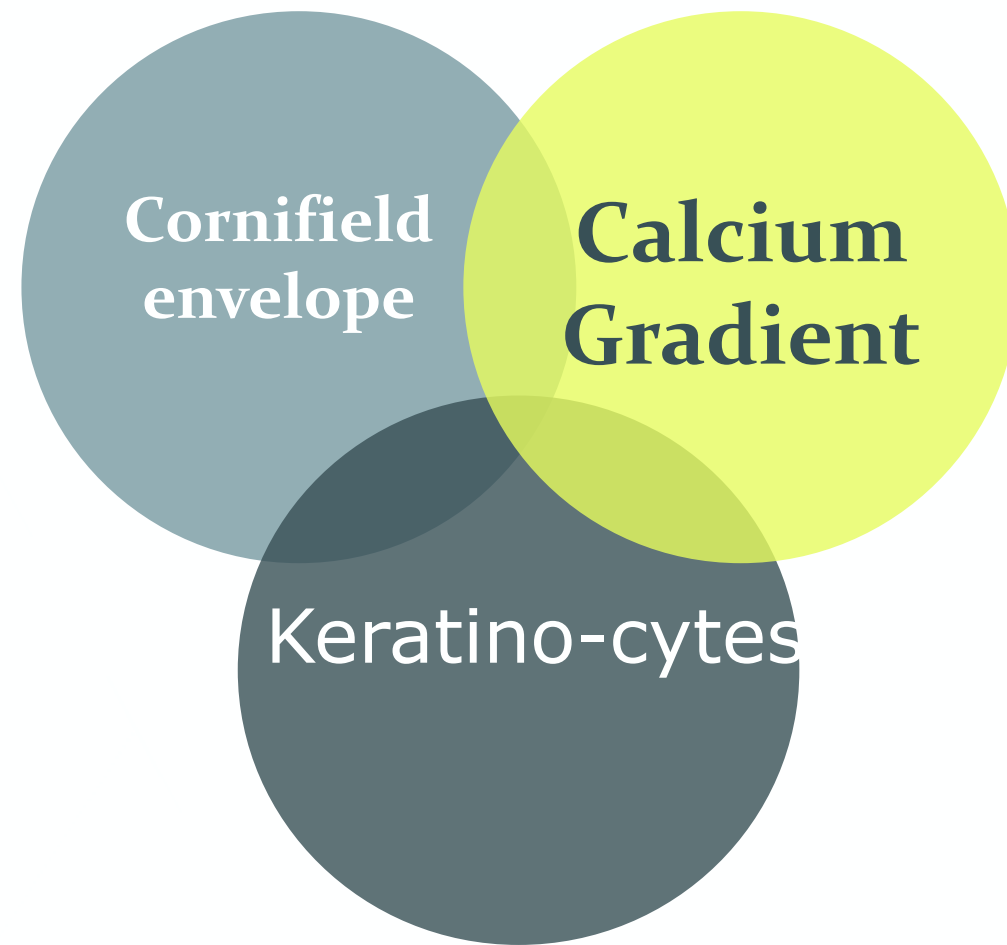
In order for the **cornified envelope** to renew itself, **Calcium** is necessary for its formation to build a strong structure.

Directly applied Calcium opens the door for the **water channels (aquaporins)** to provide deep immediate hydration of the skin.



When we get older

The Skin loses its energy to renew itself..



Directly applied Calcium helps to set up the **calcium gradient** which ignites cell energy and cell differentiation to form a firm structure for a long term contoured skin.



The Perfect Solution for visible Lifting

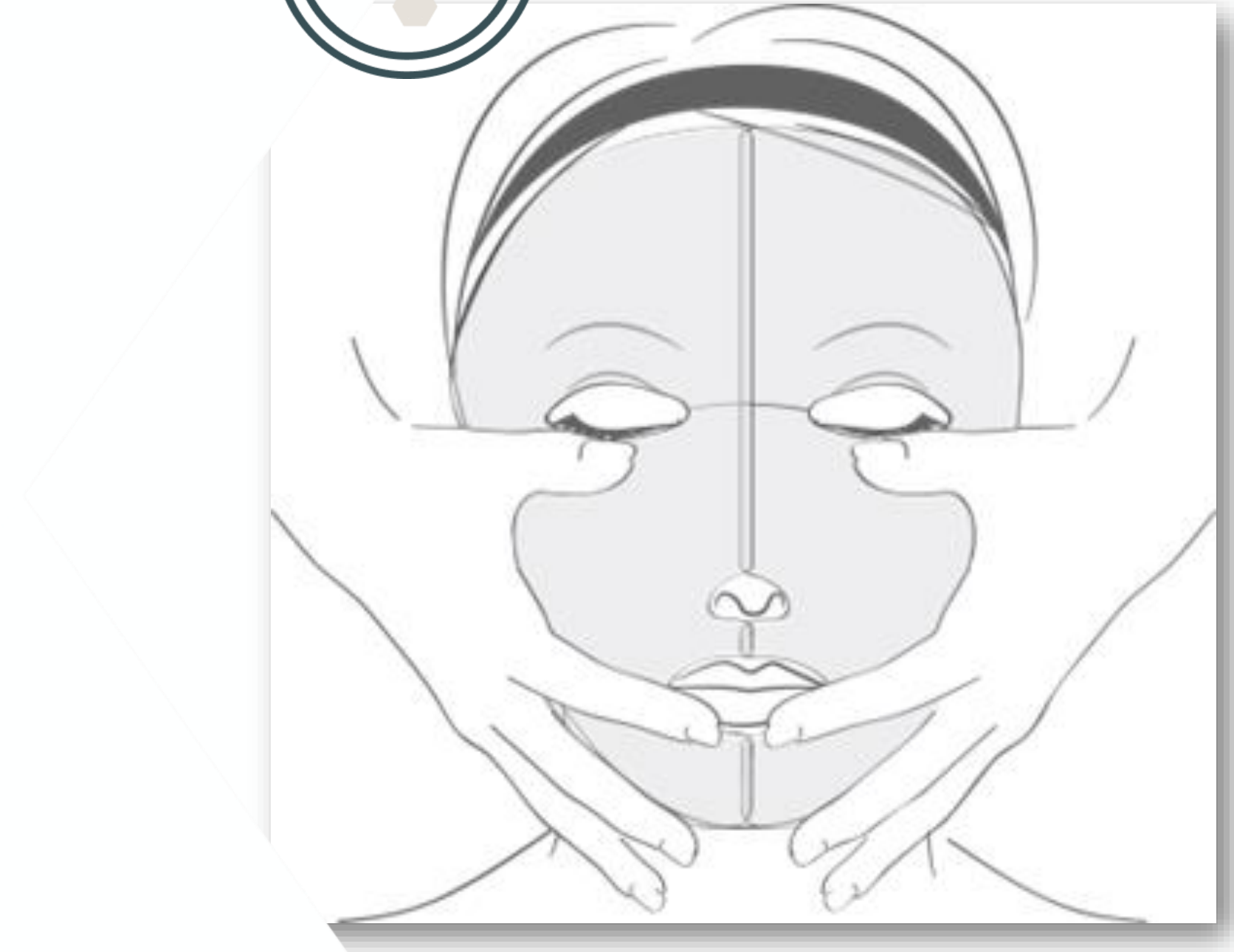
For instant hydration & barrier protection



low pH value
stabilizes
skin barrier

Optimal
Calcium
Gradient

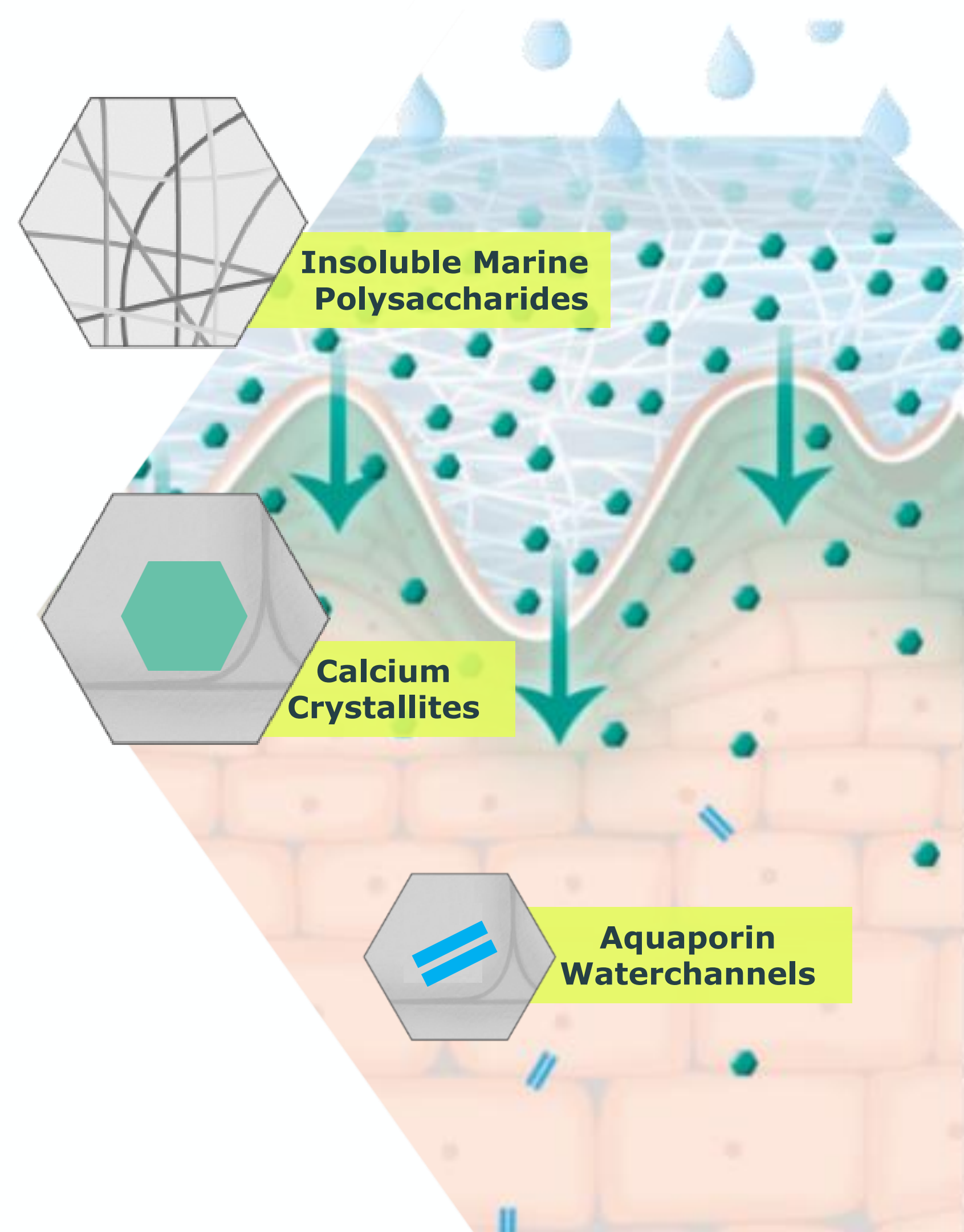
Re- Activation of
Aquaporins



EXPLORE DETAILED MODE OF ACTION

Application & Activation of Natural Algae Mask

- Fresh activation with activation liquid 17SF.
- Brown Algae Fiber network of Marine Polysaccharides acts as delivery system into skin.
- Soluble marine calcium is freshly activated & released into skin.



Action I

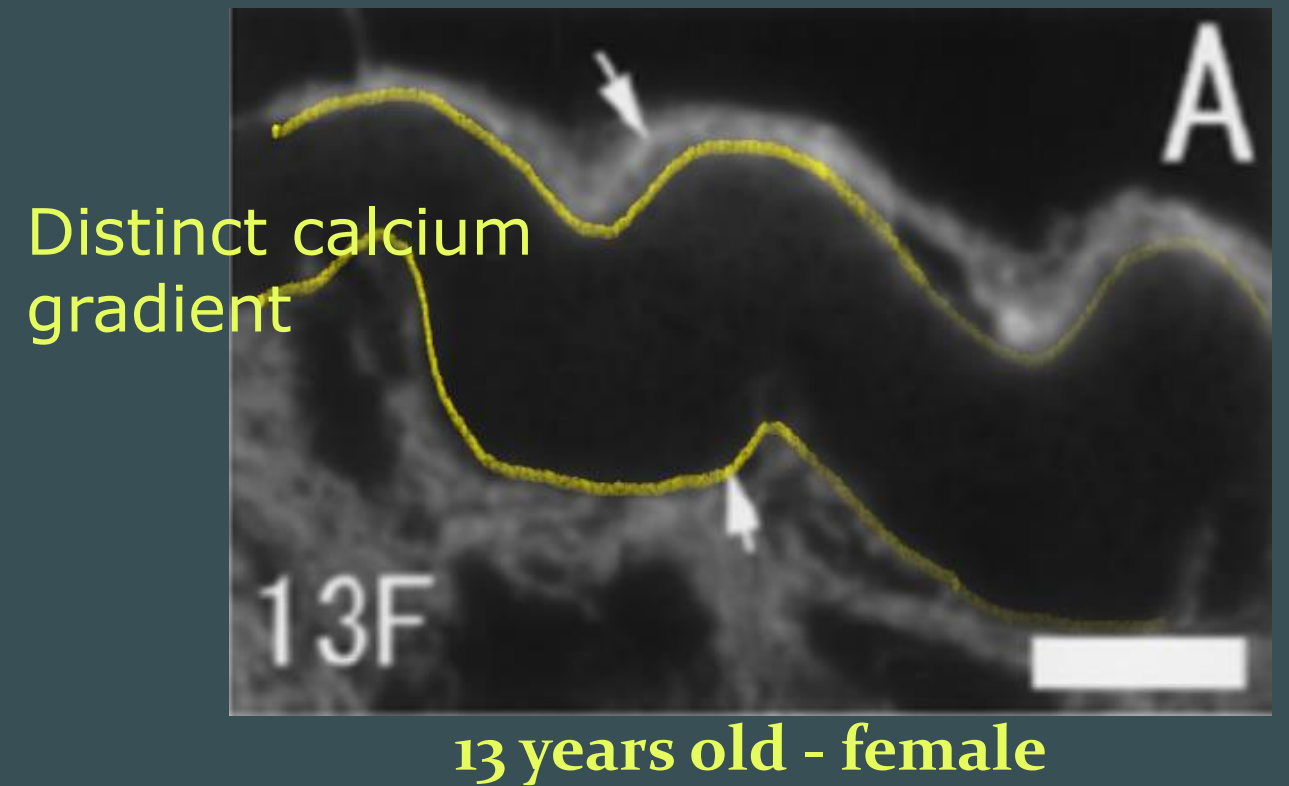
Adjustment of Calcium Gradient

- Increasing calcium concentration in the skin
 - Osmotic uptake of water into the skin.
 - Adjustment of epidermal Calcium gradient to activate keratinocyte formation
 - Strengthen the cornified envelope.

Skin Benefits:

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

Illustrative fluorescence microscope visualization of Calcium in young & old skin



Action II

Stimulation of Aquaporin Production

- Osmotic stimulation of water channels (Aquaporins).
- Supporting skin's own skin moisture and controlling transport of water to cells.
- Providing water flow to regulate dryness, skin elasticity, and skin barrier functions.

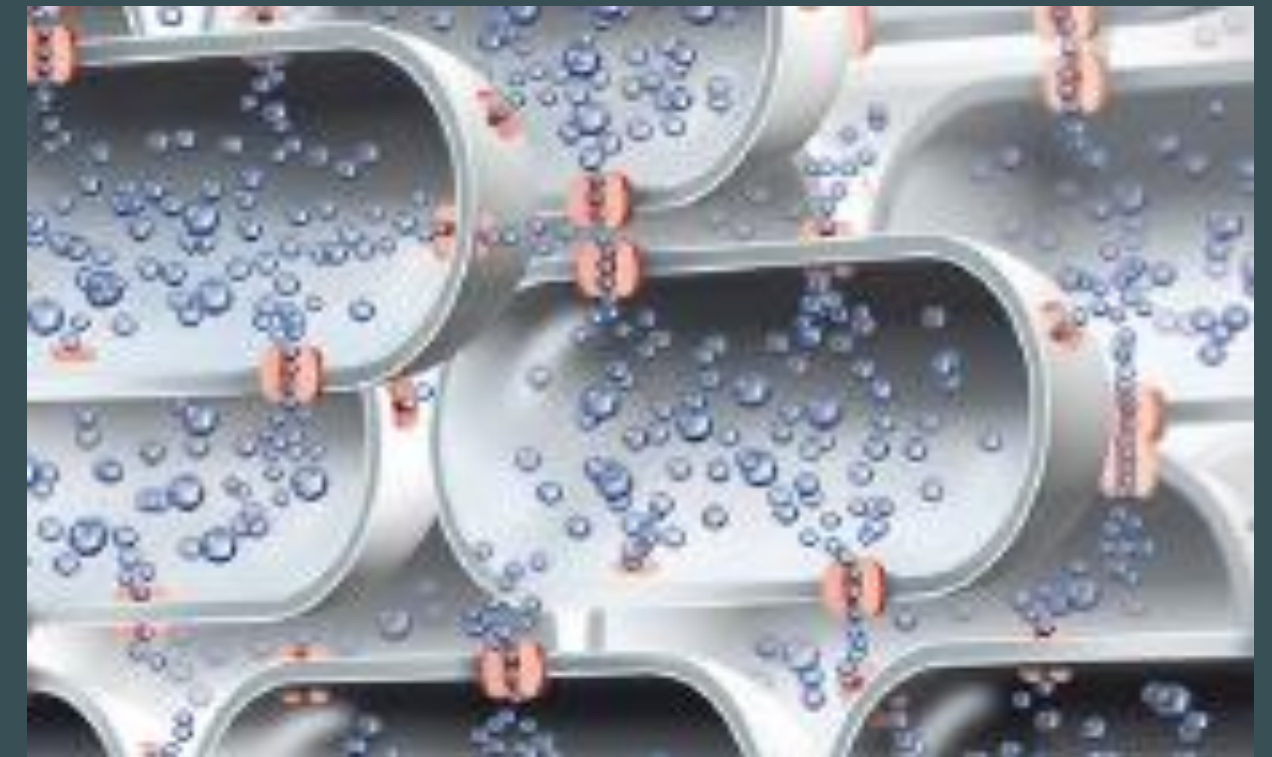
Skin Benefits

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

Visualization of waterflow in Aquaporin membranes



before



after

Action III

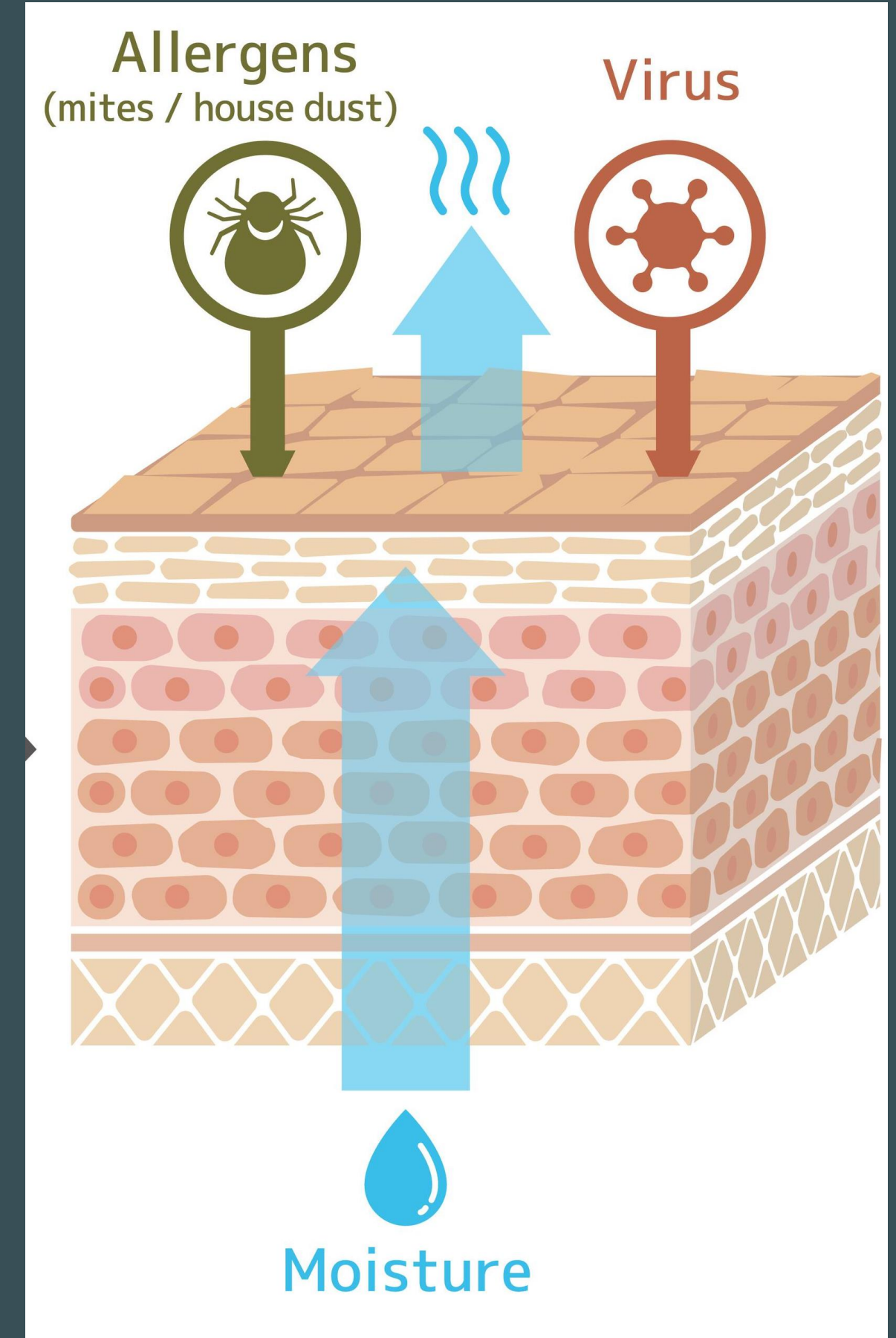
Stabilizing the skin's barrier

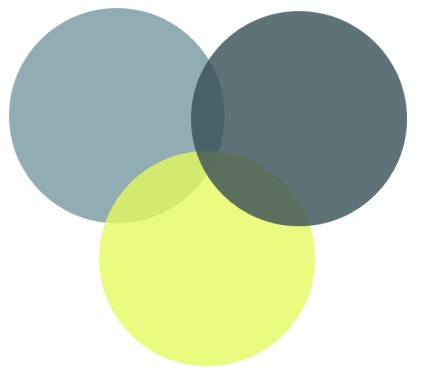
- Low pH around 4 balances the skin acidic mantle
- Stabilizing the natural skin's barrier function
- Protecting the skin from water loss
- Helping to support healthy skin microbiome

Skin Benefits

- Restores skin barrier
- Revitalizes & hydrates the skin

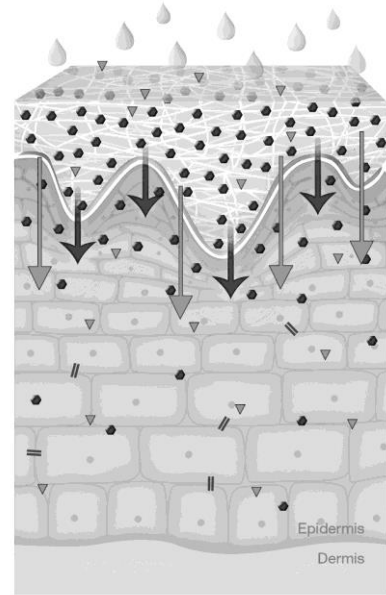
Visualization of damaged skin barrier losing water and open for radical influences





Mode of Action

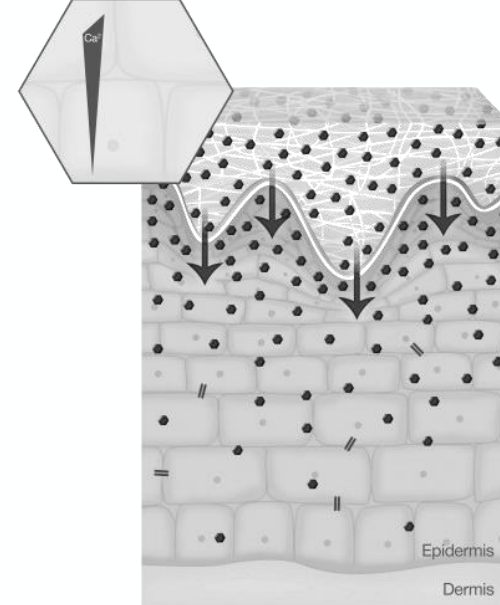
Activation & Release of Active Ingredients



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

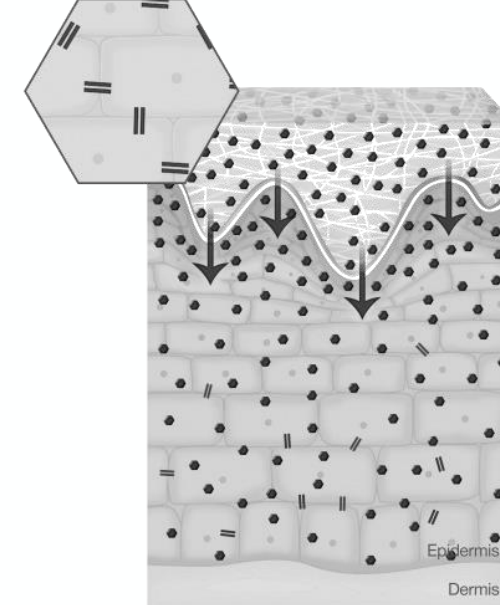


- Generation of an optimal calcium concentration in the skin for the osmotic uptake of water into the skin
- Adjustment of epidermal Calcium gradient to a youthful profile.

1st Benefits:

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

3 Stimulation of Aquaporin Re-production

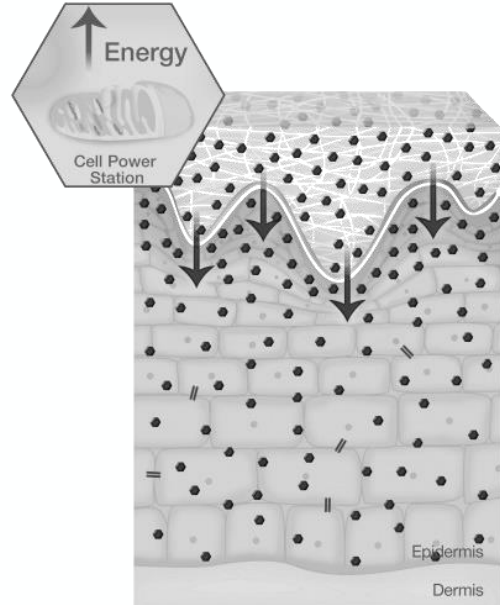


- Osmotic stimulation by Calcium ions positively influences the expression of additional water channels (Aquaporines).
- Supporting skin's own skin moisture and skin barrier functions.

3rd Benefits:

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

4 Stimulation of Cell Energy

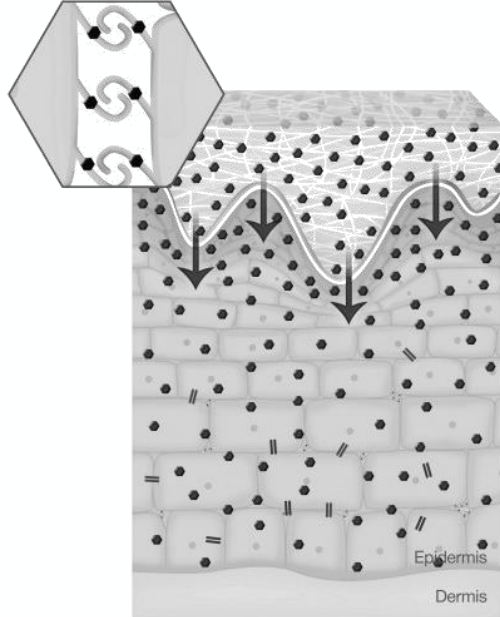


- Calcium ions are known to activate enzyme activity in the cells which leads to cell metabolism stimulation.
- Higher energy levels enable cells to build large molecular structures.

2nd Benefits:

- Revitalizes skin.

5 Strengthening of Cell-to-Cell attachment



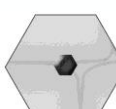
- Extracellular attachment structures are linked by Calcium ions which are specialized for cell-to-cell adhesion.
- Calcium-induced stabilization of desmosomes.
- Calcium Ions support membrane strength.

4th Benefits:

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



Brown Algae Fiber network

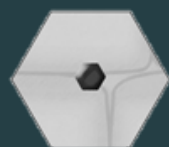


Calcium Ions

5 Significant Lifting & Contouring Results



Calcium Ions



Summary of benefits

Result of Natural Algae Energy:

Intensively hydrated skin.

Smoothed lines & wrinkles.

Firmed & densed skin.

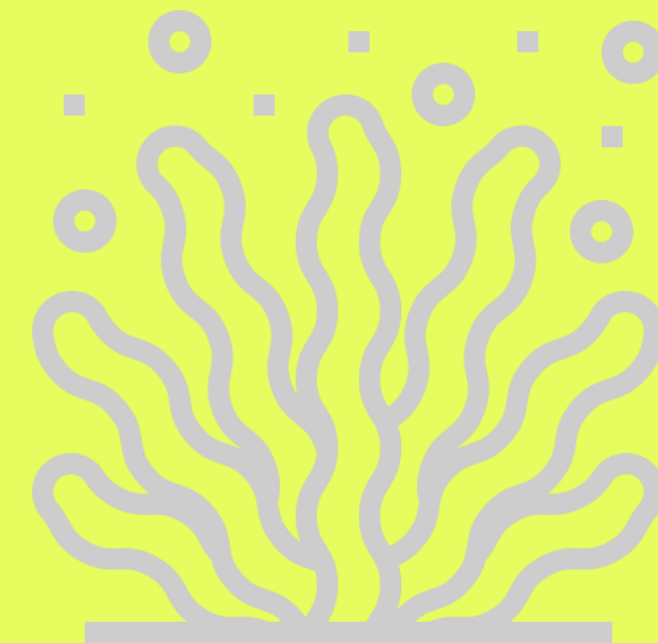
Plumped & filled wrinkles.

Lifting & contouring effect.

Revitalized skin.



Scientific Studies



Scientific Studies



In vitro analysis of Cell Viability



In vitro analysis of Calcium Concentration



Ex vivo analysis: SEM for skin smoothing



Dermatological Evaluation



Patch Test



Proven Calcium Penetration



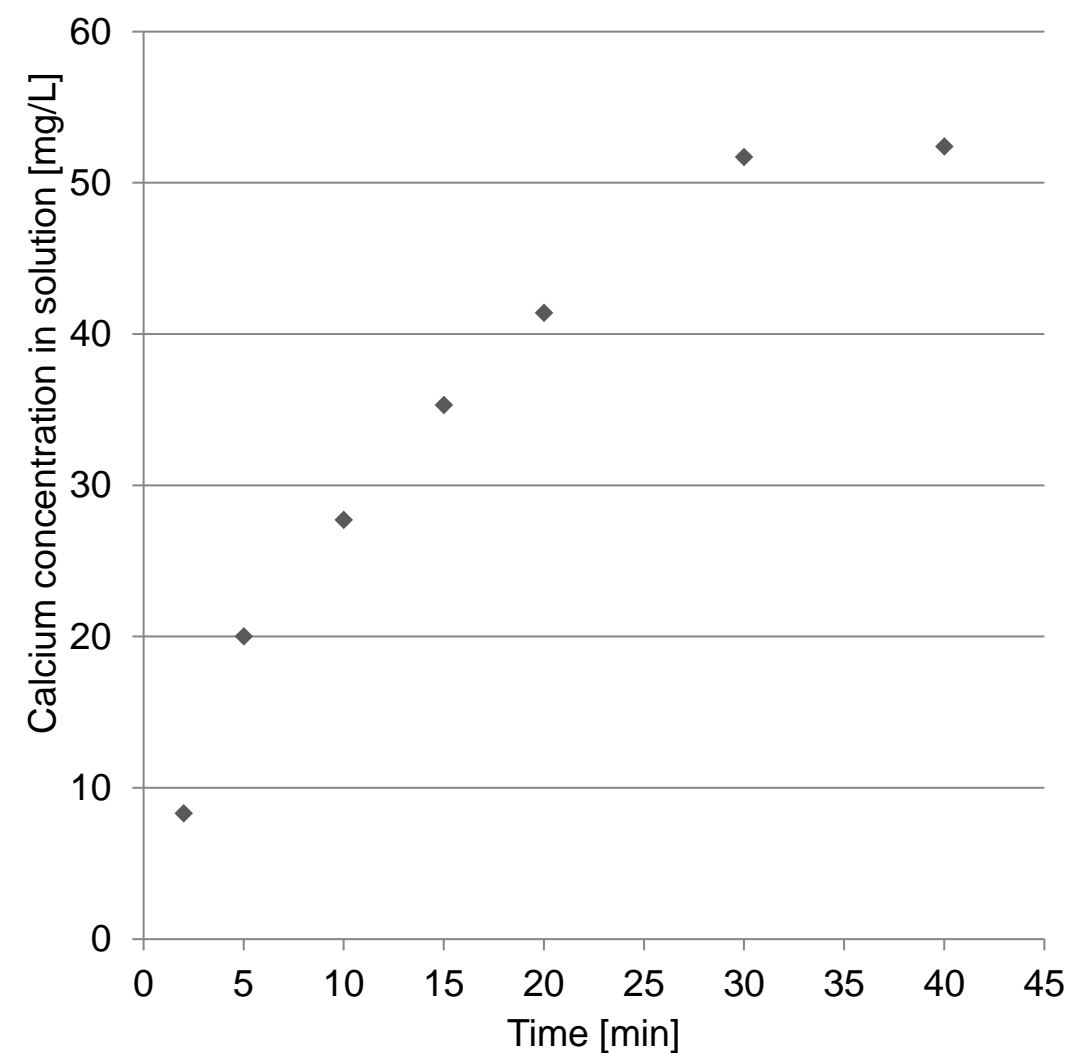
In vitro

Franz
Diffusion
cell

Natural
Algae
Mask

Determination
of Calcium
concentration

Period of
measurement:
40 min



Result:

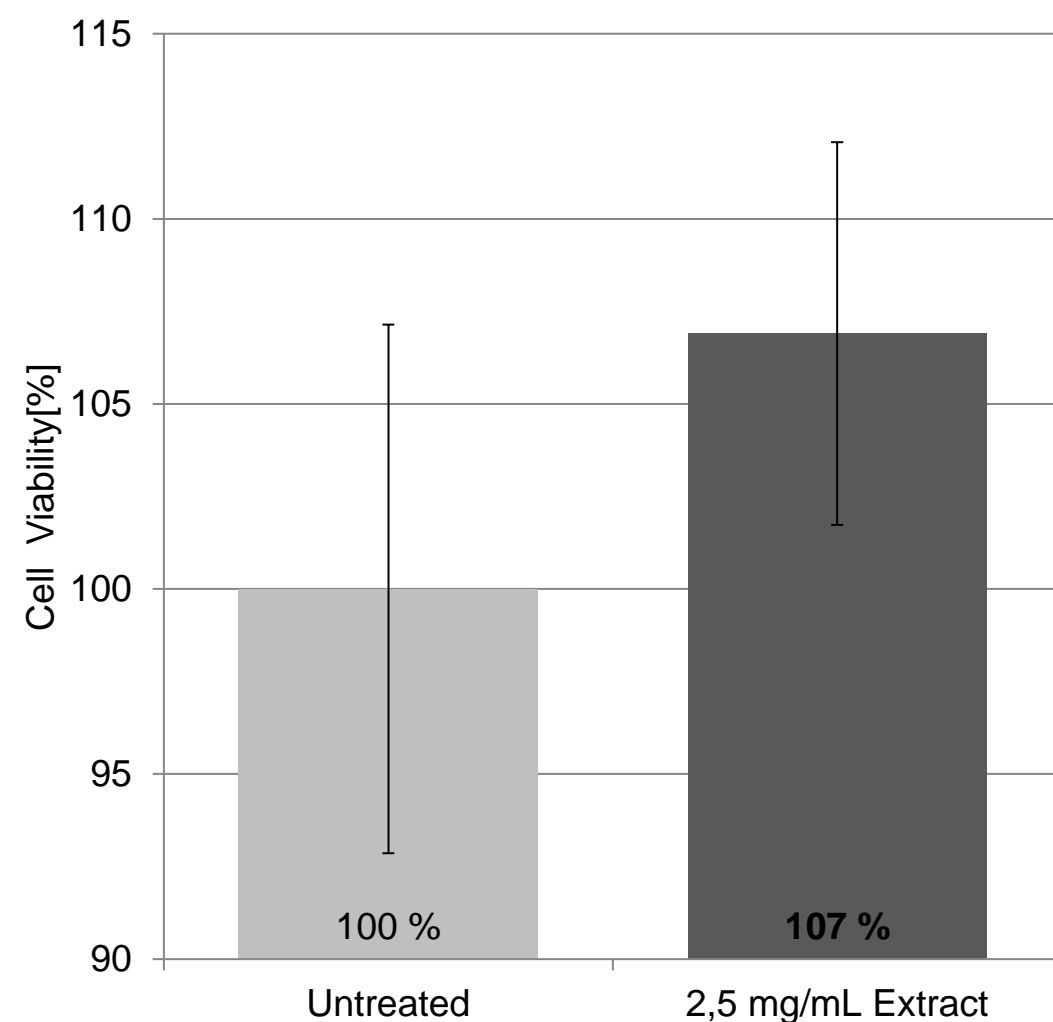
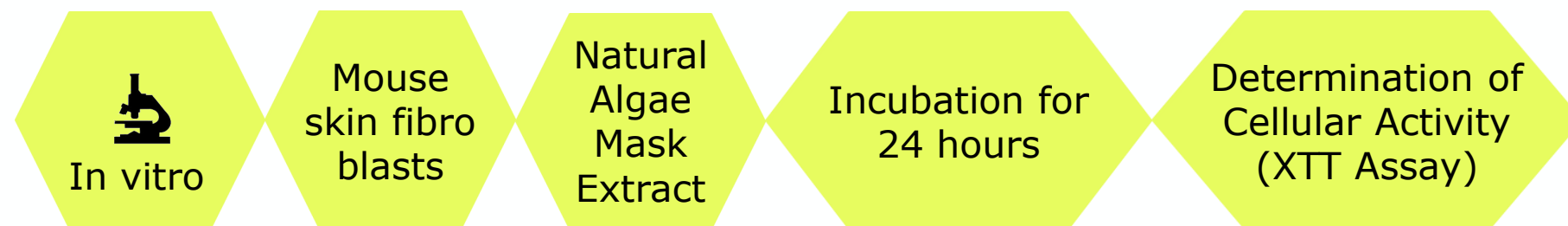
- Calcium Ions penetrate through membrane
- Calcium Concentration increases over time

What that means:

Soluble calcium ions are activated & released into skin.



Increased Cellular Vitality



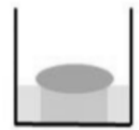
Result:

- 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



Ex vivo

Human
skin
explants

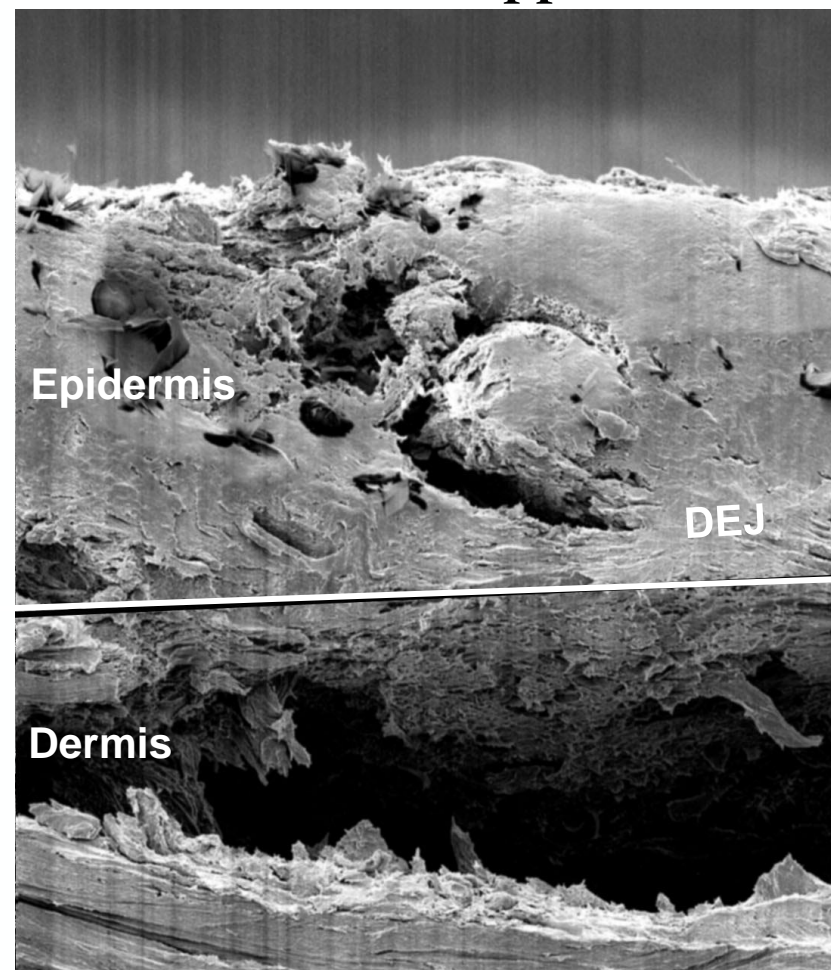
Skin side
view

Natural Algae
Mask

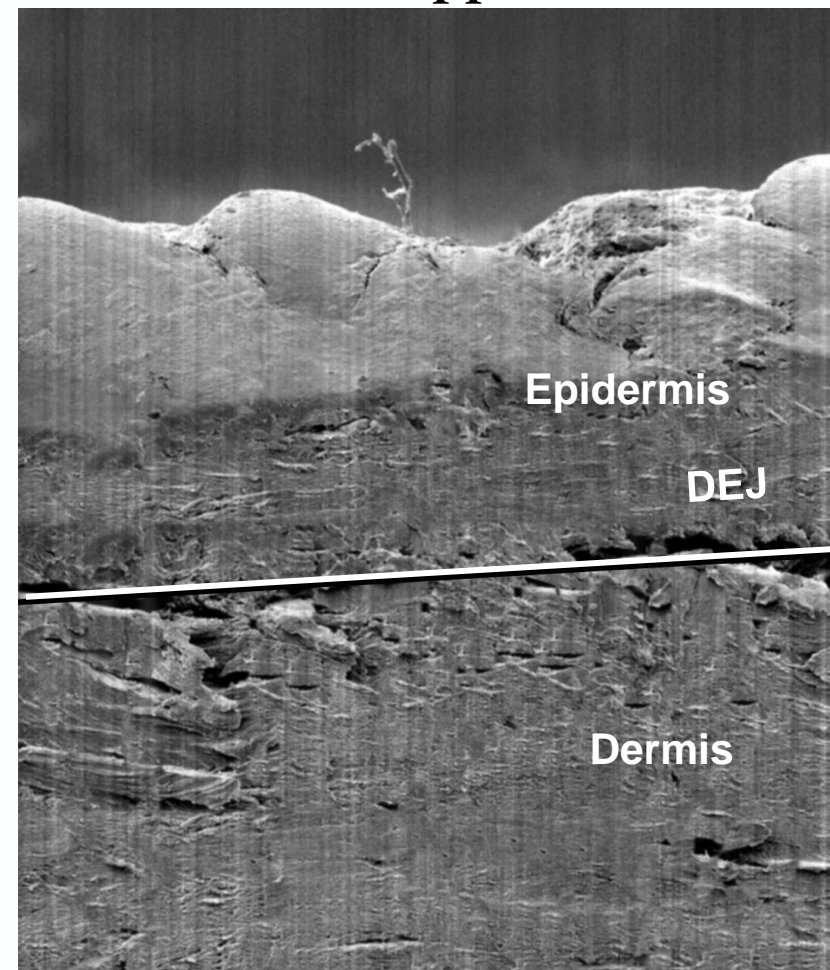
Scanning Electron
Microscopy

Magnification:
500x

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



**Before mask
application**



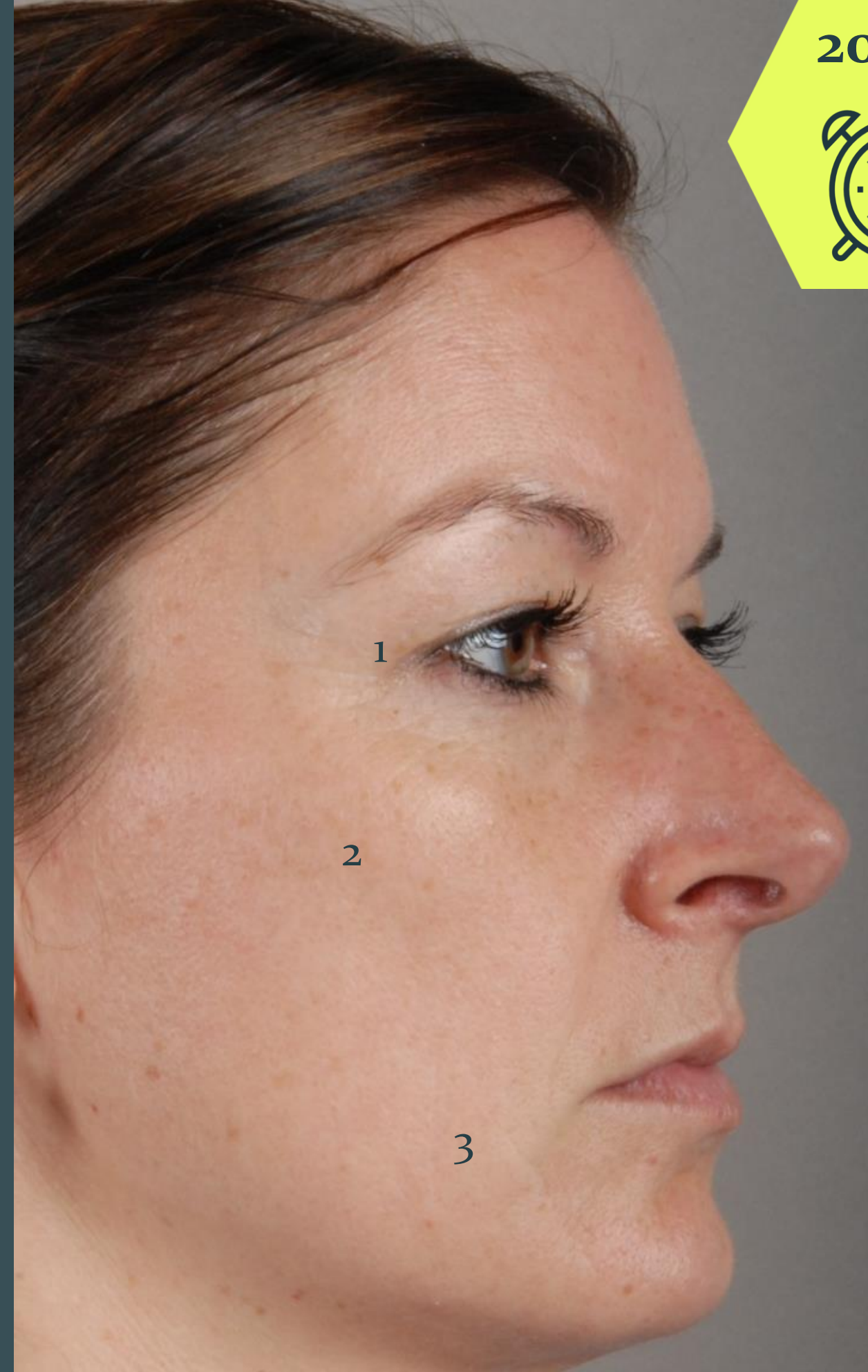
**After mask
application**



1
PLUMP
WRINKLES

2
REVITALIZE
UNEVEN SKIN TONE

3
LIFT
SAGGING SKIN



20min


**Before mask
application**

20min



**After mask
application**

**Plumped
wrinkles**



Before mask application

20min



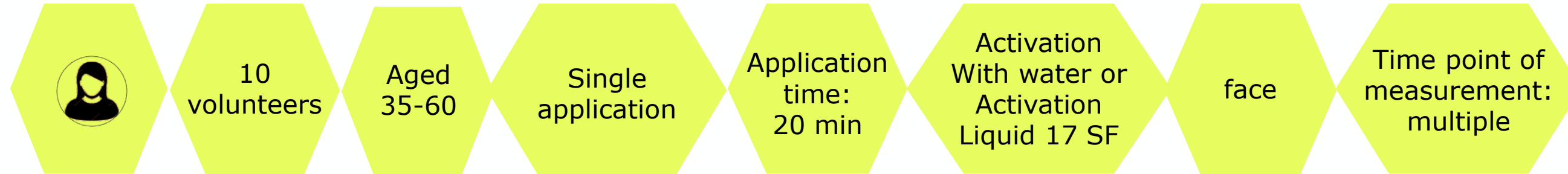
After mask application

**LIFT
sagging
skin**





Controlled Dermatological Study



Study title: Clinical-dermatological application study in 10 volunteers with single application and activation with water or Activation Liquid 17SF¹

Study centre: Dermatest GmbH, Germany, 2013

Parameter: Determination of



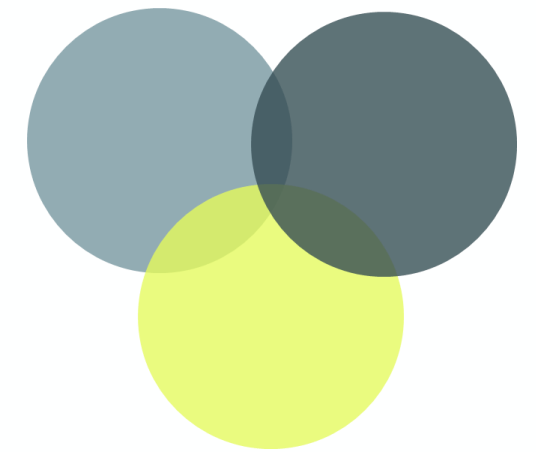
skin moisture
Corneometer



skin roughness
PRIMOS



Participant Opinion
Questionnaire



Intense skin moisture effect

Method:

- Corneometer (skin hydration)

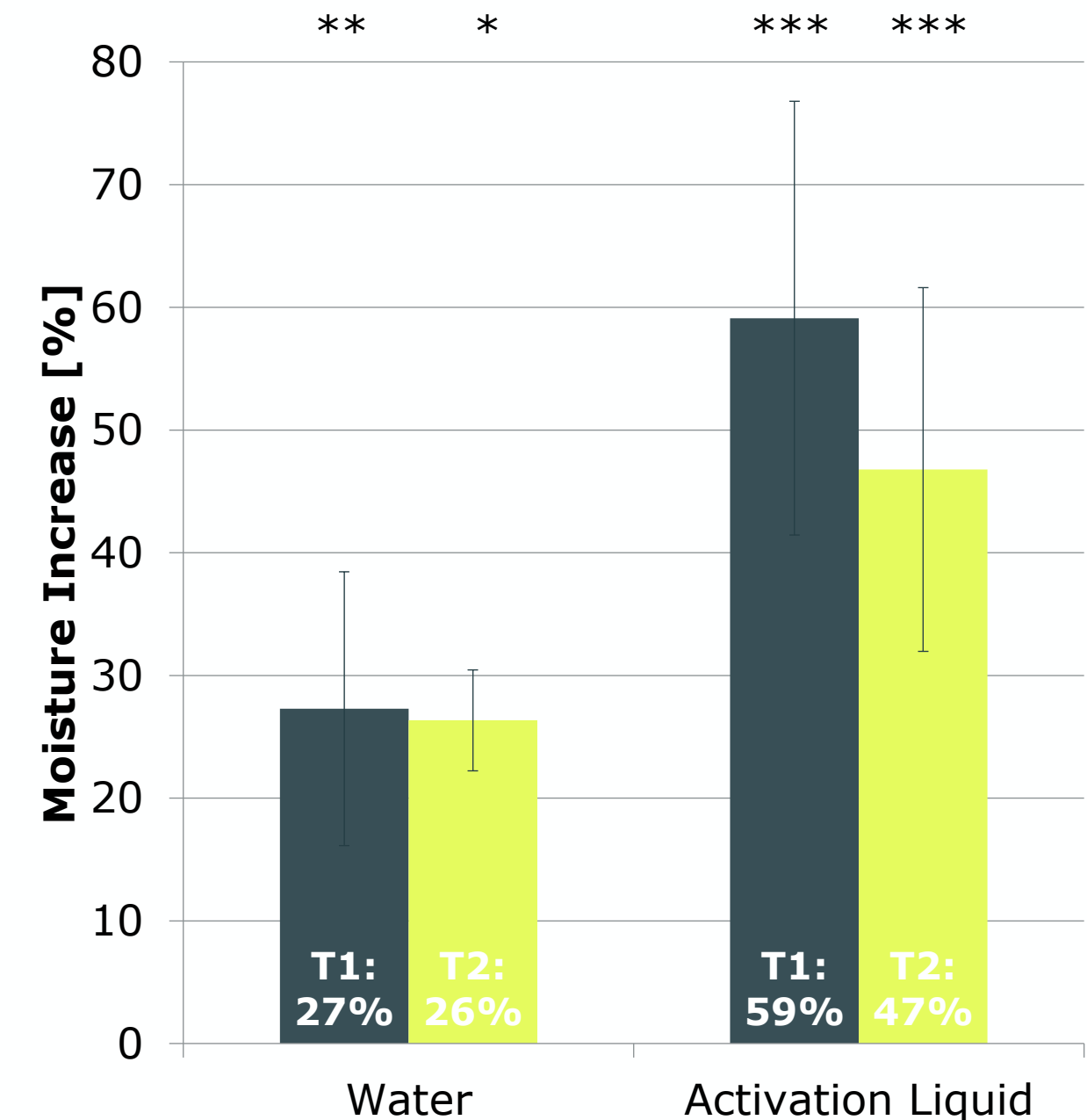
Results:

- Activation with water:
 - After 30 min: Significant increase by 27%
 - After 2 hours: Significant increase by 26%
- Activation with Activation Liquid:
 - After 15 min: Significant increase by 59%
 - After 2 hours: Significant increase by 47%
-

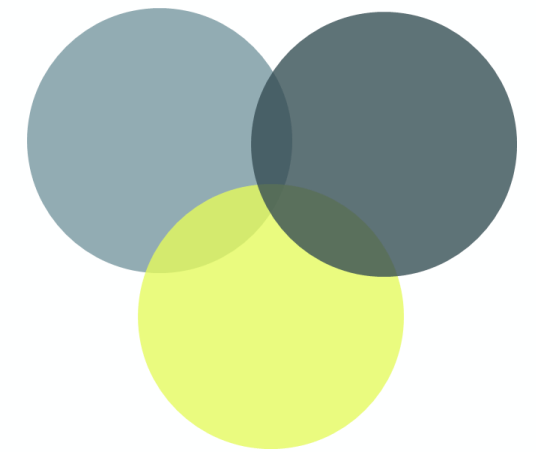
What that means:



- Outstanding increase in skin hydration for skin moisture effect.
- Use of Activation Liquid supports results even better



Average increase in moisture after 30 minutes (T1) and two hours (T2).
* $p \leq 0,05$ ** $p \leq 0,01$ *** $p \leq 0,001$



Intense skin smoothing effect

Method:

- ◊ PRIMOS (skin roughness)

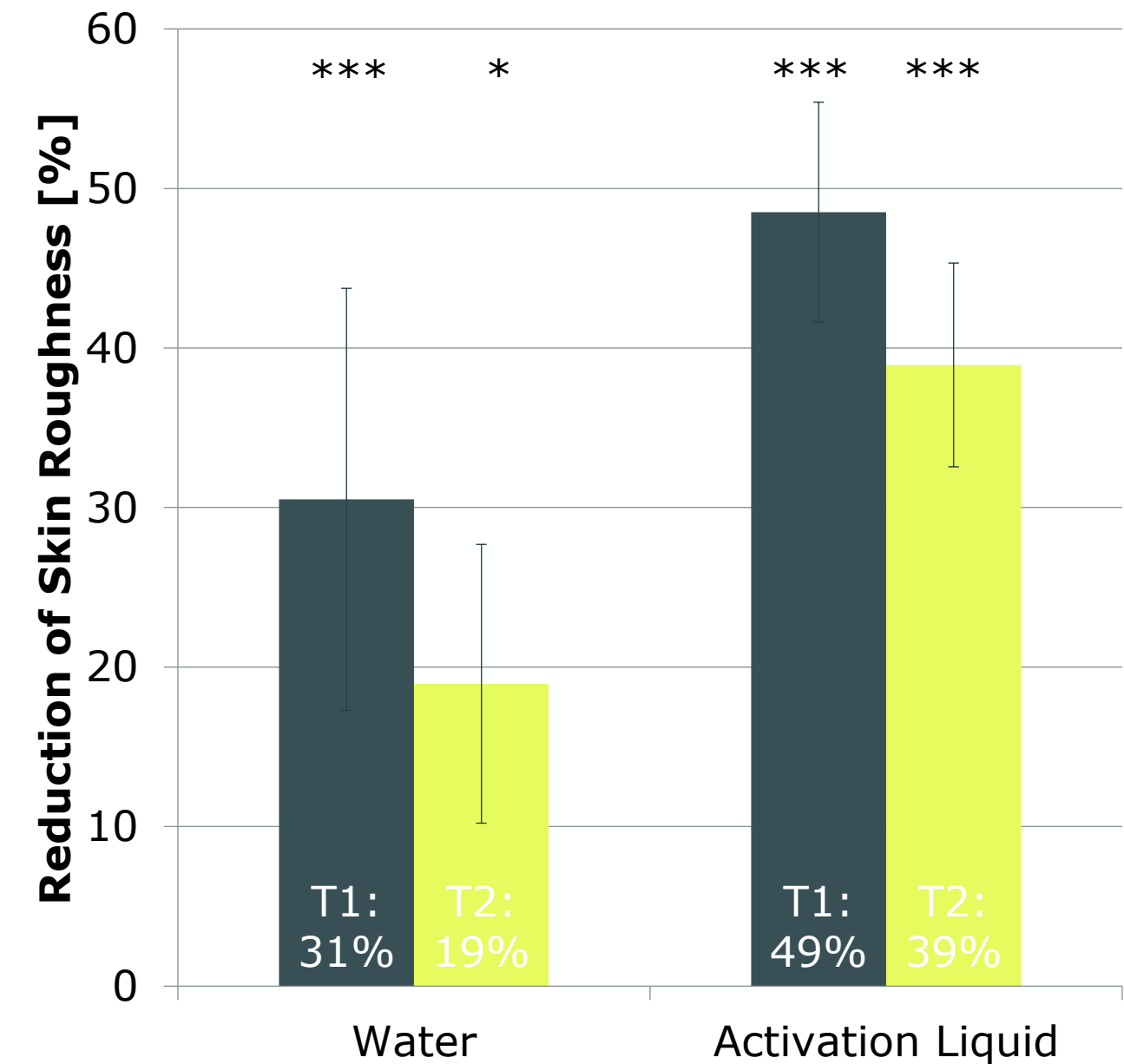
Results:

- ◊ Activation with water:
 - ◊ After 15 min: Significant reduction by 31 %
 - ◊ After 2 hours: Significant reduction by 19 %
- ◊ Activation with Activation Liquid:
 - ◊ After 15 min: Significant reduction by 49 %
 - ◊ After 2 hours: Significant increase by 39 %
- ◊

What that means:

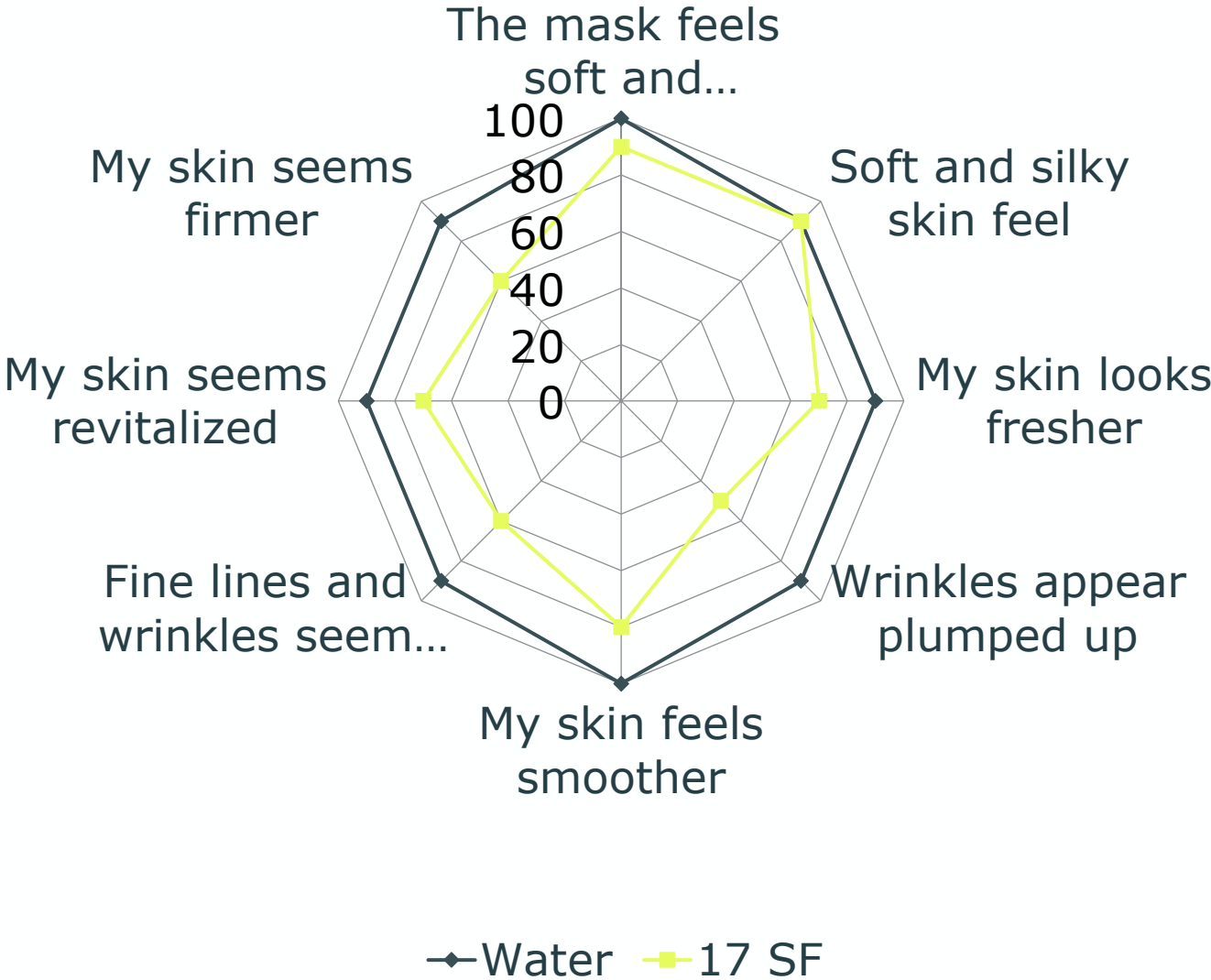


- ◊ Significant reduction of skin roughness for a skin smoothing effect. The skin appears younger!
- ◊ Use of Activation Liquid supports results even better



Average roughness reduction after 30 minutes (T1) and two hours (T2).
*p≤0,05 ***p≤0,001

User Satisfaction



Method:

Participant Questionnaire

Results:

Natural Algae Mask has a positive effect on subjective skin feeling and appearance

What that means:

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



Patch Test 1



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

Study center: Dermatest GmbH, Germany, 2012

Protocol: Application of the product under occlusion for 24, 48 and 72 hours. Evaluation of the test areas 30 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.





Patch Test 2



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

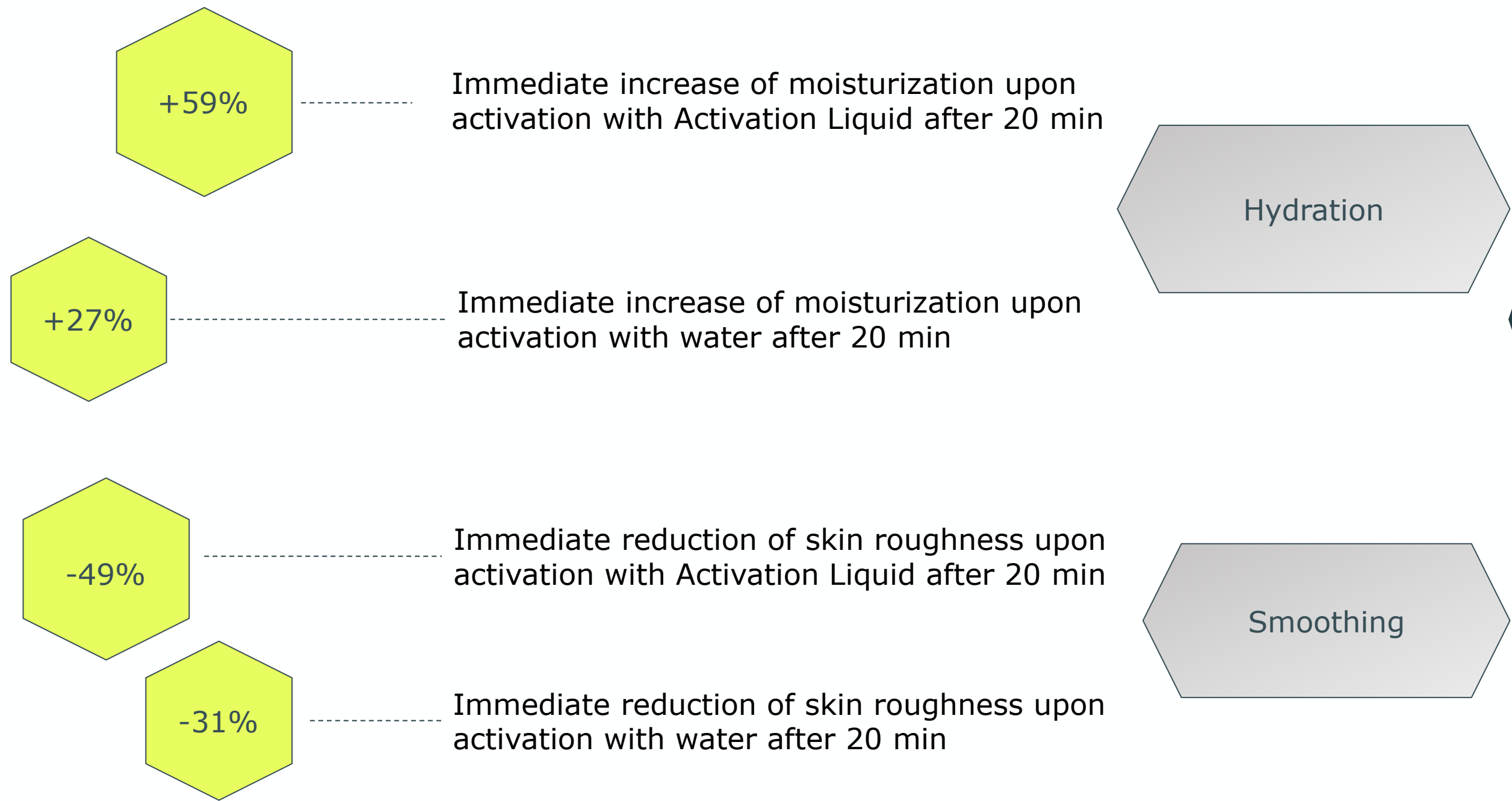
Study center: Dermatest GmbH, Germany, 2015

Protocol: Application of the product under occlusion for 24, 48 and 72 hours. Evaluation of the test areas 30 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



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.



MedSkin Solutions Dr. Suwelack AG
Josef-Suwelack-Strasse 2 48727
Billerbeck

PHONE

+49 2543 21820

FAX

+49 2543 2182150

E-MAIL

info@medskin-suwelack.com

WEBSITE

www.medskin-suwelack.com

HAMBURG OFFICE

Colonnaden 72 20354 Hamburg |
Deutschland

[Linkedin](#) [Twitter](#) [Instagram](#) [Facebook](#)