

# Native Collagen Mask Pre-soaked

Summary of Scientific Evidence

MedSkin  
Solutions

Dr. Suwelack



# Agenda

## Summary of Scientific Evidence - Native Collagen Mask Pre-soaked

- ◊ Contents
- ◊ Introduction
- ◊ Active Ingredients
- ◊ Mode of Action
- ◊ Scientific Studies
- ◊ Ophtalmological Examination
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- ◊ Summary
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# Native Collagen Mask

## At a Glance

Native Collagen Mask Pre-Soaked is a convenient face mask. It is designed for targeted regeneration and repair.

To ensure maximum safety and a hygienic application, we sterilize our Native Collagen Mask and the used mesh before pre-soaking.

### Key Facts

- ✓ Active Biomaterial - Native collagen
- ✓ Actives: Native Collagen (97% identical to human skin), Liftonin™ Xpress, Sodium Hyaluronate
- ✓ pH (mask with liquid): 4.3-4.7
- ✓ rinse-off product
- ✓ Home use
- ✓ Free from Parabens, Mineral oils, silicones & colorants

#### INCI Mask:

Collagen, Rayon, Paraffin, Hydrogenated Rosin, Hydrogenated Polyisobutene, PPG-15 Stearyl Ether, PEG-40 Sorbitan Peroleate, BHT

#### INCI Liquid:

Aqua (Water), Butylene Glycol, Glycerin, Sodium Lactate, Sodium Hyaluronate, Lactobacillus Ferment, Allantoin, Saccharide Isomerate, Pullulan, Porphyridium Cruentum Extract, Hydroxypropyl Methylcellulose, Polyglyceryl-10 Laurate, 1,5-Pentanediol, Lactic Acid, Citric Acid, Sodium Citrate, Parfum (Fragrance)



# It's all about the skin



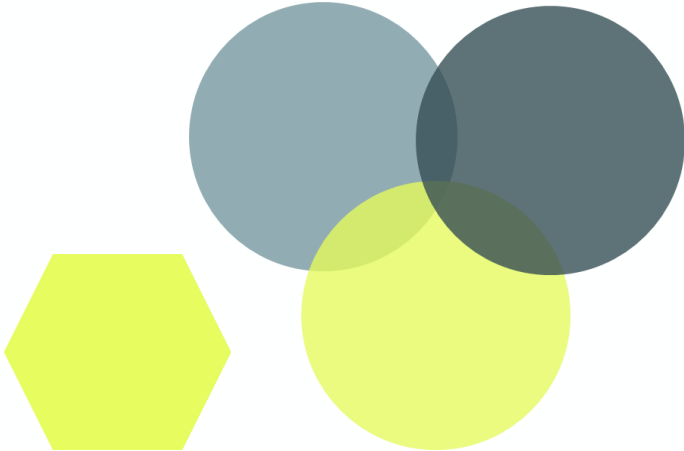


# Introduction

During the skin aging process, the water binding capacity and collagen synthesis of the skin decreases and wrinkles are formed. The skin loses firmness and its micro relief becomes more irregular. Light intensifies the process and makes the skin look visibly older. In order to regenerate the skin and to promote natural repair mechanisms, many conditions must be met. The regeneration process can be disturbed by factors such as age, poor blood circulation, skin dehydration, repeated trauma like sun burn or skin injury after aesthetic surgery. Proper and well orchestrated skin renewal is important to restore the barrier function of the skin and to reduce the risk of aging.

Cosmetic treatments that provide the skin with lasting moisture, boosts collagen synthesis and create an acidic surface milieu can enhance the skin's protective function and strengthen its epidermal barrier. To achieve the best results in terms of regeneration, the active ingredients should be highly pure and skin-friendly, and should have a sufficiently high concentration of use for optimal effect.





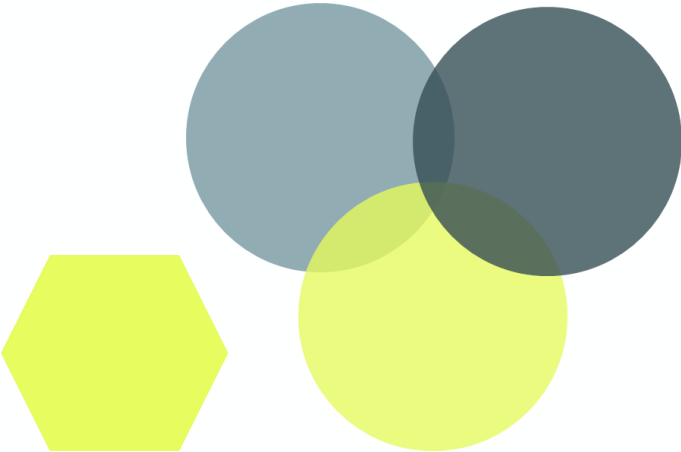
# Ingredients explained in short

## Mask

Ingredient
Collagen
Rayon
Paraffin
Hydrogenated Rosin
Hydrogenated Polyisobutene
PPG-15 Stearyl Ether
PEG-40 Sorbitan Peroleate
BHT

Function in cosmetic products
Moisturizing
Bulking (Lamination)
Viscosity Controlling (Lamination)
Binder (Lamination)
Emollient
Emollient
Surfactant
Antioxidant

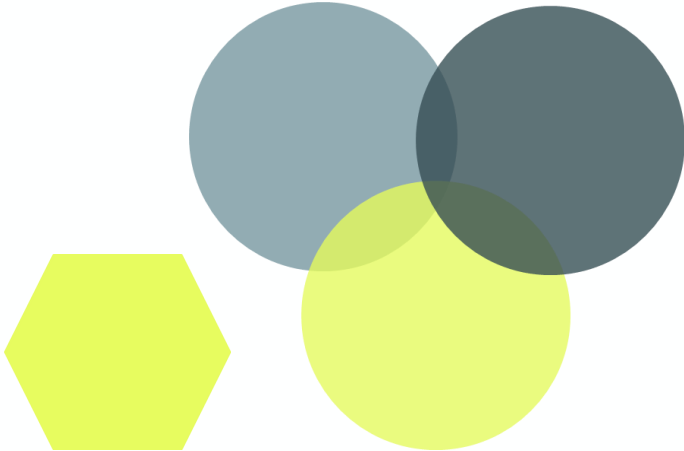
What that means
Preserves skin moisture
Used for lamination of mask, not in contact with skin (back side of the mask)
Used for adherence of top layer to collagen layer, not in contact with skin (back side of the mask)
Used for lamination of mask, not in contact with skin (back side of the mask)
Makes the skin smooth and soft
Makes the skin smooth and soft
Reduces the interfacial tension of cosmetic products and contributes to an even distribution during application
Inhibits unwanted reactions, which are triggered by oxygen



# Ingredients explained in short

## Liquid

Ingredient	Function in cosmetic products	What that means
Aqua (Water)	Solvent	-
Butylene Glycol	Skin Conditioning	Adds moisture and conditions skin
Glycerin	Humectant	Preserves skin moisture
Sodium Lactate	Humectant	Preserves skin moisture
Lactobaccilus Ferment	Skin Conditioning	Natural preservative, hydrates skin
Lactic Acid	Humectant	Preserves skin moisture
Saccharide Isomerate	Humectant	Preserves skin moisture
Polyglyceryl-10 Laurate	Skin Conditioning	Keeps the skin in good condition
1,5-Pentanediol	Solvent	Moisturizing ingredient with good solubilizing properties



# Ingredients explained in short

## Liquid

Ingredient
Hydroxypropyl Methylcellulose*
Pullulan*
Porphyridium Cruentum Extract*
Allantoin
Sodium Hyaluronate
Parfum (Fragrance)
Sodium Citrate
Citric Acid

Function in cosmetic products
Film Former
Film Former
Skin Conditioning
Soothing
Humectant
Fragrance
Buffering
pH Adjuster

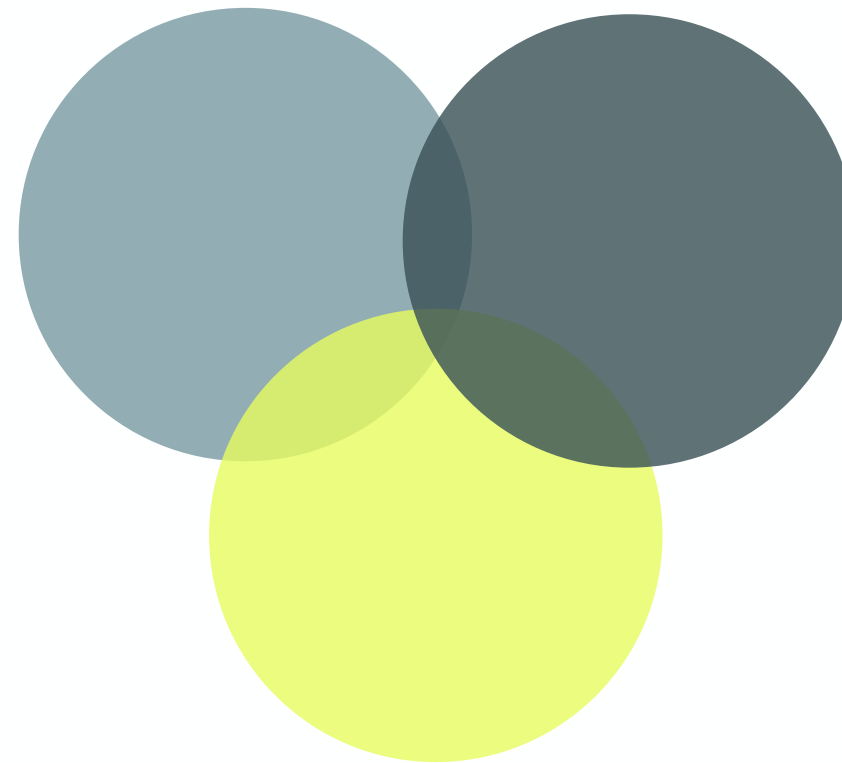
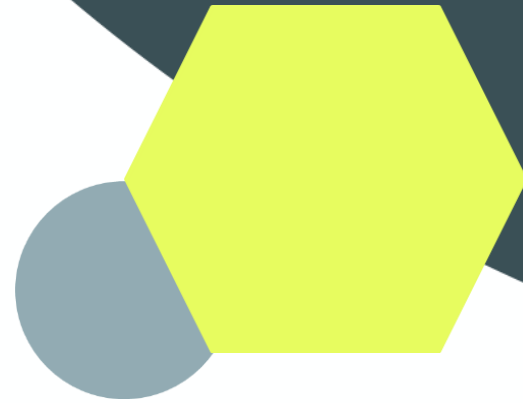
What that means
Form a polymer, tightening effect
Moisturizes and soothes itching
Preserves skin moisture
Buffering agent to control pH level
Buffering agent to control pH level

\* Liftonin™ Xpress



# Collagen

Hero active ingredient



# Hero Active Ingredients - Collagen

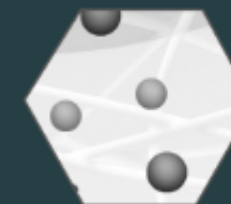
The properties and cosmetic efficacy of native collagen are linked to the maintenance of its triple helical structure.



The **insoluble, native collagen fibers** can absorb high amounts of liquid like a sponge and forms a barrier film on the skin. They serve as a delivery system for soluble collagen components and can gradually release moisture and active ingredients efficiently during the entire application. The high water-binding capacity and barrier film on the skin can reduce the transepidermal water loss. Both effects cause **increased hydration** of the stratum corneum, which lasts for hours. The use improves skin **smoothness** and gives the skin a **pleasant feeling**.



**Native Soluble collagen molecules** remain on the skin surface (due to their size). They have an extremely high water-binding capacity, too. This characteristic helps to **infuse the skin with moisture** to strengthen the skin's moisture binding capacity, support the smoothing of fine lines and wrinkle and promote an even complexion.



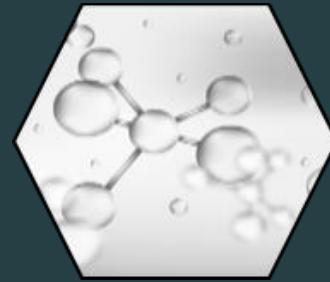
**Soluble collagen peptides** are skin-identical and are recognized by the skin. They are released upon activation and can penetrate into the skin due to their much smaller molecular size. Collagen peptides such as matrikines have been shown to promote skin renewal by affecting signaling cascades for **collagen synthesis**, tissue remodeling and restoration.

[1] Datenblätter zum Einsatz von Wirkstoffen in kosmetischen Mitteln, GDCh, Arbeitsgruppe Kosmetische Mittel, Proteine- Teil 1 Native Proteine tierischen Ursprungs

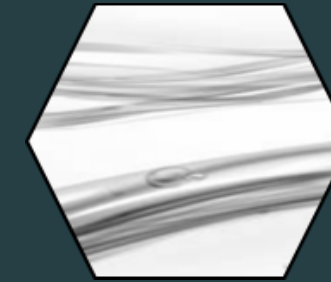
[2] Katayama et al. A pentapeptide from type I procollagen promotes extracellular matrix production", J. Biol. Chem., 1993, 268:9941-9944.

# Hero Active Ingredients - Collagen

The properties and cosmetic efficacy of native collagen are linked to the maintenance of its triple helical structure.



**Sodium Hyaluronate** [1, 2] (better known as hyaluronic acid) 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, where it is responsible for the moisture and elasticity of the skin. The amount of hyaluronic acid decreases with age. To protect the skin from dehydration, Native Collagen Mask Pre-Soaked uses high molecular hyaluronic acid (1500 kDa and larger) as a protective barrier. It lies down on the skin, binds water and **moisturizes** the skin.



**LIFTONINTM-Xpress** [3] is a balanced polymer network made from biopolymers that provides an immediate noticeable and long-lasting tightening effect. It **smoothes wrinkles** and **improves the micro relief**.

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

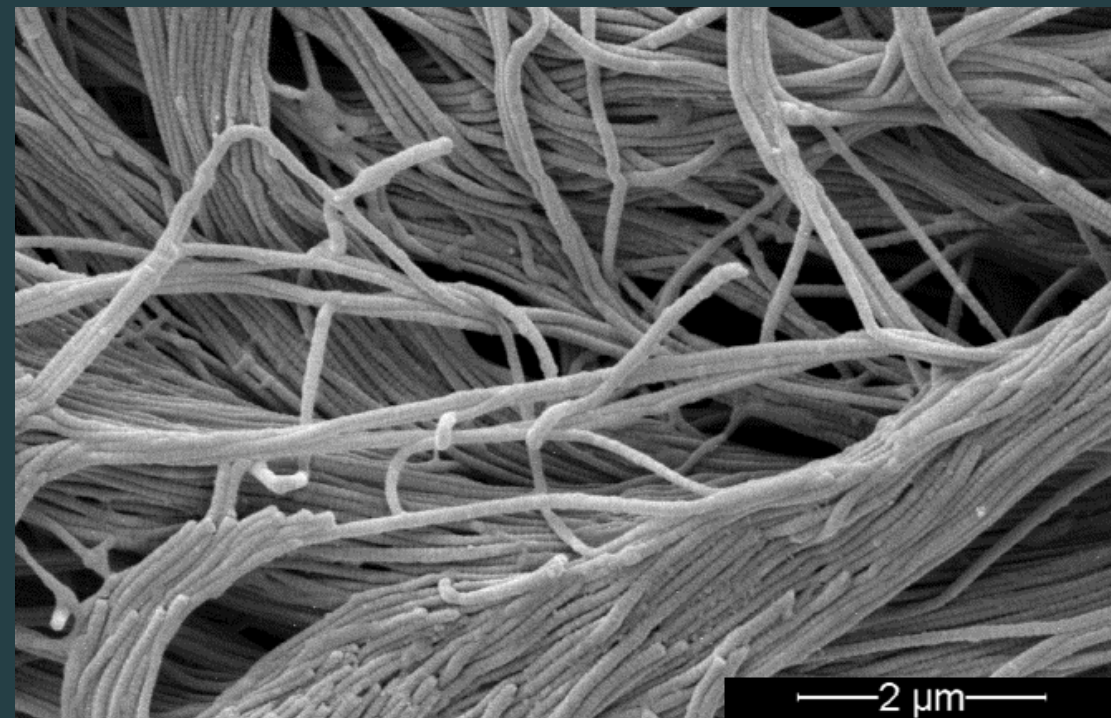
[2] Pavicic et al., Journal of Drugs in Dermatology 2011, 10 (9).

[3] In vivo studies by Rahn GmbH, Germany, 2011.

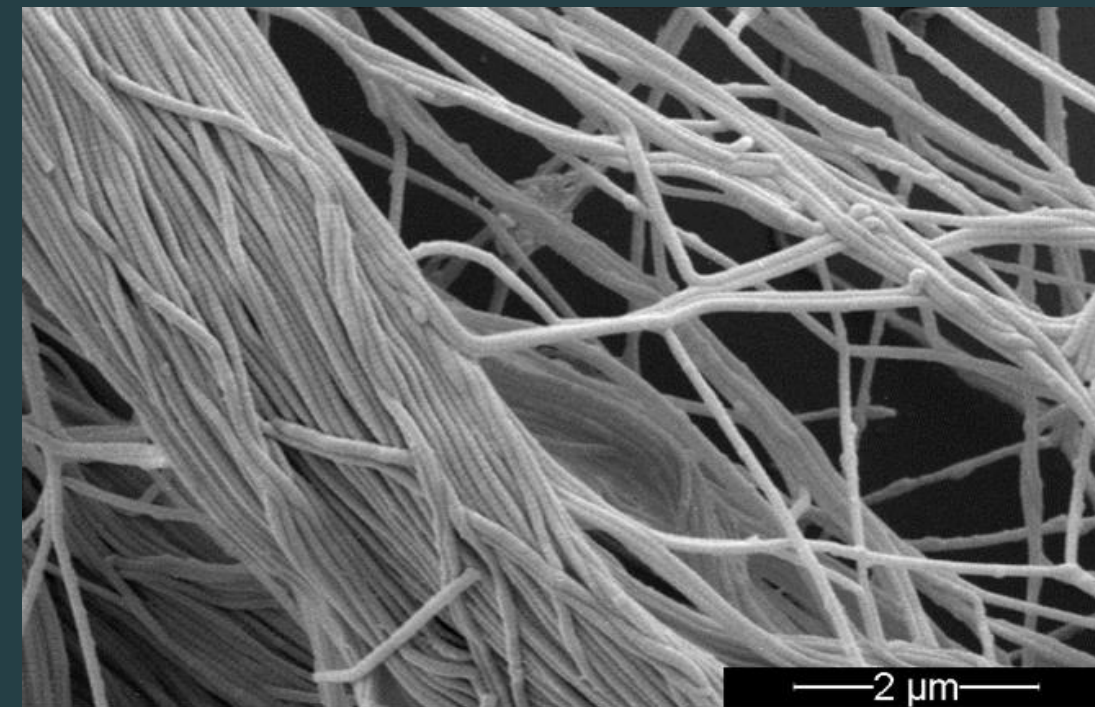
# MedSkin's Native Collagen is 97% Identical to Human Skin

Empowered by the Advanced CryoSafe® Method

Human Dermis



MedSkin Solutions' Native Collagen



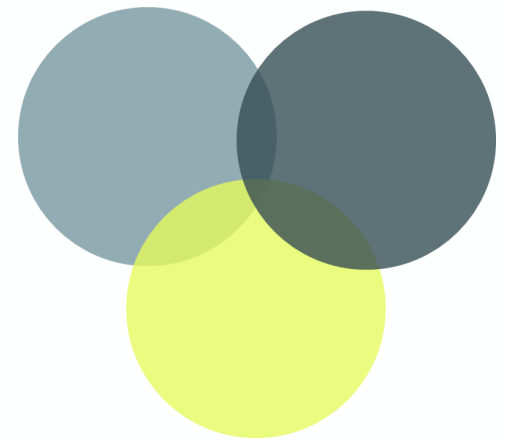
- ◊ Preservation and refinement of the natural properties and structures of biomaterials.
- ◊ Complete preservation of the activity and efficacy of bioactive ingredients.
- ◊ Skin is able to recognize biomaterial.
- ◊ Result: highly effective and safe products.

SEM analysis by Dr. Matthias Mörgelin, Lund, Sweden, 2013/2017; 10.000x zoom

# The Mode of **Action**

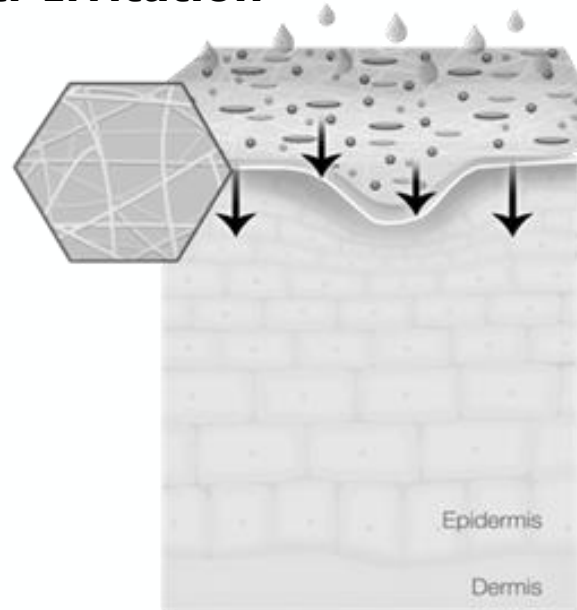






# The Mode of Action

## Application of Native Collagen Mask Pre-Soaked & Immediate Anti-Irritation



Insoluble collagen fibers on skin surface act like a second skin

### **Insoluble Collagen Fibers:**

- Gradually release moisture / active ingredients.
- Moisture reservoir supports skin physiological processes.
- Nourishing agents penetrate easily into skin.

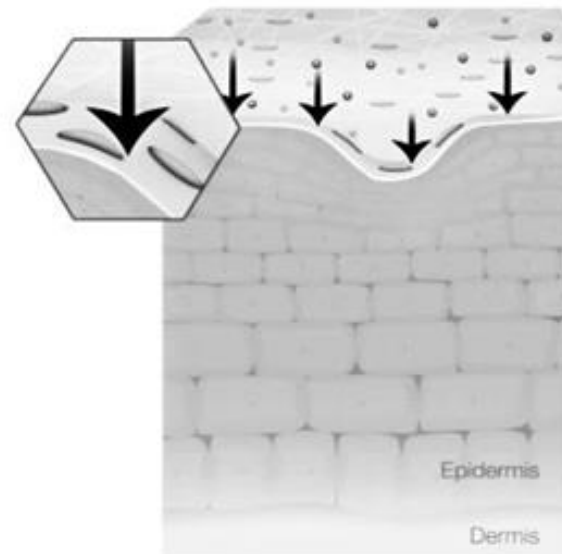
### **1<sup>st</sup> Benefits:**

- Immediately soothes irritations.



Insoluble Collagen Fibers

## Increase in Skin's long-term Moisture-Binding Capacity



Release of soluble collagen molecules

### **Soluble Collagen Molecules:**

- Remain on skin surface and infuse surface with moisture.
- Physiological processes progress optimally, protective effect.

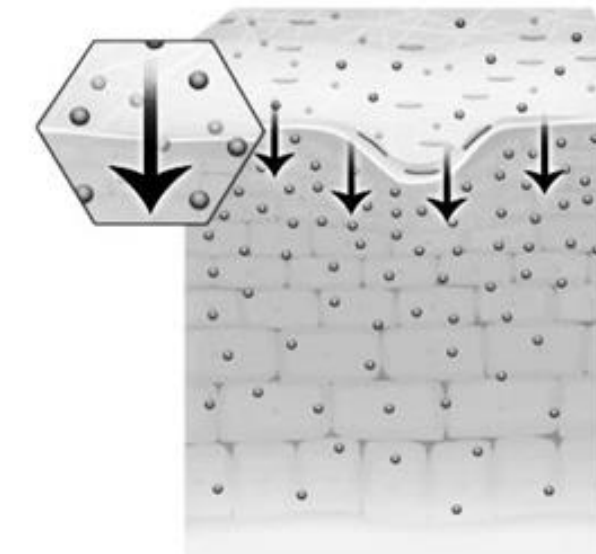
### **2<sup>nd</sup> Benefits:**

- Boosts hydration.
- Smooths lines and wrinkles.
- Promotes an even complexion.



Soluble Collagen Molecules

## Regeneration & Repair



Release of skin identical collagen peptides

### **Soluble Collagen Peptides:**

- Are capable of penetration.
- Recognized in skin (97% skin identical, "cell-cell interaction").
- Act as signal to trigger physiological processes (e.g. collagen synthesis)

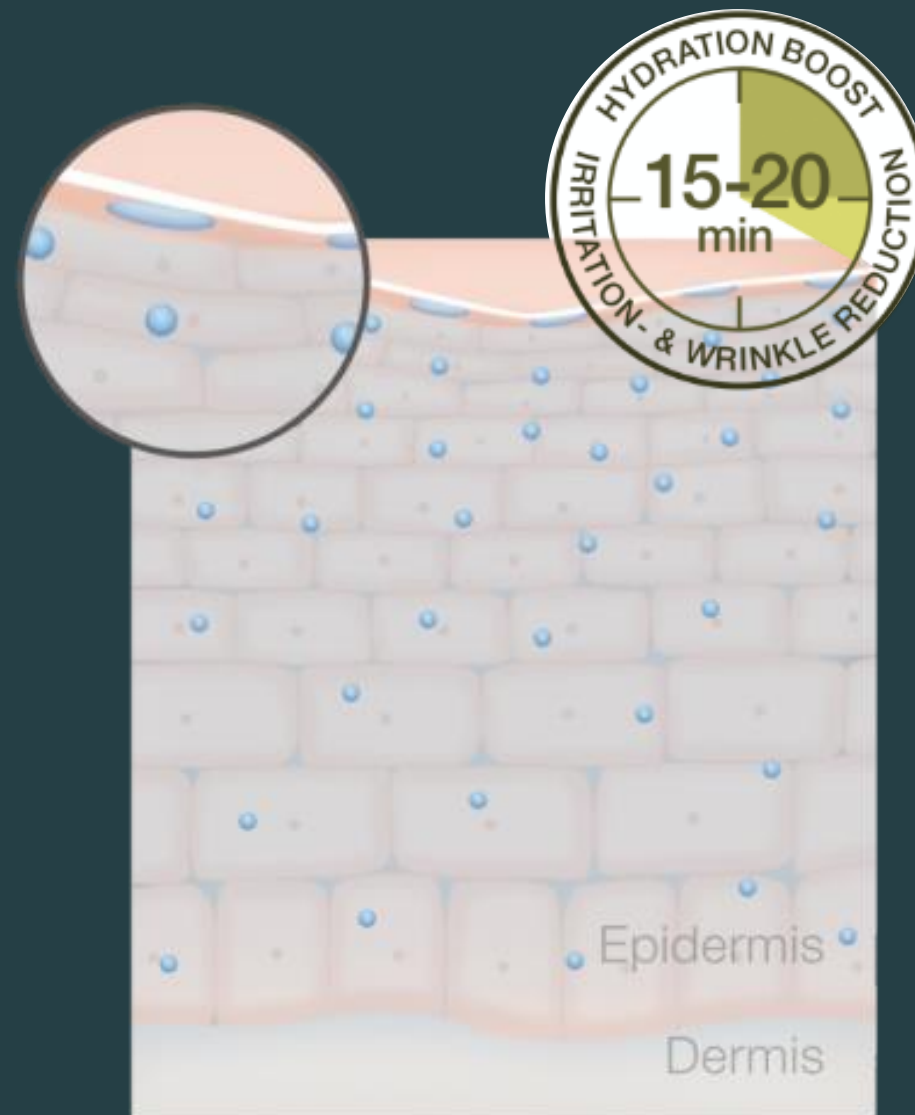
### **3<sup>rd</sup> Benefits:**

- Promotes skin regeneration & repair.



Collagen Peptides

# Results after Native Collagen Treatment



Regeneration & Repair

Smoothed lines and wrinkles

Healthy skin tone

Soothed irritations and reduced redness

Increased moisture levels

Instantly balanced and recovered skin

Balanced pH level and healthy microbiome



# Scientific Studies



# Scientific Studies



In vitro analysis: SEM for collagen nativeness



In vitro analysis: SEM for skin smoothing



Comparative Dermatological Evaluation: Skin hydration



Controlled Dermatological Evaluation: Skin smoothing



Ophthalmological Examination

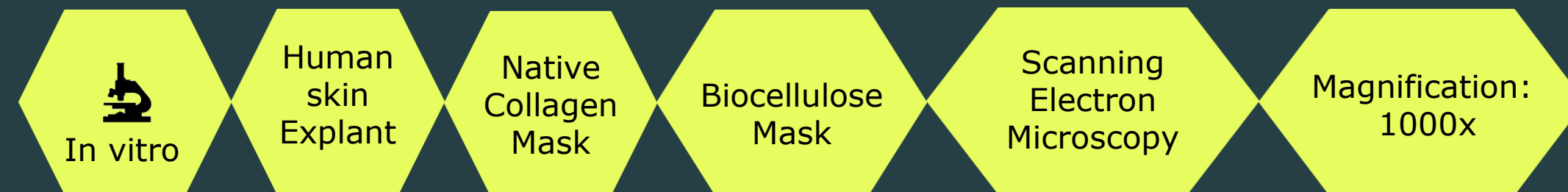


Patch Test

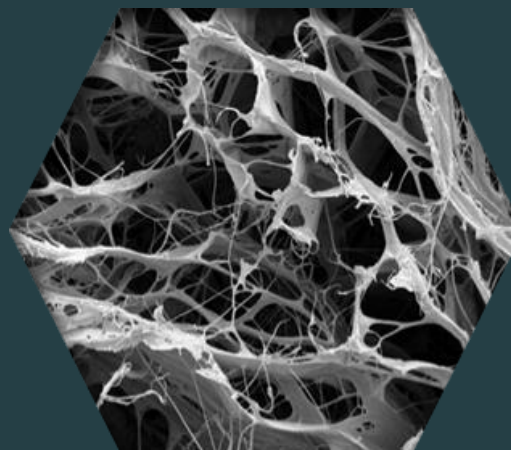


# Proven Nativeness of Native Collagen Mask

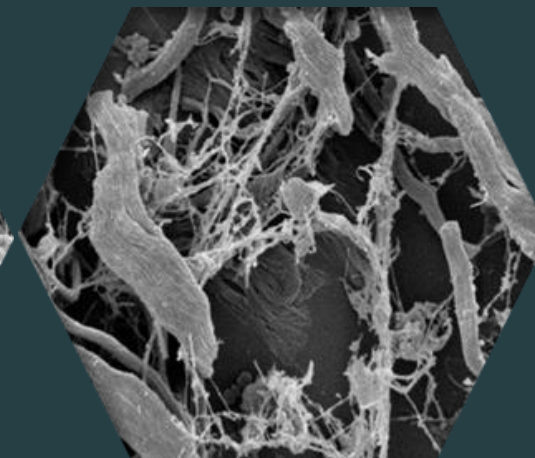
## Skin-identical Ultrastructure of Collagen



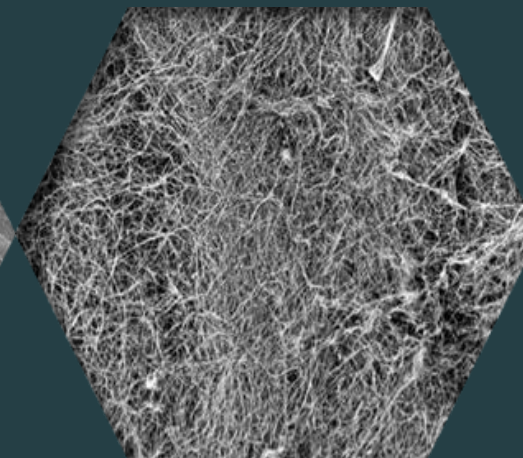
Native Collagen Mask  
Pre-soaked



Human dermis



Biocellulose



### **Result:**

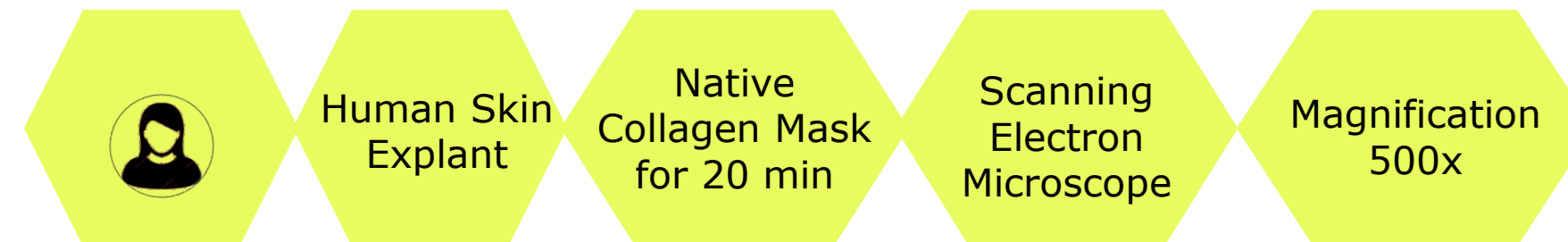
Native Collagen Mask Pre-Soaked shows a native structure of collagen highly similar to the human dermis. Biocellulose consists of straight-chain polymer fibres which are not similar to human skin.

### **What that means:**

The skin-identical collagen in MatriCol® Native Collagen Mask acts as a delivery system and active ingredient in one with high cosmetic effect which is recognized by skin

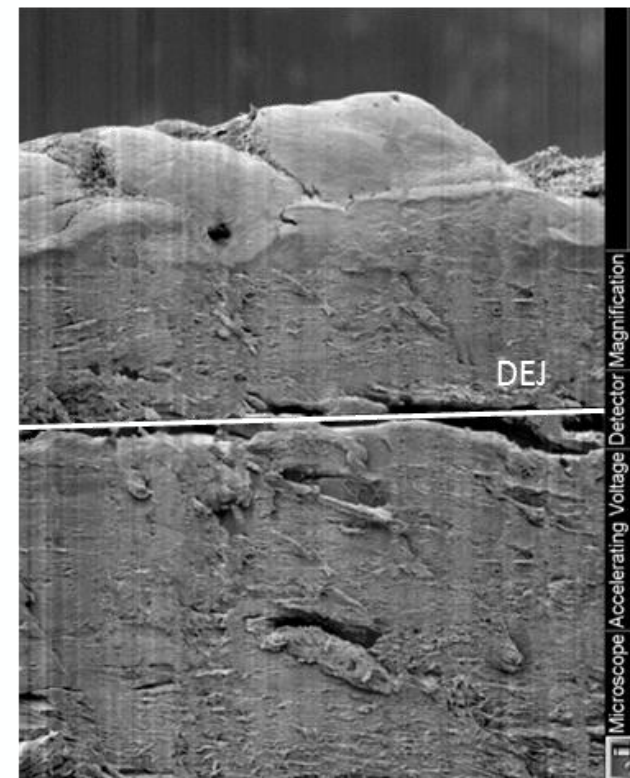
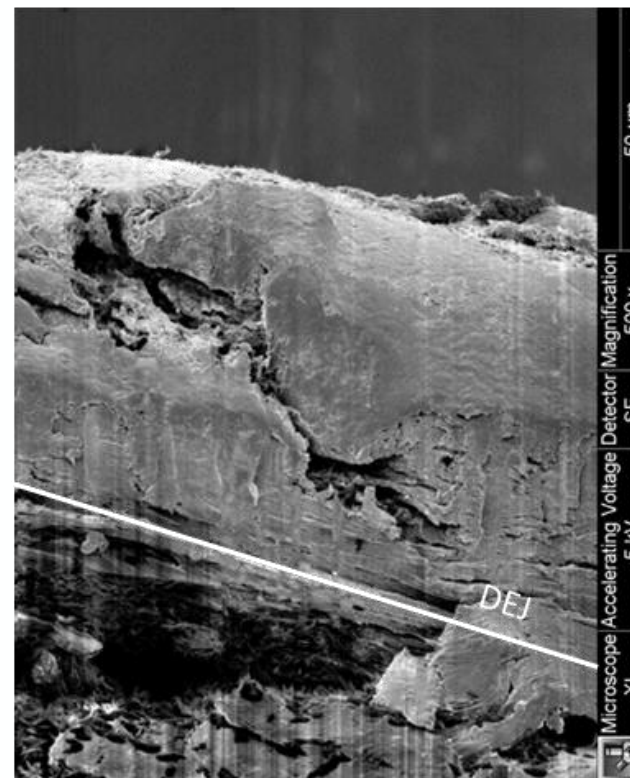


# Proven Skin Smoothing effect



Before Treatment

After Treatment



Epidermis

Dermis

## **Result:**

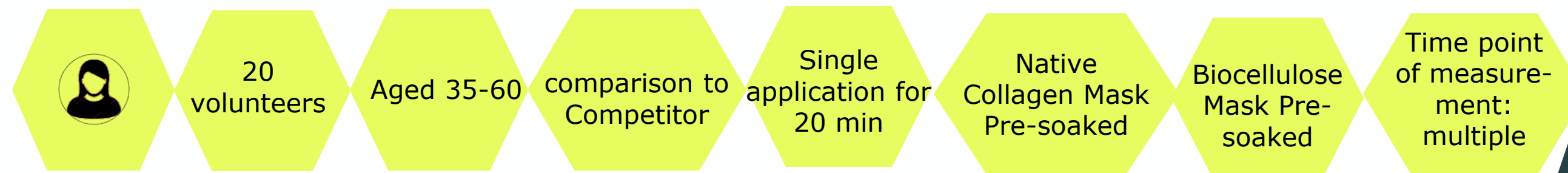
Visible skin calming, hydration and plumping effect  
Reduced gap of the Dermal Epidermal Junction

## **What that means:**

Skin is visibly hydrated and smoothed



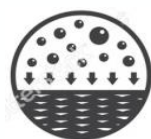
# Comparative Dermatological Study



**Study title:** Blinded, half-face comparison of the Native Collagen Mask Pre-Soaked with the Biocellulose mask on efficacy, tolerability and user-friendliness

**Study centre:** University of Hamburg, 2017.

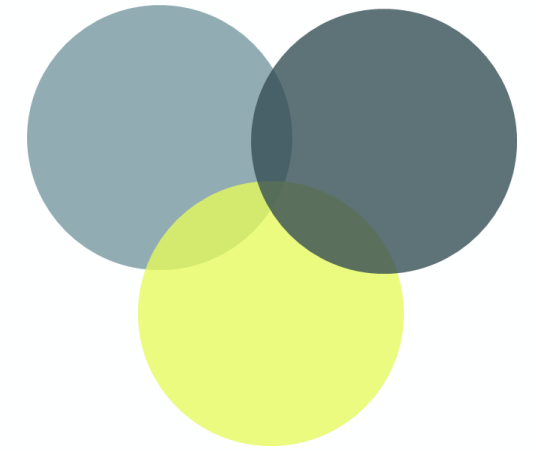
**Parameter:** Determination of



skin moisture  
Corneometer



Participant Opinion  
Questionnaire



# Intense skin moisture effect

## **Method:**

- Corneometer (skin hydration)

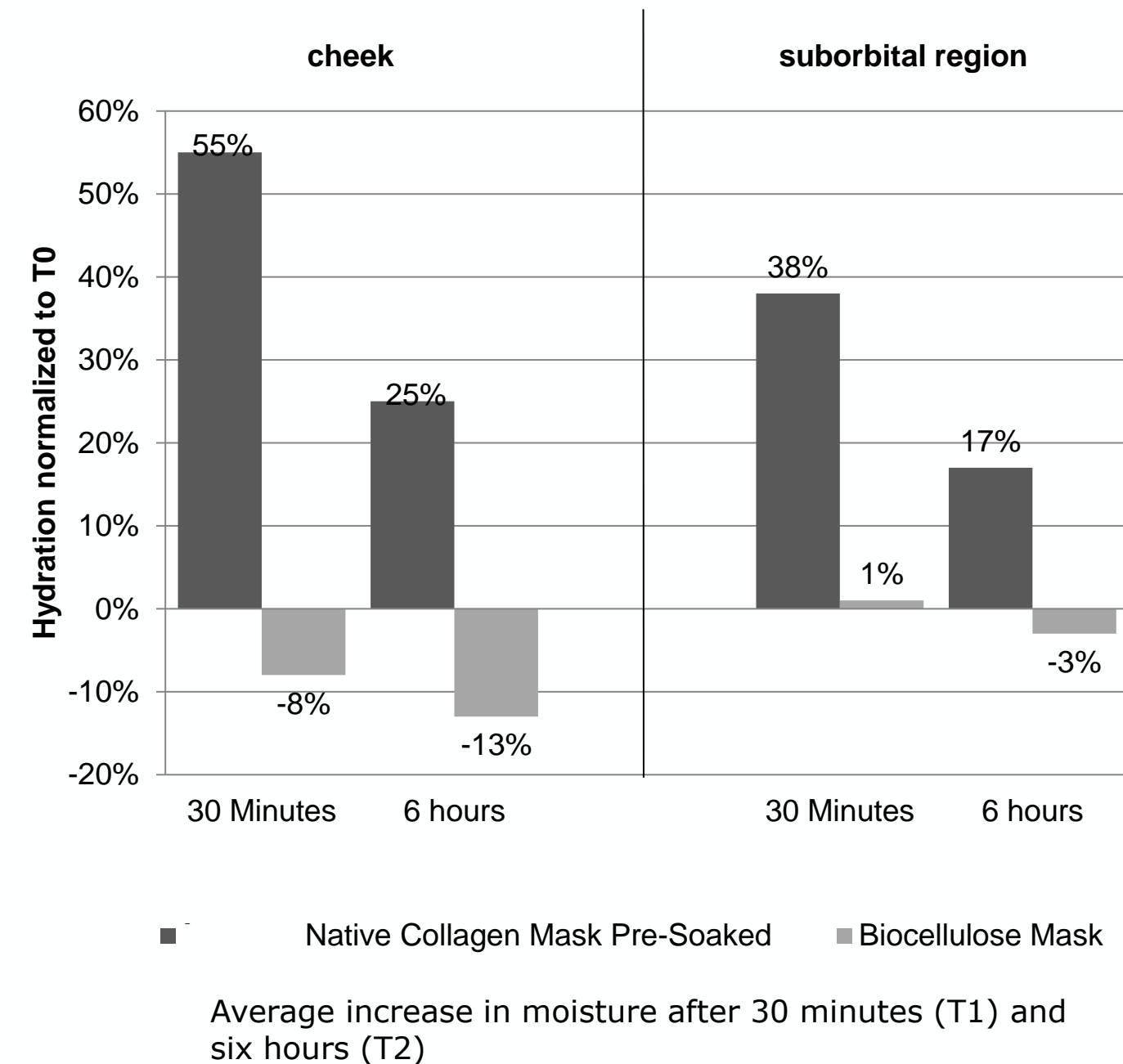
## **Results:**

- Native Collagen Mask Pre-Soaked:
  - After 30 min: Increase by 55% (cheek) and 38% (suborbital region)
  - After 6 hours: Increase by 25% (cheek) and 17% (suborbital region)
- Biocellulose Mask Pre-Soaked:
  - After 30 min: Decrease by -8% (cheek) and slight increase by 1% (suborbital region)
  - After 6 hours: Decrease by -13% (cheek) and -3% (suborbital region)

## **What that means:**



- Outstanding increase in skin hydration for skin moisture effect and healthy, revitalized and refreshed skin.



# User Satisfaction

## **Method:**

Participant Questionnaire

## **Results:**

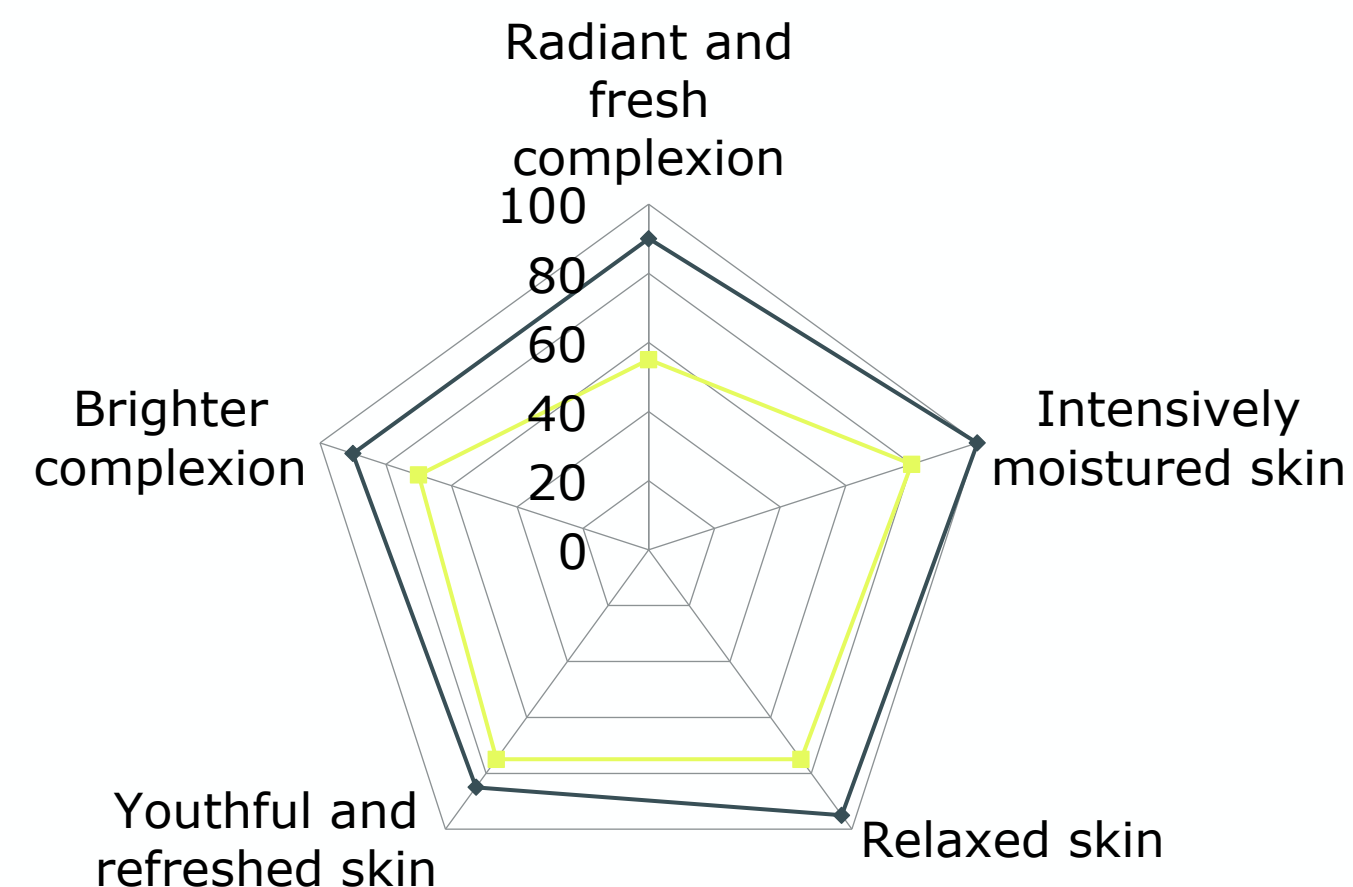
Native Collagen Mask Pre-Soaked has a positive effect on subjective skin feeling and appearance.

In all ratings Native Collagen Mask Pre-Soaked is superior compared to Biocellulosue Mask Pre-Soaked.

Radiant and fresh complexion (90%), moisturized skin (100%), relaxed skin (90%), youthful and refreshed skin (90%), brighter complexion (90%).

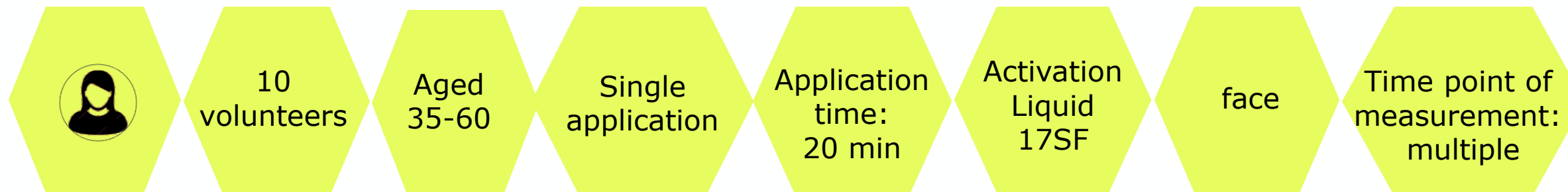
## **What that means:**

The skin is refreshed, relaxed and hydrated for a more youthful skin appearance.



Native Collagen Mask Pre-Soaked  
Benchmark Biocellulose Mask

# Cotrolled Dermatological Study



**Study title:** Clinical-dermatological application study in 10 volunteers with single application and activation with Activation Liquid<sup>1</sup>

**Study centre:** Dermatest GmbH, 2013

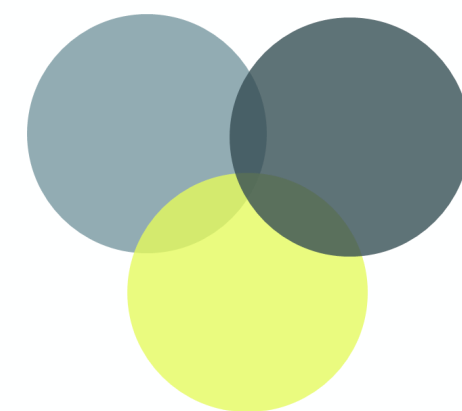
**Parameter:** Determination of



skin roughness  
PRIMOS

<sup>1</sup> Study was performed as split face study with 4 different Activation Liquids (known as Activator Study). Listed here are results relevant for this product. Study was not performed on Native Collagen Mask Pre-Soaked but allow a transfer to currently recommended usage.





# Long lasting skin smoothing effect

## **Method:**

Corneometer (skin hydration)

## **Results:**

Native Collagen Mask Pre-Soaked:

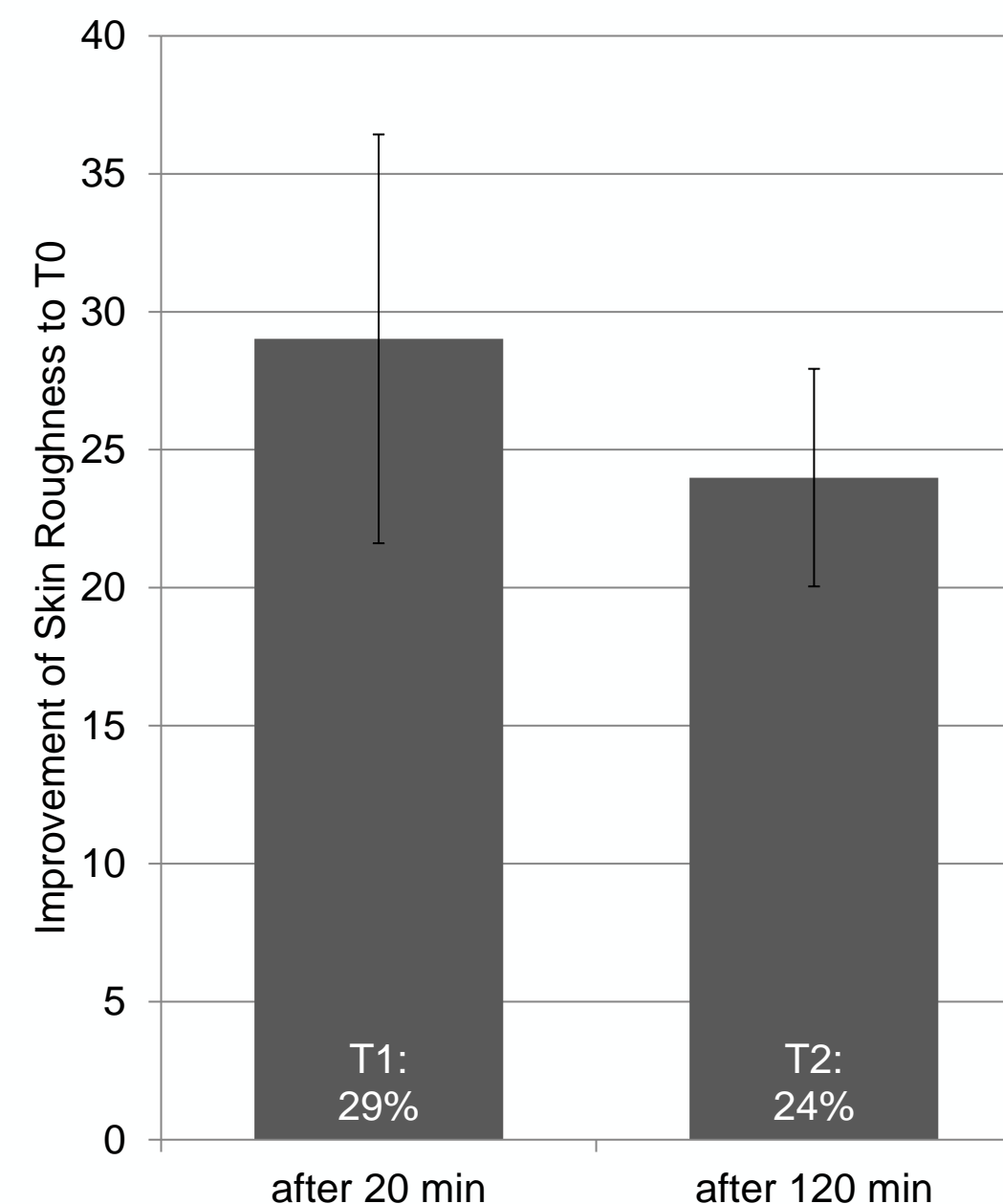
After 30 min: Improved Skin Roughness by 29%

After 2 hours: Improved Skin Roughness by 24%

## **What that means:**

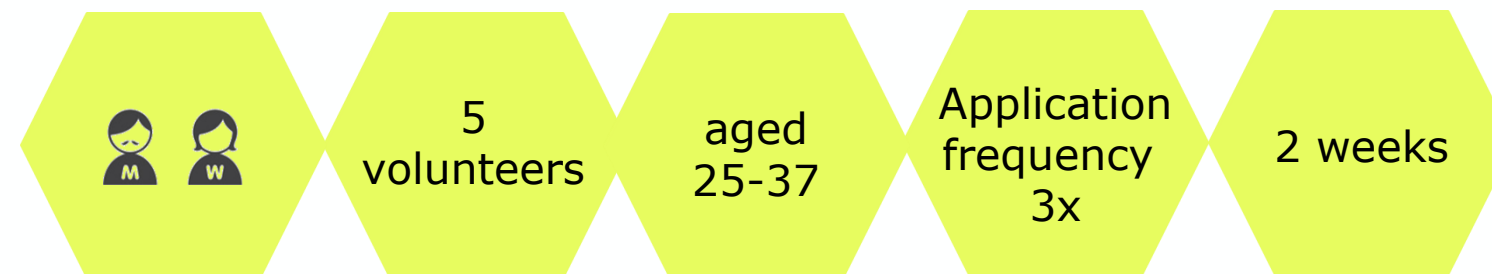
Significant reduction of skin roughness for a skin smoothing effect. The skin appears younger!

## **Skin smoothing**



Average increase in moisture after 30 minutes (T1) and 2 hours (T2)

# Ophthalmological Examination



**Study title:** Ophthalmological Examination

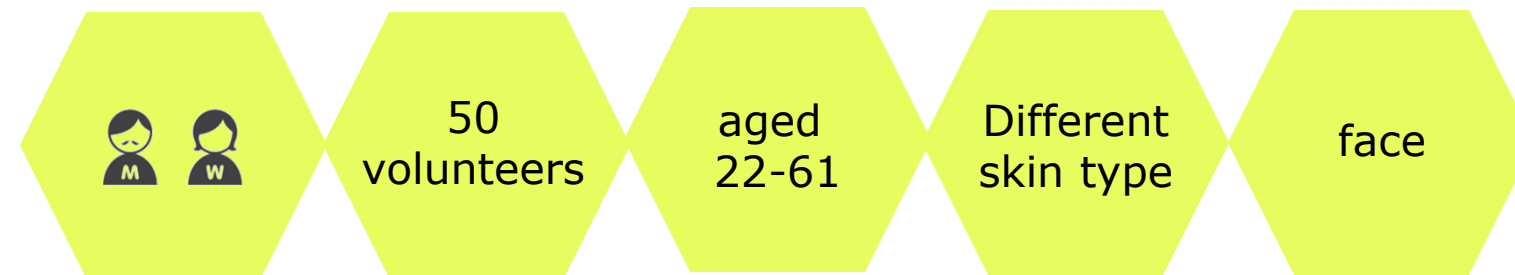
**Study centre:** Dermatest GmbH, Germany, 2016

**Protocol:** Product applied three times in 2 weeks (day 1, 5 and 10)  
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:** Examination of the Product MatriCol Pure Plus with Acitvator 16<sup>#</sup> by Human Patch Test

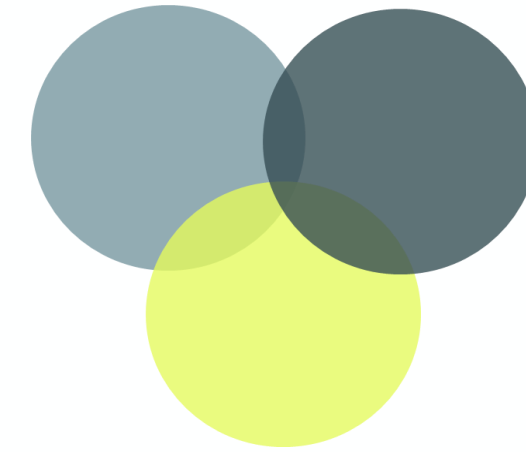
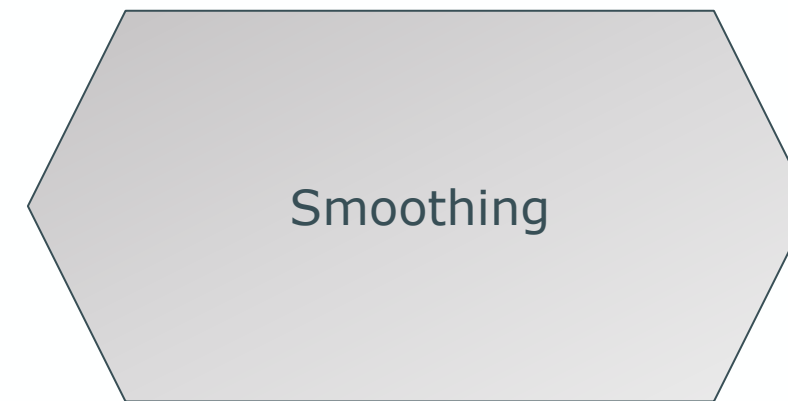
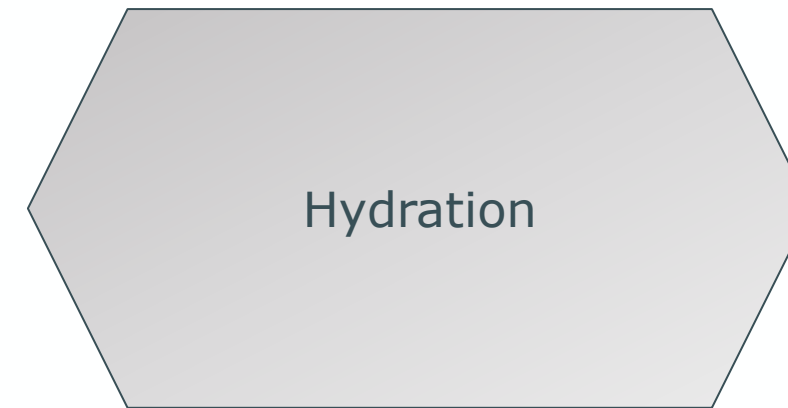
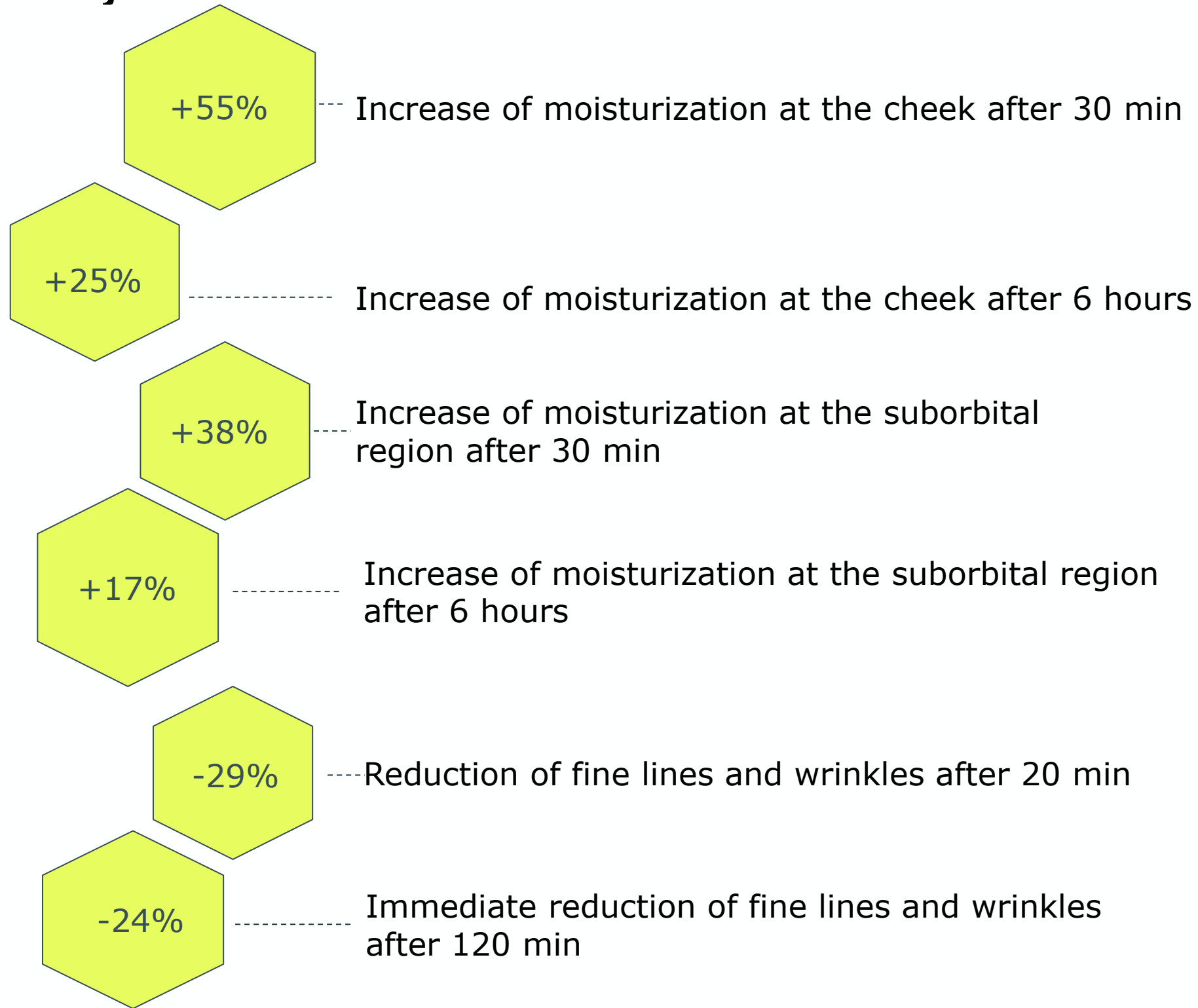
**Study centre:** Dermatest GmbH, Germany, 2013

**Protocol:** Application of the product for 24 hours under occlusion. Positive control was Sodium dodecyl sulphate (SDS, 1%), negative control was water  
Evaluation of the test areas 24, 48 (30 min after patch removal) and 72 hours.

**Result:** None of the subject showed any reaction to the test product according to the international guideline ICDRG (International Contact Dermatitis Research Group).  
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.



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