

Native Collagen Mask

Summary of Scientific Evidence

MedSkin
Solutions

Dr. Suwelack



Agenda

Summary of Scientific Evidence - Native Collagen Mask

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



Native Collagen Mask

At a Glance

Native Collagen Mask Pure is a unique and highly bio-compatible freeze-dried facial mask with a high concentration of native collagen for optimal regeneration & repair.

Targeted release of soluble collagen molecules and soluble collagen peptides takes place upon activation.

Key Facts

- ✓ Active Biomaterial - 92% collagen concentration
- ✓ Active Ingredients: Native Collagen, 97% identical to human skin
- ✓ pH Value: 3.0-3.4
- ✓ Free of preservatives, fragrances, silicones
- ✓ Rinse-off product
- ✓ Professional Use
- ✓ INCI: Collagen · Hydrogenated Polyisobutene · PPG-15 Stearyl Ether · PEG-40 Sorbitan Peroleate · BHT



It's all about the skin



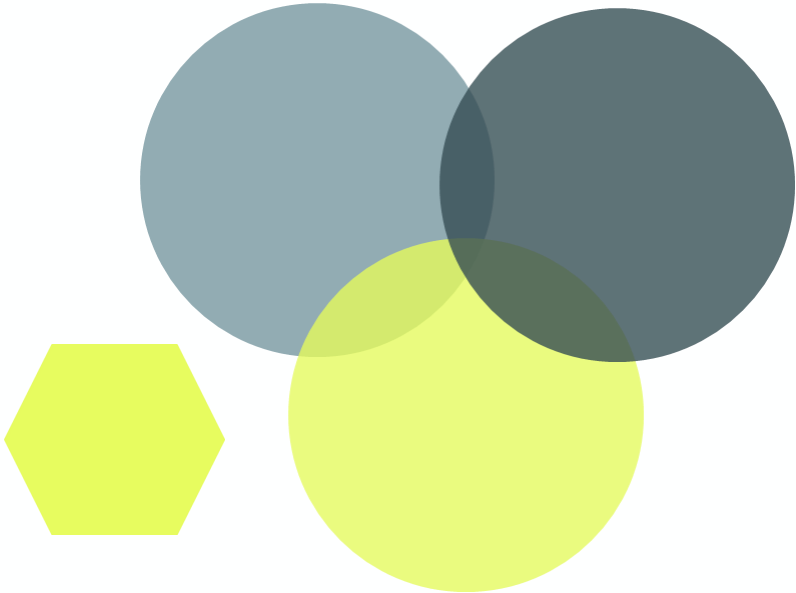
Introduction

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.



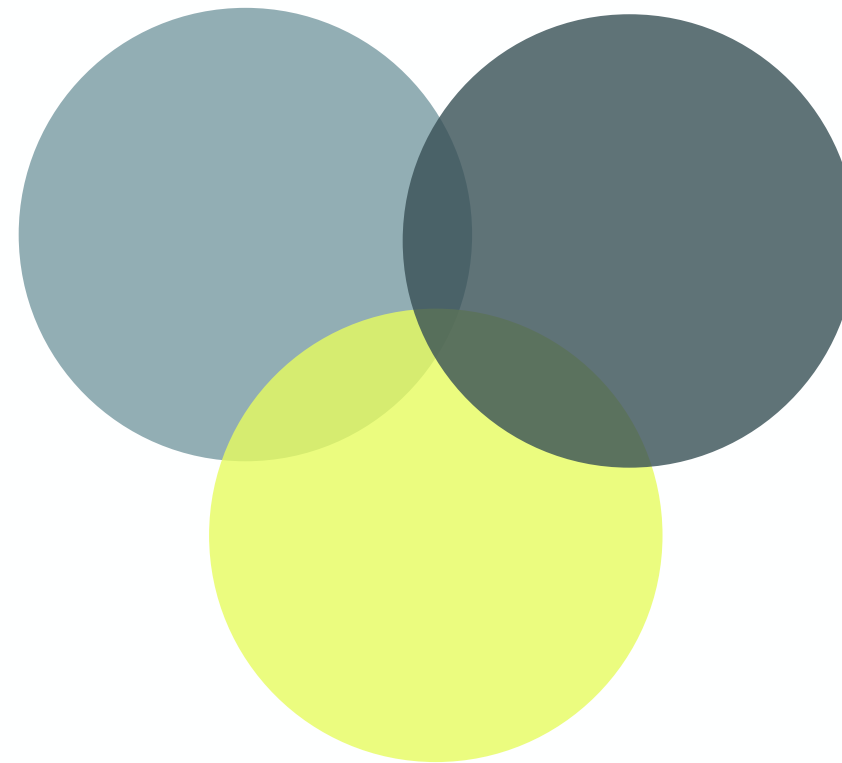
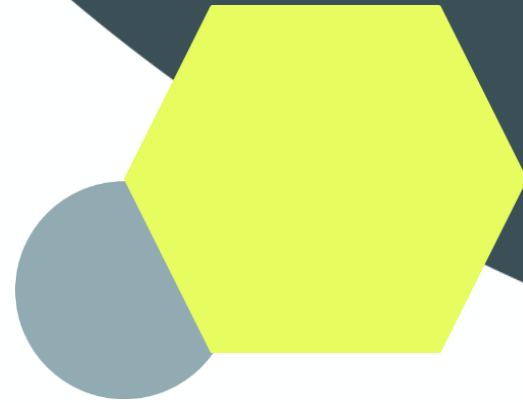
Ingredients explained in short



Ingredient	Function in cosmetic products	What that means
Collagen	Moisturizing	Preserves skin moisture
Hydrogenated Polyisobutene	Emollient	Makes the skin smooth and soft
PPG- 15 Stearyl Ether	Emollient	Makes the skin smooth and soft
PEG-40 Sorbitan Peroleate	Surfactant	Reduces the interfacial tension of cosmetic products and contributes to an even distribution during application
BHT	Antioxidant	Inhibits unwanted reactions, which are triggered by oxygen

Collagen

Hero active ingredient



Hero Active Ingredients - Collagen

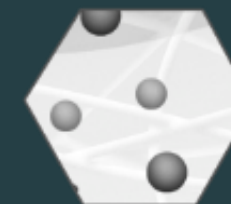
The properties and cosmetic efficacy of native collagen are linked to the maintenance of its triple helical structure.



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 strengthens 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.

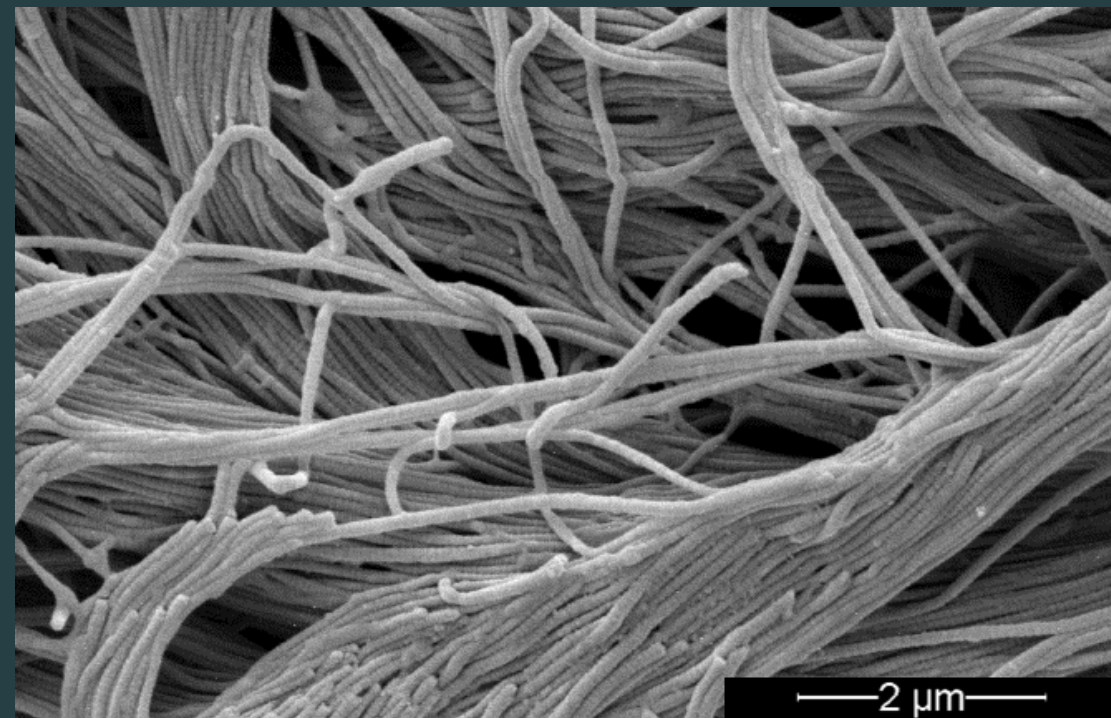
[1] Datenblätter zum Einsatz von Wirkstoffen in kosmetischen Mitteln, GDCh, Arbeitsgruppe Kosmetische Mittel, Proteine- Teil 1 Native Proteine tierischen Ursprungs

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

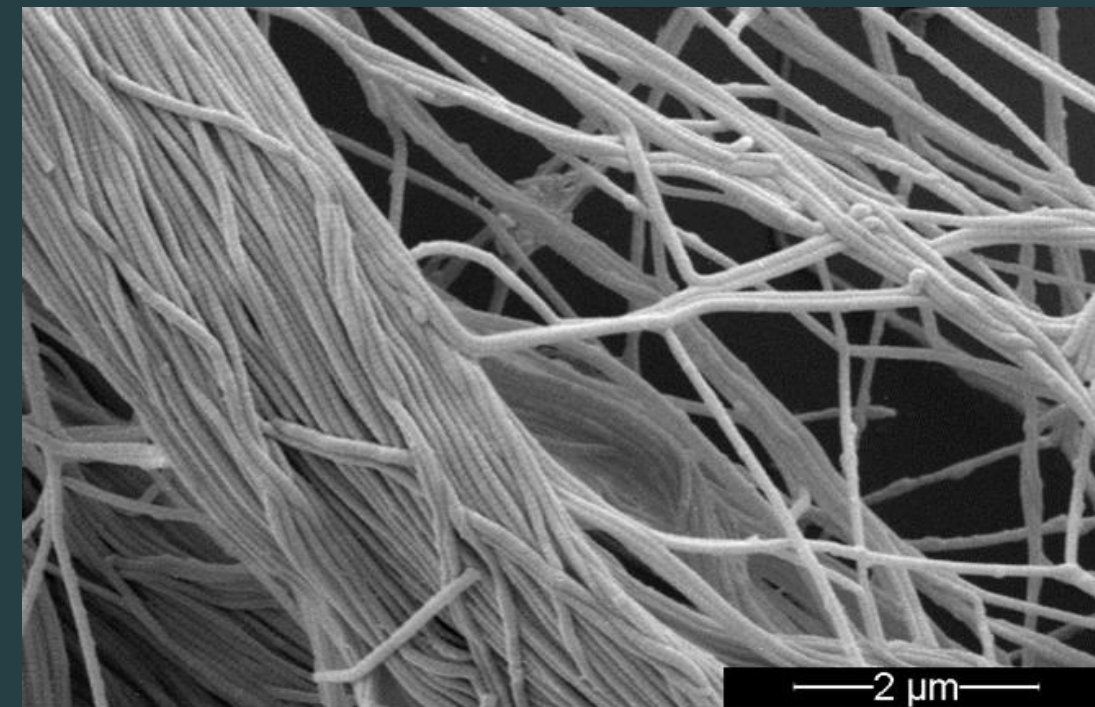
MedSkin's Native Collagen is 97% Identical to Human Skin

Empowered by the Advanced CryoSafe® Method

Human Dermis



MedSkin Solutions' Native Collagen



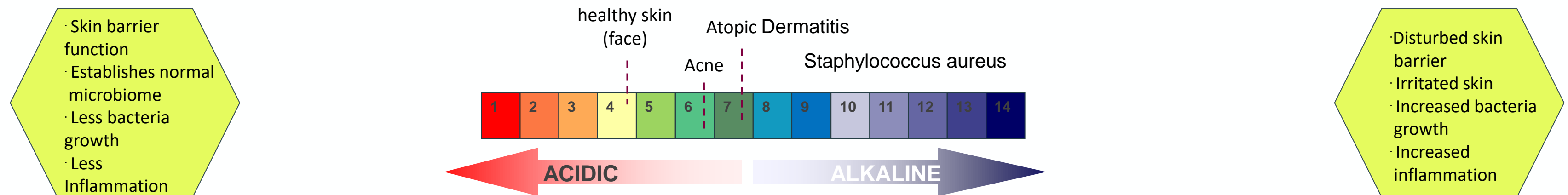
- ◊ Preservation and refinement of the natural properties and structures of biomaterials.
- ◊ Complete preservation of the activity and efficacy of bioactive ingredients.
- ◊ Skin is able to recognize biomaterial.
- ◊ Result: highly effective and safe products.

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

Influence of skin pH

The skin is our largest organ. It has to resist the numerous environmental stresses and thus plays an extremely important role. A healthy acid mantle of the skin is important here, which protects the skin against harmful microorganisms and pollutants and thus prevents infections. The human healthy skin is therefore naturally slightly acidic. Its pH lies in the range of 4.1 to 5.8, depending on the person and body region. Many factors influence the pH value. For example, air dryness, intense heat or cosmetic products that are too alkaline can change it. But hormonal fluctuations or skin diseases also throw the skin's pH out of balance. Studies also suggest that the pH value increases with age. This would also explain why the skin is more susceptible to environmental influences over the years.

The pH value of the skin can recover quite quickly from small fluctuations, but if it is seriously out of balance, the problems become apparent. Even small changes can cause inflammation, making us more susceptible to infections and bacteria growth, which in turn can cause skin diseases such as rosacea, acne and eczema. An acidic pH value of cosmetic products can stabilize the physiological skin pH environment, promoting the natural regeneration process. This is beneficial for aged or previously damaged skin. The skin becomes more resistant.



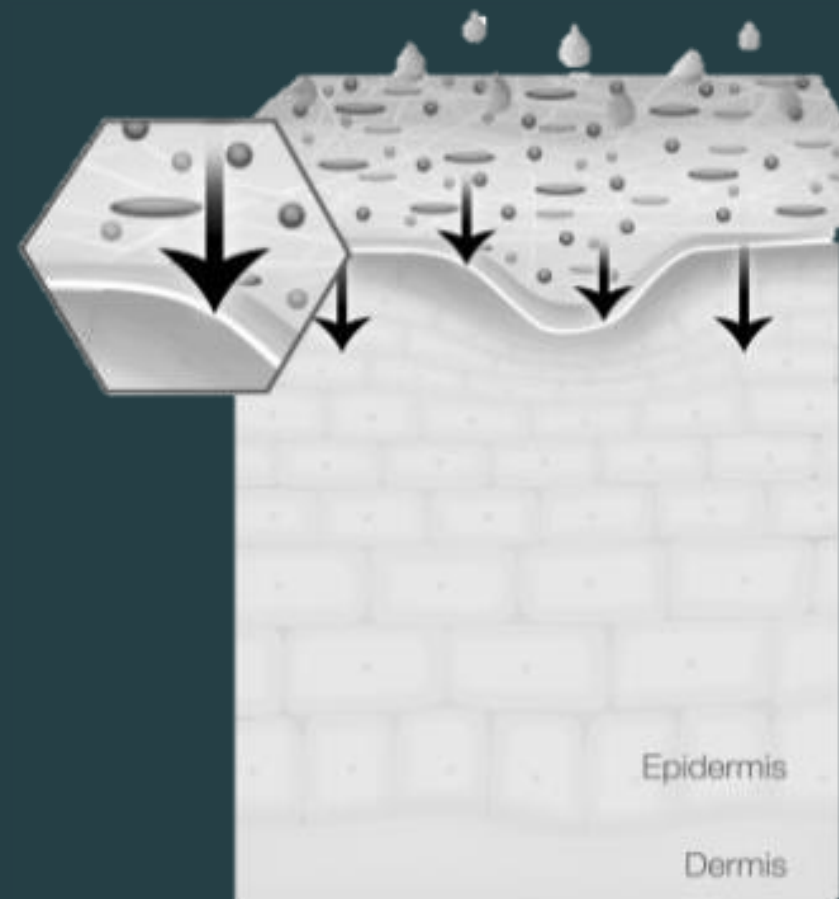
Proksch et al. Influence of Buffers of Different pH and Composition on the Murine Skin Barrier, Epidermal Proliferation, Differentiation, and Inflammation. Skin Pharmacol Physio. 2019; 32(6):328-336

The Mode of **Action**



Mode of Action

Activation & Release of Active Ingredients



Commencement of 3ple action effect

Activation Liquid 17SF:

- ◊ Release of collagen components of the mask by adding specially designed Activation Liquid 17SF.



Insoluble Collagen Fibers



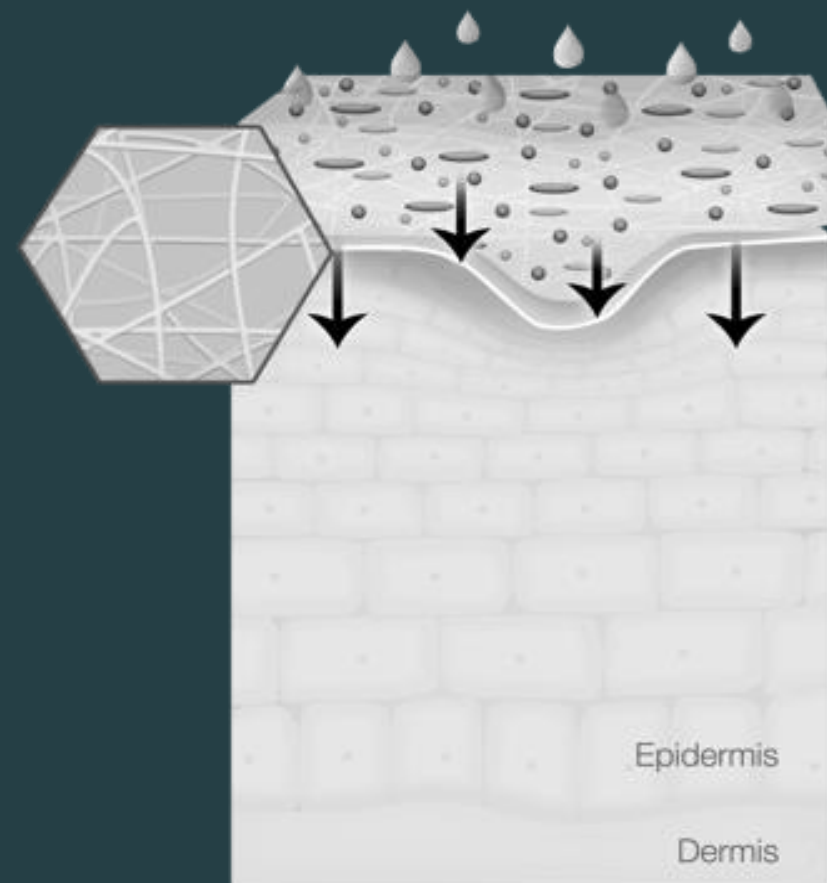
Soluble Collagen Molecules



Collagen Peptides

Mode of Action

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.

1st Benefits:

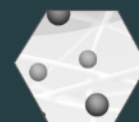
- Immediately soothes irritations.



Insoluble Collagen Fibers



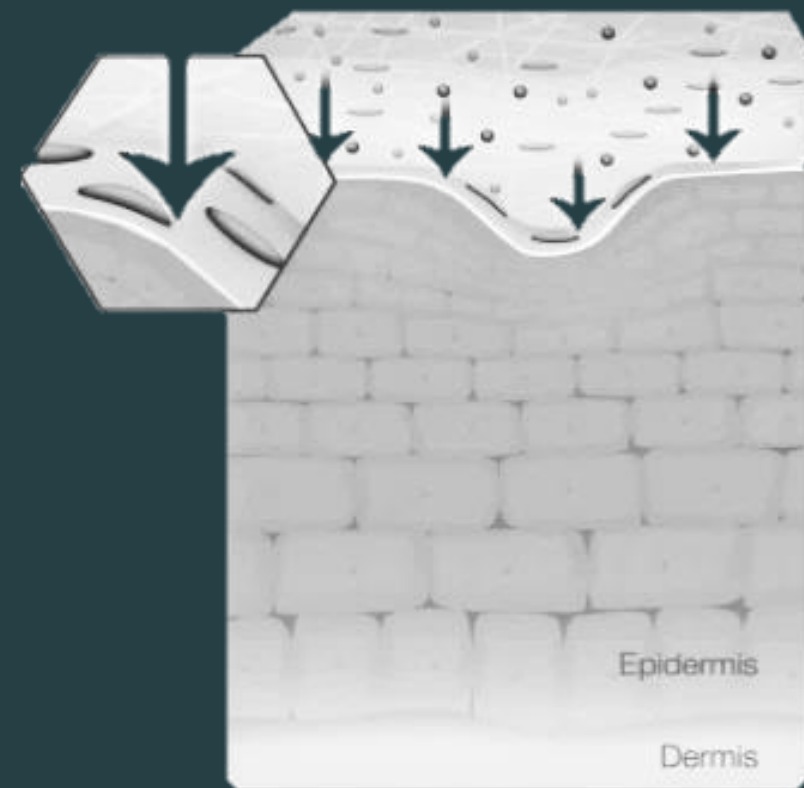
Soluble Collagen Molecules



Collagen Peptides

Mode of Action

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.

2nd Benefits:

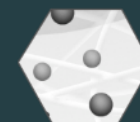
- Boosts hydration.
- Smooths lines and wrinkles.
- Promotes an even complexion.



Insoluble Collagen Fibers



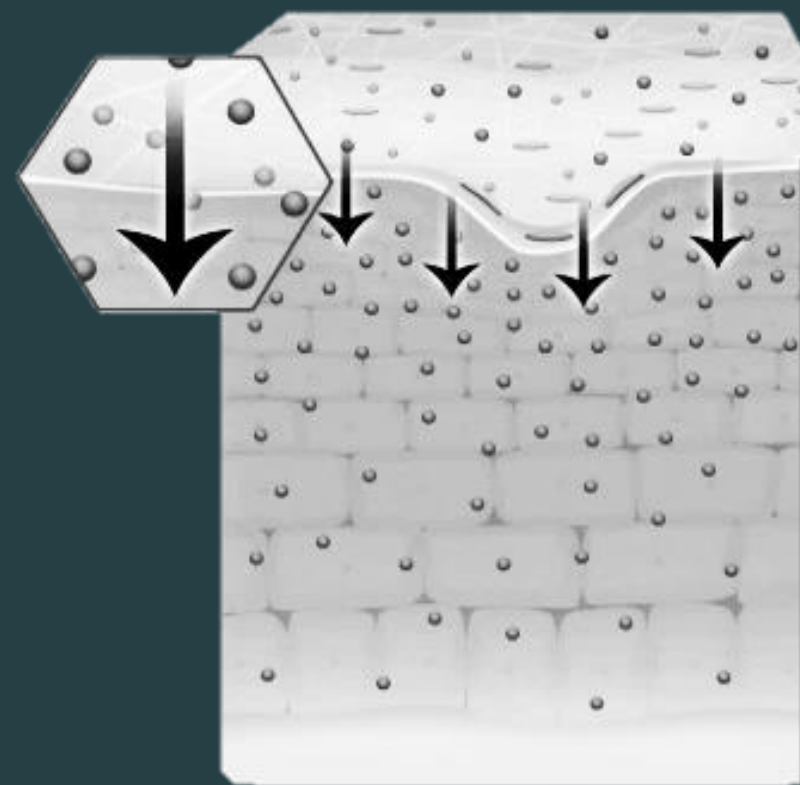
Soluble Collagen Molecules



Collagen Peptides

Mode of Action

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)

3rd Benefits:

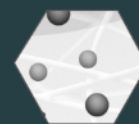
- Promotes skin regeneration & repair.



Insoluble Collagen Fibers

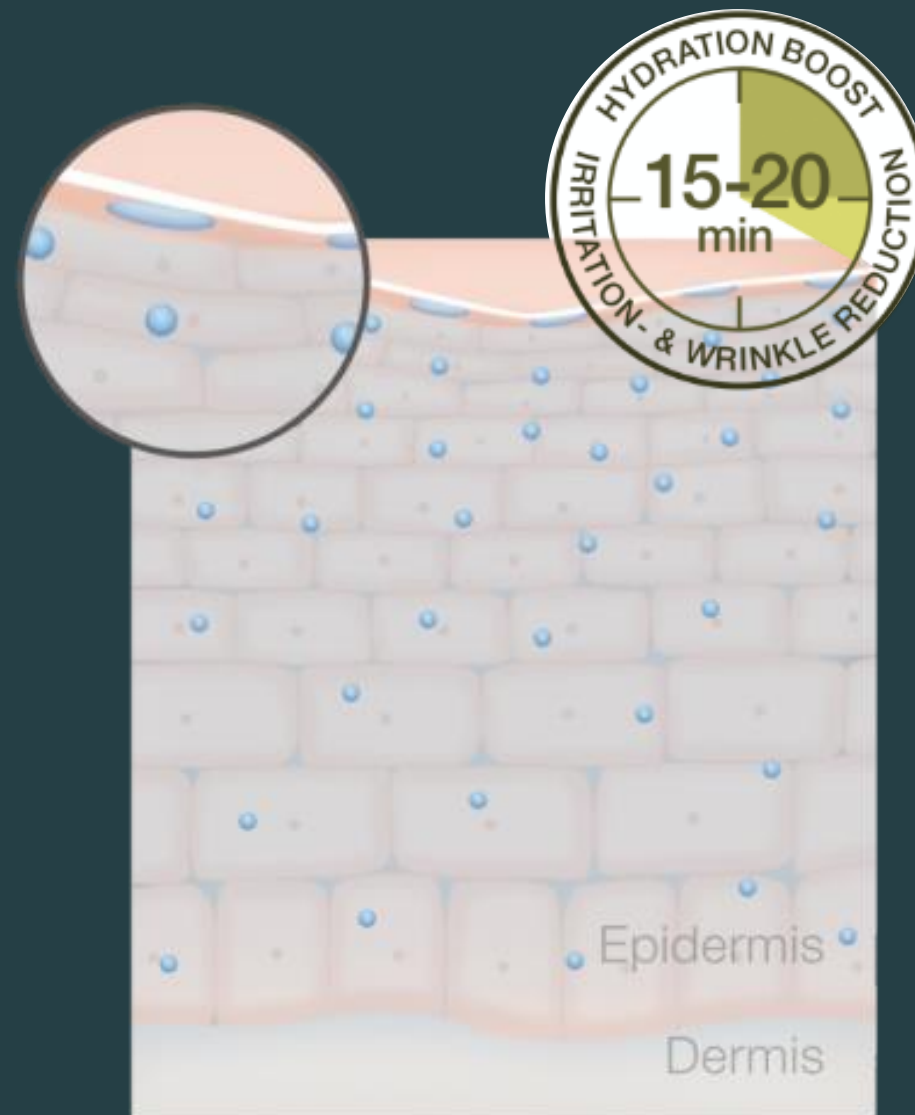


Soluble Collagen Molecules



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 of soluble protein components



In vivo in house evaluation: Skin pH



Dermatological Evaluation: Skin soothing effect



Dermatological Evaluation: Skin smoothing and hydration



Comparative Dermatological Evaluation: Skin smoothing and hydration



Ophthalmological Examination



Patch Test

Proven Nativeness of MatriCol Native Collagen Eye Mask

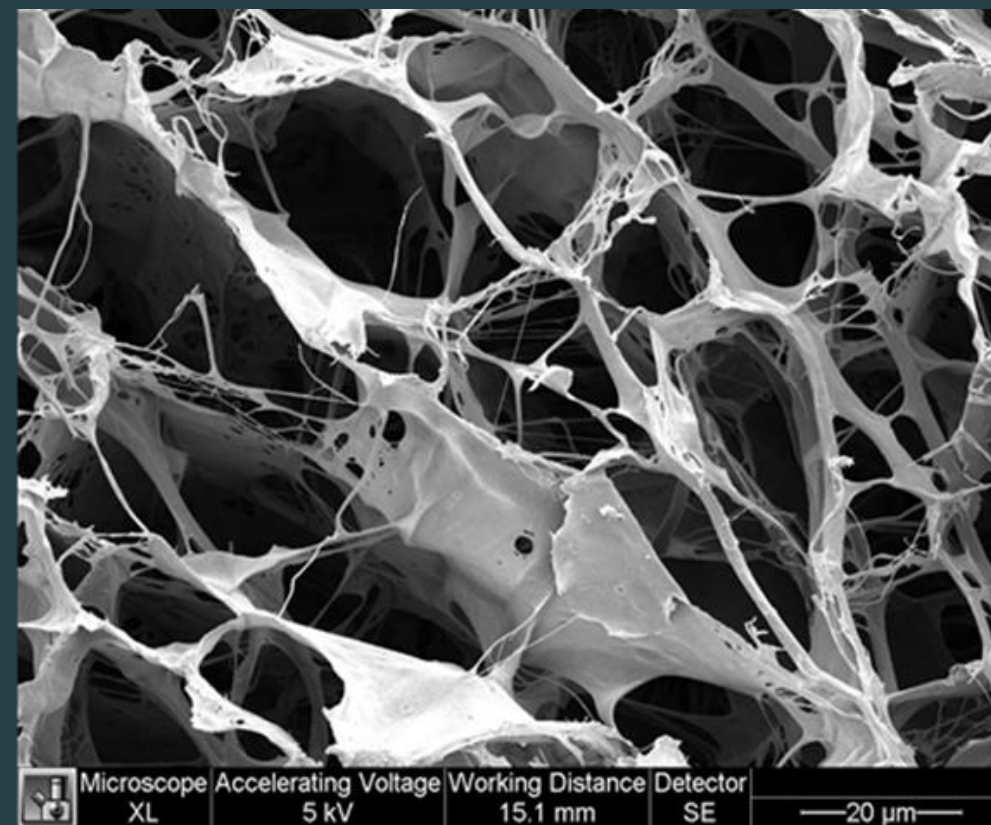
Skin-identical Ultrastructure of Collagen



Human dermis



Native Collagen Mask

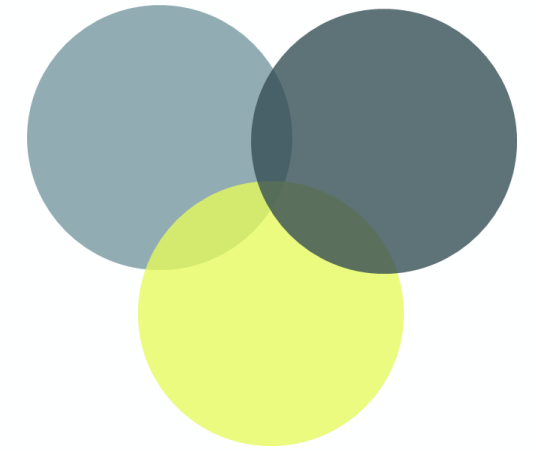


Result:

SEM Analysis of Native Collagen Eye Mask shows a native structure of collagen highly similar to the human dermis

What that means:

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



Proven positive effect on skin pH by single use of Native Collagen Mask



Study centre: Laboratorium, Medskin Solutions Dr. Suwelack, 2010

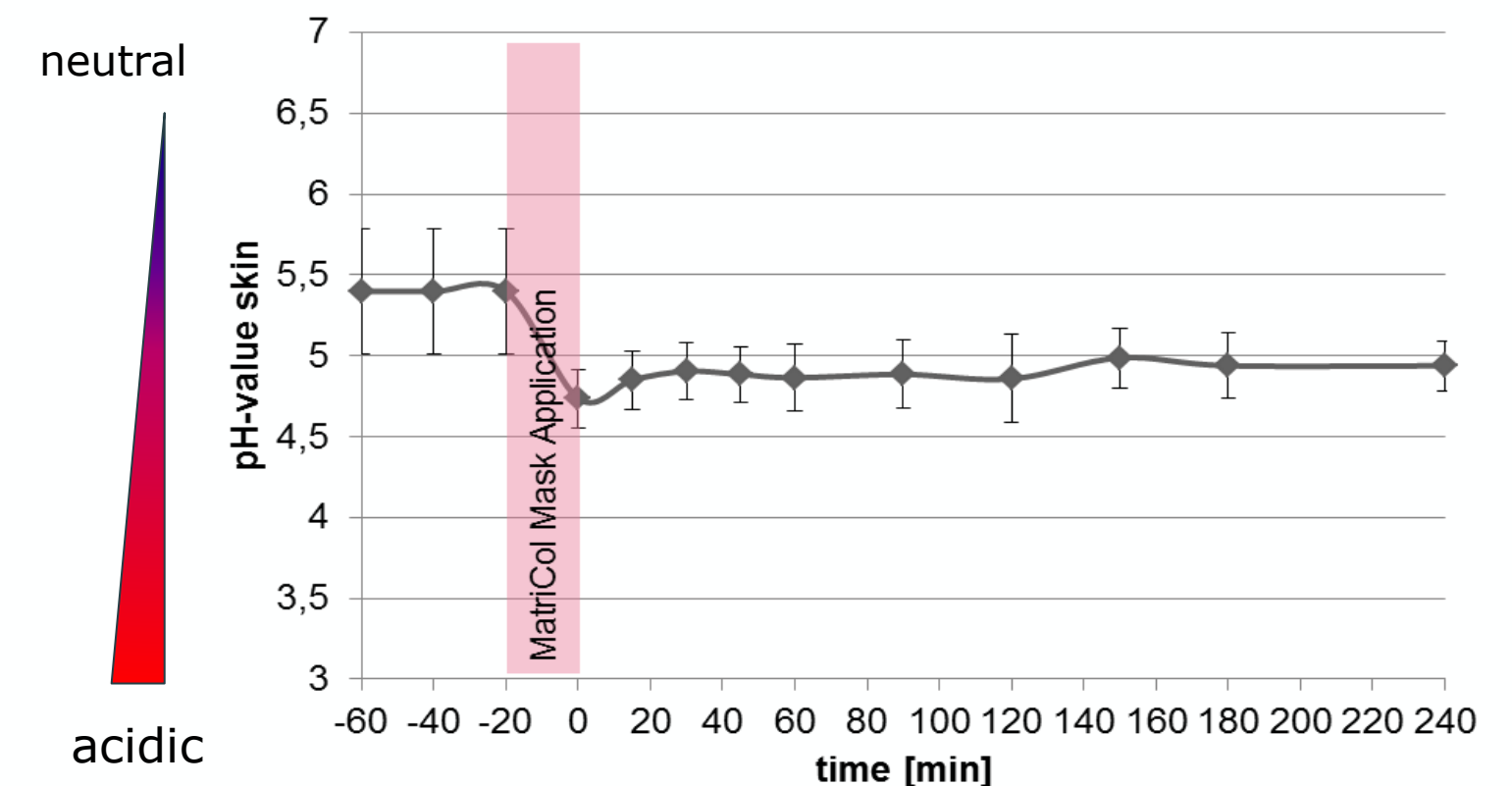
Parameter: Determination of skin pH with pH-Meter

Result:

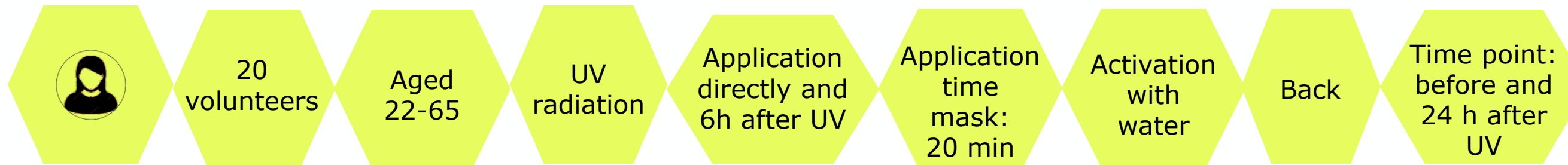
Reduction to a more physiological skin pH-value by 0,5 pH units.

What that means:

A more acidic, physiological skin pH is important for a healthy skin and improved skin barrier.



Proven Skin Soothing Effect by Native Collagen Mask



Study centre: Derma Consult, Germany, 1995

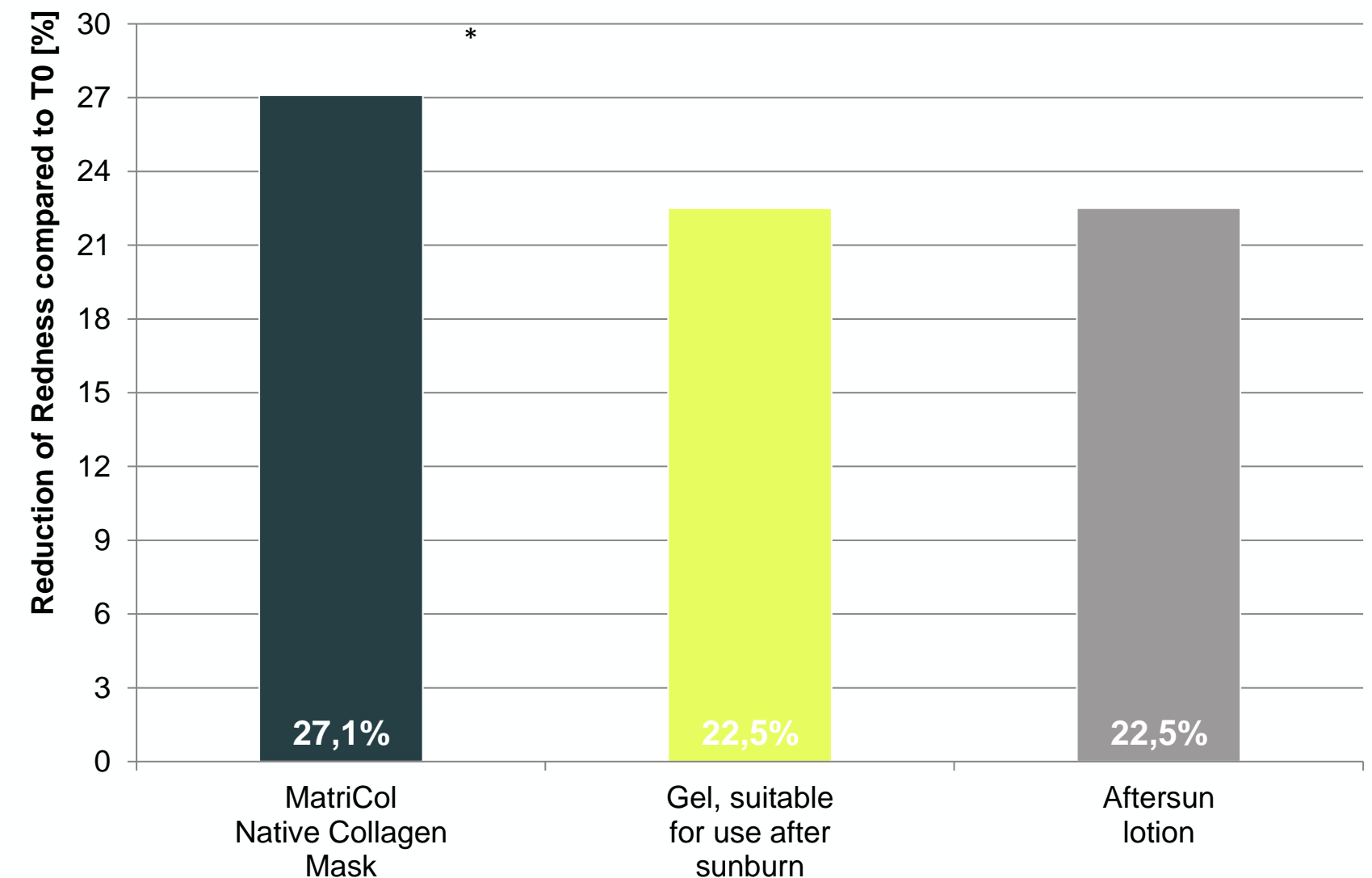
Parameter: Determination of skin redness with Chromameter

Result:

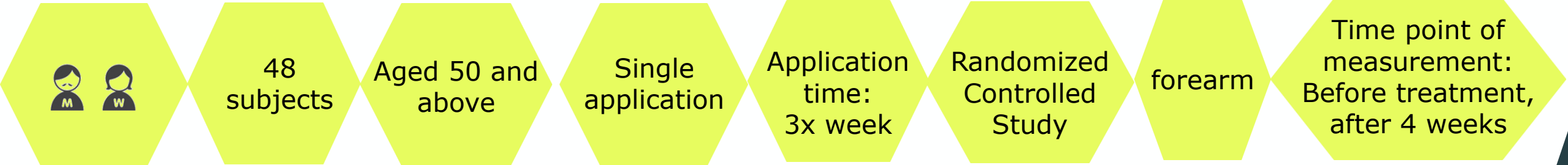
- » Skin redness is significantly reduced compared to untreated area
- » Significant better outcome as comparative products used in after sun care

What that means:

- » Regenerates and soothes (anti-irritative/ reduced redness)
- » After sun recovery



Controlled Dermatological Study

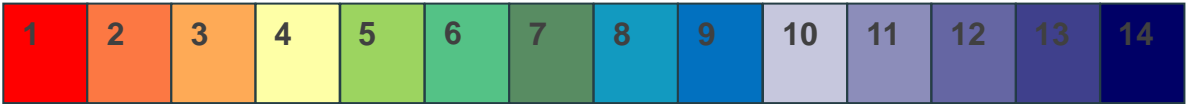


Study title: Acidification of the Skin and Maintenance of the Physiological Skin pH Value by Buffered Skin Care Products Formulated around pH 4A

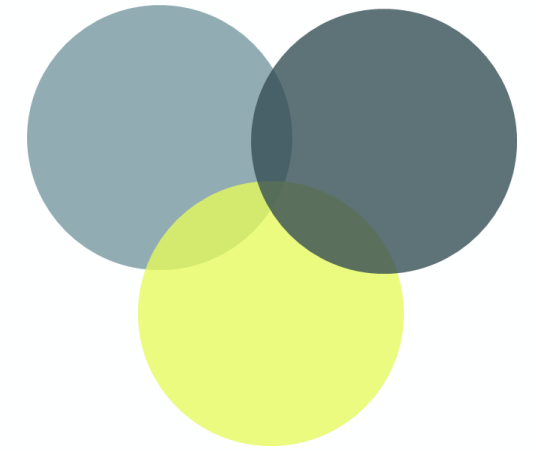
Study centre: ProDerm, Hamburg

Publication: Anke Schulte to Brinke, Antje Mehlich, Claudia Doberenz, Ciska Janssens-Böcker
Journal of Cosmetics, Dermatological Sciences and Applications,
Vol 11. No 1. March 12, 2021

Parameter: Determination of



skin pH Value



Maintenance of Physiological Skin pH Value

Method:

- Measurement of skin pH
- Published data

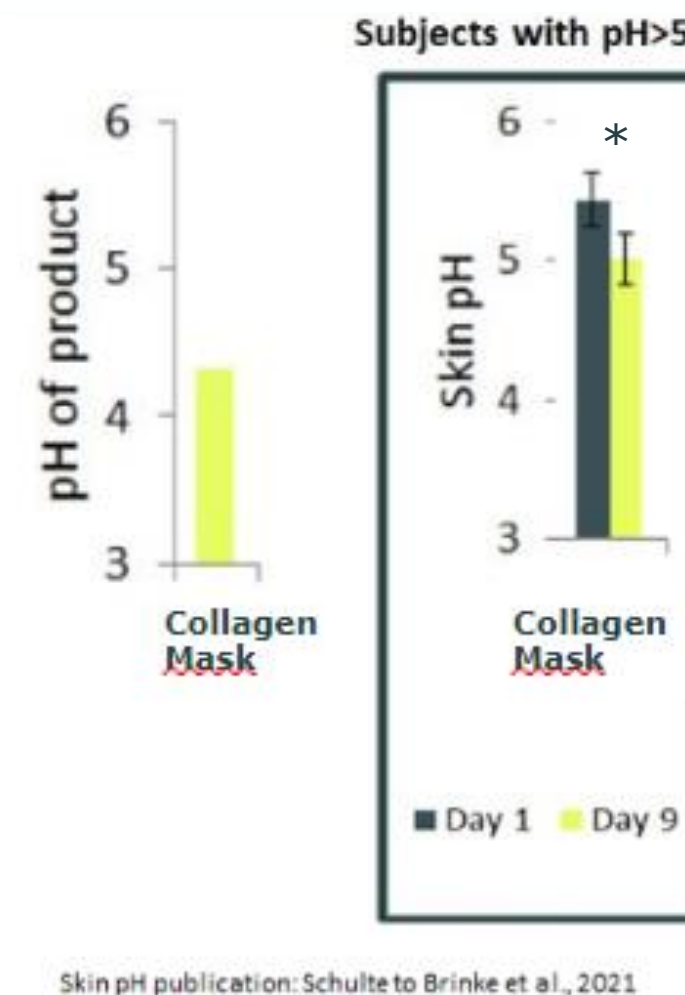
Results:

- Collagen Mask maintains a healthy skin pH
- Significant lowering of skin pH level if it was high at the beginning

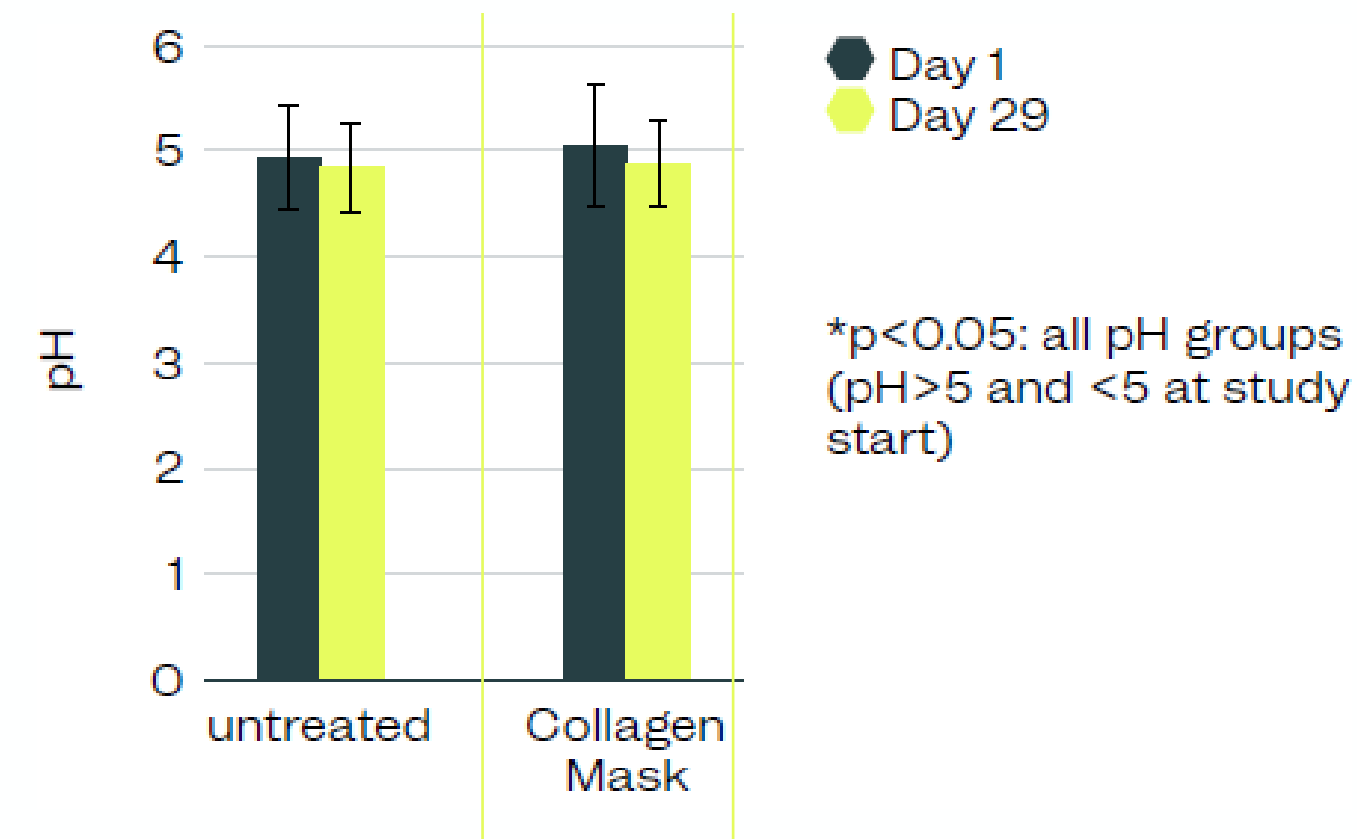
What that means:

- Immediate and lasting effect
- Maintenance of skin barrier function
- Supports a normal skin function and supports a healthy skin microbiome
- Supports lowering of skin pH

Lowering skin pH (if pH>5)

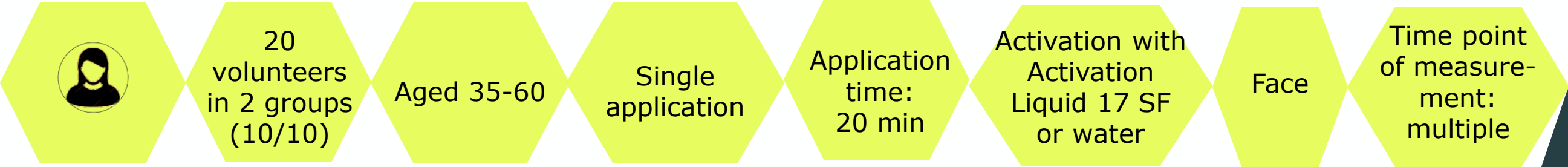


Maintenance of low skin pH



Anke Schulte to Brinke, Antje Mehlich, Claudia Doberenz, Ciska Janssens-Böcker, **Acidification of the Skin and Maintenance of the Physiological Skin pH Value by Buffered Skin Care Products Formulated around pH 4A** Journal of Cosmetics, Dermatological Sciences and Applications, Vol 11. No 1. March 12, 2021

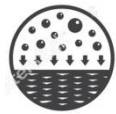
Controlled Dermatological Study



Study title: Clinical-dermatological application study in 20 volunteers (2 groups) with single application and activation with water or Activation Liquid¹

Study centre: Dermatest GmbH, Germany, 2013

Parameter: Determination of



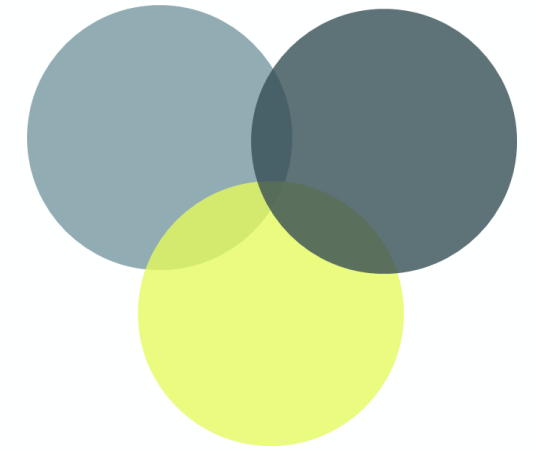
skin moisture
Corneometer



skin roughness
PRIMOS



Participant Opinion
Questionnaire



Intense skin moisture effect

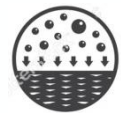
Method:

- Corneometer (skin hydration)

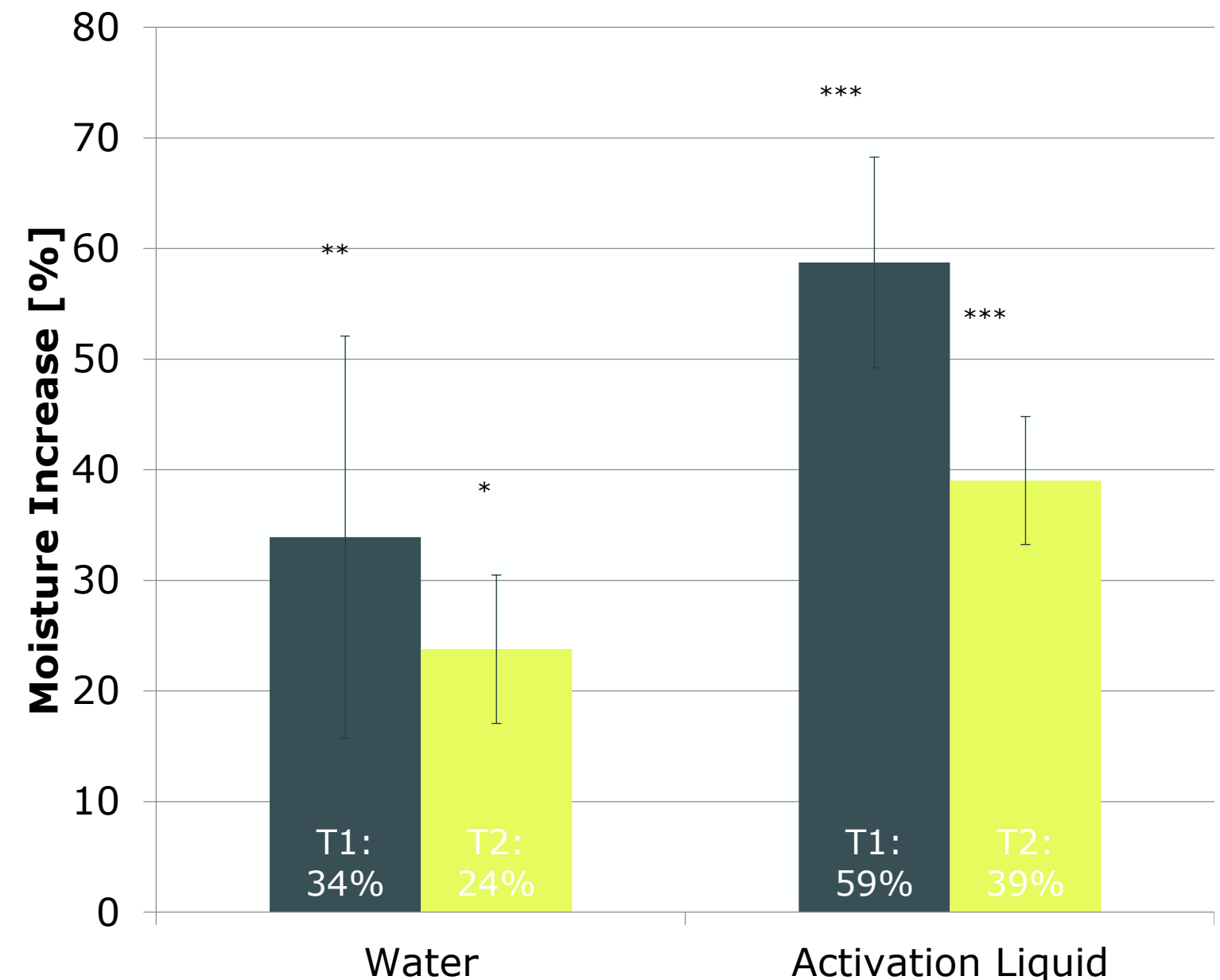
Results:

- Activation with water:
 - After 30 min: Significant increase by 34 %
 - After 2 hours: significant increase by 24 %
- Activation with Activation Liquid:
 - After 15 min: Significant increase by 59 %
 - After 2 hours: significant increase by 39 %

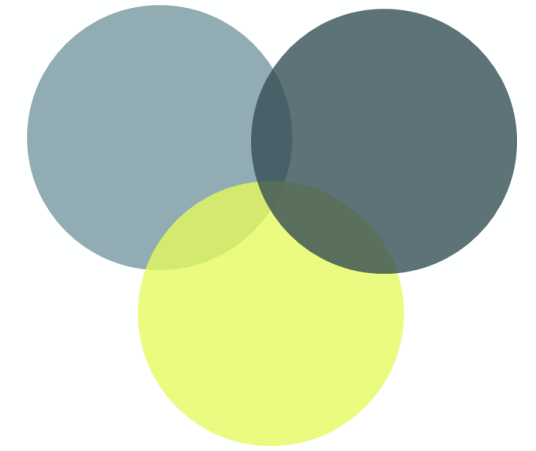
What that means:



- Outstanding increase in skin hydration for skin moisture effect.
- Use of Activation Liquid supports results even better
- Improved skin hydration together with a restoration of acidic healthy skin pH strengthens skin barrier.



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



Long lasting skin smoothing effect

Method:

- ◊ PRIMOS (skin roughness)

Results:

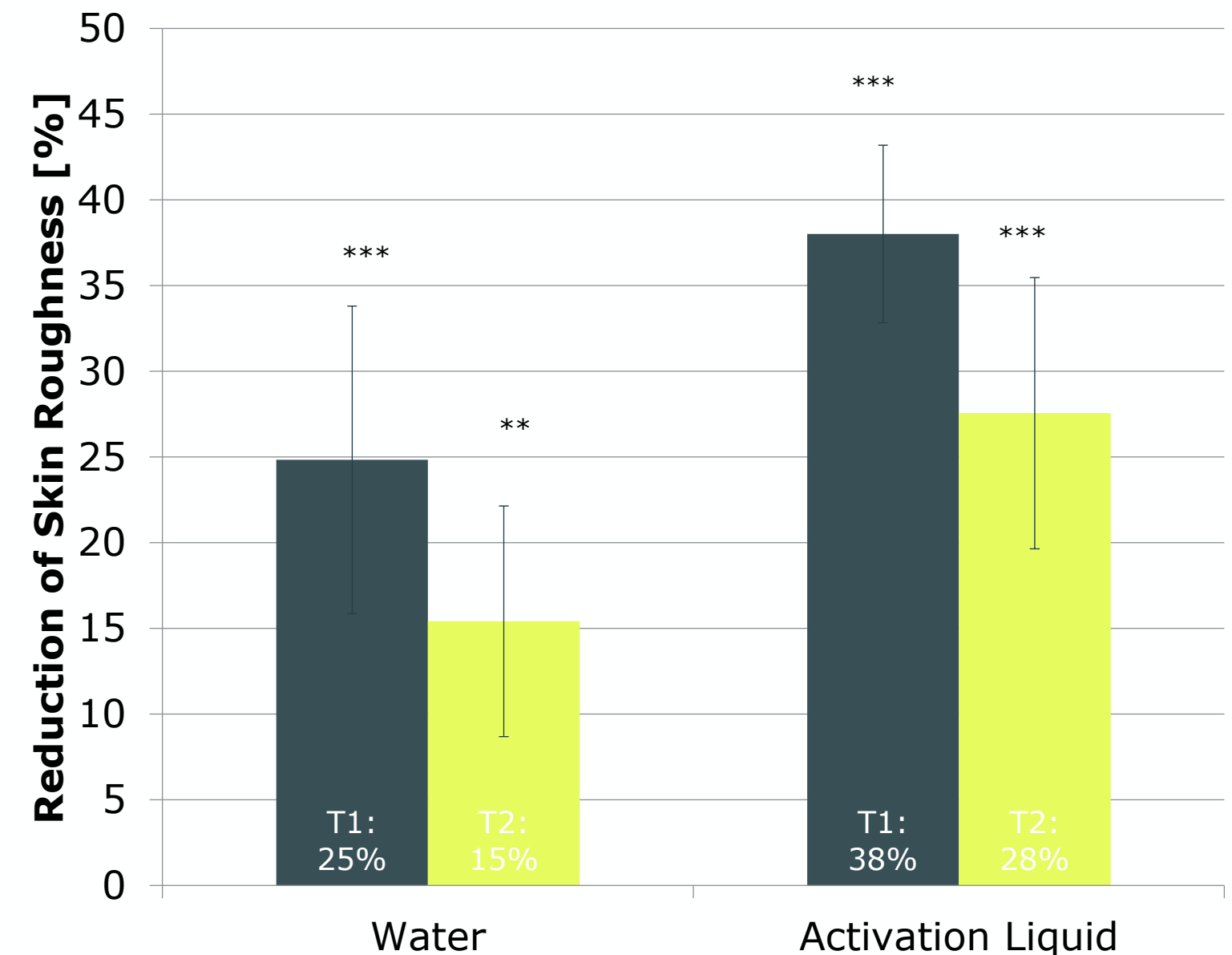
- ◊ Activation with water:
 - ◊ After 15 min: Significant increase by 25 %
 - ◊ After 2 hours: Significant increase by 15 %
- ◊ Activation with Activation Liquid:
 - ◊ After 15 min: Significant increase by 38 %
 - ◊ After 2 hours: Significant increase by 28 %

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

Skin smoothing



Average reduction of skin roughness after 15 minutes (T1) and two hours (T2). **p≤0,01 ***p≤0,001

User Satisfaction

Method:

Participant Questionnaire

Results:

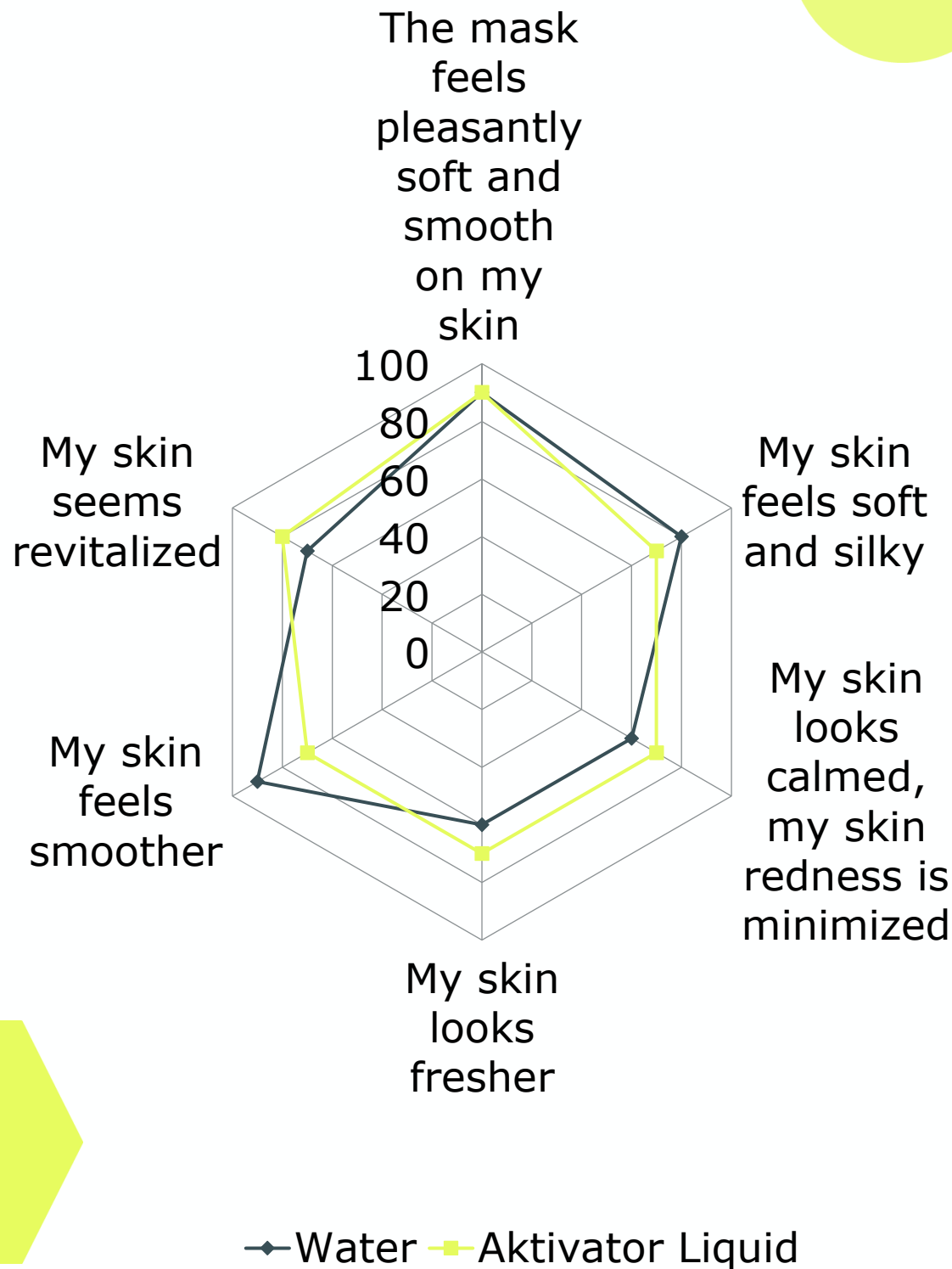
Native Collagen Mask Pure has a positive effect on subjective skin feeling and appearance.

Activation with water: skin feels soft and silky (80 %) and smoother (90 %). Skin looks revitalized (70 %) and fresher (60%), calmed and redness is minimized (60%)

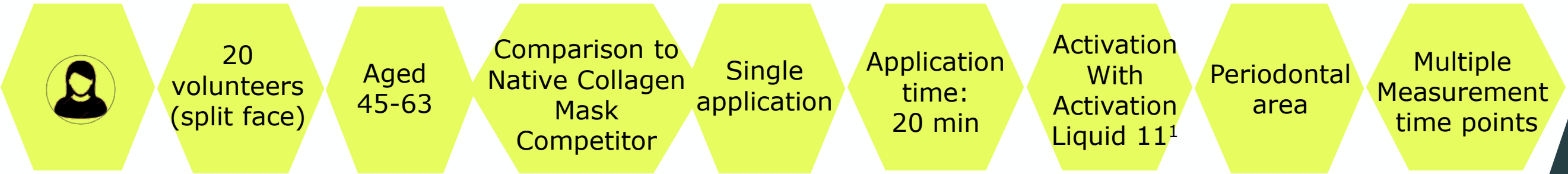
Activation with Activation Liquid: skin feels soft and silky (70 %) and smoother (70 %). Skin looks revitalized (70 %) and fresher (70%), calmed and redness is minimized (70%),

What that means:

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



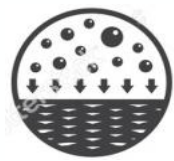
Comparative Dermatological Study



Study title: Comparative split face application study in 20 volunteers with single application and activation with Activation Liquid 11¹

Study centre: Skin Investigation and Technology (SIT), Hamburg, 2008

Parameter: Determination of



skin moisture
Corneometer



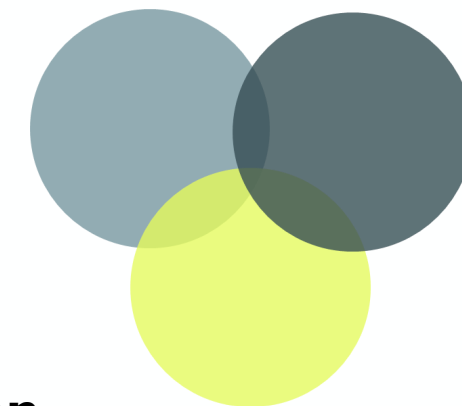
skin roughness
PRIMOS



Participant Opinion
Questionnaire



Superior skin moisture effect compared to Competitor



Method:

Corneometer (skin hydration)

Results:

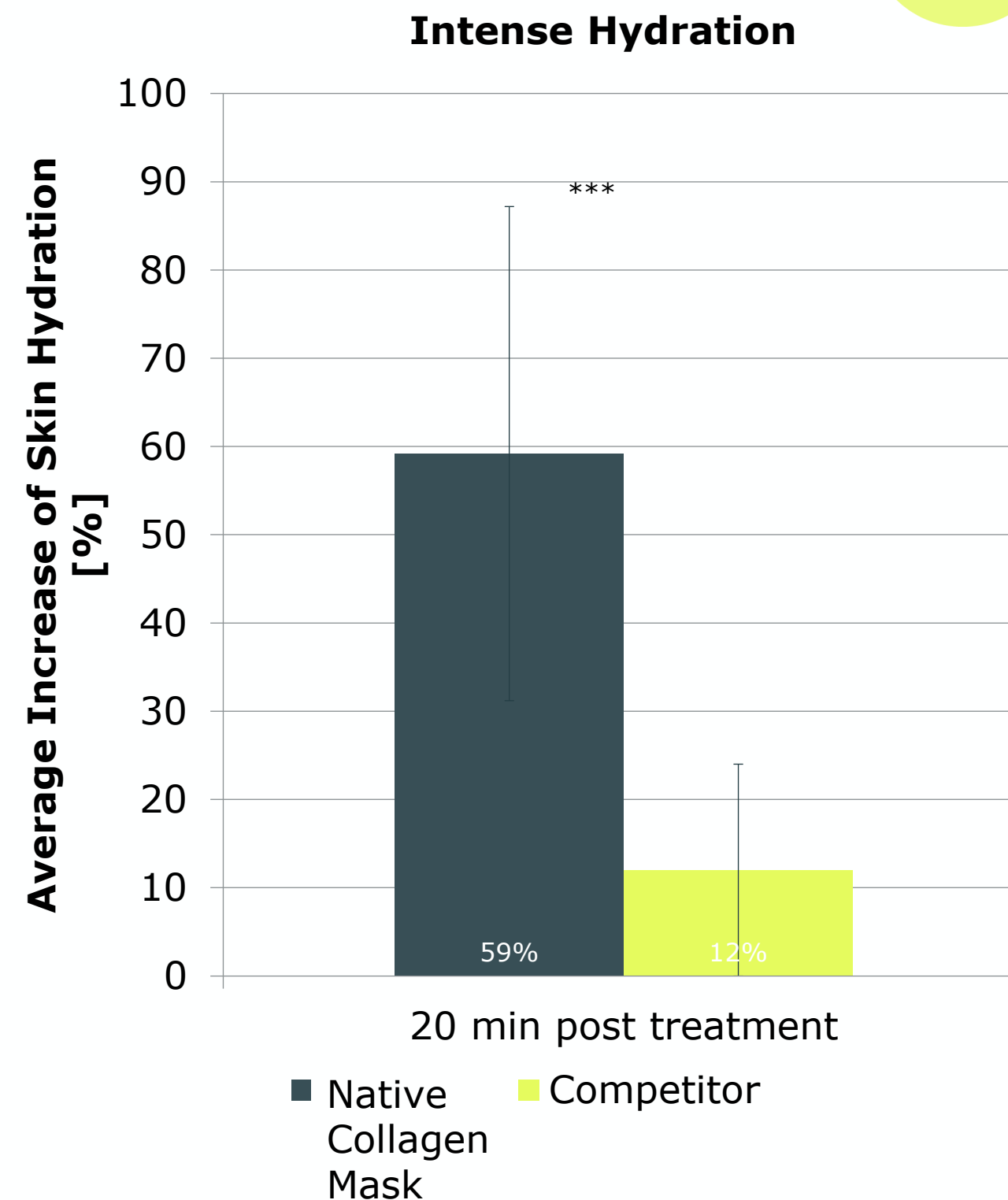
Native Collagen Mask: Significant Increase by 59 % after 20 min

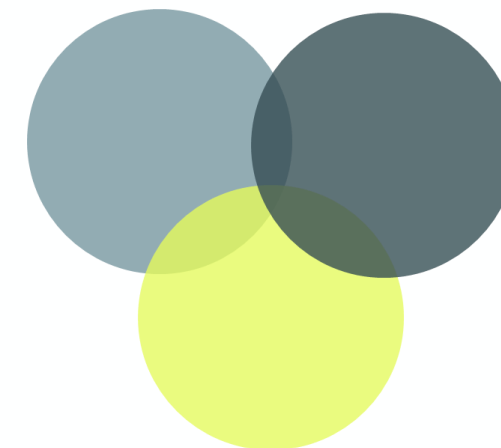
Competitor: Increase of skin moisture by 12 % after 20 min

What that means:

Outstanding increase in skin hydration for skin moisture effect with Native Collagen Mask

Superior results compared to Competitor





Superior skin smoothing effect compared to Competitor

Method:

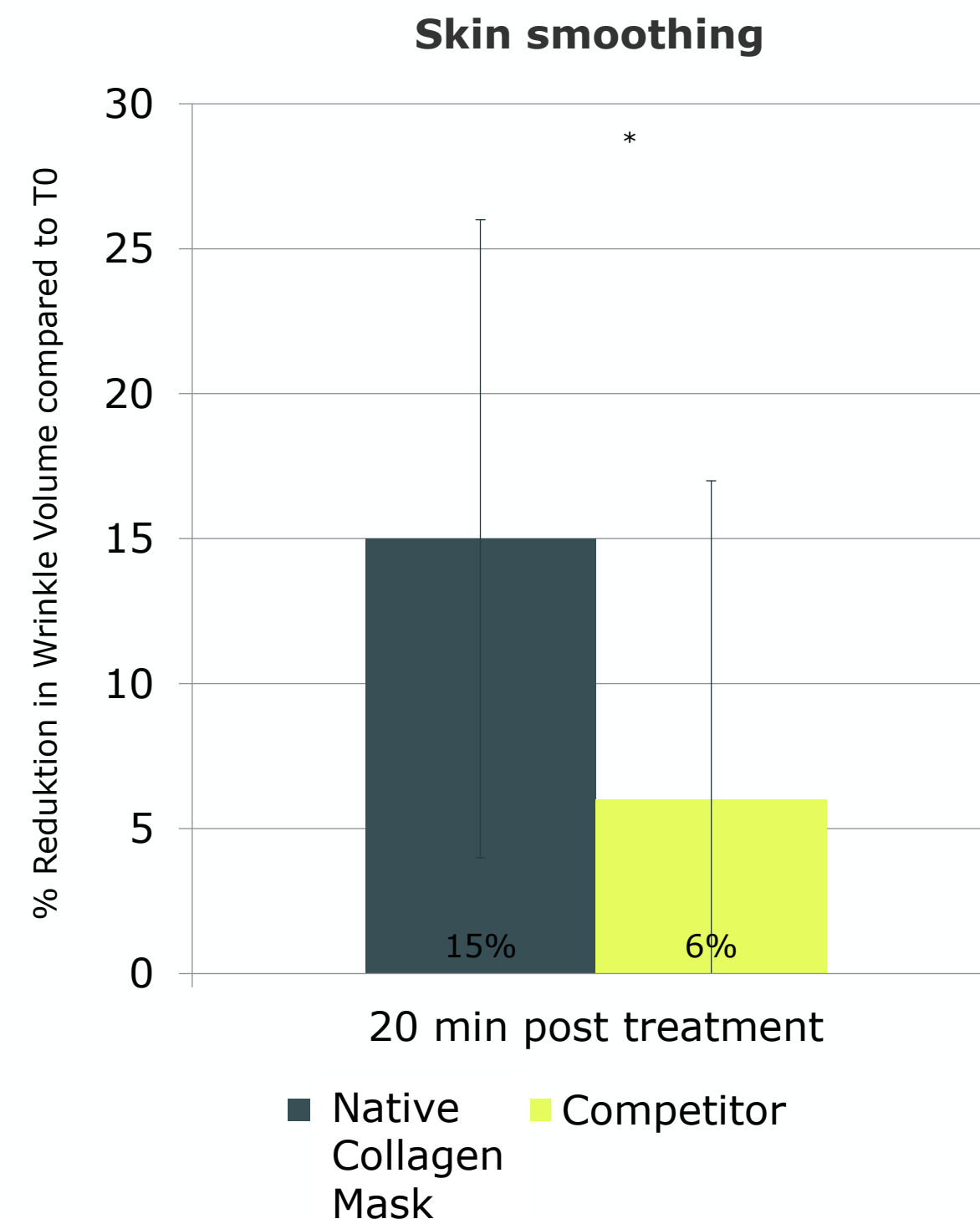
- PRIMOS (skin roughness)

Results:

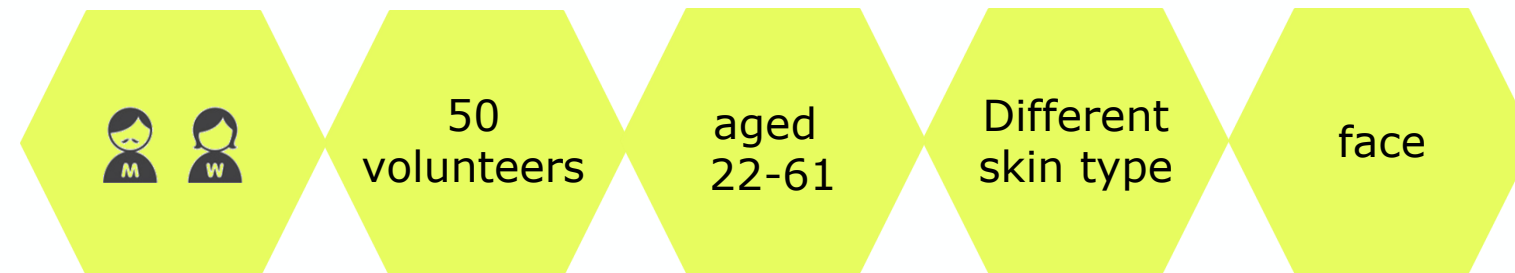
- Native Collagen Mask: Significant Improvement by 15 % after 20 min
- Competitor: Improvement by 6% after 20 min

What that means:

- Superior results regarding skin smoothing compared to Competitor



Patch Test



Study title: Examination of the Product MatriCol Pure exclusiv with Actionation Liquid 13 L by Human Patch Test

Study centre: Derma Consult, Germany, 2010

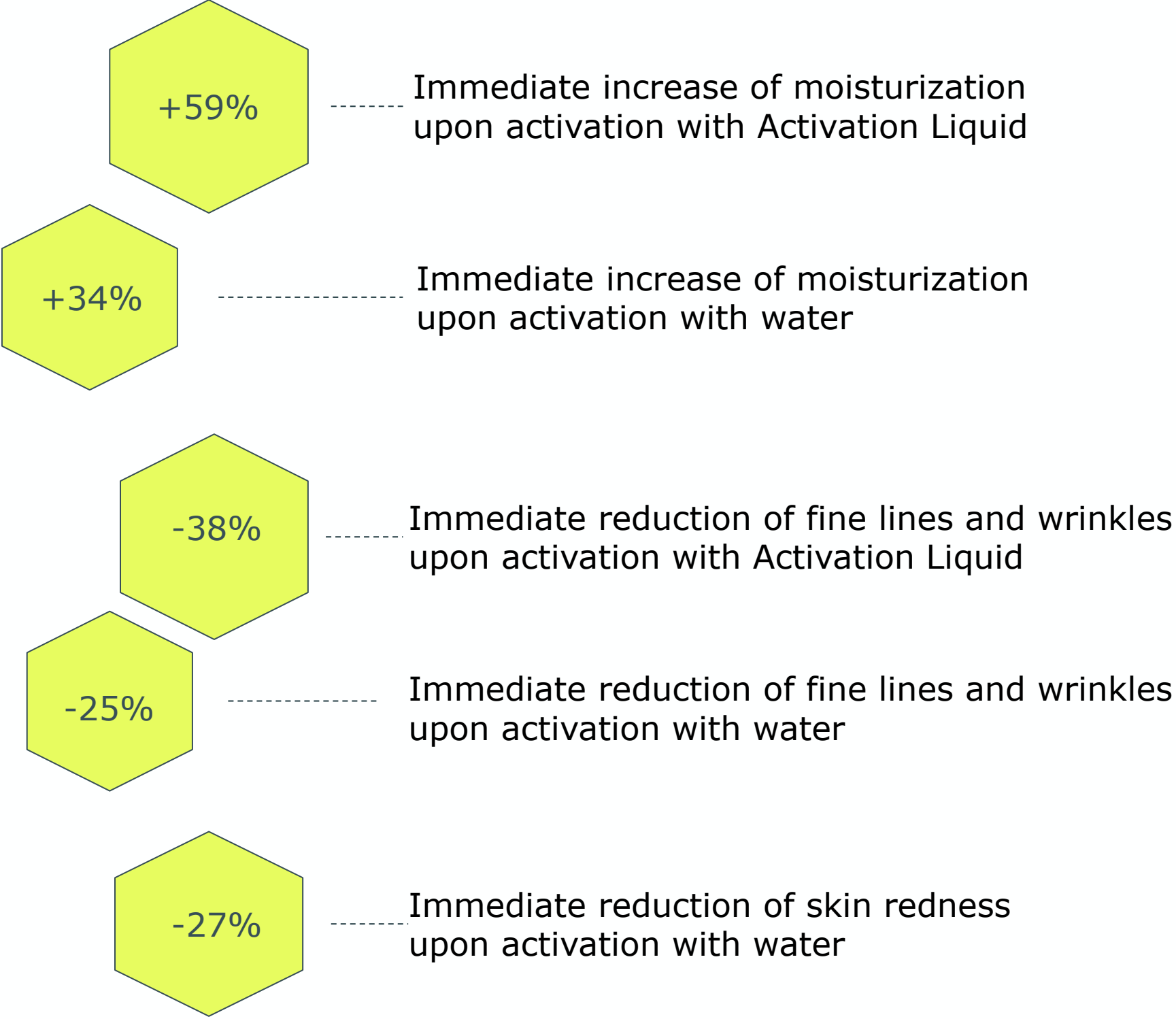
Protocol: Application of the product for 48 under occlusion. Positive control was Sodium dodecyl sulphate (SDS, 1%), negative control was water

Evaluation of the test areas 48 (30 min after patch removal) and 72 hours.

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

Regeneration & Repair

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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