

PREMIUM ORGANIC  
presents:

---

ALPIN  
HEILMOOR  
EXTRACT™



# CONTENT

---

01

INTRODUCTION

02

AHE – ALPIN HEILMOOR EXTRACT™

03

EFFICACY



---

01

# INTRODUCTION

## 01.1. ALPIN HEILMOOR EXTRACT™



PREMIUM ORGANIC is an Austrian based biotech company focused on R&D and manufacturing of natural extracts for the personal care, cosmetic and health industry.



With ALPIN HEILMOOR EXTRACT™ (AHE) we offer our first product: a multifunctional bioactive ingredient.

*AHE – a dark micronized powder for dermocosmetics and more ...*



# 01. INTRODUCTION

## 01.2. CLASSIFICATION OF AHE

### PELOID:

Worldwide Peloids (muds & healing earths) have always been used for therapeutic, healing and cosmetic purposes.



### MOOR:

A special kind of these concentrated natural forces is created under conditions of high water content and low oxygen: The moor.



### HEILMOOR:

If moor deposits meet certain parameters, they can be recognized as a Heilmoor (medicinal moor / healing moor / therapeutic mud). Due to its consistency, known mainly for its thermophysical properties, it is mostly used in the form of baths or packs.



### ALPIN HEILMOOR EXTRACT™:

AHE concentrates the most potent ingredients of healing moors and provides them in micronized form and for new applications.

Only 3-5% of all moor can be classified as Heilmoor

Only 10% of all Heilmoor is suitable for the extraction of AHE



# 01. INTRODUCTION

## 01.3. THE ORIGIN OF AHE



### THE HEILMOOR:

At 560 meters above sea level, situated between wooded mountains, vineyards and monastery walls, lies the place where our story begins: the Längsee. With the retreat of the ice age glaciers, not only the basin for this dreamlike natural bathing lake was created, but also the foundation stone for the local healing moor.

This Längsee-Moor is the unique source of our innovative, patented and multifunctional bioactive: ALPIN HEILMOOR EXTRACT™.






## 01.4. PROCESSING OF AHE



### THE PROCESS:

Due to our innovative and patented process we extract only the best and most potent part that Heilmoor has to offer: ALPIN HEILMOOR EXTRACT™. This dark micronized powder is the result of a novel process, that we developed together with Austrian experts and universities. AHE is produced by partners in Germany and Austria- all specialists in their field.

## 01.5. ADVANTAGES OF AHE:

 <b>PURITY:</b>	AHE is pure and free of water, pesticides and microbiological contamination – therapeutic mud in its purest form reduced to effective & potent components.
 <b>FINENESS:</b>	Thanks to the novel process a dark micronized powder (AHE:0-40µm; AHE-UF: 0-8µm) is produced – nature in controlled and constant form & quality.
 <b>CLARITY:</b>	AHE is produced according to highest scientific standards and proves its effectiveness through studies – traditional wisdom meets modern technology.
 <b>VARIETY:</b>	AHE is therefore easy to formulate and versatile in applications & possibilities: Leave-on and Rinse-off products – form follows function.
 <b>NATURE:</b>	AHE remains a 100% natural active ingredient, which combines tradition with sustainability through a renaturalizing decomposition – Heilmoor reinterpreted.



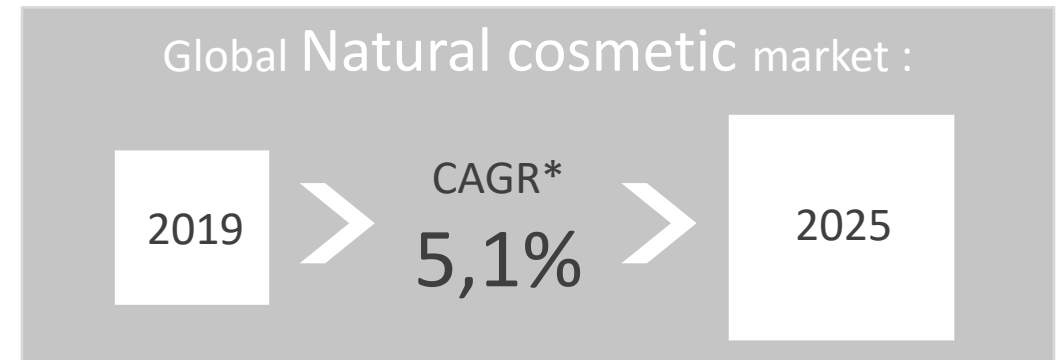
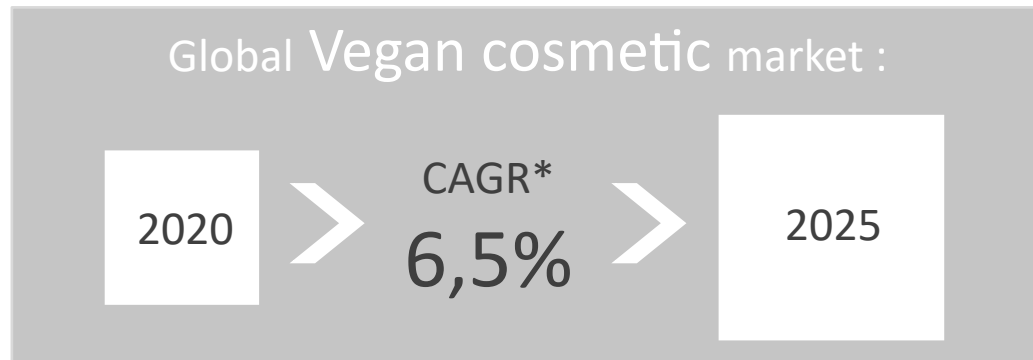
## 01.6. FORMULATION & APPLICATION





# 01. INTRODUCTION

## 01.4. THE MARKET – Consumers, Beauty & Cosmetics



- The world is spinning fast. And so is the cosmetic market. The innovation pressure in the industry is high, hypes change quickly, but some trends have come to stay:
- Consumers are increasingly looking for natural alternatives to chemical additives or artificial ingredients.
- Customers know and expect a lot: cosmetic products are scanned for their ingredients; companies are chosen for their values. Nature and technology must go hand in hand in companies today to keep up with the market: Innovation is mandatory. Knowledge is power. Sustainability is lifestyle.

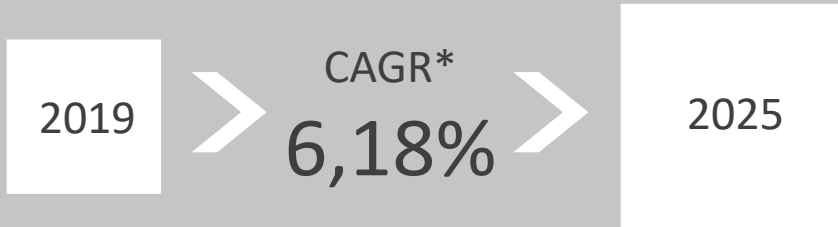


# 01. INTRODUCTION



## 01.4. THE MARKET for dark ingredients in the cosmetic industry

Activated Charcoal cosmetic market :



Global Coffee beauty products market :



Global Dead Sea Mud Cosmetics market :



Cosmetic-grade Inorganic black Pigments market :



*AHE – the latest alternative to charcoal, clay and iron oxide*

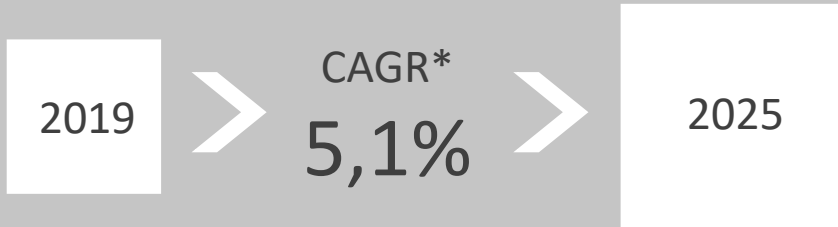


# 01. INTRODUCTION

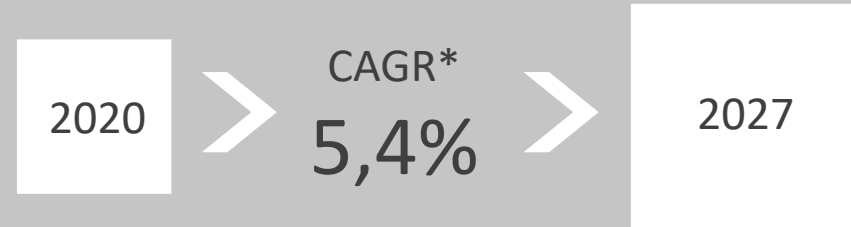


## 01.4. THE MARKET for areas of applications of AHE

Cosmeceutical market :



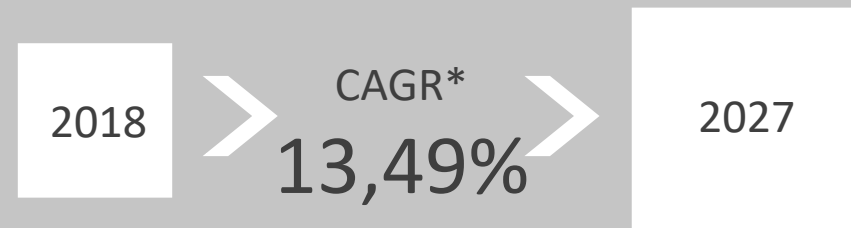
Sensitive Toothpaste market :



Topical Use Acne Treatment market :



Colon cleansing Supplement market :








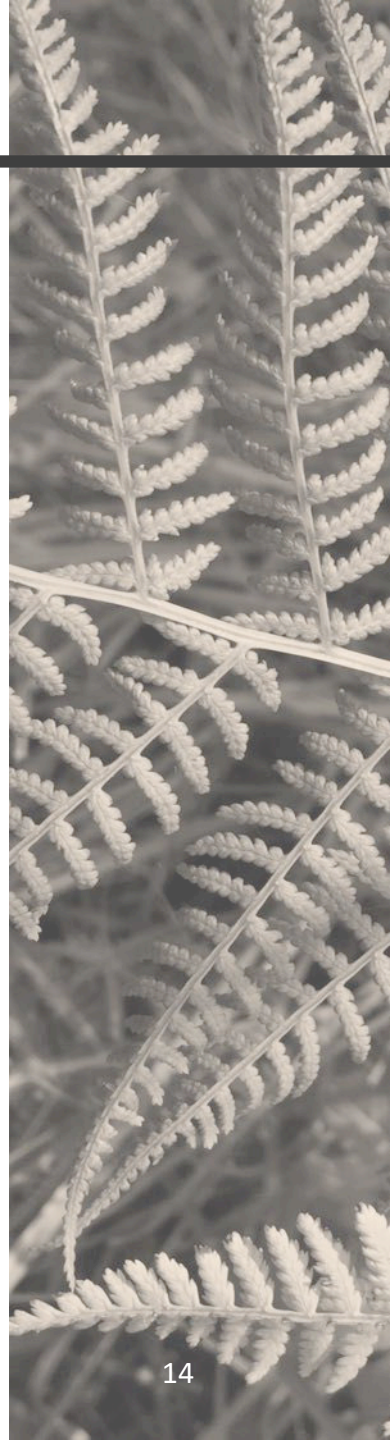
02

AHE - ALPIN HEILMOOR EXTRACT™

## 02.1. ALPIN HEILMOOR EXTRACT™

*AHE – a multifunctional bioactive ingredient*

CHEMICAL COMPOSITION	Organic: 90% - 97%   Inorganic: 3% - 10%
INCI NAME	PEAT EXTRACT
APPEARANCE	Dark micronized powder
ODOUR	None to lightly earthy
PH (10% IN WATER)	5,5% - 7,5%
SHELF LIFE	36 months
EFFICACY	Skin barrier improvement, Anti-Inflammation, Anti-Irritation, Wound healing, Anti-Acne, Anti-Gingivitis, Cleansing, Colon, etc.
CERTIFICATIONS	   MADE IN EU



### 02.2. HEILMOOR

*An ancient natural medicine. Long known, almost forgotten. Thanks to AHE now reinterpreted.*

- Already Paracelsus 500 years ago recognized the therapeutic possibilities of **Heilmoor** (therapeutic mud / medicinal moor) for joint pain and digestive problems.
- For thousands of years, flowers, herbs and other plants have been sinking and, under certain conditions and under exclusion of oxygen, formed the basis for the **formation of moors**.
- In order to be defined as **Heilmoor**, certain criteria must be met, such as the content of organic and inorganic components, the content of humic substances, the pH value and the heat retention capacity.
- **Used for centuries** primarily as a therapeutic bath, AHE now sets new standards and applications for this concentrated power of nature with its novel form and purity.

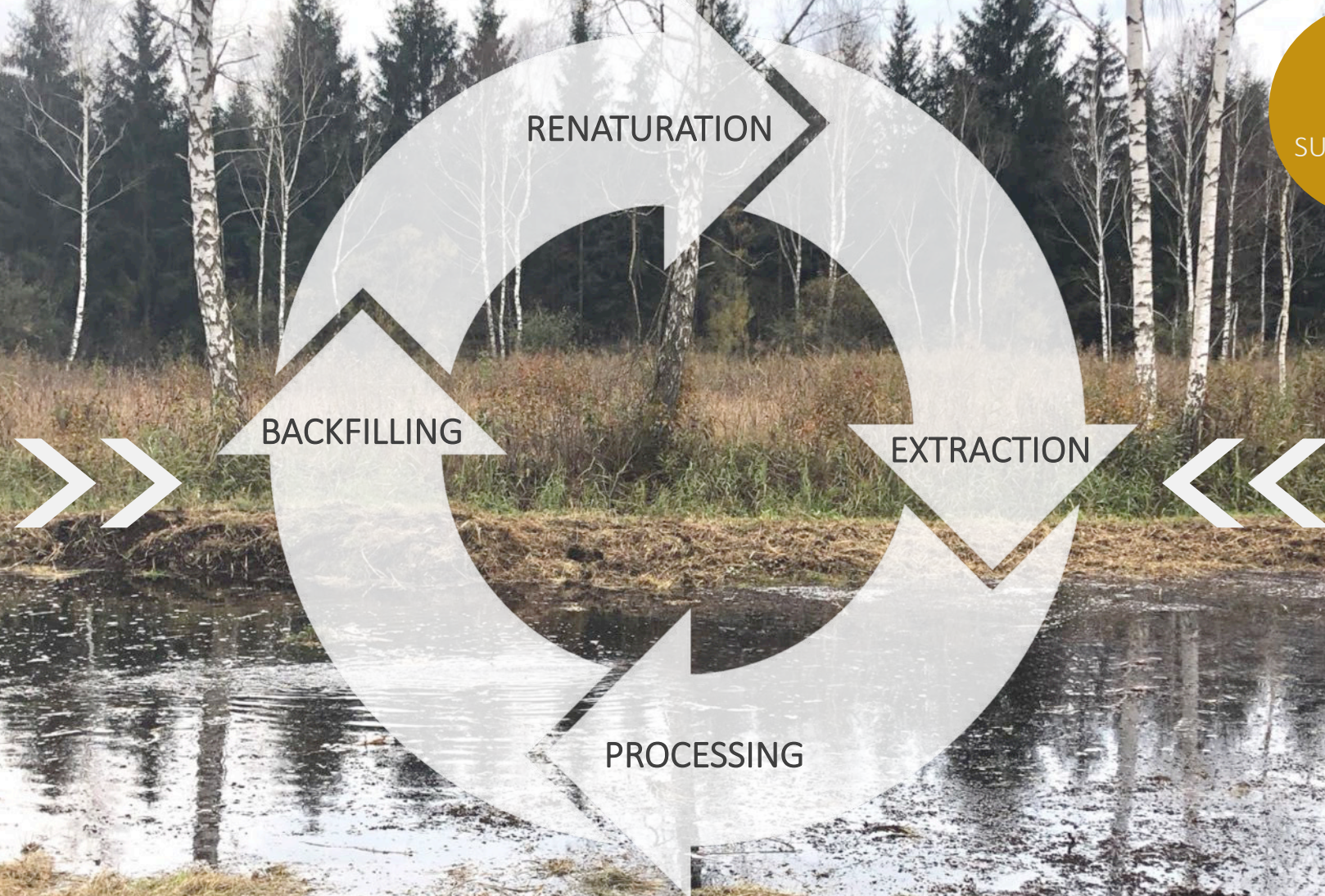
### 02.3. SUSTAINABILITY

- Our **sustainable resource management** in the extraction and processing of the Heilmoor brings the different demands on natural resources into harmony with the ecological protection requirements and the consequences of climate change.
- It is important to us not only to profit from this natural treasure - but also **to give something back to the region and nature**. The diversity of the landscape will be strengthened by the sustainable extraction of the Heilmoor with subsequent **renaturation of the area**, as new plant and animal species will find a place in this natural refuge.
- This ecological enhancement, which has been considered from the very beginning, is planned, monitored and implemented in **cooperation with external environmental experts**.





# 02.3. OUR SUSTAINABLE CYRCLE



GENTLE  
&  
SUSTAINABLE

### 02.4. R&D

- PREMIUM ORGANIC's aim is to combine nature & traditional European Naturopathy with state-of-the-art technology & science.
- Our R&D approach is to improve traditional knowledge by digging deep, testing hard and finding proof. In cooperation with our network we strive to create innovative products, new claims and consumer friendly formulations.
- Our first outcome on this path is the patented **ALPIN HEILMOOR EXTRACT™** (AHE):

#### PATENT

The invention relates to extracts of organic humified source material, methods of their production and uses thereof. The invention specifically relates to formulations comprising humic substances and their use in cosmetic, pharmaceutical and dietary preparations.





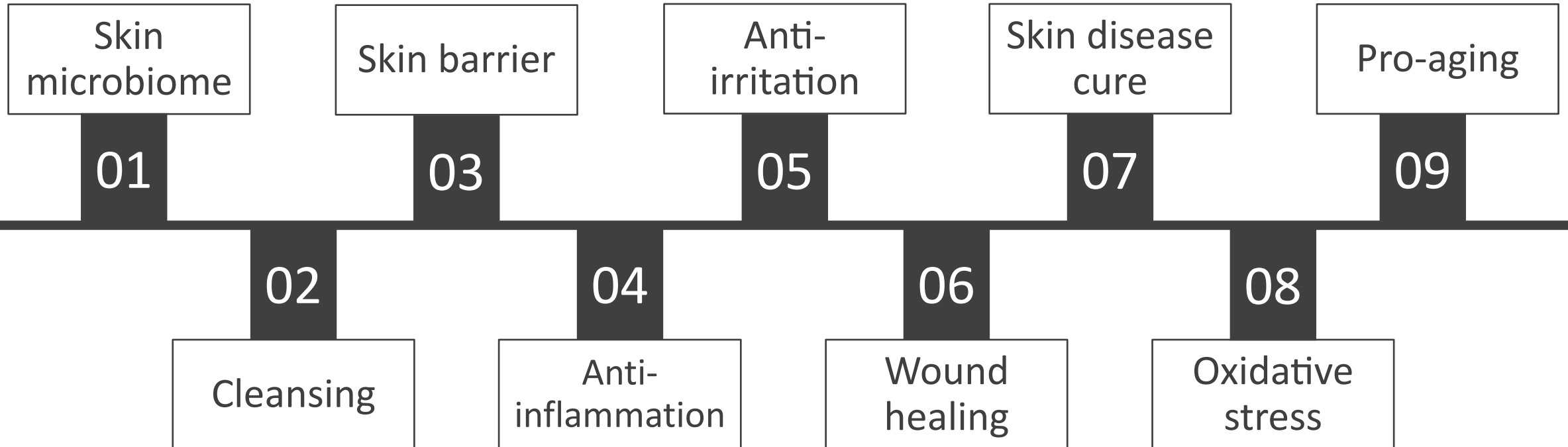
---

03  
EFFICACY



## 03. EFFICACY

### 03.1. Efficacy of AHE on the SKIN





### 03.2. Mode of Action



01

#### Skin microbiome

The skin microbiome is a complex and unique system of various microorganisms.

AHE showed to maintain the Vitality and Biodiversity of the microbiome

01.1

#### Unbalanced microbiome

The microbiome's protective function is endangered by external factors as well as skin diseases (e.g. Neurodermatitis).

AHE showed to promote the growth of normal flora and can lead to a faster restoration.

02

#### Pollution

AHE exhibited an effectiveness in eliminating carbon microparticle deposit on skin of about 98%.

– without damaging the microbiome

– non-irritant

03

#### Damaged skin barrier

Stress, lifestyle & environment cause the skin to lose moisture, which allows allergen to penetrate it:

K10 ↓ | K16 ↑

04

#### Abnormality of immunity

Disorders in the regulation of cytokines and ACUTE INFLAMMATIONS occur:

TNFα		IL-1β
IL-6		IL-8

ALPIN HEILMOOR EXTRACT™ helps with the following effects:

Maintaining the skin microbiome

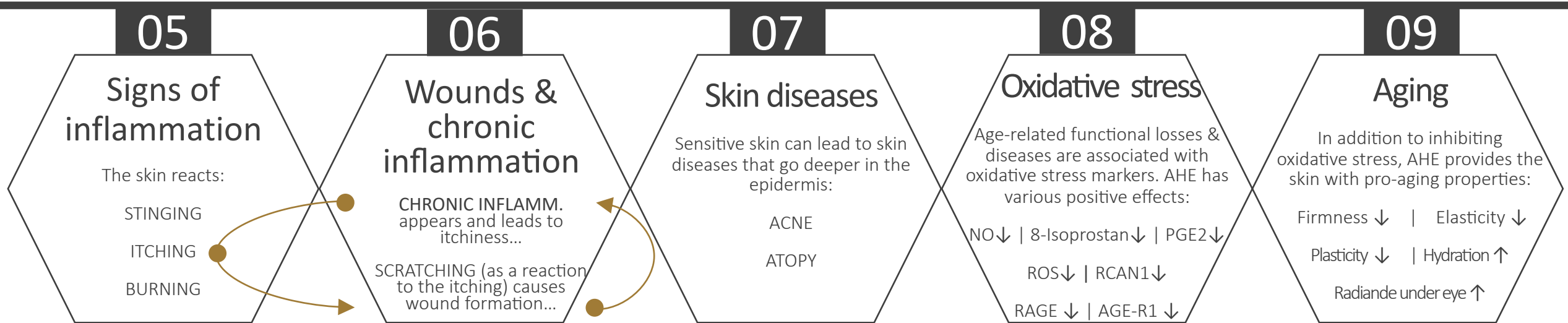
Balancing the skin microbiome

Cleansing / Anti-Pollution effect

Improvement of skin barrier

Anti-inflammation

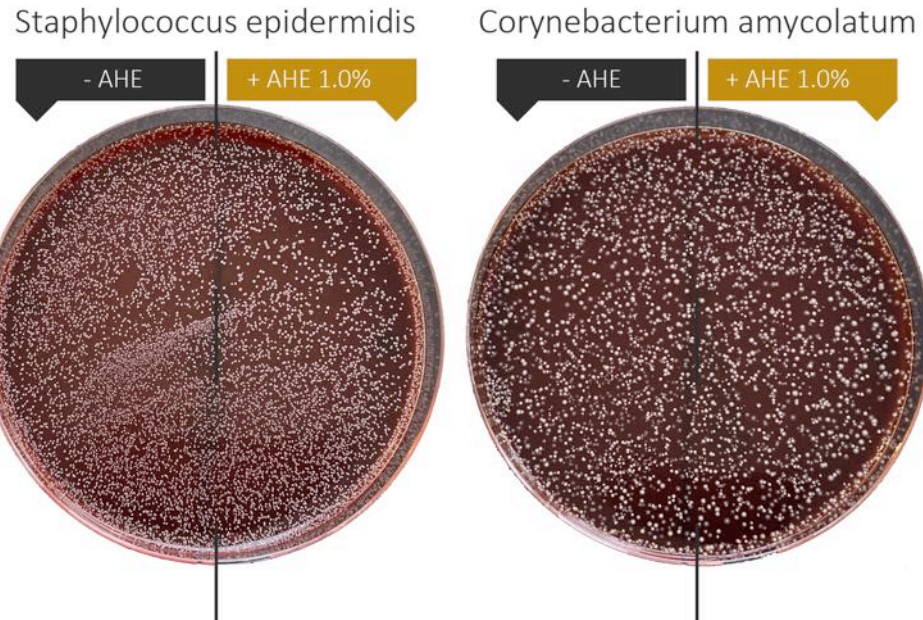
### 03.2. Mode of Action



ALPIN HEILMOOR EXTRACT™ helps with the following effects:



## MAINTAINING VITALITY OF THE MICROBIOME with and without 1% AHE



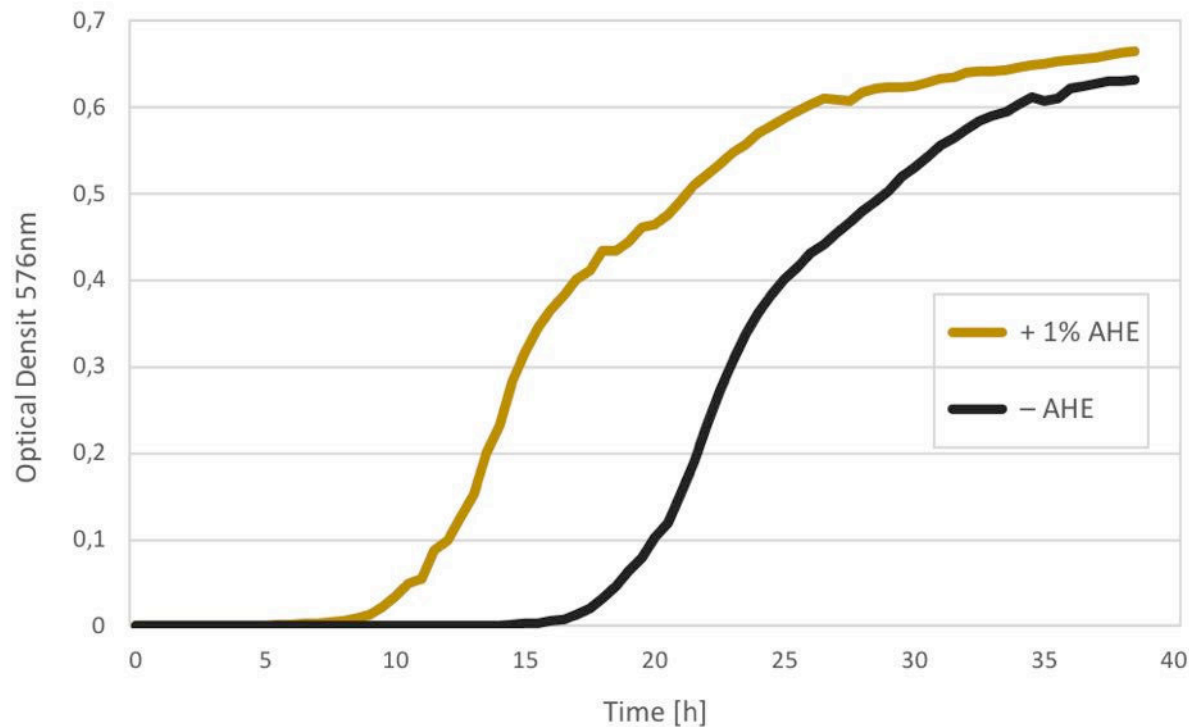
## MAINTAINING BIODIVERSITY OF THE MICROBIOME with and without 1% AHE



○ In-vitro-tests show that AHE have no damaging effect on the vitality and biodiversity of the microbiome and that the protective function of our skin's microorganisms remains unimpaired.

○ **ALPIN HEILMOOR EXTRACT™** preserves **SKIN MICROBIOME**.

GROWTH CURVE OF S. EPIDERMIS with and without 1% AHE



FURTHERMORE:

- A growth test showed that Staphylococcus species grew faster in the presence of AHE.
- This can lead to a faster restoration of normal skin microbiome in dysbiosis or in neurodermatitis – making it conceivable to use AHE in the field of microbiome balancing.

○ ALPIN HEILMOOR EXTRACT™ promotes the GROWTH OF NORMAL FLORA.



### ANTI-POLLUTION (FOREARM, ELIMINATION INDEX 'IE' OF MICROPARTICLES)

Pre-inclusion of a 2mg/cm<sup>2</sup> of carbon microparticles on the forearm.  
11 subjects were treated with a cleansing product base with 1.5% AHE

Treated Group	-97.77%, p<0.001 up to -100%
Control Group	-81.43%, p<0.001 up to -98%, difference 20.07%

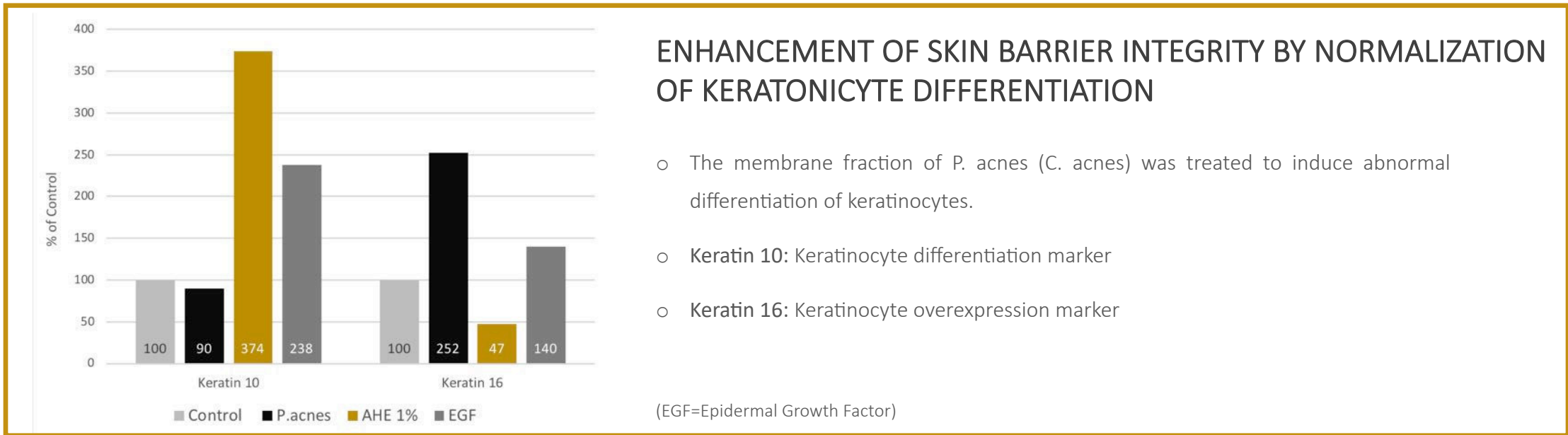
### DEGREE OF CUTANEOUS COMPATIBILITY (FOREARM)

Patch Test performed for 48 hours on the forearm.  
10 subjects were treated with a cleansing product base with 1.5% AHE

The product can be considered as "non irritant"



- The tested cleansing product base (1.5% AHE) exhibited an effectiveness in eliminating carbon microparticle deposit on skin (model of fine particle pollution), of about 98%.
- Therefore **ALPIN HEILMOOR EXTRACT™** effectively shows a **CLEANSING/ANTIPOLLUTION EFFECT**.

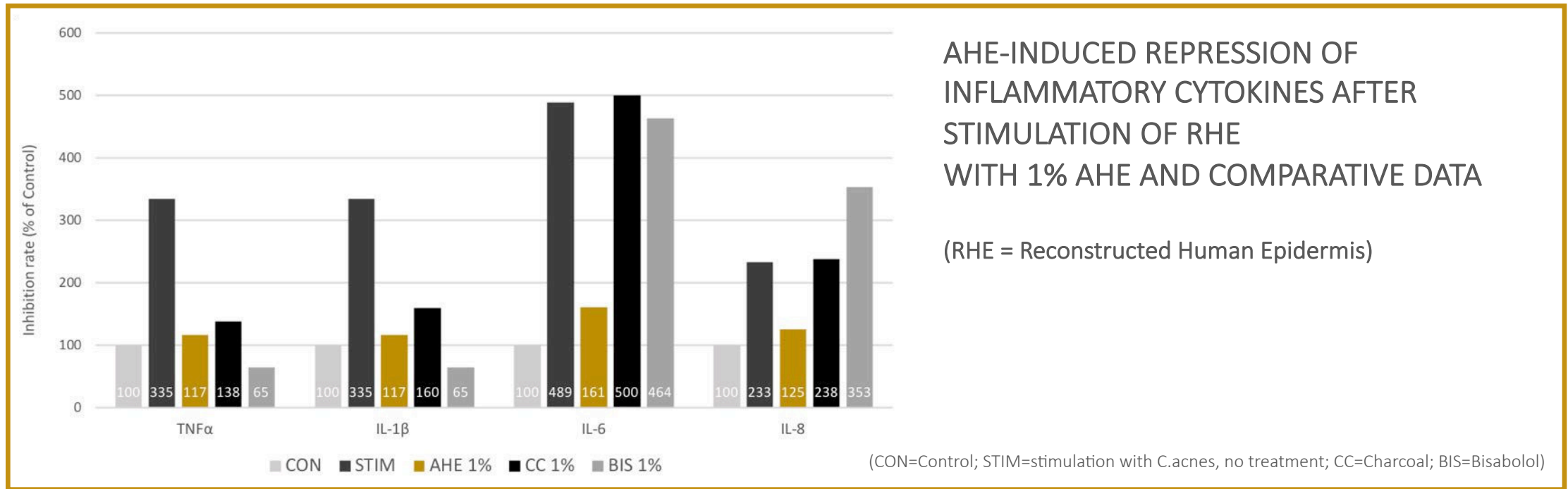


## ENHANCEMENT OF SKIN BARRIER INTEGRITY BY NORMALIZATION OF KERATONICYTE DIFFERENTIATION

- The membrane fraction of P. acnes (C. acnes) was treated to induce abnormal differentiation of keratinocytes.
- Keratin 10: Keratinocyte differentiation marker
- Keratin 16: Keratinocyte overexpression marker

- Cytokeratins 10 (Keratin 10) and 16 (Keratin 16) are essential for skin barrier integrity.
- AHE plays an important role in the regulation of the skin barrier by increasing the expression of Keratin 10 and by decreasing the expression of Keratin 16.

○ **ALPIN HEILMOOR EXTRACT™ (AHE) therefore leads to an IMPROVEMENT OF THE SKIN BARRIER FUNCTION.**



○ If the skin is exposed to stress, various cytokines are produced which trigger an inflammatory reaction. The (resulting) continuous deregulation of cytokines leads to chronic inflammation and skin damage, which in turn promotes skin diseases and skin aging.

○ **ALPIN HEILMOOR EXTRACT™ (AHE) effectively INHIBITS the production of such INFLAMMATORY CYTOKINES.**

### LACTIC STING TEST (LAST) (FACE, VISIA®)

Pre-inclusion of a 10% lactic acid solution to the nasolabial region on the face of 22 subjects, with a median age of 49 years:

A single application of a day cream base containing 2.5% AHE on the face;

#### AVERAGE REDUCTION OF THE INTENSITY OF THE STINGING:

$\Delta D0t30''$	$\emptyset -48\%/t0$ (p<0.001, max. -100%)	Effect observed in 86% of the subjects
$\Delta D0t5'$	$\emptyset -89\%/t0$ (p<0.01, max. -100%)	Effect observed in 100% of the subjects
$\Delta D0t15'$	$\emptyset -100\%/t0$ (p<0.001, max. -100%)	Effect observed in 100% of the subjects

#### AVERAGE REDUCTION OF THE DURATION OF THE STINGING

Comparison Treated/Non-Treated zone  $\emptyset -80\%/t0$  (p<0.001) (Effect observed in 100%)

Twice daily application of a cream containing 2,5% AHE on the face;

#### AVERAGE IMPROVEMENT OF CUTANEOUS REACTIVITY:

$\Delta D28$	$\emptyset -67\%/t0$ (p<0.001, max. -100%)	Effect observed in 95% of the subjects
--------------	--------------------------------------------	----------------------------------------



- o LAST scores are associated with symptoms of stinging, itching, tautness and clinical sign of scaling in sensitive skin
- o A significant decrease in the stinging intensity after the treatment of the nasolabial region confirms that **ALPIN HEILMOOR EXTRACT™** presents a calming effect, “IMMEDIATE SOOTHING EFFECT” and “PREVENTIVE SOOTHING EFFECT” and is great for sensitive skin.

### CAPSAICIN TEST (FACE, VISIA®)

Pre-inclusion with Capsaicin concentration to the nasolabial region on the face of 22 subjects, with a median age of 49 years:

A single application of a day cream base containing 2.5% AHE on the face;

#### AVERAGE REDUCTION OF THE INTENSITY OF THE STINGING:

$\Delta$ D0t30''	$\emptyset$ -50%/t0 (p<0.001, max. -100%)	Effect observed in 55% of the subjects
$\Delta$ D0t3'	$\emptyset$ -70%/t0 (p<0.001, max. -100%)	Effect observed in 70% of the subjects
$\Delta$ D0t6'	$\emptyset$ -93%/t0 (p<0.001, max. -100%)	Effect observed in 90% of the subjects
$\Delta$ D0t9'	$\emptyset$ -100%/t0 (p<0.001, max. -100%)	Effect observed in 100% of the subjects

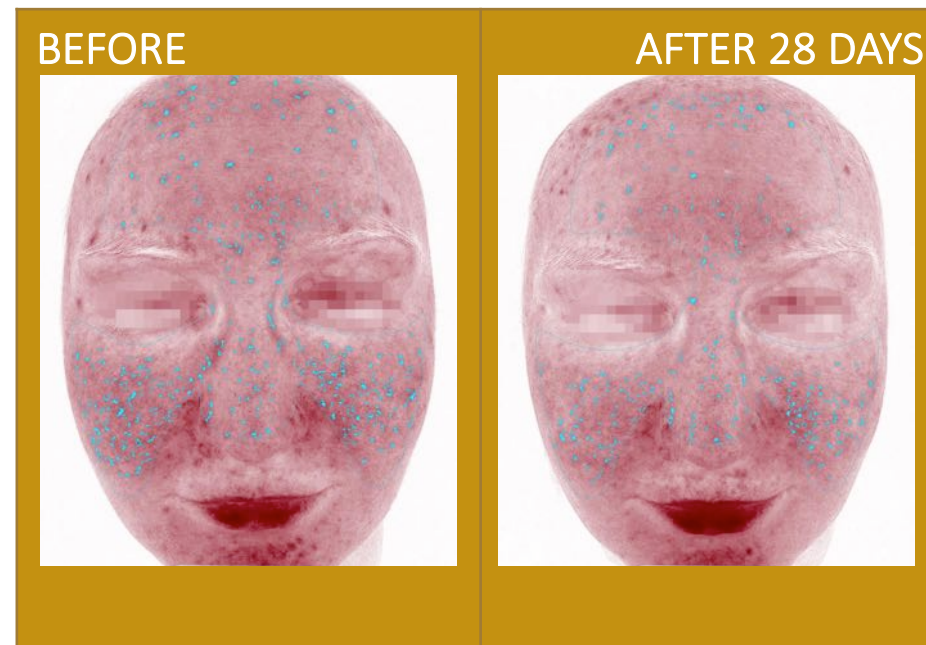
#### AVERAGE REDUCTION OF THE DURATION OF THE STINGING

Comparison Treated/Non-Treated zone  $\emptyset$  -69%/t0 (p<0,001) (Effect observed in 90%)

Twice daily application of a cream containing 2.5% AHE on the face;

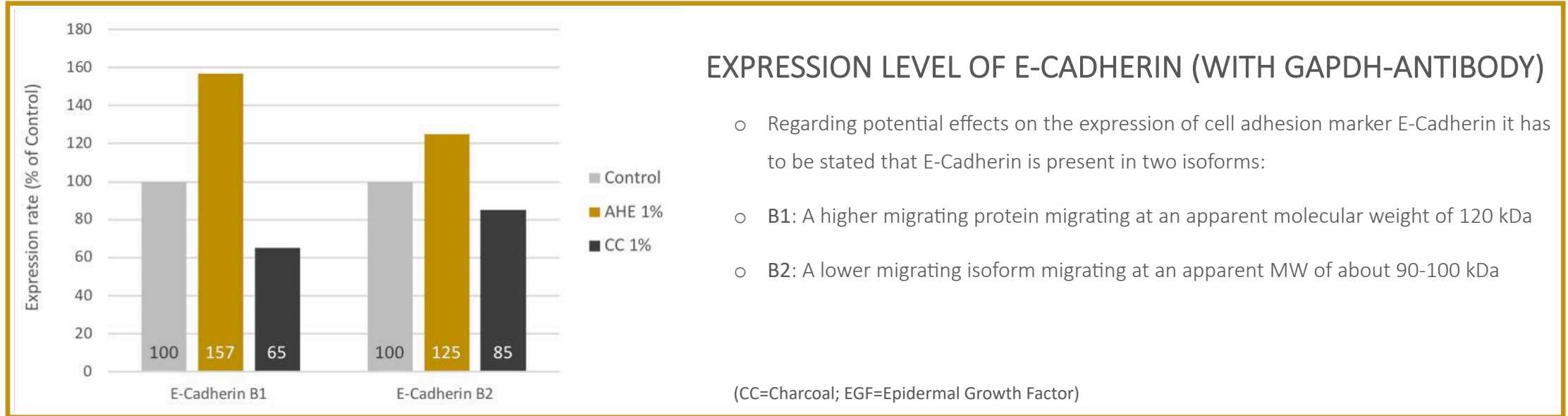
#### AVERAGE IMPROVEMENT OF CUTANEOUS REACTIVITY:

$\Delta$ D28	$\emptyset$ -48%/t0 (p<0.001, max. -100%)	Effect observed in 68% of the subjects
--------------	-------------------------------------------	----------------------------------------



o Capsaicin stimulates the TRPV1 ion channel in the nerve endings, causing itching and erythema.

o **ALPIN HEILMOOR EXTRACT™** shows significant improvement concerning the adverse effect of capsaicin; presents a calming effect, "IMMEDIATE SOOTHING EFFECT" and "PREVENTIVE SOOTHING EFFECT".



- Besides supporting cell–cell adhesion, cadherins can affect a wide range of cellular functions that include activation of cell signalling pathways, regulation of the cytoskeleton and control of cell polarity.
- In the model of injured skin (Control) a 1.6- and 1.3-fold increase of E-cadherin B1 and B2 expression was observed, respectively.
- It was confirmed that **ALPIN HEILMOOR EXTRACT™ (AHE)** has a **POSITIVE EFFECT OF PROMOTING THE EXPRESSION OF WOUND HEALING FACTORS** such as E-cadherin.

### ANTI-ACNE EFFECT/COMEDOGENIC POTENTION (FACE, VISIA®)

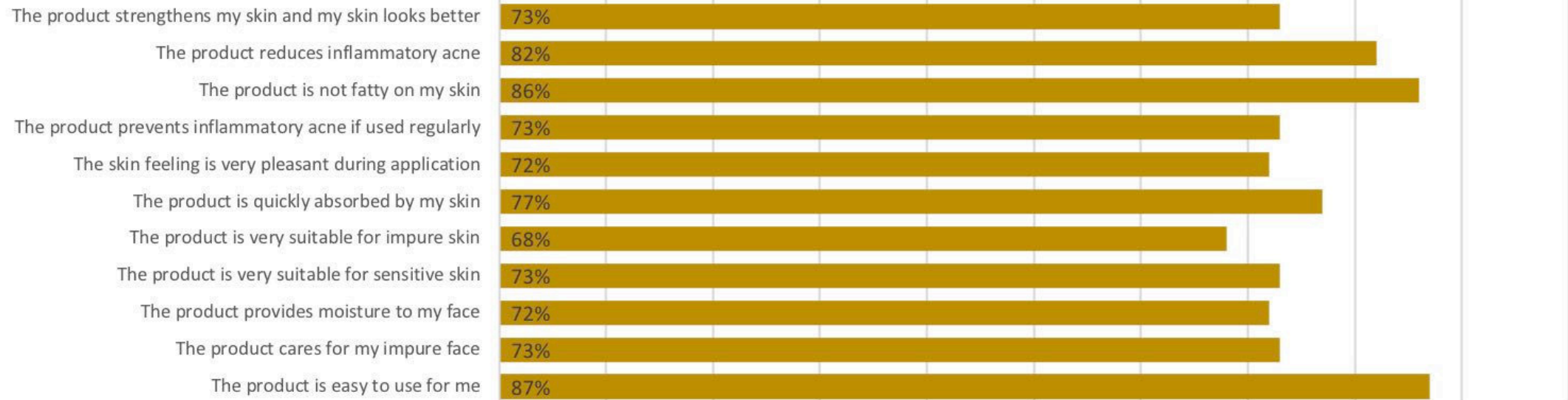
Facial application of a cream base containing 1.5% AHE two times a day for 28 days on 22 subjects, between 14 and 40 years old.

Microcysts	∅-34%/t0 (p<0.001, max. -72%)
Global Non-Inflammatory lesions	∅ -28%/t0 (p<0.001, max. -70%)
Papules	∅-43%/t0 (p<0.001, max. -100%)
Pustules	∅-41%/t0 (p<0.001, max. -100%)
Global Inflammatory lesions	∅-44%/t0 (p<0.001, max. -100%)
Total lesions	∅ -33%/t0 (p<0.001, max. -67%)



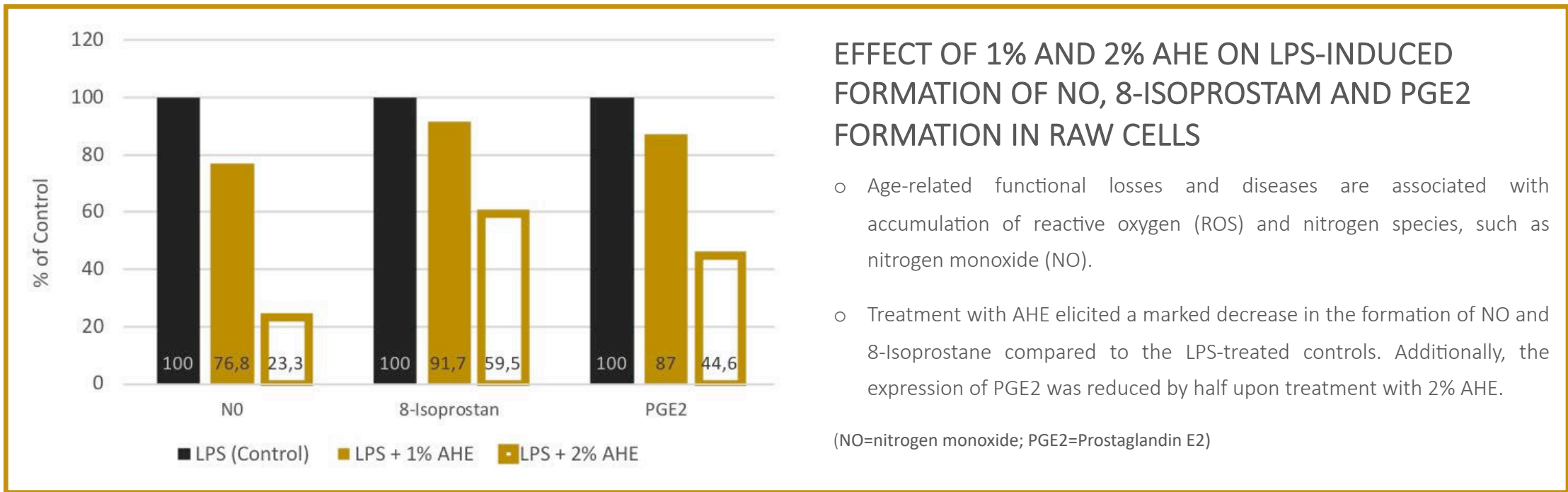
- After 28 days of twice daily use, AHE induced a significant decrease in the number of microcysts, papules and pustules. A significant decrease in the number of non-inflammatory and inflammatory lesions was observed.
- No comedogenic and acnegenic reaction was observed during the study.
- **ALPIN HEILMOOR EXTRACT™** shows a potent **ANTI-ACNE EFFECT**.

### GENERELL APPRECIATION OF THE (ANTI-ACNE) CREAM BASE (1.5% AHE) AND IST PROPERTIES



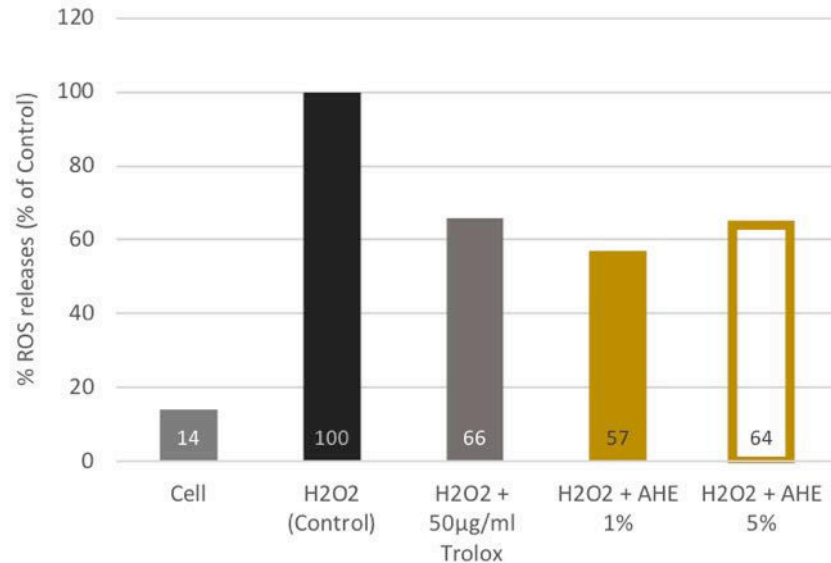
○ ALPIN HEILMOOR EXTRACT™ is well tolerated.





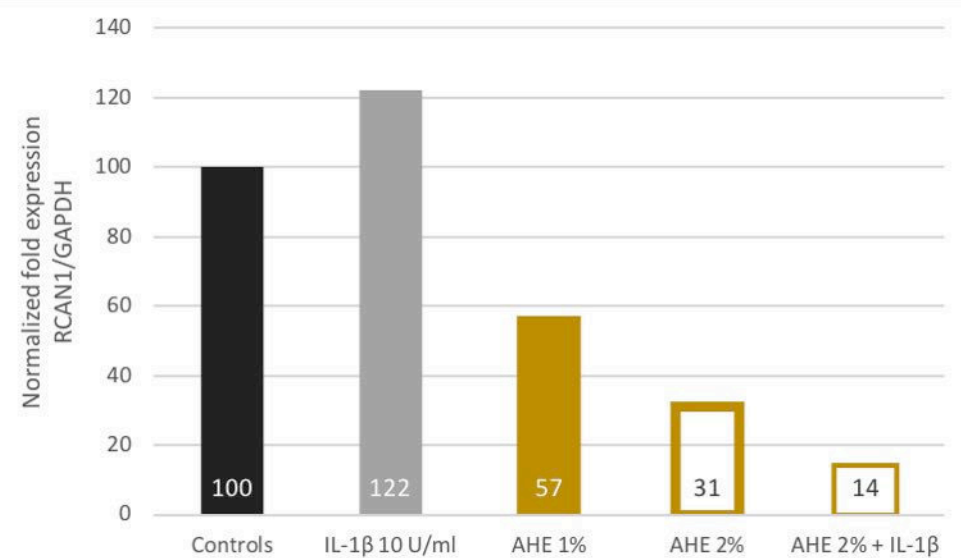
○ The data indicate that **ALPIN HEILMOOR EXTRACT™** exerts an **ANTI-AGING EFFECT** due to the **REDUCTION OF OXIDATIVE STRESS** markers, such as NO, 8-Isoprostane and PGE2.

**EFFECT OF 2% AHE ON ROS FORMATION IN NHDF CELLS UPON H<sub>2</sub>O<sub>2</sub> TREATMENT** (ROS=reactive oxygen species)



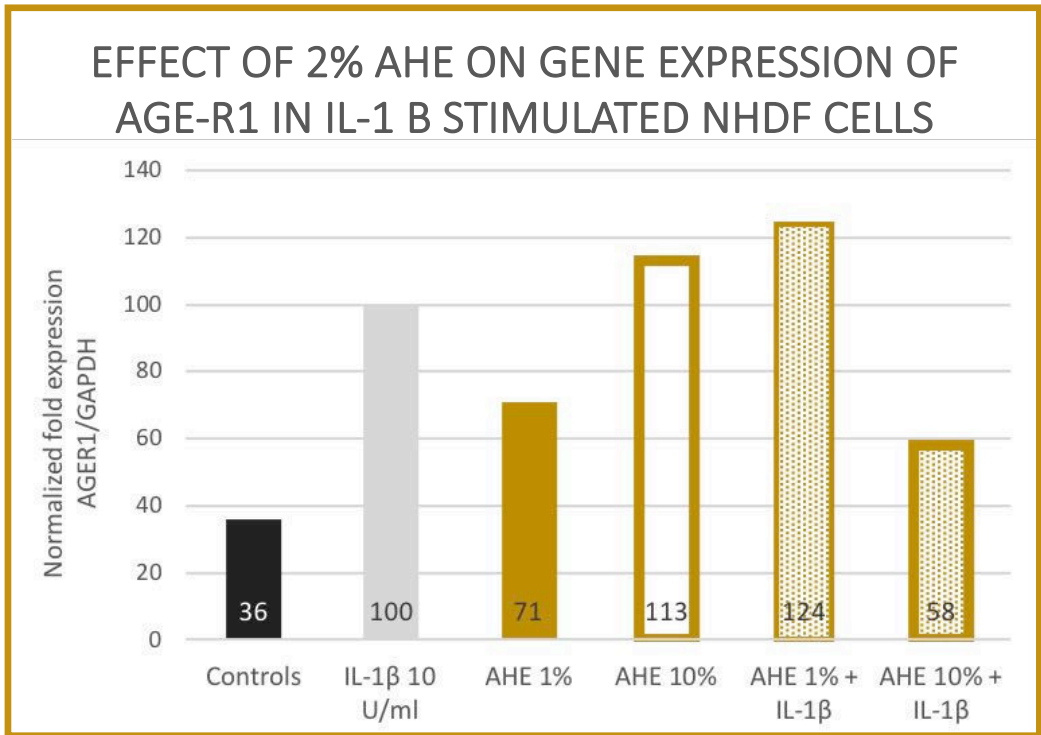
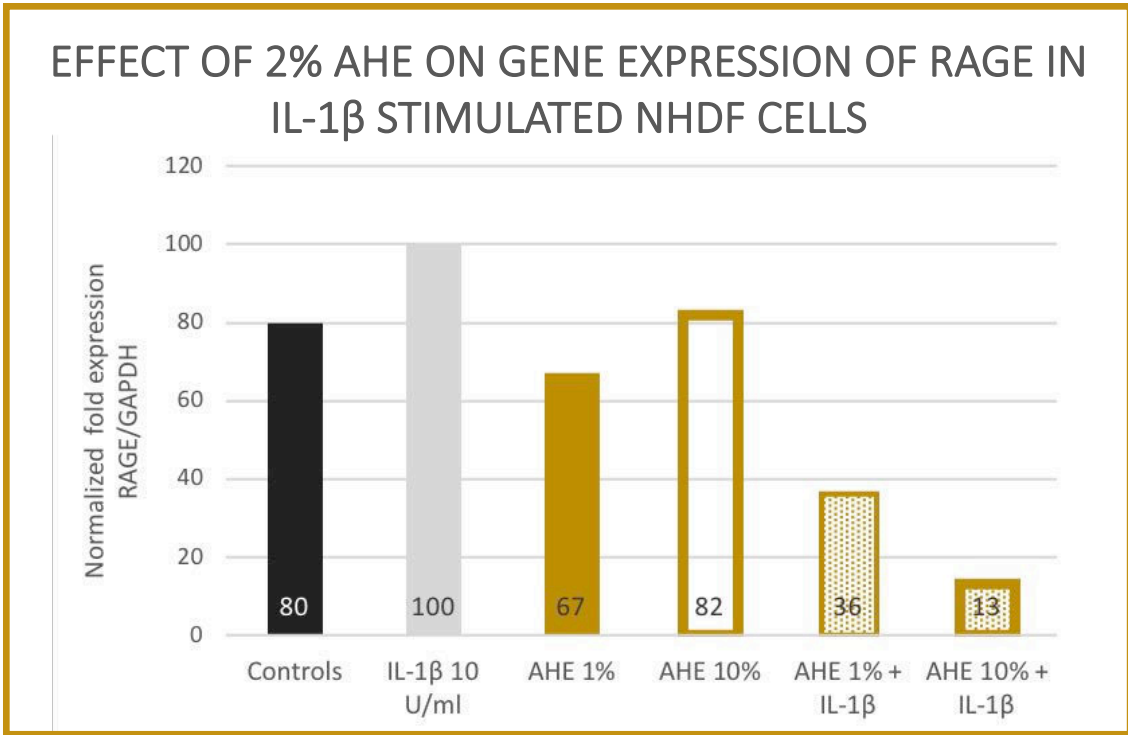
**EFFECT OF 2% AHE ON RCAN1 EXPRESSION**

(RCAN1=Regulator of calcineurin-1)



○ The reduction of oxidative stress (by reactive oxygen species (ROS) scavengers and regulator of calcineurin-1 (RCAN1) – both indicators for the oxidative stress theory of aging) were investigated.

○ **ALPIN HEILMOOR EXTRACT™** is a potent inhibitor of ROS and suppresses the expression of RCAN1. It can therefore be used as an anti-aging agent through the oxidative stress pathway.



- Advanced glycation end products (AGEs) originate from non-enzymatic reactions of proteins with reducing sugars. AGEs also seem to highly accumulate in extrinsically aged skin.
- **ALPIN HEILMOOR EXTRACT™** reduces AGE-induced oxidative stress and inflammatory response by influencing the expression of antagonistic AGE-receptors **RAGE (downregulation)** and **AGE-R1 (up-regulation)**.

## SKIN ELASTICITY (FACE, CUTOMETER®)

Twice daily application of a cream base containing 1.5% AHE over 28 days on the face of 22 subjects, average age 56 years:

Firmness	-4%/t0, p<0.001 up to -14%
Viscoelasticity	-11%/t0, p<0.001 up to -34%
Plasticity	-12%/t0, p<0.001 up to -31%

## SKIN HYDRATION (FACE, CUTOMETER®)

Twice daily application of a cream base containing 1.5% AHE over 28 days on the face of 22 subjects, average age 56 years:

Cutaneous hydration rate 5''	+11%/t0 on D0t5'', p<0.001 up to +20%
Cutaneous hydration rate 28d	+6%/t0 on D28, p<0.001 up to +14%

## RADIANCE UNDER EYE (FACE, CLINICAL SCORING)

Twice daily application of a cream base containing 1.5% AHE over 28 days on the face of 22 subjects, average age 56 years:

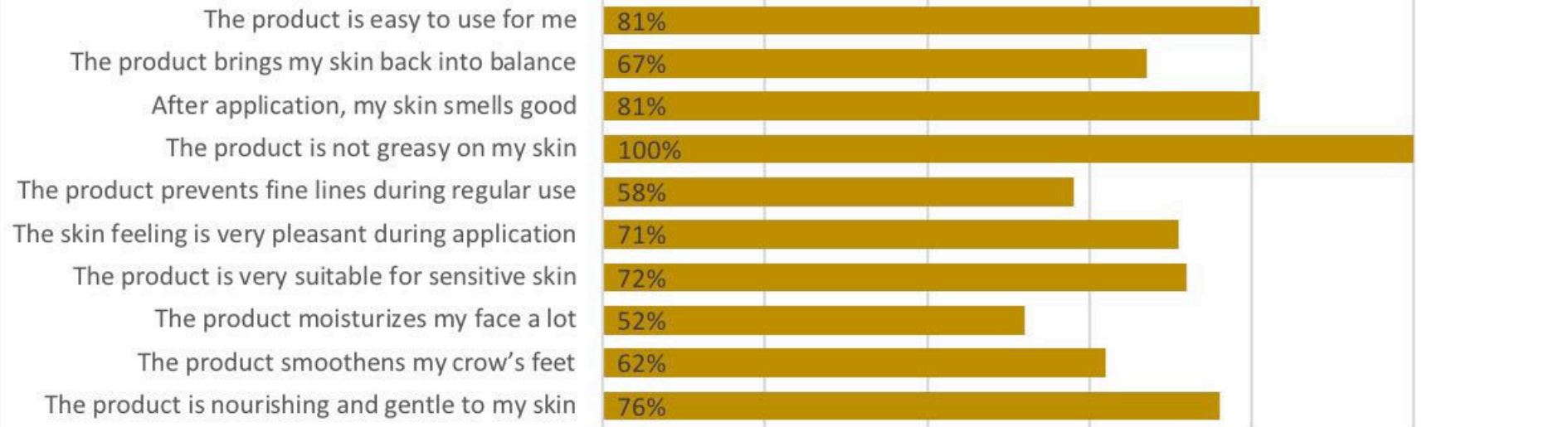
Grade	+17%/t0, p<0.001 up to -100%	effect measured in 67% of the subjects
-------	------------------------------	----------------------------------------



## ALPIN HEILMOOR EXTRACT™ ...

- ...promotes a **MORE RADIANT EYE CONTOUR**
- ...shows a **FIRMING & ANTI-AGING EFFECT**
- ...maintains **MOISTURIZED SKIN**

## GENERELL APPRECIATION OF THE DAY CREAM BASE (1.5% AHE) AND IST PROPERTIES



○ ALPIN HEILMOOR EXTRACT™ is well tolerated.



EMAIL US  
TODAY FOR A  
SAMPLE OF OUR  
INNOVATIVE  
BIOACTIVE.

# CONTACT

---

PREMIUM ORGANIC GMBH

TÖPLACH 10; 9313 ST. GEORGEN AM LÄNGSEE, AUSTRIA

OFFICE@PREMIUM-ORGANIC.COM

Non-guarantee: The information in this publication is given in good faith by PREMIUM ORGANIC by way of general guidance and for reference purposes only. The information should not be construed as granting a license to practice any methods or compositions of matter covered by patents. PREMIUM ORGANIC assumes no liability in relation to the information and gives no warranty regarding the suitability of the product and/or ingredients described for a particular use. The use made of the product and/or ingredients described by the recipient and any claims or representations made by the recipient in respect of such product and/or ingredients are the responsibility of the recipient. The recipient is solely responsible for ensuring that products marketed to consumers comply with all relevant laws and regulations.