



STOECHIOL
RELAXING THERAPY
BOTOX-LIKE ACTIVE INGREDIENT



CODIF
Technologie naturelle



**LAVANDULA STOECHAS IS KNOWN TO
ACT ON THE CENTRAL NERVOUS SYSTEM
HEALING & REGENERATING**



BUTTERFLY LAVENDER

Lavandula stoechas L.

**A fragrant plant with a thousand
virtues**

Butterfly lavender is characteristic of the Mediterranean region. It is distinguished from other lavenders by **its tufted flowers** to attract pollinators.

This aromatic plant symbolizes Provence, the Mediterranean perfume and the sun. **Its fragrance brings well-being.**

RAW MATERIAL

STOECHIOL

Origin and characteristics

SOURCING ORGANIC

ORGANIC quality Stoechade **lavender** (*Lavandula stoechas*) is cultivated in Portugal, Europe*.

The whole plant is used (leaves, flowers and stem) for Stoechiol extraction.

CHARACTERISTICS & COMPOSITION

Transformation process : Supercritical CO2
Liposoluble

Composition

Fenchone > 250 ppm



* Information given for illustrative purposes and does not constitute a guarantee of the origin of our sourcing. In accordance with our UEBT commitment, we practice most of the time a dual fair sourcing; it is possible that other origins coexist. For more details on our sourcing, please consult the corresponding technical and regulatory document available on request.

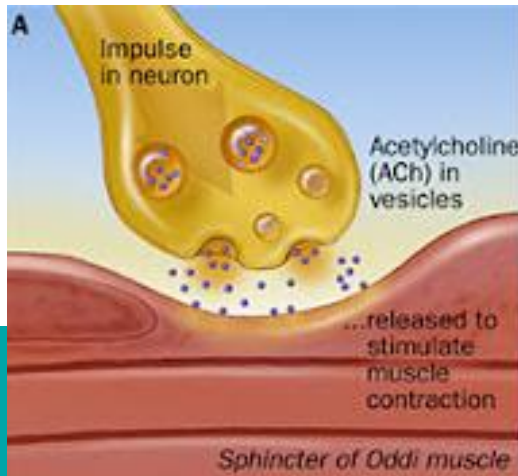
STOECHIOL

Daily contraction of facial muscles is responsible for tension wrinkles appearance

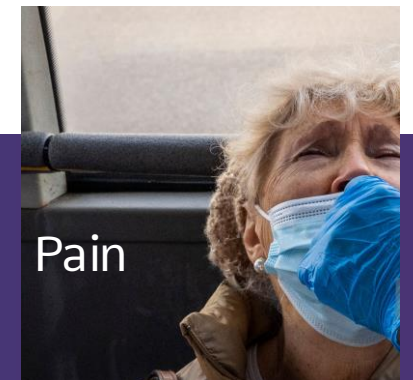
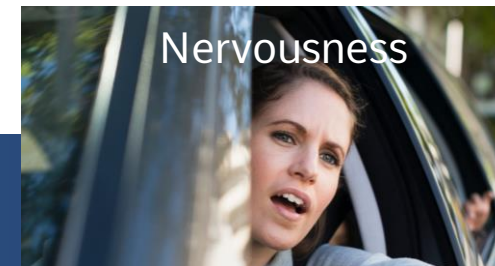
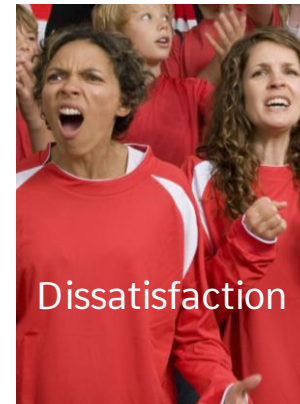
WHAT HAPPENS ON THE SURFACE?

Daily contraction of facial muscles is responsible for tension wrinkles, becoming permanently visible on the upper part of the face: forehead wrinkles, frown lines, crow's feet and nose wrinkles.

WHAT HAPPENS IN THE SKIN?



Neurotransmitter Acetylcholine (ACh) (in purple) sends the message from the neurons to the muscles to activate contraction. Acetylcholine is the messenger responsible for the tension wrinkles.

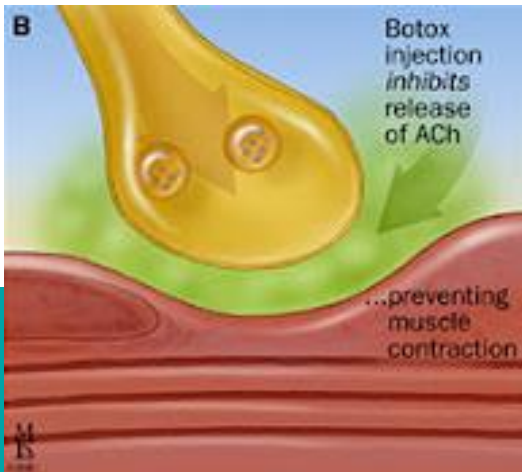


STOECHIOL

2 solutions to treat tension wrinkles

BOTOX: IRREVERSIBLE EFFECT

BOTOX is derived from the neurotoxic botulinum toxin produced by the bacterium *Clostridium Botulinum*.

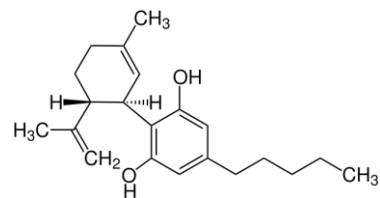


BOTOX injection (in green) immobilizes wrinkles by preventing Acetylcholine (ACh) from sending the contraction message to the muscles. The problem? This action is **irreversible**, freezing facial muscles forever.

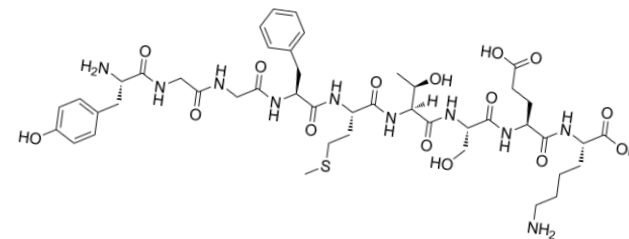
STOECHIOL: ORGANIC VEGETAL BOTOX-LIKE, SAFE & REVERSIBLE EFFECT



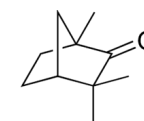
- Non toxicity of Stoechiol
- Does not inhibit Acetylcholine (ACh)
- Sends a "relaxation" message to the muscles with Beta-endorphins
- Relaxes muscle contraction in a **reversible way** to prevent tension wrinkles
- Regenerates skin for long lasting benefits



BOOSTS CBD ANTIOXIDANT PROPERTIES
 Hemp extract, Cannabidiol (CBD)
 Molecule known for its relaxing effects
 Antioxidant action of CBD boosted by Stoechiol



STIMULATES B-ENDORPHINS
 Morphine derivatives
 Naturally produced by the body
 Relaxing action on wrinkles



STOECHIOIOL CONTAINS FENCHONE
 Constituent of wormwood and butterfly lavender
 Known for its relaxing properties



STOECHIOIOL
RELAXING THERAPY
BOTOX-LIKE ACTIVE INGREDIENTS
 TAKE YOUR SHOT OF RELAXATION!



STOECHIOL

Mechanism of action

FOCUS ON:

- Relaxation shot (CBD, B-endorphins & Fenchone)
- Vegetal Botox-like : muscles de-contraction
- Regenerates the skin barrier function, improves its cohesion



SMOOTHES SKIN GRAIN
SKIN HYDRATION
IMMEDIATE AND LONG-LASTING
EFFECT ON WRINKLES & FINE LINES

POUR QUI?



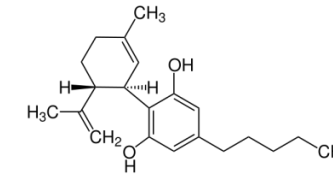
Mature &
young skin
Tensed wrinkles

A woman with curly hair tied up, wearing a blue headband and an orange tank top, is sitting on a grey sofa in a living room. She is in a meditative pose with her eyes closed and hands resting on her knees. The room is bright and airy, with a large green plant in the background and a window with light blue curtains on the right. The text is overlaid in the center of the image.

**RELAXING THERAPY
BOTOX-LIKE
SKIN DE-CONTRACTION**

ANTIOXIDANT

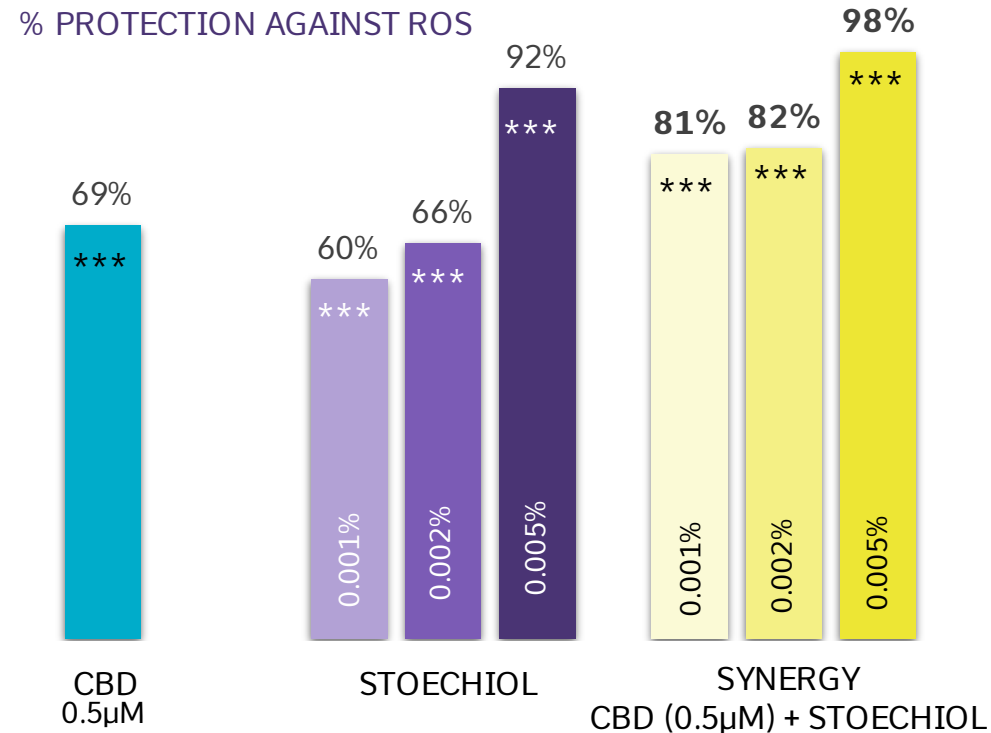
Stoechiol & CBD: synergistic antioxidant action



0.001%
0.002%
0.005%
IN-VITRO TEST

- CBD antioxidant activity: ROS protection **69%**
- STOECHIOL antioxidant activity: ROS protection at dose effect, up to **92%**
- CBD + STOECHIOL antioxidant synergistic activity: ROS protection with a dose effect up to **98%**

CBD ANTIOXIDANT ACTION IS BOOSTED THANKS TO STOECHIOL WITH A DOSE EFFECT

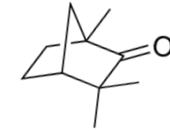


PROTOCOL
Normal human keratinocytes
H2O2 applied.
Treatment with 0.001%, 0.002% or 0.005% STOECHIOL Or CBD 0.5µM or combination of CBD and STOECHIOL
Quantification of ROS by fluorescence.

*** $p < 0.001$ Student test
ROS: Reactive Oxidant Species

CONTRACTION INHIBITOR: TARGETED THERAPY

Fenchone is responsible for de-contraction of wrinkles



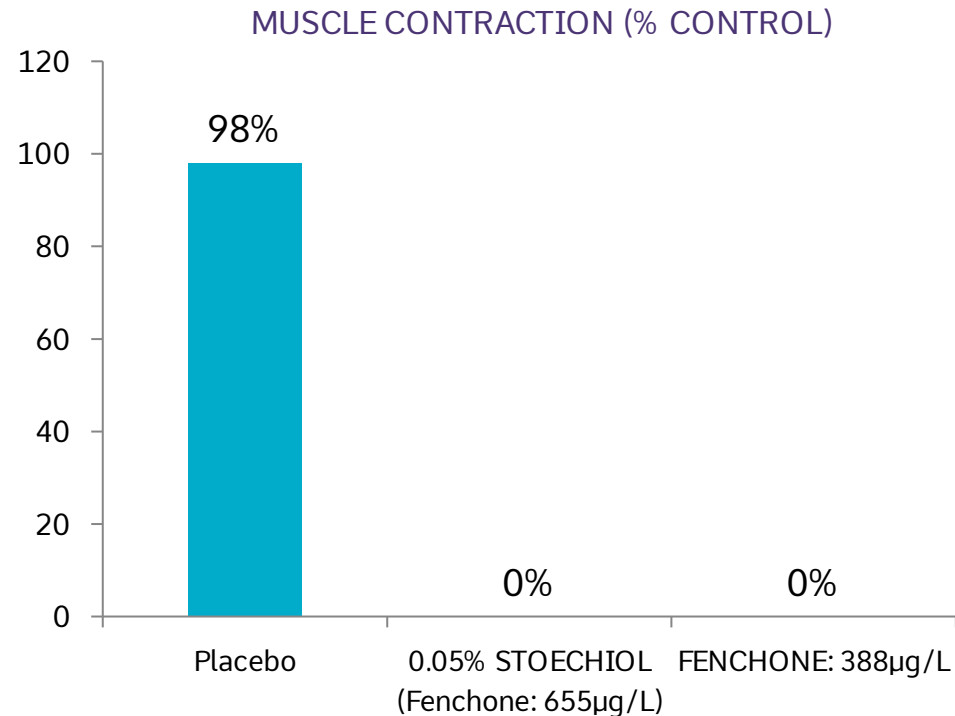
0.05%
IN-VITRO
TEST

PROTOCOL

Nerve-muscle model.
Application of 0.05% Stoechiol, Fenchone or Placebo in an emulsion.
Contraction observed after 2 hours.

One of the major component of Stoechiol is fenchone quantified at > 250 ppm. It is also a molecule present in absinthe., well-known for its relaxing effect.

THE PRESENCE OF FENCHONE IN STOECHIOL INHIBITS MUSCLE CONTRACTION FOR DE-CONTRACTION OF WRINKLES.



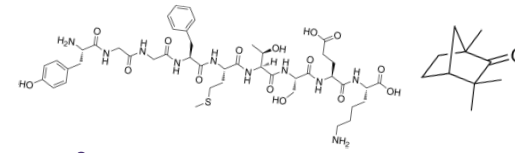
DE-CONTRACTION

BOTOX-LIKE EFFECT

Stoechiol immediately relaxes muscle contraction

Thanks to the release of B-endorphins and the presence of Fenchone, Stoechiol has an immediate de-contracting effect, showing a **BOTOX-LIKE action**.

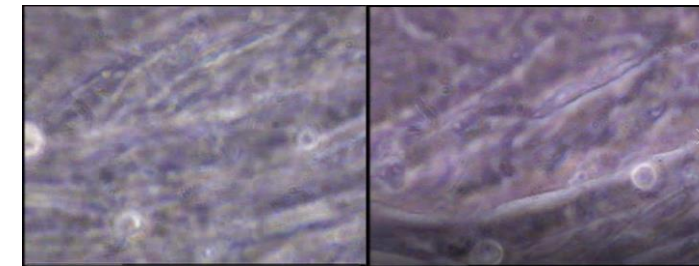
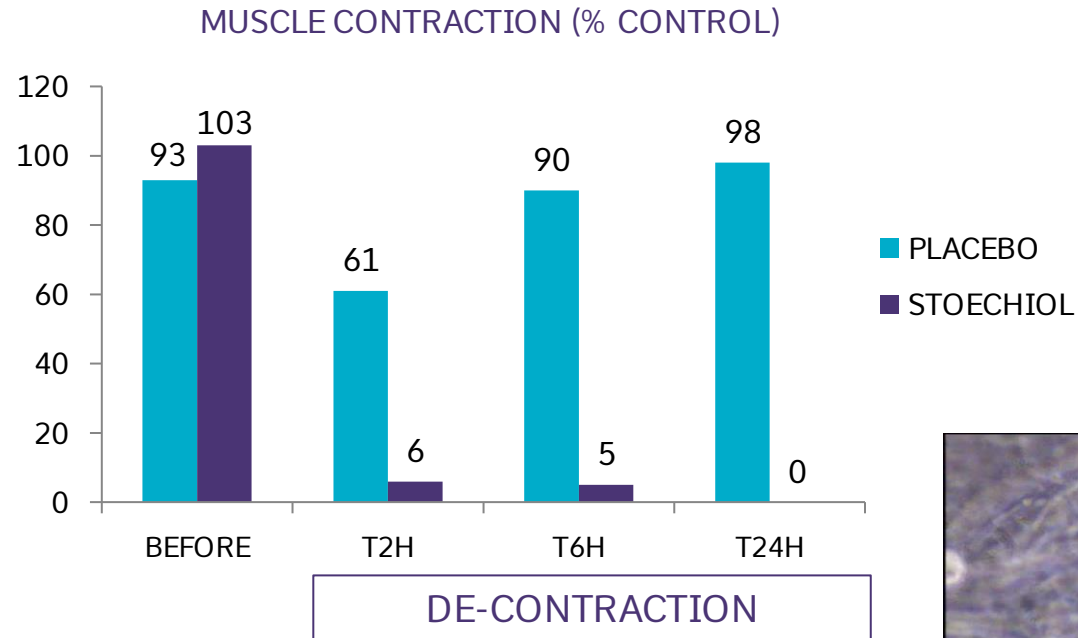
STOECHIOL STOPS MUSCLE CONTRACTION. A RELAXATION OF WRINKLES SHOULD BE OBSERVED WHILE USING STOECHIOL.



0.2%
IN-VITRO
TEST

PROTOCOL

Nerve-muscle model.
Application of 0.2% Stoechiol or a placebo for 24H. Measure of the frequency of contractions.

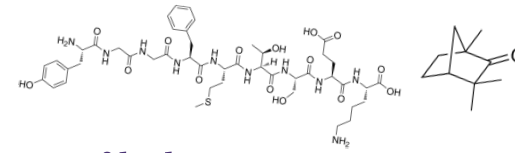


PLACEBO

STOECHIOL

BOTOX-LIKE EFFECT

Stoechiol relaxes muscle contraction in a reversible way

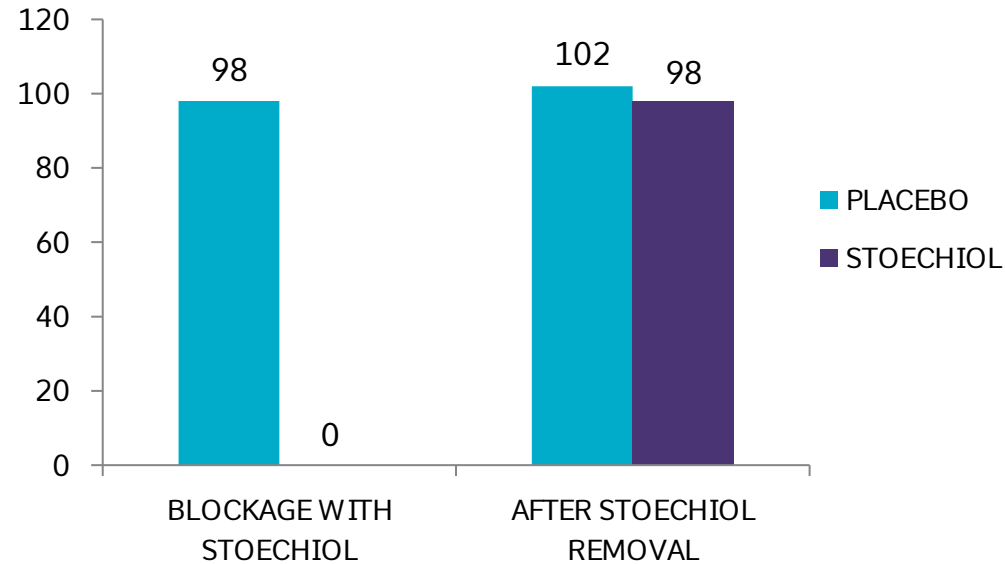


0.2%
IN-VITRO
TEST

After changing the culture medium, the initial contraction level is recovered; showing its non toxicity and its safety for the cells unlike BOTOX. **Stoechiol action is reversible.**

STOECHIOL IS AN ORGANIC INGREDIENT, COMING FROM A VEGETAL & TOTALLY SAFE ALTERNATIVE FROM BOTOX.

MUSCLE CONTRACTION (% CONTROL)



PROTOCOL

Nerve-muscle model.
Application of 0.2% Stoechiol or a placebo for 24H. Measure of the frequency of contractions.
Removing and addition of fresh culture medium without Stoechiol after 24H.



REGENERATING STRATUM CORNEUM & BARRIER FUNCTION
SKIN SMOOTHING & MOISTURIZING

EPIDERMIS REGENERATION

Stoechiol increases epidermal cellular division

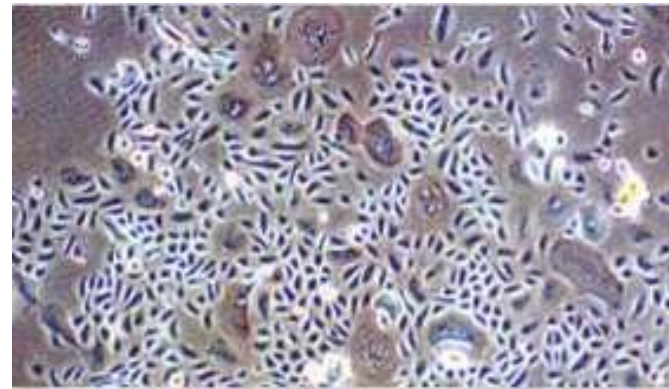
0.01%
IN-VITRO
TEST

PROTOCOL

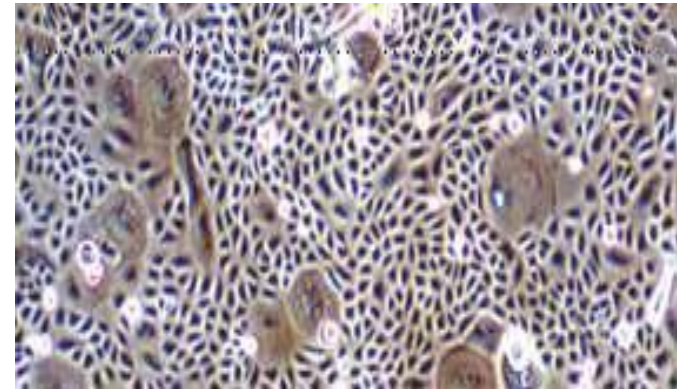
Culture of human keratinocytes with 0.01% Stoechiol or Placebo for 8 days.

BY INCREASING CELLULAR DIVISION OF KERATINOCYTES, STOECHIOL REGENERATES THE EPIDERMIS.

KERATINOCYTES



Placebo



Stoechiol 0.01%

Basal keratinocytes: little cells in blue

BARRIER FUNCTION REGENERATION

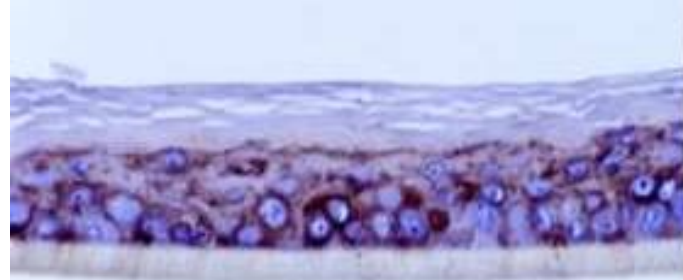
Stoechiol improves epidermal structure

Stoechiol increases involucrin production, a key protein for the formation of the corneal envelope.

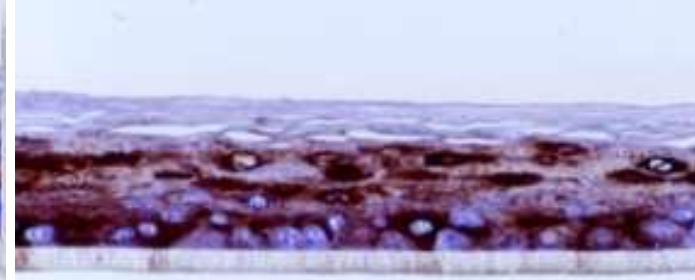
Stoechiol improves the formation of keratinosomes (black arrows) responsible for lipid production involved in the formation of the lipidic cement and stratum corneum sealing.

BY BOOSTING BOTH INVOLUCRIN AND THE FORMATION OF KERATINOSOMES, STOECHIOLE IMPROVES THE STRUCTURE OF THE WHOLE EPIDERMIS.

Involucrin: brown immunolabelling

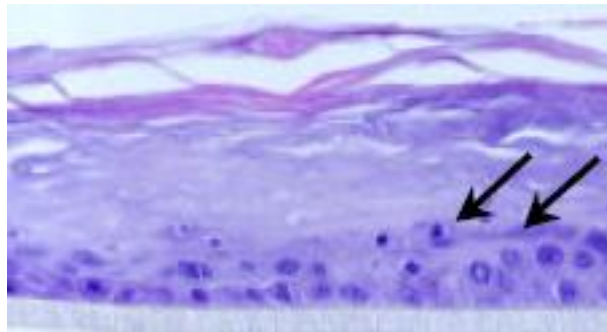


Placebo

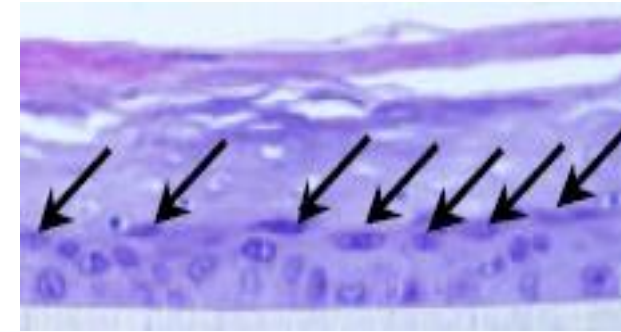


Stoechiol 1%

Keratinosomes: black arrows (purple)



Placebo



Stoechiol

1%
EX-VIVO
TEST

PROTOCOL

Human reconstituted epidermis cultivated with 1% Stoechiol for 6 days versus placebo. Immunolabelling of Involucrin.

Human reconstituted epidermis cultivated with 1% Stoechiol for 24H. Analysis of genes expression by macro-array..

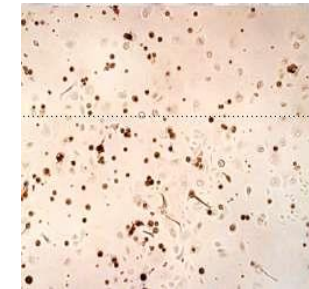
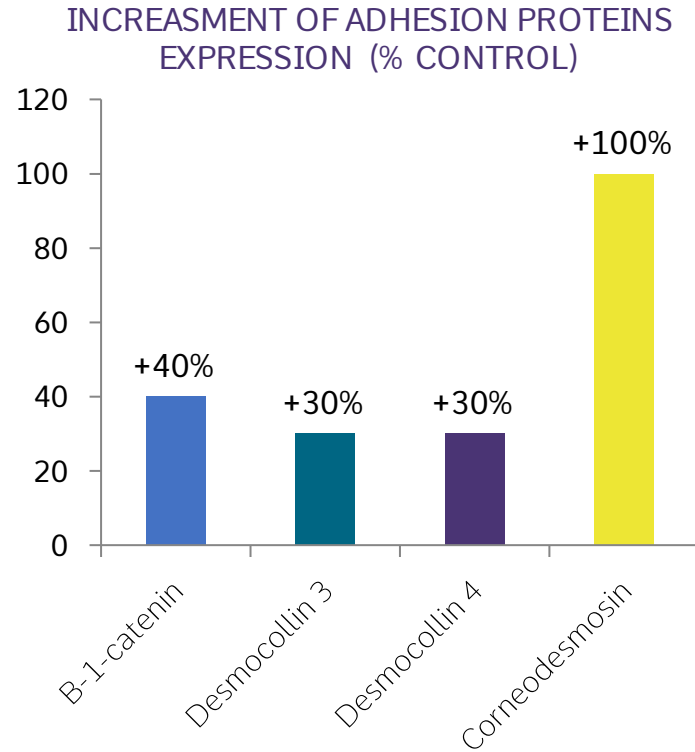
BARRIER FUNCTION REGENERATION

Stoechiol improves epidermal cohesion

Stoechiol increases the expression of adhesion proteins involved in the cohesion of the epidermis.

Stoechiol improves the cohesion between corneocytes by showing inter-corneocytes bonds.

STOECHIOL IMPROVES EPIDERMAL COHESION BOTH AT THE SURFACE & DEEPER LAYERS. **REINFORCING SKIN BARRIER FUNCTION**, WE SHOULD OBSERVE AN INCREASEMENT IN **SKIN COHESION**, & THEREFORE AN IMPROVEMENT IN **SKIN HYDRATION**.



PLACEBO



STOECHIOL 0.01%

Formation of inter-corneocytes bonds in a culture of corneocytes

1%
EX-VIVO
0.01%
IN-VITRO
TEST

PROTOCOL

Human reconstituted epidermis cultivated with 1% Stoechiol for 24H. Analysis of genes expression by macro-array.

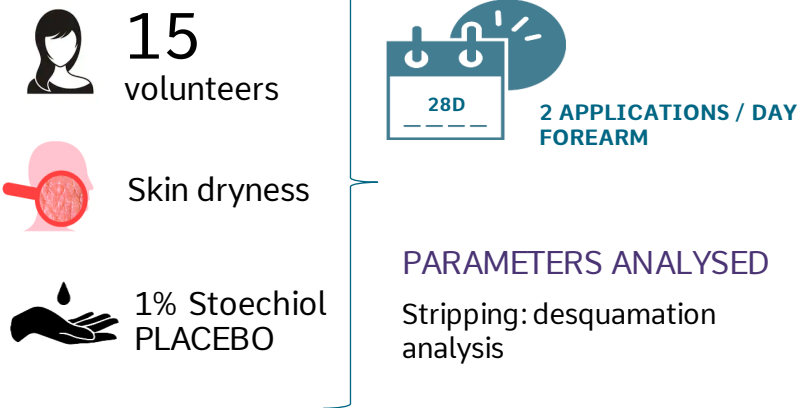
Culture of human keratinocytes with 0.01% Stoechiol or Placebo for 8 days.

IN-VIVO TEST

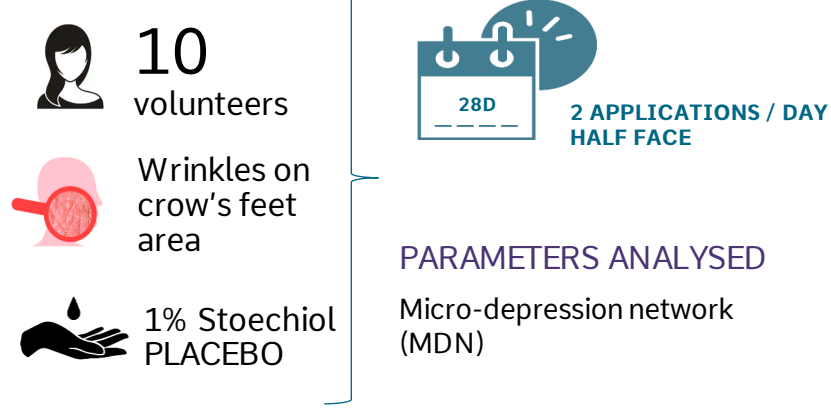
Skin barrier function improvement of Stoechiol

IN-VIVO TEST
1%

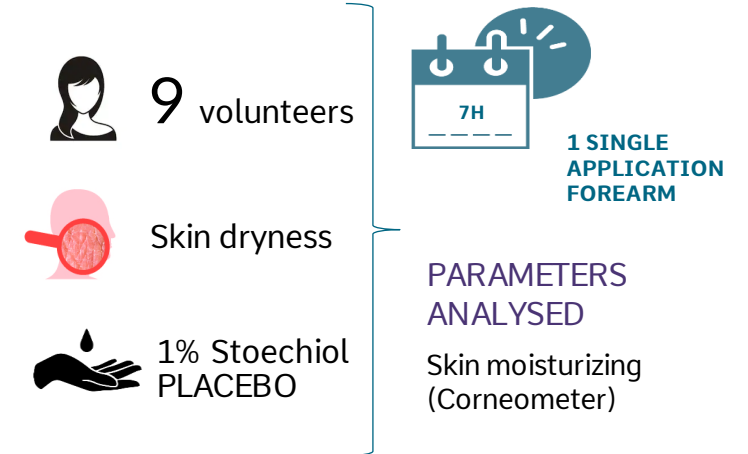
SKIN COHESION



SKIN SMOOTHING



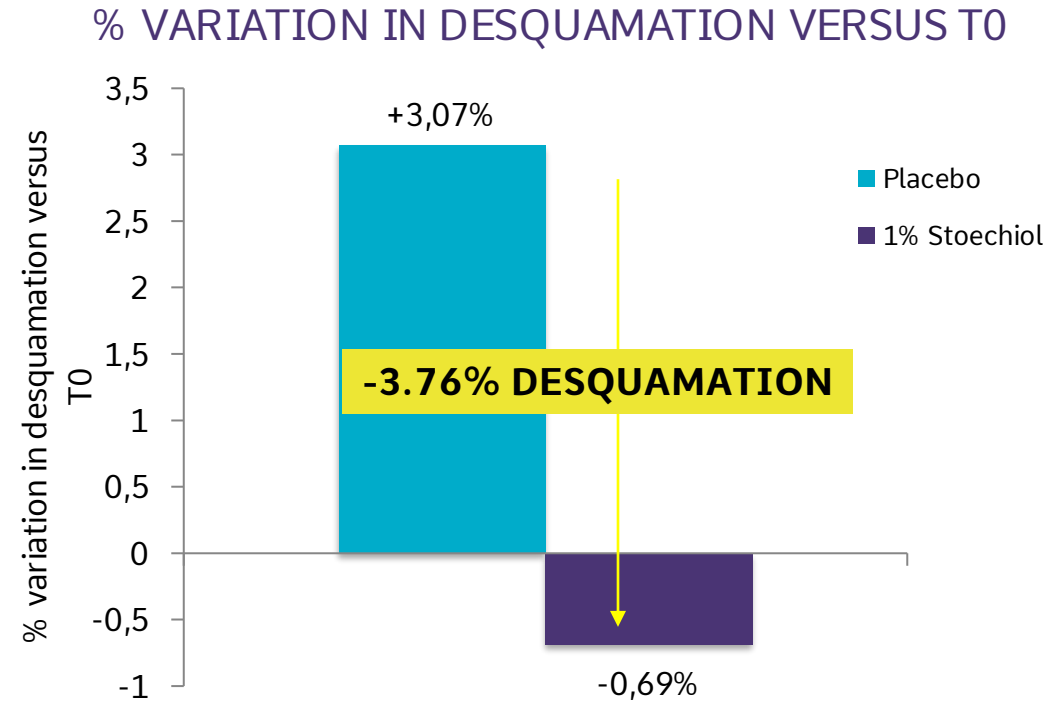
SKIN MOISTURIZING



IN-VIVO TEST

Stoechiol improves skin cohesion

DESQUAMATION HAS BEEN DECREASED BY -3.76% WITH STOECHIOLE VERSUS PLACEBO, SHOWING AN INCREASE IN SKIN COHESION. STOECHIOLE REGENERATES SKIN STRUCTURE.



IN-VIVO TEST
1%

PROTOCOL

15 volunteers
Stripping
1% Stoechiol /
Placebo
Twice daily
28 days



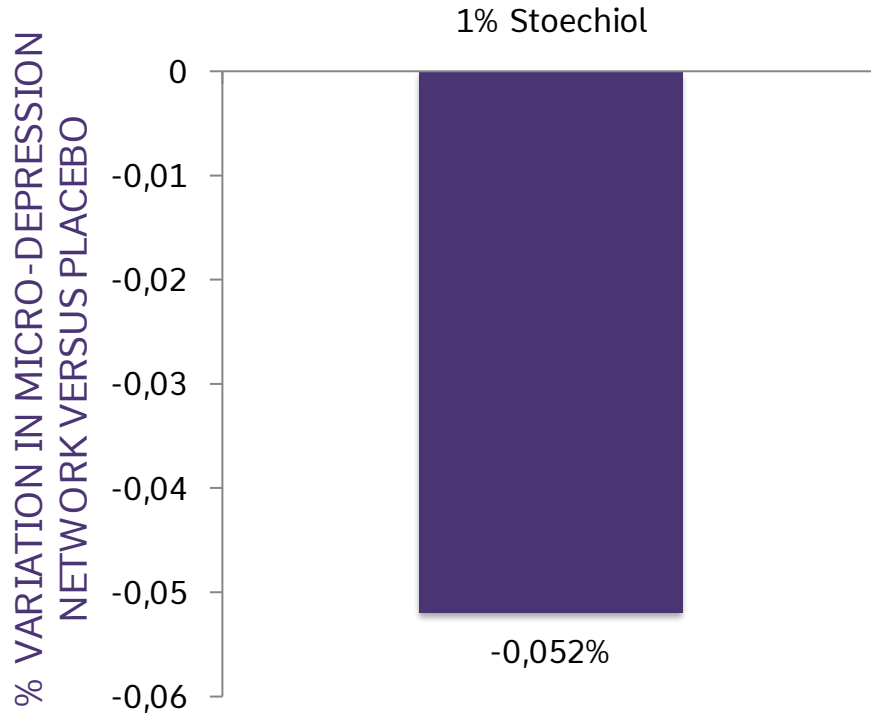
Scales removed
with the strip

IN-VIVO TEST

Stoechiol smoothes skin surface

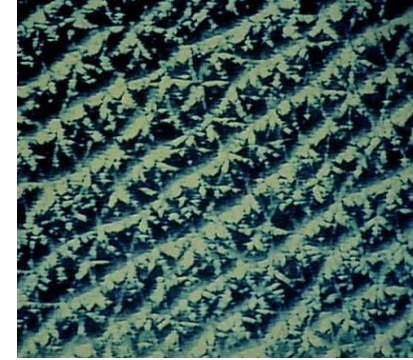
A decrease in variation of micro-depression network of the epidermis is linked with a smoothing effect.

STOECHIOL HAS A SMOOTHING EFFECT COMPARED TO PLACEBO.

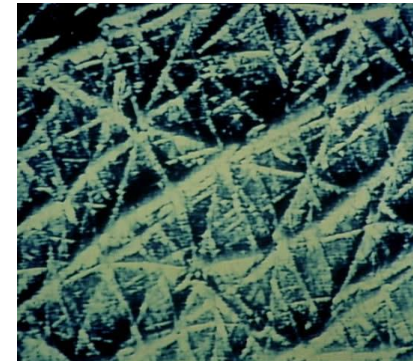


Example of Micro-depression network on epidermis

YOUNG SKIN



MATURE SKIN



IN-VIVO TEST
1%

PROTOCOL

10 volunteers
1% Stoechiol / Placebo
Twice daily
28 days
Micro-depression network (MDN)

IN-VIVO TEST

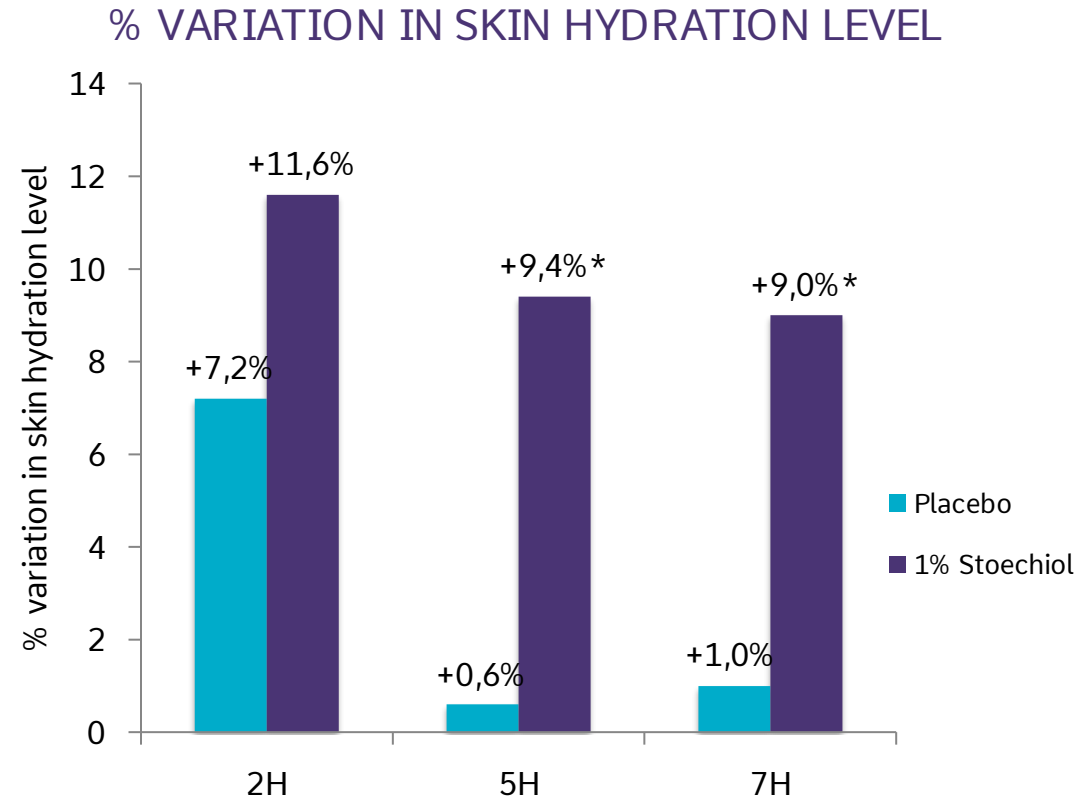
Stoechiol immediately moisturizes skin

IN-VIVO
TEST
1%

PROTOCOL

9 volunteers
1% Stoechiol /
Placebo
A single
application
Corneometer

IN ONLY 2 HOURS STOECHIOL IMPROVES SKIN MOISTURIZING FOR **AT LEAST 7 HOURS AFTER APPLICATION, TESTED VERSUS PLACEBO.**



**p<0.05 Student test*

IN-VIVO TEST

Relaxing therapy performance of Stoechiol

IN-VIVO TEST
0.25% - 1%

SHORT TERM BENEFITS ON TENSION WRINKLES



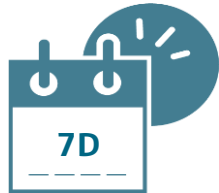
20 women
volunteers
(46-59 years old)



Wrinkles on
crow's feet area



0.25% or 1%
Stoechiol
PLACEBO



2 APPLICATIONS/DAY -
HALF FACE
EVALUATION 7 DAYS AFTER
THE END OF TREATMENT
INCLUDED

PARAMETERS ANALYSED

Wrinkle analysis by Fringe projection

LONG TERM BENEFITS ON THE NUMBER OF WRINKLES



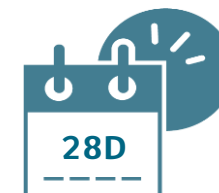
10
volunteers



Wrinkles on
crow's feet area



1% Stoechiol
PLACEBO



2 APPLICATIONS/DAY -
HALF FACE

PARAMETERS ANALYSED

Rugosity by Skin Image Analyser®
Quantirides®



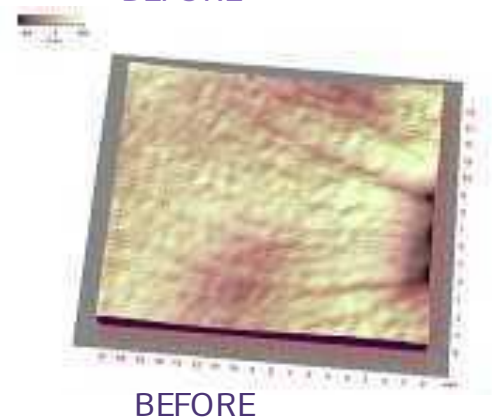
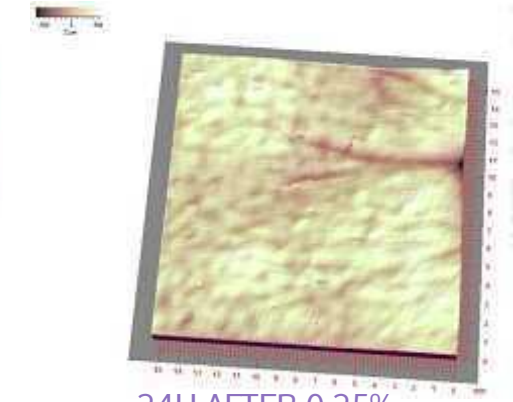
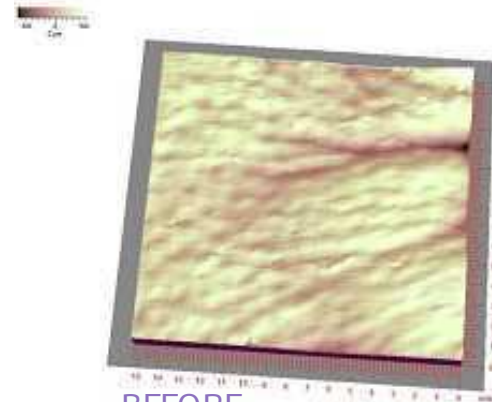
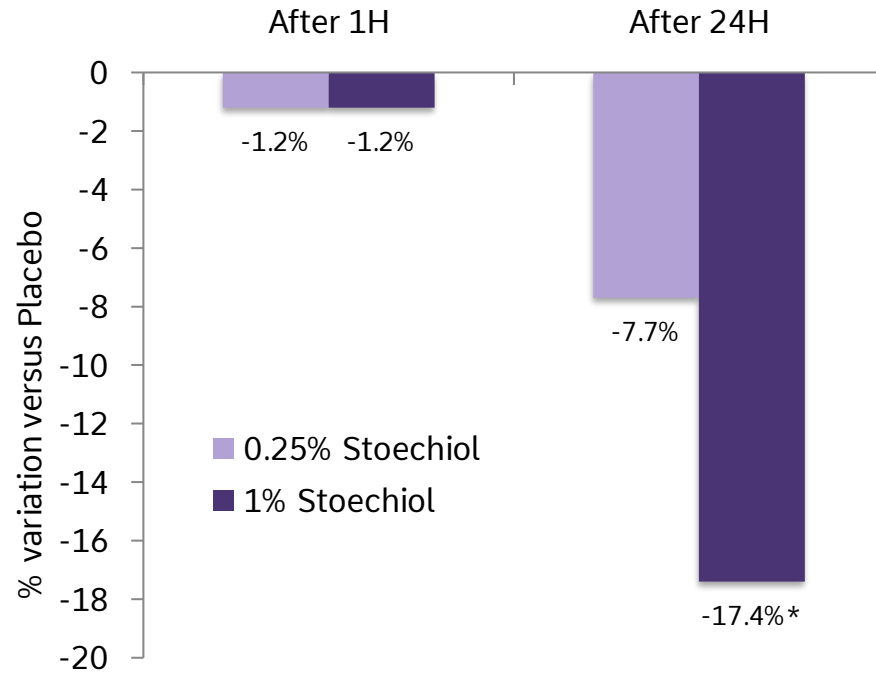
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Technologie naturelle

IN-VIVO TEST

Stoechiol immediately reduces tension wrinkles

IN-VIVO TEST
0.25% -1%

WRINKLES DEPTH VARIATION VERSUS PLACEBO (%)



* $p < 0.05$ Student test

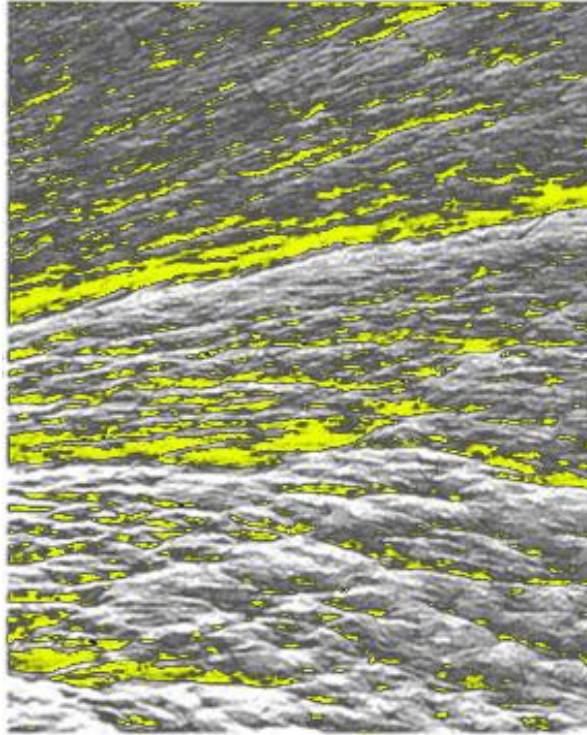
IN-VIVO TEST

Stoechiol decreases the number of wrinkles

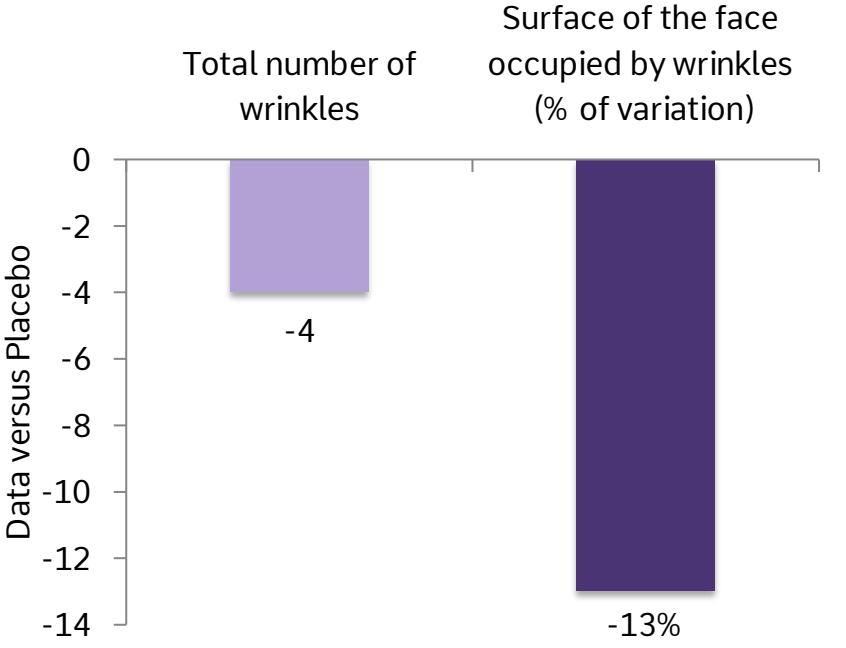
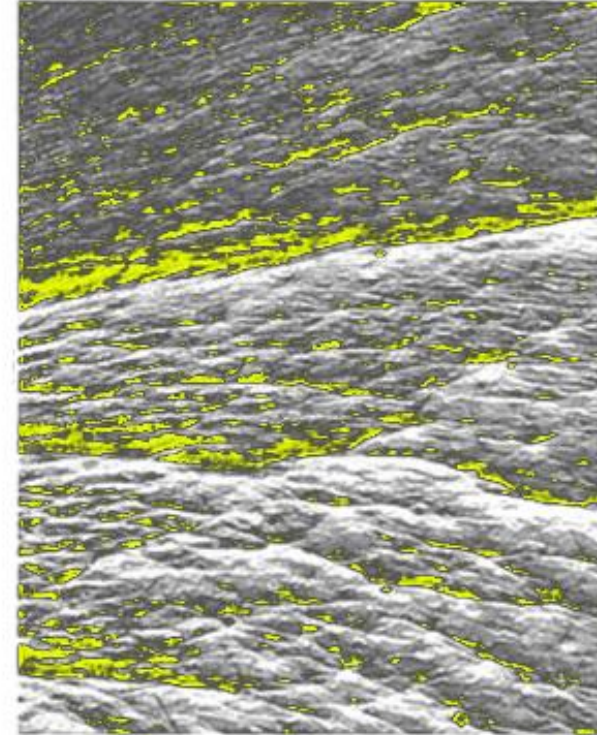
IN-VIVO TEST
1%

PROTOCOL
10 volunteers
1% Stoechiol / Placebo
Twice daily
28 days
Rugosity by Skin Image Analyser®
Quantirides®

T0 – skin relief



T28 – skin relief

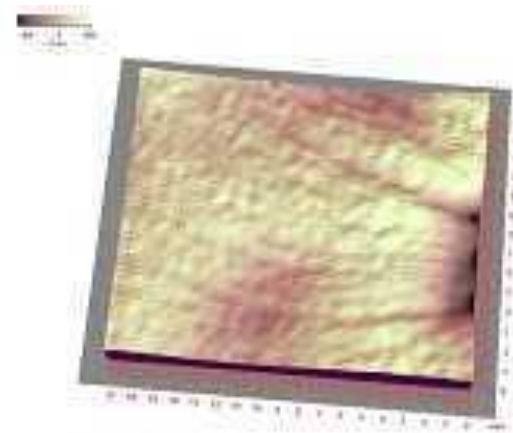
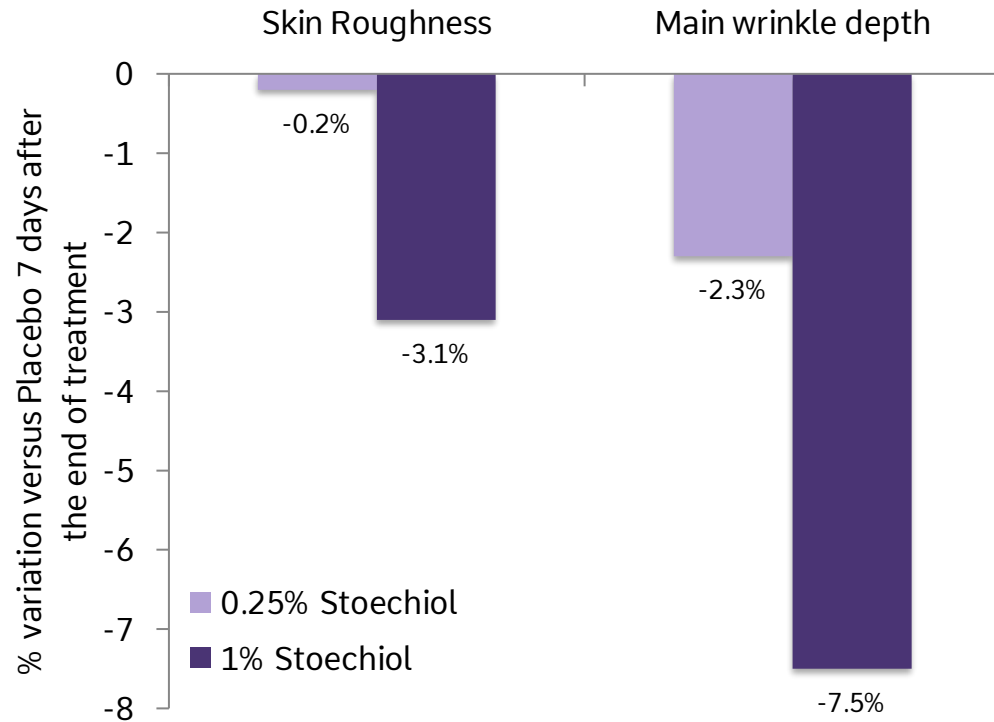


TOTAL NUMBER OF WRINKLES: **-4**
SURFACE OCCUPIED BY WRINKLES: **-13%**

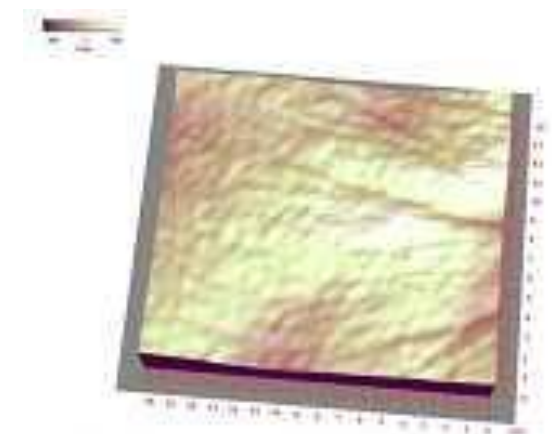
IN-VIVO TEST

IN-VIVO TEST
0.25%-1%

Still visible benefits on wrinkles even 1 week after the end of treatment



BEFORE



7 DAYS AFTER END OF TREATMENT
1% STOECHIOL

STOECHIOL

RELAXING THERAPY – BOTOX-LIKE

ORIGIN



Butterfly lavender
Aromatic and
calming flower

Organic oil-soluble
extract

Supercritical CO₂

BENEFITS



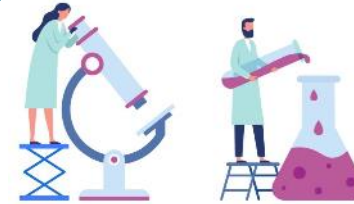
Botox-like
Relaxes contraction
lines
Immediate effect on
wrinkles and fine lines
Smooths skin grain &
moisturizes

TARGETS



Young and mature
skin
Tensed wrinkles

FORMULATION



Oil-soluble
T°: up to 90 °C
%: 0.25 - 1%

USE

INCI

Caprylic/capric
triglyceride (and)
Lavandula stoechas
extract

% USE
0.25% - 1%

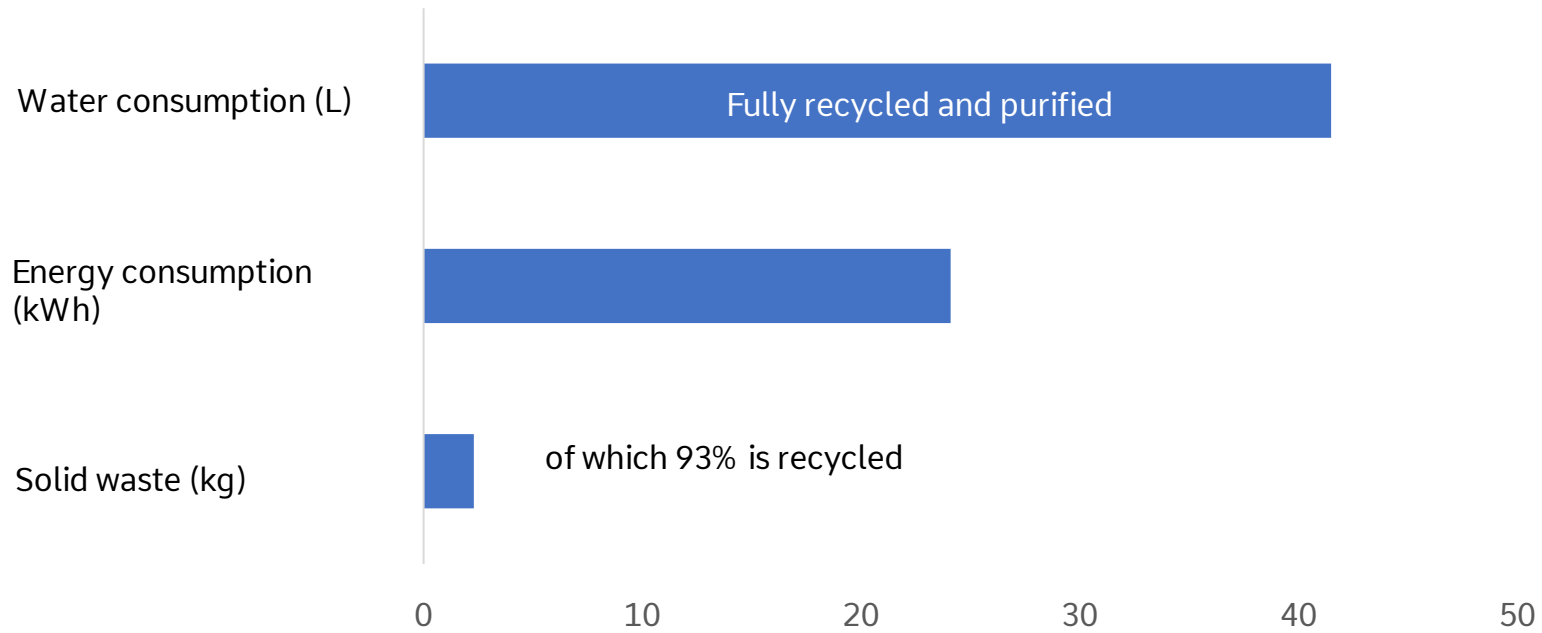
COSMOS CERTIFIED

STOECHIOL

Good for the planet

ISO 16128

ENVIRONMENTAL INDICATORS FOR 1 KG OF MANUFACTURED ACTIVE



STOECHIOL

NC: 61.4%
NOC: 100%
OC: 61.4%
OOC: 61.4%

NC: Natural Content
NOC: Natural Origin Content
OC: Organic Content
OOC: Organic Origin Content



STOECHIOL
RELAXING THERAPY
BOTOX-LIKE ACTIVE INGREDIENT



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