

PROVITAL  GROUP

For a beautiful life from cells to the skin



DETOSKIN™

Your ultimate ally to reach skin's excellence



CHINA
IECIC LISTED



DETOSKIN™ Your ultimate ally to reach skin's excellence

FEEL GOOD IN YOUR SKIN



A beautiful skin makes you feel better

Detoskin™ optimizes energetic efficiency of cells through mitophagy.

Perfects the skin, detoxifying it, rejuvenating cellular structures.

Looking better is feeling better.



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RENEWING THE INSIDE TO LOOK GOOD ON THE OUTSIDE



Optimizing cell activity via mitochondrial rejuvenation

Mitochondrial aging is one of the key factors of cell performance reduction.

Mitophagy is the natural mechanism for the cell to remove damaged and old mitochondria.





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CELLULAR SUSTAINABILITY



Cell recycling for an optimal energetic efficiency

Mitophagy is the process of degradation of damaged mitochondria

A part of the residues are reused, via mitobiogenesis, to create a new mitochondria, like a **cell recycling** process.

Detoskin™ activates cell recycling, according to Provital Group philosophy for a sustainable industry, always respecting the environment.





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THIS IS A STORY ABOUT THE PEONY ...



Peony, the “queen of flowers”

A beautiful and fragrant flower, cultivated for more than 2000 years in China.

Symbol of health, beauty and femininity.

In its roots we find peoniflorin, its secret for a younger skin.

Detoskin™, synergistic action

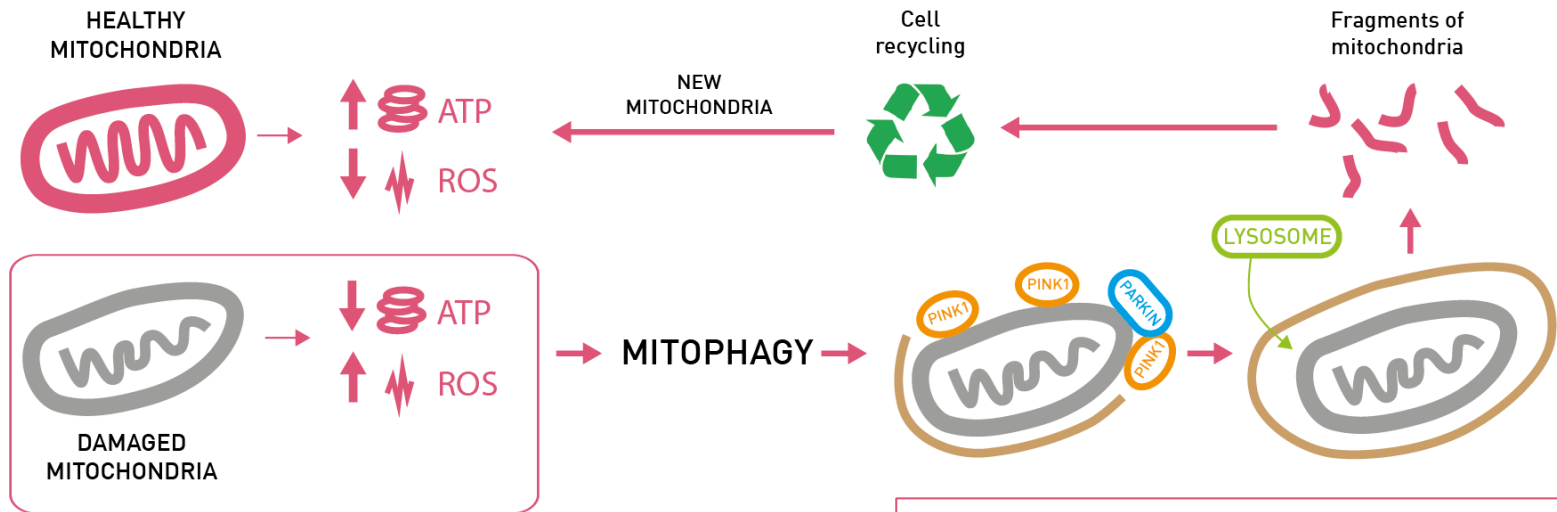
Peoniflorin: obtained from the roots of *Paeonia lactiflora*.

Trehalose: natural disaccharide obtained from yucca starch.



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DETOSKIN™ IN ACTION



*ROS: Reactive Oxygen Species, very reactive free radicals responsible for premature skin aging.

Detoskin™ activates mitophagy and removes damaged mitochondria

- Damaged mitochondria, that don't work properly, experience a **depolarization** in their inner membrane, and **proteins PINK1 and PARKIN** link to the outer membrane creating a **vesicle around it**.
- Once the mitochondrion is isolated in the vesicle, lysosomes will **digest** it .
- Some fragments will be disposed of as residues, others will be **reused**.



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IN VITRO EFFICACY



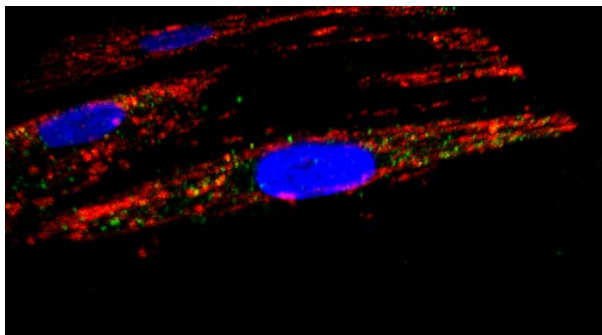
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IN VITRO EFFICACY

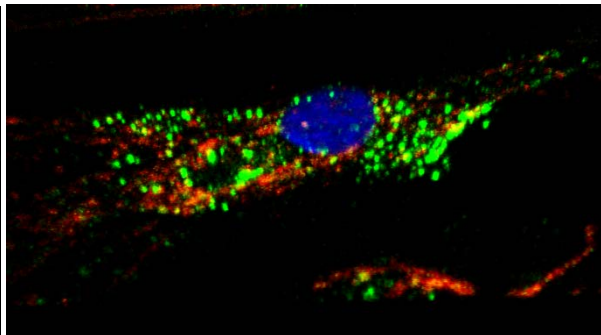
Selective mitophagy activation in fibroblasts

We use confocal microscopy to confirm **mitophagy induction** by DETOSKIN™

CONTROL



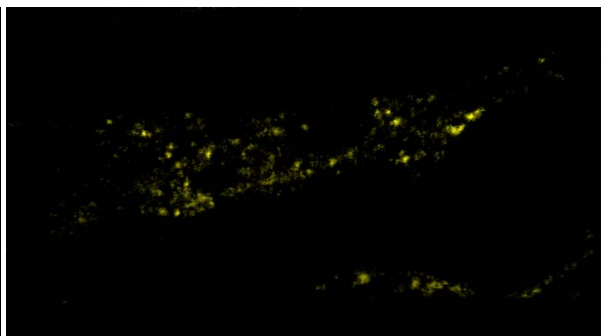
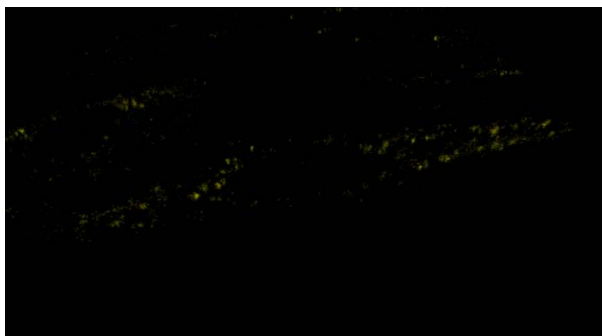
DETOSKIN™



With Detoskin™

Autophagosomes (mitochondrial vesicles) in green, Mitochondria in red and Nucleous in blue.

When mitophagy is induced, the green color increases.





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IN VITRO EFFICACY

Improving mitochondria functionality and stress resistance.

An increase in ATP means the cell is producing more energy.

An excessive synthesis of ROS is a consequence of mitochondria malfunctioning.

The higher the value ATP/ROS the better mitochondrial health.

 **25% ATP synthesis increase**

 **12% ROS synthesis decrease**

With Detoskin™

Cells optimize their energetic efficiency.

Damaged mitochondria are replaced for new ones.

Damaging ROS are reduced

Detoskin™ enhances the production of “clean energy”.



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IN VITRO EFFICACY

Effect on skin aging related parameters

Effect on collagen type III and in MMP-1

In young donor (27 years old) and aged donor (67 years old) fibroblasts.



53%

**Increase synthesis
collagen III**



92%

**Reduction of
overproduction of
MMP-1**

With Detoskin™

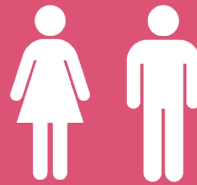
Increases the synthesis of collagen III, with firming and antiwrinkles activity.

Reduction in overproduction of enzymes MMP-1, that degrade collagen.

**Detoskin™ activates mitophagy for a youthful skin,
full of energy**



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IN VIVO EFFICACY

- Panel of 32 women, between 40 and 60 years old , showing skin aging facial signs.
- Application of a formula with 1,5% of Detoskin™ and placebo.
 - Face and forearms during 56 days .

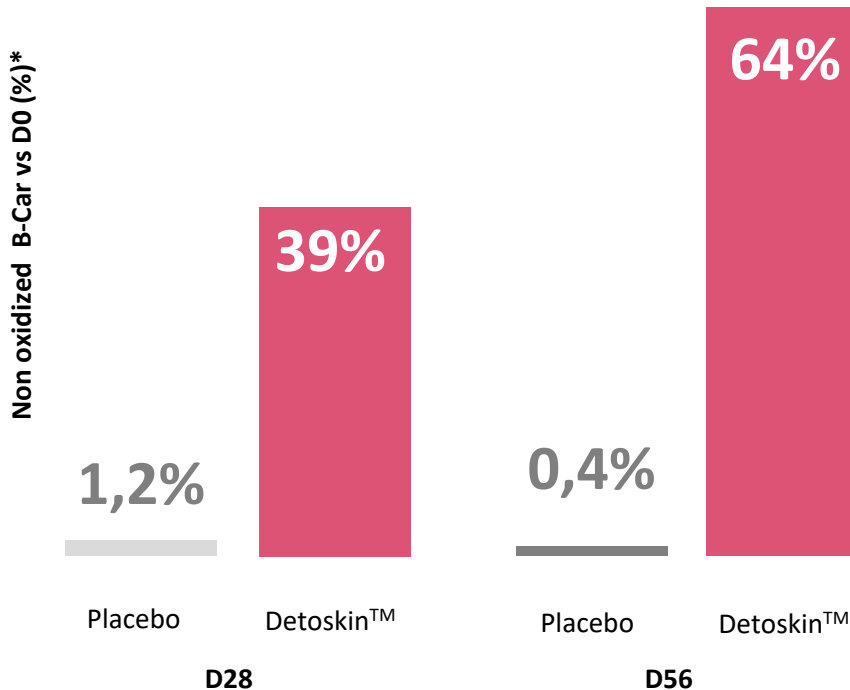


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IN VIVO EFFICACY

Detoxification

The increase in reactive oxygen species (ROS) on the skin, as a consequence of inefficient mitophagy, boosts premature skin aging.



With Detoskin™

ROS were certainly reduced, a 64%.

Detoxifying effect.

Tested by application of β -carotene that loses its color when it's oxidized.



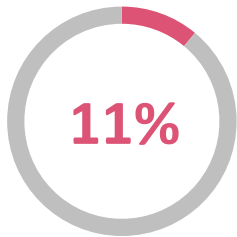
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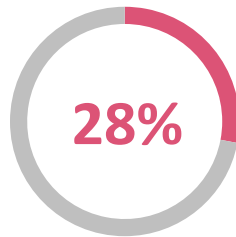
Inner skin structure

As a consequence of aging:

- Epidermis becomes thinner, skin is weakened against external aggressions.
- The area occupied by dermal fibers is reduced, skin is less firm and elastic.



**Epidermis
thickness increase**



**Dermal fibers
area increase**

With Detoskin™

At day 56, epidermis thickness increased and also the area occupied by dermal fibers.

The skin regains its properties for a youthful appearance.

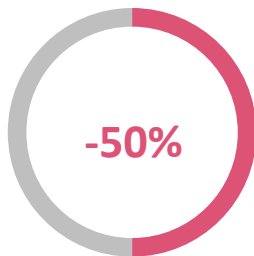
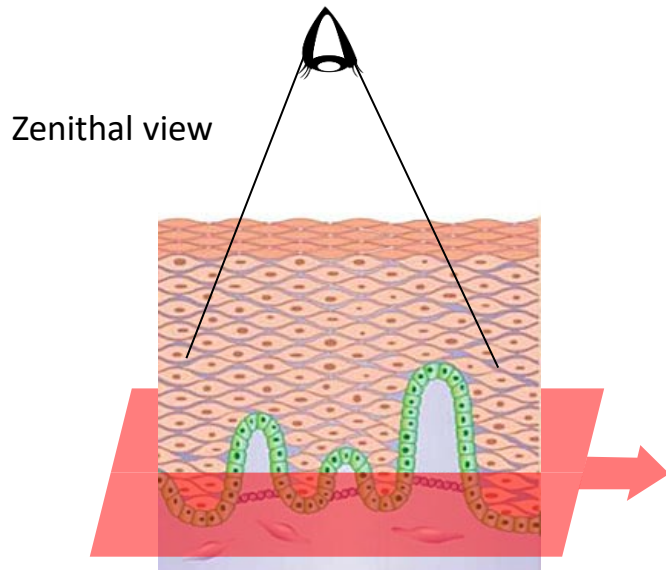


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IN VIVO EFFICACY

Inner skin structure

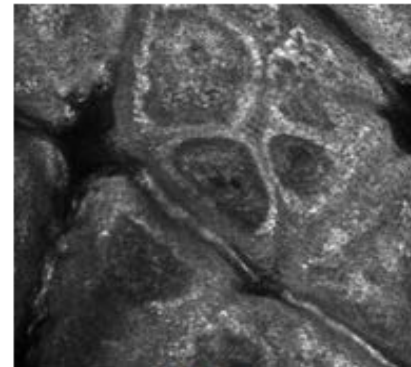
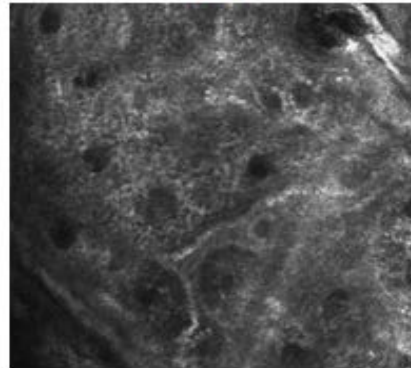
Another consequence of skin aging is that dermal-epidermal (UDE) skin becomes flat.



**Reduction in UDE
flattening**

Detoskin™

D0



D28

With Detoskin™

The area of papillae
increases.

In the images of the cross-
section of skin, at the UDE
level, we clearly see an
increase in papillae.

Young skins have UDE more
wavy, and therefore more
papillae can be seen.



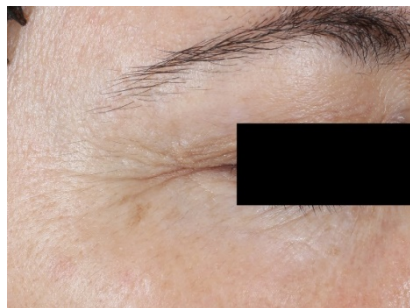
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IN VIVO EFFICACY

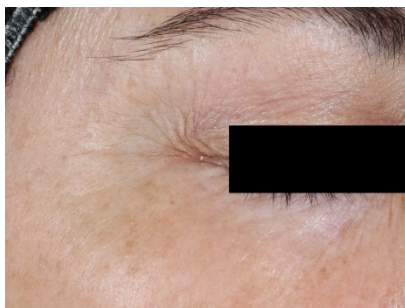
The only remaining wrinkles will be those of smiles

We clearly see a reduction in number and depth of wrinkles.

Placebo



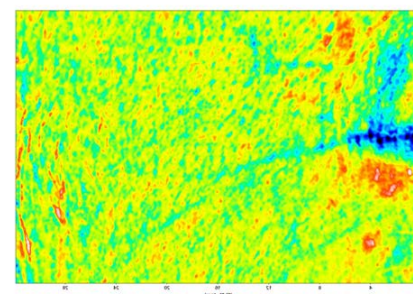
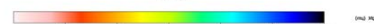
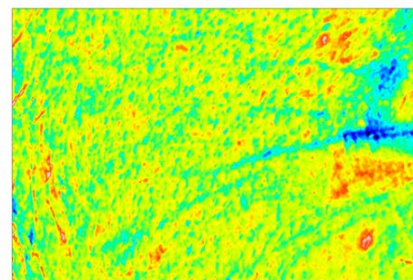
Detoskin™



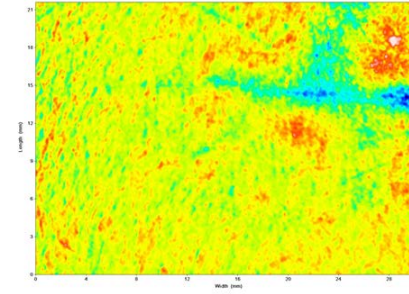
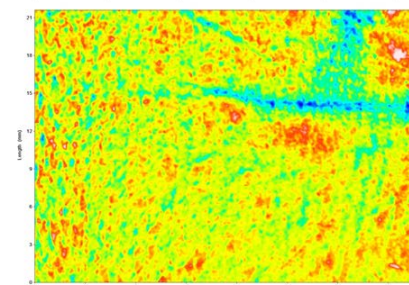
D0

D56

Placebo



Detoskin™



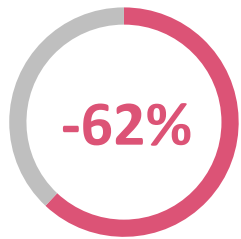


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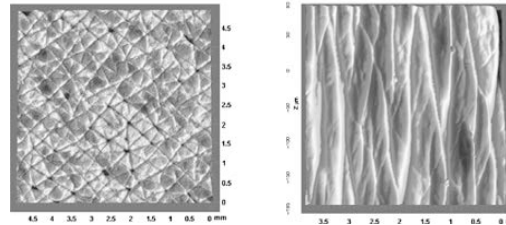
IN VIVO EFFICACY

Outer complexion and wrinkles

Aging also causes an uneven skin tone and microrelief and a loss in elasticity.

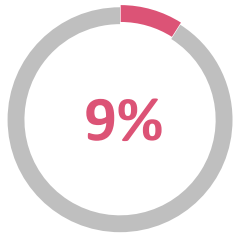


**Reduction in
microrelief
anisotropy**

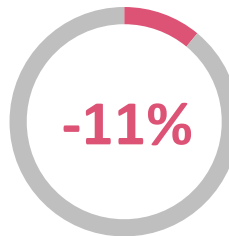


Example of young (left) and aged (right) microrelief.

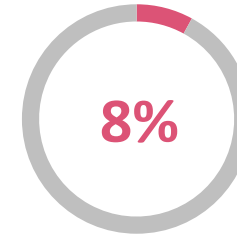
* : As we age, cutaneous microrelief becomes anisotropic and the original structure vanishes and becomes line-oriented.



Elasticity increase



**Rugosity
reduction**



**Even tone
increase**

Detoskin™ reduces visible skin aging effects.



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CONCLUSIONS



Detoskin™, renews skin mitochondria by activating mitophagy.

Cells recover all their energy potential, as a result there is an improvement in many aging signs such as wrinkles, rugosity and uneven tone.

The beauty secret of peony, finally unveiled.

Detoskin™: how mitophagy detoxifies and energizes the skin for a visible anti-aging effect.



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COSMETIC APPLICATIONS

- Global anti-aging range of products
- Skin Aging Prevention
- Cell regenerator
- Rejuvenating face and body
- Energizing treatment
- Anti-aging make-up.
- Sun care
- Anti-pollution