

# All Even Sweet iris

*Increasing skin density*

**Naolys**  
NATURE EXPANDED



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*Increasing skin density*

## Key points

### An active plant cell

Delivers the highest amount of original active molecules.

### A high tech natural ingredient

Preserves and improves the benefits of a natural product.

### A general anti-ageing action

Increases the synthesis of fibers and cell regeneration to limit ageing signs, including wrinkles.

### A STORY

The sweet iris | *Iris pallida*, Iridaceae  
A plant with a sacred fragrance

As a sun plant, the sweet Iris grows naturally in South Europe and in North Africa on limestone soils. Its name comes from a goddess from the Greek and Roman pantheon: Iris was the messenger of gods. Sacred plant in the ancient Egypt, it is cultivated for its original fragrance and its health properties since Antiquity - first its rhizomes. With that species as a heart note, a big family of perfumes was created in Western countries. The great popularity of iris in Europe in the 19th century inspired also painters. They glorified them in many paintings.

Because skin loses little by little its density when ageing, it is necessary to keep the production of skin fibers at a good level. For a firmer, more elastic, more resistant and with less wrinkles skin.



### PRODUCT BENEFITS

## Anti-ageing & anti-wrinkle

### Firming

Contributes to densify the dermis. Helps to improve or restore the dermis functions, skin resistance.

### Regenerating

Increases epidermis cell regeneration and reinforces the protective skin barrier.

### Anti-wrinkle

Decreases wrinkles and lines on the face, including mature skins, especially at the crow's feet.

### Softening

Contributes to restore the original suppleness of skin.

To be used in skincare or make-up products such as cream, fluid, serum, balm, lotion, milk, foundation, concealer, etc. In any cosmetic or skincare product dedicated to fighting and preventing skin ageing.

**NAOLYS**

Related products: FIBER BOOSTER PLUS SAFFRON | TOTAL GENERATION CURRY PLANT | ALL FIBER BOOSTER CHINESE HIBISCUS

## HOW IT WORKS

# All Even Sweet iris: to relaunch the synthesis of skin thickening components

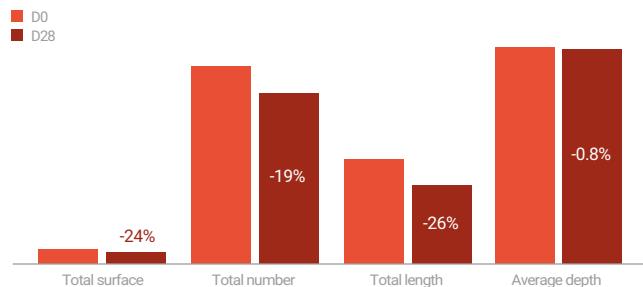
All Even Sweet iris acts on the consequences of natural ageing at the conjunctive level of the dermis and the upper layer of the epidermis. Then, at the level of the dermis, the active will stimulate the synthesis of constituents of the extra-cell matrix - collagens, glycosaminoglycans, elastin and proteoglycans - while limiting the action of the enzyme that destroys them.

In the same time, it helps to regenerate the epidermis in a well-balanced way by increasing the production and the differentiation of the cells of the epidermis, that slows down with ageing too.

Thanks to those associated actions, the two skin layers can get back their density and global balance, therefore limit the creation of wrinkles.

## Clinical tests results

ASSESSMENT OF ANTI-WRINKLE EFFECT (MEAN DATA)



### Anti-wrinkle effect after 28 days of treatment - face

- Decrease of the total surface by 24%
- Decrease of the number of wrinkles by 19%
- Decrease of the length of wrinkles by 26%

### After 28 days of treatment - face

80% of women declared that their wrinkles seem to have decreased

#### Study conditions:

- Testing made on 20 women during 28 days
- Assessment of anti-wrinkle effect by analysis of cutaneous prints (Quantirides)
- Emulsion with 0.1% of All Even Sweet iris (powder)

## Technical information on the formulation of All Even Sweet iris

INCI name  
iris pallida leaf cell extract

form  
powder of cells (100%)

aspect  
beige powder

concentration  
starting at 0.1%

dispersible  
in any formulation

## In vitro tests results

### Study of the extra cellular matrix

In the dermis, the extra cellular matrix (ECM) is made of different non cellular components, and provides not only essential physical scaffolding for the cellular constituents but also initiates crucial biochemical and biomechanical cues that are required for tissue morphogenesis, differentiation and homeostasis. It is made of water, polysaccharids and proteins; the two main classes of macromolecules are proteoglycans and fibrous proteins like collagens, elastins, fibronectins and laminins synthetized by fibroblasts, the dermis cells.

Actually the ECM is a highly dynamic structure that is constantly being remodeled, either enzymatically or non-enzymatically. The ECM generates the biochemical and mechanical properties of skin, such as its tensile and compressive strength, elasticity, and also mediates protection by a buffering action that maintains extracellular homeostasis and water retention. With ageing, the synthesis of the different macromolecules made by fibroblasts decreases, then the biochemical cues in the ECM are modified, therefore its properties decrease too.

### Studies about 5 components of extra cellular matrix: proteoglycans, collagen, elastin, GAG and MMP3

The different studies on the components of the ECM run by Naolys were made on culture of fibroblasts. Naolys studied the synthesis of the 3 types of proteoglycans made by fibroblasts, which is a very precise study.

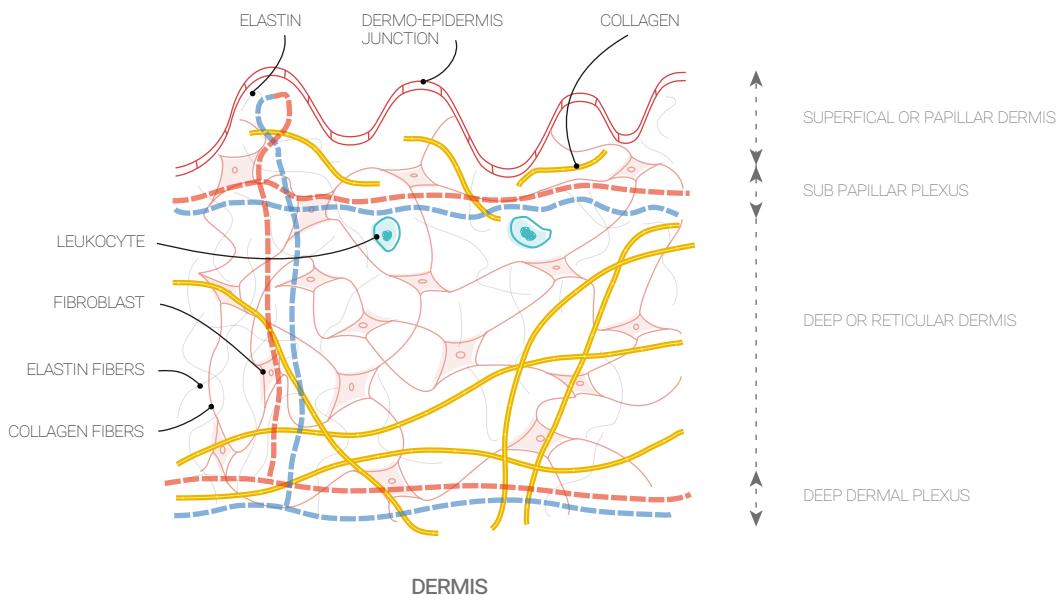
Proteoglycans are made of a combination of a protein and a GAG. As they are made of long O-glycolized chains, they are like "water traps". They have buffering, hydration, binding and force-resistance properties.

GAG (glycosaminoglycans) are important acids that have very strong capacities of water retention. There are many GAG, including hyaluronic acid.

Collagen is the most abundant fibrous protein within the interstitial ECM and constitutes the main structural element of the ECM; collagens provide tensile strength, regulate cell adhesion, support chemotaxis and migration, and direct tissue development.

MMP3 (or Stromelysin-1) is an enzyme of the ECM that is involved in the breakdown of the ECM and tissue remodeling. It degrades collagen types II, III, IV, IX and X, proteoglycans and other fiber proteins.

Elastin is another fibrous protein and the principal structural component of the elastic fibers in the ECM.



### Study of the components of the extra cellular matrix: at the concentrations of 0.1%, 0.2% and 0.5%

- Increase of peri-membran proteoglycan rate respectively by 20%, 25% and 28%
- Increase of transmembran proteoglycan rate respectively by 19%, 26% and 34%
- Increase of matrix proteoglycan rate respectively by 24%, 29% and 30%
- Increase of collagen rate respectively by 21%, 26% and 30%

- Increase of elastine rate respectively by 23%, 25% and 30%
- Stimulation of the global glycosaminoglycan rate respectively by 19%, 28% and 36%
- Decrease of the expression of MMP3 respectively by 25%, 29% and 31%

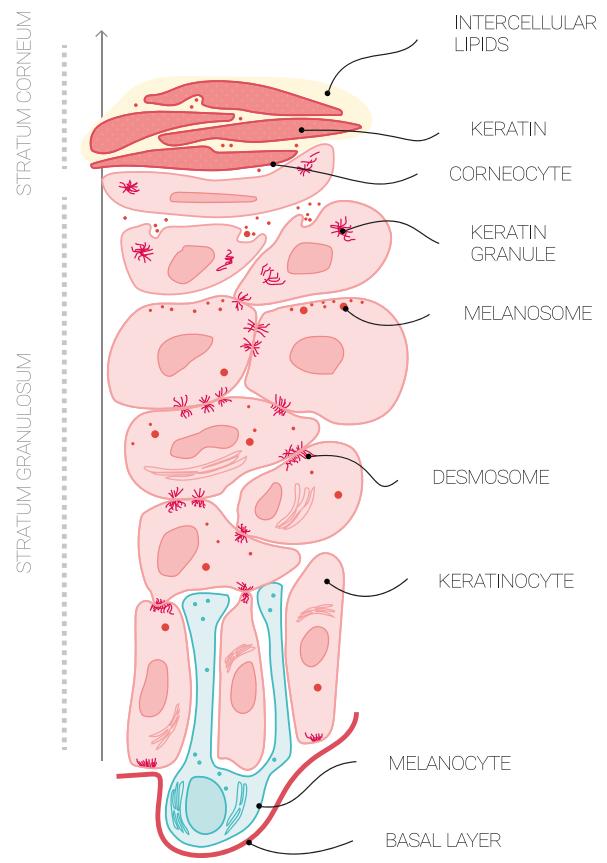
## Study of the cell renewal

The epidermis, the superficial layer of skin is first made of cells called keratinocytes which renew non-stop according to a 21-day cycle. That renewal of the epidermis is made thanks to the cell proliferation and the differentiation that keep the balance of adult tissues, therefore keratinocytes, divide at the level of the basal layer of the epidermis, which is mainly made of non differentiated cells and migrate to the surface changing their form: they lose their nuclei and load hard filaments of keratine. When they reach the cornified layer, they become corneocytes, dead cells that create a solid membran (thanks to keratine) impermeable and protective: the protective natural barrier of the epidermis. Those built up corneocytes will naturally break away and be shed.

The alteration of that balance, that is essential to the well-being of tissues called homeostasis is responsible for physical changings linked to ageing: skin wilting because of the decrease of cell proliferation, lack of healing in case of wounds, loss of hair...

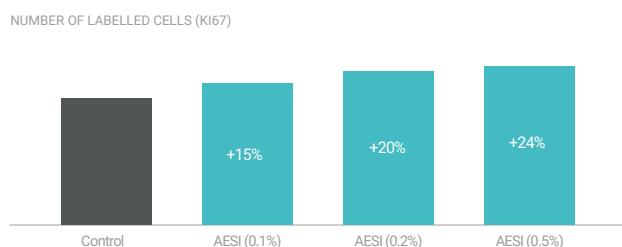
## Study of the proliferation and the differentiation of epidermis cells

In order to show that the balance of tissues has been maintained, Naolys studied both proliferation and differentiation of epidermis cell. Ki67 is an anti-gene to mark cell proliferation and filaggrin is a protein to mark cell differentiation. Studies were made on reconstructed epidermis.



THE EPIDERMIS AND KERATINISATION PROCESS

## Study of epidermis cell proliferation



### Increase of KI67

→ At concentrations of 0.1%, 0.2% and 0.5%, stimulation of the proliferation of keratinocytes in the basal layer for treated epidermis respectively by 15%, 20% and 24%.

## Study of epidermis cell differentiation

LABELLING OF FILAGGRIN:  
CONTROL EPIDERMIS



LABELLING OF FILAGGRIN:  
TREATED EPIDERMIS WITH ALL EVEN SWEET IRIS  
AT 0.5%



### Decrease of the cell differentiation

→ Decrease of the cell differentiation translating by a labelling of filaggrin less intense but uniform at the level of the granular layer.

