All Fiber Booster Chinese hibiscus

Reforming skin tissues

A STORY

The Chinese hibiscus | *Hibiscus rosa sinensis, Malvaceae*

A flower with a conquering beauty

Born in South Eastern Asia, hibiscus is a tropical shrub with hardy leaves and odourless geant deep red flowers. Its longevity and the easyness of its upkeep make it today a species known in many gardens. Nevertheless in China, since the 15th century, it was already cultivated for its culinary and healing properties. The edible flowers, when put on inflammations would be emollient, softening, etc. Thanks to their unique shape, they became a popular pattern on women clothes in India and Tahiti, after having conquered the Chinese painting in the 17th century.

Key points

An active plant cell
Developed to deliver the highest amount of original active molecules

A high tech natural ingredient
Created to preserve and improve the identity and the benefits of a natural product

A general anti-ageing action
Increases the synthesis of fibers and cell regeneration to limit ageing signs

Because skin needs dense and regerated tissues, it is necessary to maintain their «making» at a sufficient level. To get a skin firmer, more alastic, more resistant.

PRODUCT BENEFITS

Anti-ageing

Firming

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

Restructurating

Restores higher levels of the synthesis of fiber and glycoproteins in the extra cellular matrix.

Regenerating

Increases epidermis cell regeneration and reinforces the protective skin barrier.

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 | ALL EVEN SWEET IRIS | TOTAL GENERATION CURRY PLANT

HOW IT WORKS

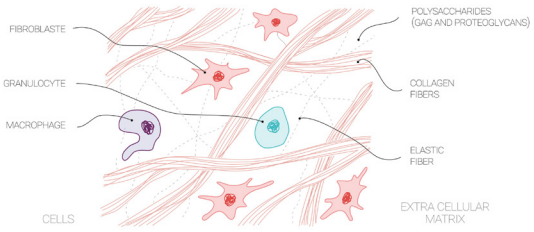
All Fiber Booster Chinese hibiscus: relaunching the complete process of the creation of skin structure

All Fiber Booster Chinese hibiscus acts on the formation of tissues that changes with ageing: this change means a skin with sagged and thinner. Indeed, natural skin ageing is translated by a slowing down of creation of the very material of skin, that happens especially because cells slow down their activities. Then, at the dermis level, the active plant cells will stimulate the synthesis of fibers in the extra cellular matrix: collagens, elastin and proteoglycans. In the same time, they help to balance regeneration of epidermis in terms of production of keratinocytes and specification of cells, a process that decreases with ageing. Thanks to those actions, the two skin layers can be more densified and globally balanced.

in vitro testing results

Study of the extra-cellular matrix - dermis level

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, elastin, fibronectins and laminins synthetized by fibroblasts, the dermis cells.



COMPONENTS OF THE DERMIS

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 extra-cellular 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.

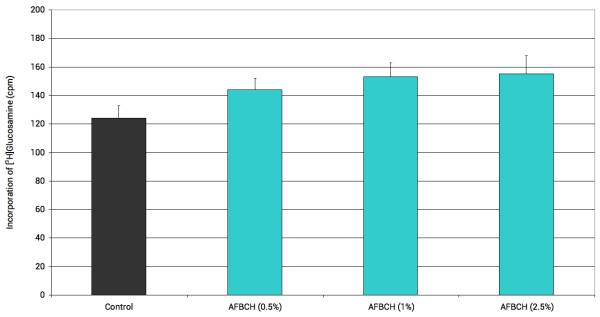
Studies about 5 components of ECM: proteoglycans, collagen, elastin, GAG
The different studies on the components of the ECM run by Naolys have been made on culture of fibroblasts.

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.
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.
Elastin is another fibrous protein and the principal structural component of the elastic fibers in the ECM.
GAG (glycosaminoglycans) are important acids that have very strong capacities in water retention. There are many GAG, including hyaluronic acid.

Technical information to formulate All Fiber Booster Chinese hibiscus

INCI name of cells	**form**	**aspect**	**concentration**	**dispersible**
hibiscus rosa sinensis leaf cell extract	cells (20%) in glycerin or in sunflower oil (80%)	liquid	starting at 0.5%	in any formulation

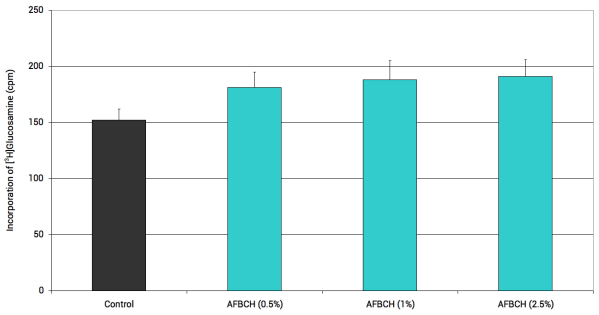
Study of the synthesis of proteoglycans



Increase of the peri-membrane proteoglycans rate

→ At concentrations of 0.5%, 1% and 2.5%, increase of the peri-membrane proteoglycans rate respectively by 16%, 23% and 25%

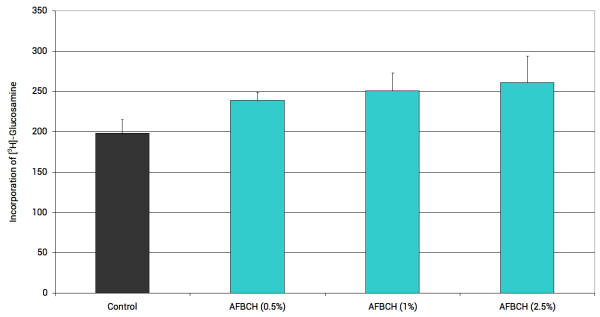
Study of the synthesis of proteoglycans



Increase of the trans-membrane proteoglycans rate

→ At concentrations of 0.5%, 1% and 2.5%, increase of the trans-membrane proteoglycans rate respectively by 19%, 24% and 26%

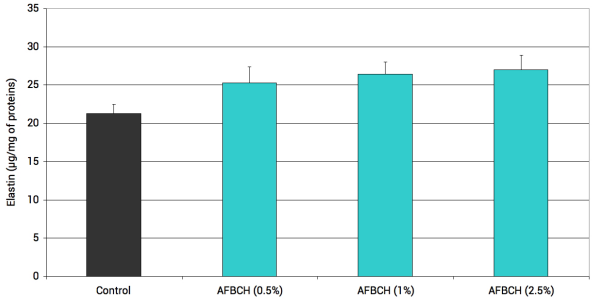
Study of the synthesis of proteoglycans



Increase of the matrix proteoglycans rate

→ At concentrations of 0.5%, 1% and 2.5%, increase of the matrix proteoglycans rate respectively by 21%, 27% and 32%

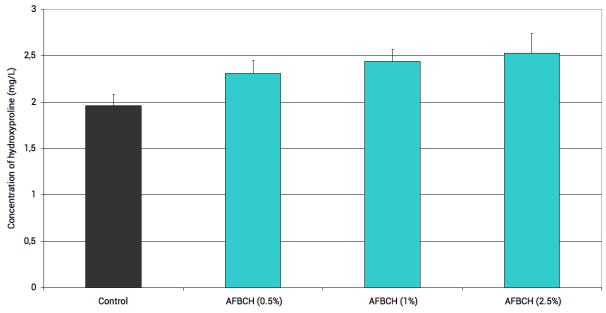
Study of the synthesis of elastin



Increase of the elastin rate

→ At concentrations of 0.5%, 1% and 2.5%, increase of the elastin rate respectively by 19%, 24% and 27%

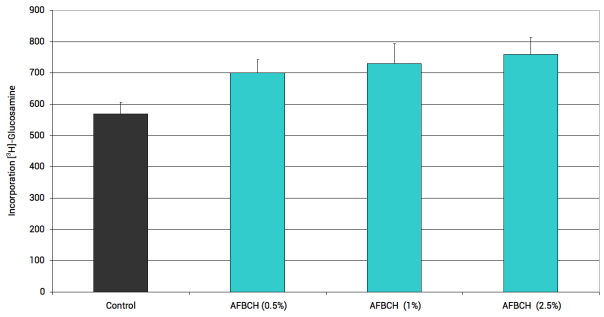
Study of the synthesis of collagen



Increase of collagen rate

→ At concentrations of 0.5%, 1% and 2.5%, increase of collagen rate respectively by 18%, 24% and 29%

Study of the synthesis of glycosaminoglycans

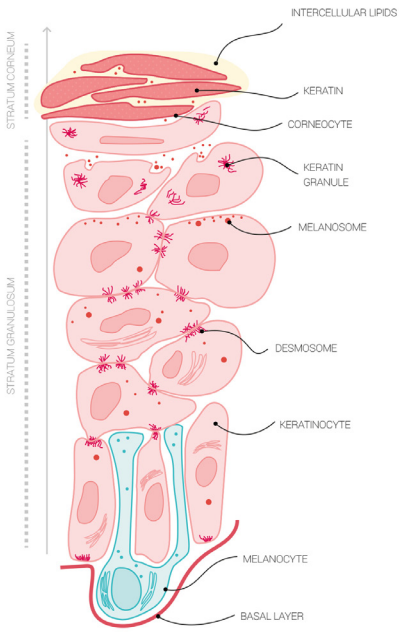


Increase of GAG

→ At concentrations of 0.5%, 1% and 2.5%, increase of GAG respectively by 23%, 28% and 33%

Study of cell renewal - epidermis level

The epidermis, the superfical layer of skin is first made of cells called keratinocytes which renew non stop according to a 21 days cycle That renewal of the epidermis is made thanks to the cell proliferation and the differenciation 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 differenciated 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, essential to the good 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...

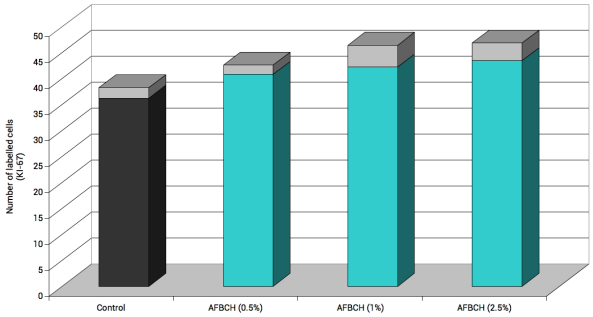


THE EPIDERMIS AND KERATINISATION PROCESS

Study of the proliferation and the differenciation of epidermis cells

In order to show that the balance of tissues has been maintained, Naolys studied both proliferation and differenciation of epidermis cell.
KI67 is a anti-gene to mark cell proliferation and filaggrin is a protein to mark cell differenciation.
Studies have been made on reconstructed epidermis.

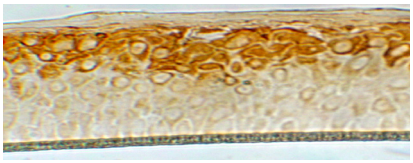
Study of epidermis cell proliferation



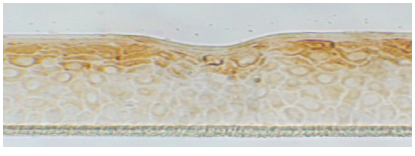
Increase of KI 67

→ At concentrations of 0.5%, 1% and 2.5%, stimulation of the proliferation of keratinocytes in the basal layer for treated epidermis respectively by 13%, 17% and 20%

Study of filaggrin



Labelling of filaggrin: control epidermis



Labelling of filaggrin: epidermis treated with All Fiber Booster Chinese hibiscus at 2.5%

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