Purify Aloe vera

Purifying and soothing

A STORY

The Aloe vera | *Aloe barbadensis, Aloaceae*
The succulent from the Old World

In traditional medicines and phyotherapy, aloe vera is famous for its so called effects on burn and constipation. Despite its fame and the many cultures of that species in hot areas on earth, its origin is not well known. It is supposed to be born in Middle East or in North Africa, as the aloe gel is already quoted as a remedy to heal skin infections in ancient documents found in those areas, but we still look for original populations. Thanks to the water it can store when it rains, it can bear long droughts.Therefore it has become an indoor plant very popular nowadays.

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 balancing action
Regulates epidermis elemental processes.

Because skin is sometimes overwhelmed by extreme answers or unbalanced in its basic processes, it is necessary to help it to recover normal answers. For a soothed, pure and balanced skin.

PRODUCT BENEFITS

Balancing

Soothing

Calming, decreases irritations by increasing the level of skin tolerance.

Regenerating

Increases epidermis cell regeneration and reinforces the protective skin barrier.

Radiance

Helps skin to get a tone more radiant, by detoxifying and oxygenating skin cells.

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 soothe and detoxify skin.

NAOLYS

Related products | PURIFY WHITE WATER LILY | ESSENTIAL BEING INDIAN JASMINE | FULL DETOX EUCALYPTUS

HOW IT WORKS

Purify Aloe vera: regulating the elemental balancing processes

Purify Aloe vera fights against three main processes in the epidermis that can be unbalanced. Concerning cell renewal, it balances both cell proliferation and cell differenciation: this helps to build a better epidermis. Moreover by improving cell respiration, it increases the elimination of toxins that have been accumulated in skin. At last, by limiting the expression of winflammation mediators, it helps skin to get its original levels of reaction.
Thanks to those actions, epidermis cells get back an environment appropriate for their development: they will be able to better achieve their missions.

in vitro testing results

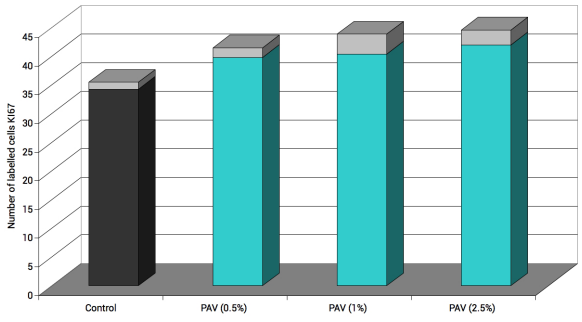
Study of cell renewal - epidermis level

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...

Study of the proliferation of epidermis cells

Naolys studied differenciation of epidermis cell using KI67, wich is a anti-gene to mark cell proliferation.
Studies have been made on reconstructed epidermis.

Study of epidermis cell proliferation physiological conditions



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 16%, 18% and 22%

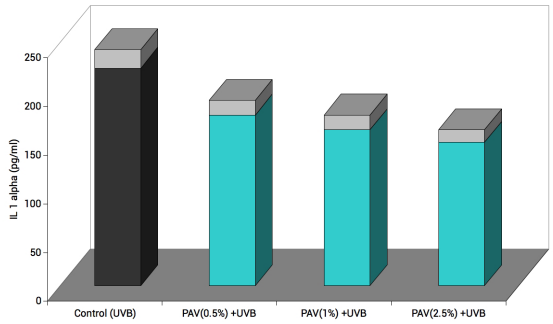
Technical information Formulating Purify Aloe vera

INCI name of cells	**form**	**aspect**	**concentration**	**dispersible**
aloe barbadensis callus extract	cells (20%) in glycerin or sunflower oil (80%)	liquid	starting at 0.5%	in any formulation

Study of the inflammation mediators

The inflammation is the answer of tissues to aggressions: all defense mechanisms through which they recognize, destroy and eliminate any foreign substances. Different types of cells take part in those mechanisms but in the epidermis, it is the keratinocytes we will study. The beginning of inflammation, its diffusion starting from the initial location involve chemical factors that are locally synthetized or at the state of inactive precursors. Naolys decided to study 3 inflammation mediators synthetized at the level of the keratinocytes of hair bulb, 2 famous cytokines and a prostaglandine.
IL1-alpha is an intracellular messenger cytikine synthetized then stocked inside cell as an inactive precursor. It has many biological local and systemic functions (on expression of genes, cell proliferation, nervous system, etc.)
IL-6 is a pro-inflammatory cytokine, that regulates activation, growth and differentiation of lymphocytes. It belongs to the group of proteins that direct to the secretion of anti-bodies to fight against extra-cellular pathogens.
PGE2 is an eicosanoïde, derived from phospholipids of cell membrans. PGE2 acts on smooth muscular fibers of vessels: vasodilatation, increase of permeability, œdema.

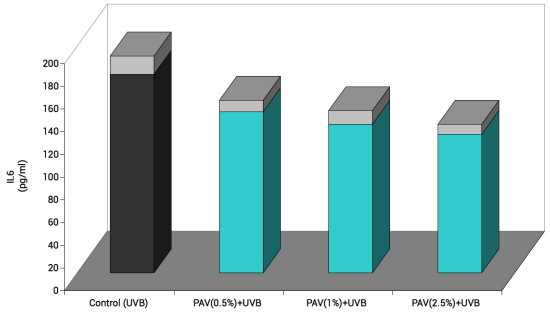
Study of the IL-1 alpha



Decrease of the IL-1 alpha

→ At concentrations of 0.5%, 1% and 2.5%, decrease of IL-1 alpha respectively by 22%, 28% and 34%

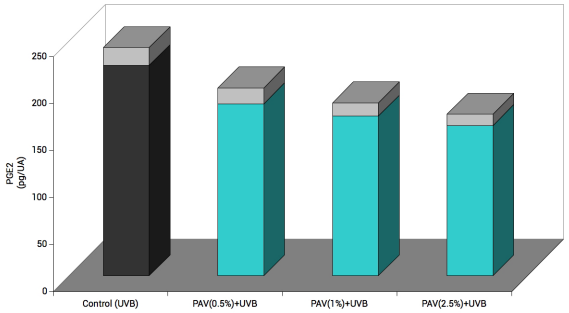
Study of the IL-6



Decrease of the IL-6

→ At concentrations of 0.5%, 1% and 2.5%, decrease of IL-6 respectively by 19%, 25% and 30%

Study of the PGE2



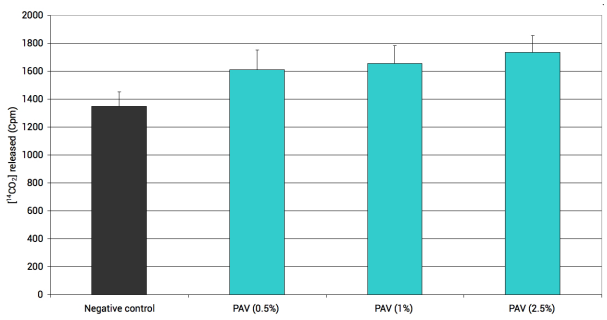
Decrease of the PGE2

→ At concentrations of 0.5%, 1% and 2.5%, decrease of PGE2 respectively by 18%, 24% and 29%

Study of cellular respiration

Cellular respiration is a redox chemical reaction which supplies energy to cells to grow and to function. Cells produce energy with glucides, as ATP through cell respiration. The activity of Purify Aloe vera on the cell and respiratory metabolism has been evaluated by the metabolization of glucose by the cells of the epidermis in hypoxia conditions. In vitro hypoxia conditions induce deep alterations of cell electromechanical functions, with an increase in the production of lactate, a fall in the quantity of ATP, ADP, and a loss of LDH. The reoxygenation of hypoxiated cells (a reversible state) normalizes the loss of lactate, induces a resynthesis of ATP and a reduction in the release of LDH. The decrease in superoxyde dismutase and glutathion peroxydase activity is reduced

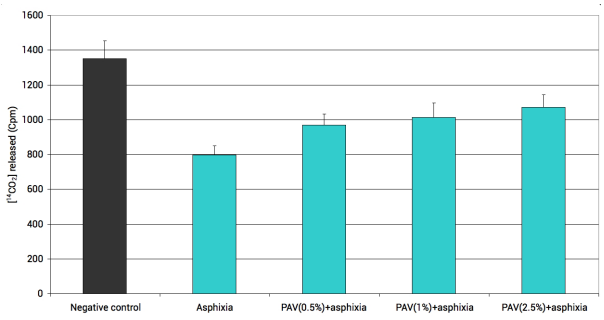
Study of cellular respiration in physiological conditions



Increase of release of CO_2

→ At concentrations of 0.5%; 1% and 2.5%, increase of the release of CO_2 respectively by 19%, 23% and 29%

Study of cellular respiration in asphixia conditions



Increase of release of CO_2

→ At concentrations of 0.5%; 1% and 2.5%, increase of the release of CO_2 respectively by 22%, 27% and 34%