Purify Apothecary's rose

Purifying and soothing

A STORY

The Apothecary's rose | *Rosa gallica officinalis, Rosecaeae*

An ancient rose to be discovered

The Apothecary's rose, a «red rose», is famous in Europe since the Ancient times, but it had a complex origin as it would come from Western Asia and central and South Europe. It has been cultivated for 3000 years, and can grow in the wild, but it is especially hardy and don't need much care. In Rome, it was used during festivals, as its petals were eaten; in the Middle Age they started to distillate the essence to make a floral water very useful for apothecaries. The essential oil is used in aromatherapy as a light sedative, or as an anti-inflammatory agent; the water should be astringent.

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 | NIGHT RESTORE COTTON AND ALMOND TREE

HOW IT WORKS

Purify Apothecary's rose: regulating the elemental balancing processes

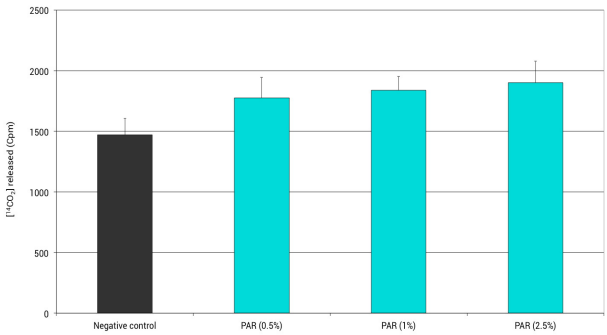
Purify Apothecary's rose fights against three main processes in the epidermis that can be unbalanced. Concerning cell renewal, it balances both cell proliferation and cell differenciation: this helps to build a better epidermis. Moreover by improving cell respiration, it increases the elimination of toxins that have been accumulated in skin. At last, by limiting the expression of inflammation 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 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 Apothecary's rose 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

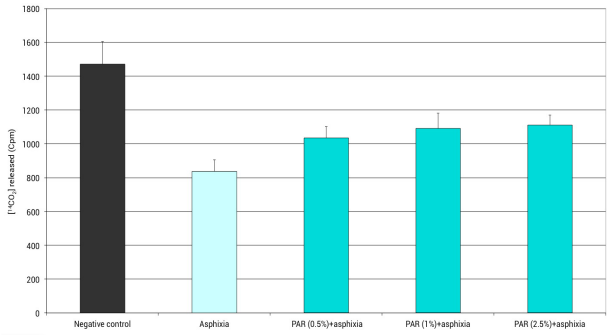
Study of cellular respiration in physiological conditions



Increase of the release of CO_2

→ At concentrations of 0.5%; 1% and 2.5%, increase of the release of CO_2 respectively by 21%, 25% and 29%

Study of cellular respiration in asphixia conditions



Increase of the release of CO_2

→ At concentrations of 0.5%; 1% and 2.5%, increase of the release of CO_2 respectively by 24%, 30% and 33%

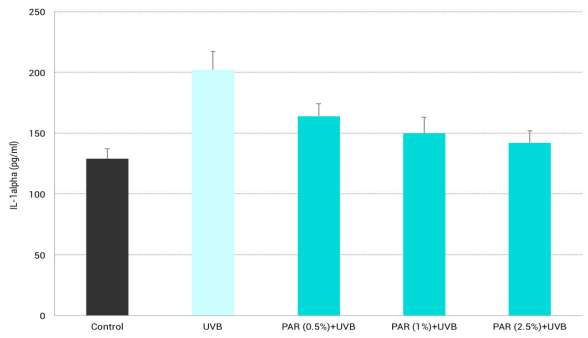
Technical information Formulating Purify Apothecary's rose

INCI name of cells	**form**	**aspect**	**concentration**	**dispersible**
rosa gallica 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 cytokine 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.

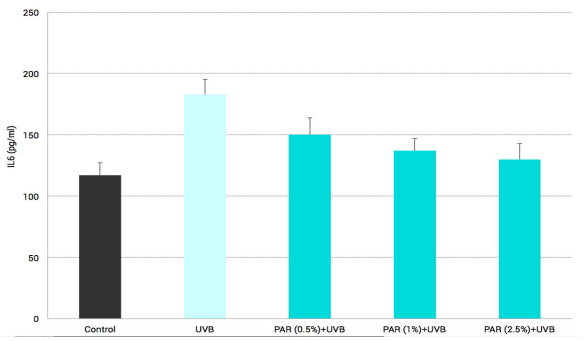
Study of the IL-1 alpha



Decrease of the IL-1 alpha

→ At concentrations of 0.5%, 1% and 2.5%, decrease of IL-1 alpha respectively by 19%, 26% and 30%

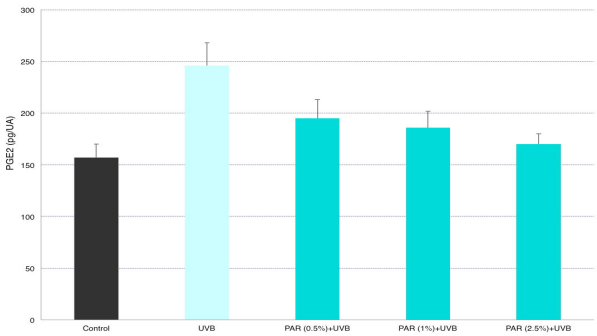
Study of the IL-6



Decrease of the IL-6

→ At concentrations of 0.5%, 1% and 2.5%, decrease of IL-6 respectively by 18%, 25% and 29%

Study of the PGE2

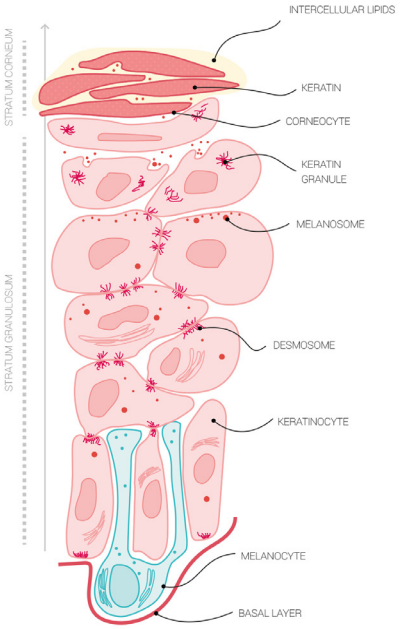


Decrease of the PGE2

→ At concentrations of 0.5%, 1% and 2.5%, decrease of PGE2 respectively by 21%, 25% and 31%

Study of cell renewal - epidermis level

The epidermis, the superficial 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...

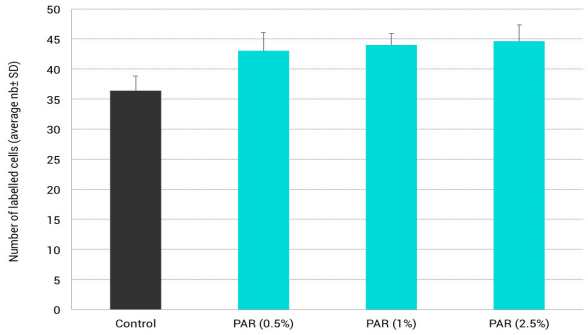


THE EPIDERMIS AND KERATINISATION PROCESS

Study of the proliferation of epidermis cells

Naolys studied differenciation of epidermis cell using KI67, which is an anti-gene to mark cell proliferation.
Studies were carried out 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 of treated epidermis respectively by 17%, 20% and 22%