Soothing Light Vervain

The controlled regulation of inflammation

A STORY

The vervain | *Verbena officinalis, Verbenaceae*

The aromatic herb dedicated to gods and spirits

As a perennial herbaceaous and aromatic plant growing in the whole North hemisphere, the vervain is not endemic of a specific territory. It grows spontaneously in sunny areas, wildernesses and along paths. Its tiny tubular lilac flowers produce a very nourishing nectar that attracts both bees and butterflies. Entirely comestible, the vervain can be used infused, its petals eaten, as its blanched leaves with a dressing. But its medicinal properties discovered in Ancient times made it popular: it is supposed to be diuretic, sedative, to fight headaches; when locally applied, it would sooth (ulcerous) wounds and eczema. That's why it has quickly become a key plant in rituals made by druids, priests and other chamans from West to East to predict the future, get rid of bad spirits and purify altars.

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.

An elemental soothing action
Decreases the main consequences of skin sensitivy

Because sensitive skins feels always aggressed, it is necessary to better regulate several mechanisms of inflammation. For a skin in harmony with its environment, soothed, and with a tone more even.

PRODUCT BENEFITS

Soothing

Soothing

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

Lightening

Helps skin to get a tone more radiant, decreases rednesses by improving its microcirculation.

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 lighten skin.

NAOLYS

Related products | SOOTHING LIGHT APPLE TREE | FRAGILE VITIS FLOWER | PURE LIGHT CHINESE PEONY

HOW IT WORKS

Soothing Light Vervain: decreasing major factors of skin inflammation

Soothing Light Vervain acts on two levels of the inflammatory system, the one of inflammation mediators, responsible for irritations, and the other of vasolidators, responsible for redness. Its part consits in reducing the release of those components that are scattered in skin. Most of them can be found at the level of the epidermis or dermis for blood vessels.
Thanks to those different actions, skin gets back a sensitivity more consonant with its environment and keeps on fighting external aggressions.

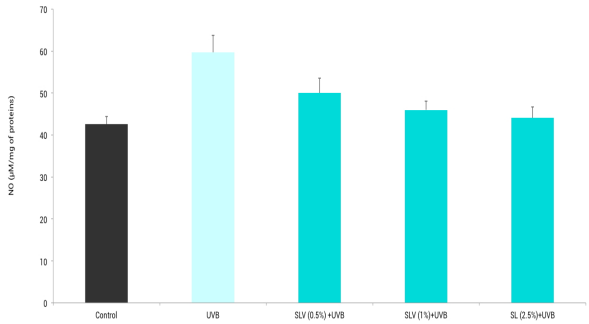
in vitro testing results

Study in the cutaneous microcirculation

The cutaneous microcirculation is not well known but thanks to skin numerous arterioles and big volume (1.8 dm^3), it plays an essential part in maintaining blood flow even if there is a heart failure. Its arterioles hold back blood through a vasoconstrictor tonus, in fact a continuous vasoconstriction. Nevertheless, as there are more venules, in general, blood circulates in them slower; that helps parietal exchanges but also leads to blood stagnancy and vasodilation. At the skin level, many vasodilations can be seen, emotional, facial reflex - due to mouth or gastric irritations, but also because of the secretion of EDRF released as a reaction to some substances including when inflammation phenomenae (with erythemae) appear.

The study of nitric oxide, the primary EDRF
Blood vessels are made of several layers of fibrous cells, and one is directly in touch with blood: endothelium. Made of flatted cells, it plays many parts, from hemostasis to vascular tonus, for which it releases vasodilator and vasoconstrictor factors. Among vasodilators is the nitric oxide (NO), that has been identified as the essential EDRF (Endothelium Derived Relaxing Factor). It is a liposoluble gas that activates a chemical reaction, leading to the relaxing of blood vessels or vasodilation.

Study of Endothelium Derived Relaxing Factor (EDRF) / the nitric oxide (NO)



Decrease of EDRF (nitric oxide)

→ At concentrations of 0.5%, 1% and 2.5%, decrease of nitric oxide respectively by 16%, 23% and 26% (increase of 40% of nitric oxide in the non treated endothelial cells)

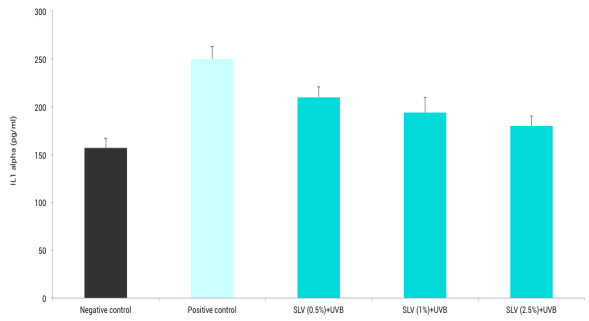
Technical information Formulating Soothing Light Vervain

INCI name of cells	form	aspect	concentration	dispersible
verbena officinalis 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.

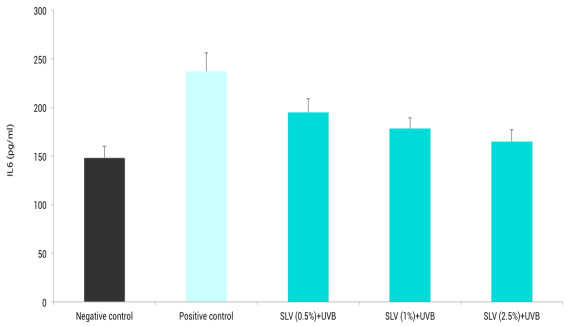
Study of the IL-1 alpha



Decrease of IL-1 alpha

→ At concentrations of 0.5%, 1% and 2.5%, decrease of IL-1alpha respectively by 16%, 22% and 28%

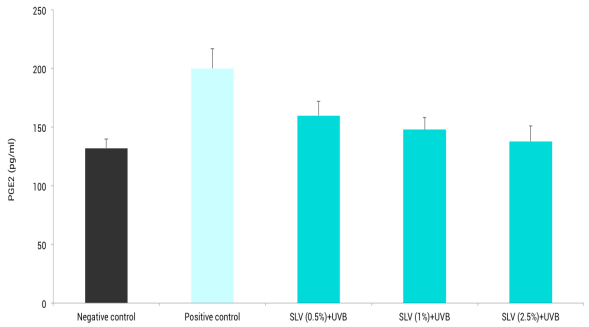
Study of the IL-6



Decrease of IL-6

→ At concentrations of 0.5%, 1% and 2.5%, decrease of IL-6 respectively by 18%, 25% and 26%

Study of the PGE2



Decrease of PGE2

→ At concentrations of 0.5%, 1% and 2.5%, decrease of PGE2 respectively by 20%, 26% and 31%