



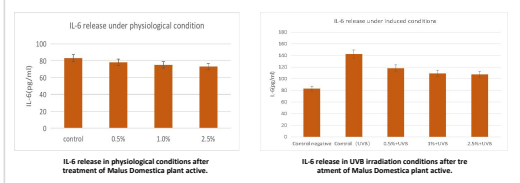
A Malus Domestica plant active providing soothing effect through decreasing inflammation and regulating cutaneous microcirculation

Poster ID 56

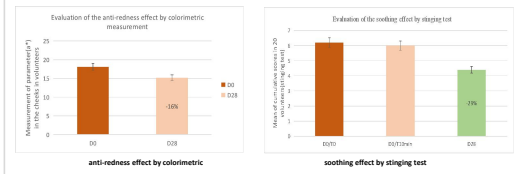
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Introduction:

Sensitive skins always feel agressed, so it is necessary to better regulate several mechanisms of inflammation. For skin in harmony with its environment, soothed, and with a tone more radiant and even. Inflammation mediators are chemicals that participate in the inflammatory response. The molecules are synthesized by keratinocytes in response to external aggressions, but that gives a sensation of irritation. The most common inflammation mediators are IL-1 α , IL-6, and PGE2. IL-1 α is an intracellular messenger cytokine synthesized then stocked inside the cell as an inactive precursor. It has many biological local and systemic functions. IL-6 is a pro-inflammatory cytokine, it regulates the activation, growth, and differentiation of lymphocytes. It belongs to the group of proteins that direct the secretion of antibodies to fight against extracellular pathogens. PGE2 is derived from phospholipids of cell membranes. PGE2 acts on smooth muscular fibers of vessels: vasodilatation, an increase of permeability, and edema. Studies have also shown that vasodilators are also mediate inflammation and responsible for skin redness. Among vasodilators is nitric oxide (NO), which 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. Malus Domestica plant active is an advanced product industrialized newly from plant cells that were dedifferentiated using their fruit cells and elicited to produce a large quantity of phytoalexins.



The results obtained by clinical tests showed a decrease of the redness and irritation by 16%, 29%, respectively, on 20 women who use the emulsion with 0.1% of Malus Domestica plant active for 28 days. Moreover, self-assessment results showed that 90% of the volunteers declared that the skin is soothed, while 85% of the volunteers declared that the redness is reduced.



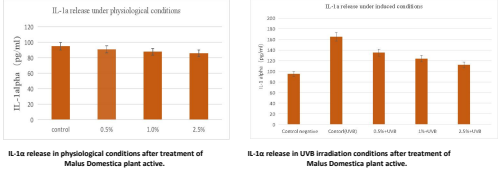
The Malus Domestica plant active could eliminate the vasodilator effect of nitric oxide (EDRF: endothelium derived relaxing factor) after ultraviolet irradiation. The Malus Domestica plant active (0.5%, 1% and 2.5%) exerts a significant inhibitory action against irritative and inflammatory phenomenon induced in vitro on reconstituted epidermises. The Malus Domestica plant active protect the skin from ultraviolet irradiation and damage caused by external stimuli by limiting the release of inflammatory factors (IL-1, IL-6, PGE2). The Malus Domestica plant active soothes and enhances the general well-being of the skin. Dedifferentiated and elicited Malus Domestica plant active display strong anti-inflammatory and anti-redness properties by the inhibition of inflammatory mediators and vasodilators. It helps to provide protection and a soothing effect to the skin.

Materials & Methods:

The tests on SKINETHIC[®] reconstituted epidermis and endothelial cells were conducted to prove its inhibitory effect on inflammatory mediators and vasodilators, and a clinical study was adapted to prove its lightening, soothing and anti-redness effects. The induction of inflammatory mediators was performed in vitro on reconstituted epidermis SKINETHIC[®] after UVB(150mJ/cm²) exposure. After 24 hours of contact of 0.5%, 1%, and 2.5% of Malus Domestica plant active with the epidermis, the culture mediums were taken, and the assessment of IL-1 α , IL-6, and PGE2 was performed according to the protocols described in detection Elisa kits. As for the effect on the regulation of cutaneous microcirculation, the study was performed on HUVEC by the assessment of the nitric oxide in induced conditions. As for the clinical test, the active was applied by 20 volunteers (44-67 years old women) for 28 \pm 2 days under the normal conditions of employment, and the colorimetric measurement, sting test, and questionnaire were conducted during two visits at the laboratory (D0 and D28).

Results & Discussion:

The study showed that the Malus Domestica plant active at the concentrations of (0.5%, 1% and 2.5%) presents a significant inhibition effect on the inflammation mediators after induction by UVB rays, which was translated by a decrease of the release of Interleukin 1 α , Interleukin 6 and PGE2 stimulated in reaction to the UVB rays respectively by (18%, 25%, and 32%), (17%, 23%, and 25%), and (16%, 20%, and 25%), respectively. Additionally, the irradiation of the endothelial cells in culture with UVB results in a 38% increase of nitric oxide. The treatment with the Malus Domestica plant active at (0.5%, 1%, and 2.5%) before irradiation of the cells results in a significant decrease of the nitric oxide release by 17%, 24%, and 30%. Thanks to its action on two levels of the inflammatory system, the Malus Domestica plant active enhances the soothing and the lightening of the skin.



Conclusions:

The results obtained by clinical test showed a decrease of redness and irritation by 16% and 29% respectively after 28 days of application in women with sensitive and reactive skin. The Malus Domestica plant active enhances the soothing and the lightening of the skin.

Acknowledgements:

NONE.

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