

# Fragile Japanese Cherry tree

*The controlled soothing*

## A STORY

The Japanese cherry tree | *prunus serrulata*, *Rosaceae*  
A Japanese symbol for life and death

*Glorified by poets for the moving beauty of its flowering beauty and by samourais as their mystic symbol since the 17th century, the Japanese Cherry tree has become very popular among Japanese. Indeed the abundant flowering of those cherry trees coming from the East of Asia, called Hanami, is celebrated every year in spring time by the population who can enjoy the beautiful landscapes of trees bending under the weight of white to pink flowers (according to cultivars). That symbolic tree can be found in all the Japanese literature, from novels written during Shoguns time to contemporary mangas.*

## 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

Brings a soothing sensation to skin

Because skin can be irritated at any time by several environmental factors or be intolerant a short time, it is necessary to limit the uncomfortable sensations that it creates while maintaining its part as a barrier. In order to never feel we have skin.



## PRODUCT BENEFITS

### Soothing

#### Soothing

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

#### Anti oxidant

Slows down general cell oxidation, reduces excessive production of free radicals.

*To be used in skincare or make-up products such as cream, fluid, serum, balm, lotion, milk, foundation, concealer, etc. In any colour cosmetic or skincare product dedicated to soothe skin.*

**NÆOLYS**

Related products | SOOTHING LIGHT APRICOT | FRAGILE COTTON | PURE LIGHT CHINESE PEONY

**HOW IT WORKS**

# Fragile Japanese cherry tree: limiting basic inflammation reactions in the epidermis

Fragile Japanese Cherry tree provides a regulation of the mediators of inflammation, that are molecules synthesised by keratinocytes in response to external aggressions - but that give a sensation of irritation - by decreasing their release in their skin. It limits also the production of free radicals induced by UV and physiological, that drives not only the suppression of immune defenses inside cells but also the release of mediators.

Thanks to those actions, skin is free from sensations of irritations and better protected. It can keep on fighting against daily aggressions and oxidations.

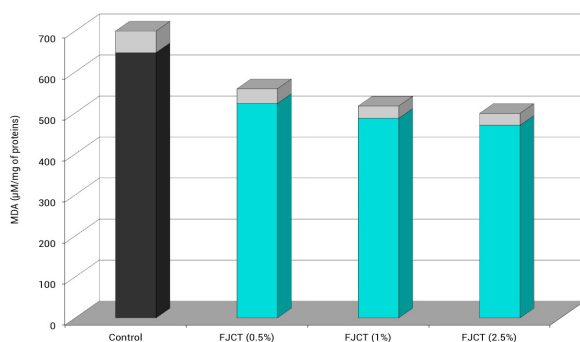
## *in vitro* testing results

### Study of the lipid peroxidation

Because it is a reaction indicating oxidative stress, Naolys chose to study the release of MDA during physiological lipid peroxidation and lipid peroxidation induced by UVB. When we measure the MDA (malondialdehyde), one of the chemical products created by the chemical chain reaction induced by the free radicals, indicating of cytotoxicity by oxidative processes, then we have a good information about the anti-oxidant activity of a substance.

Normally, the endogenous production of free radicals (physiological lipid peroxydation) is counterbalanced by various defense mechanisms. However, many situations can induce the appearance of an excess of free radicals (induced lipid peroxidation) such as intense exposition to sun, intoxication by certain chemical products, contamination by toxins, intense inflammatory reactions, etc. These oxygenated free radicals attack phospholipid membranes, thereby altering the properties of the cell membrane. They also induce the formation of lipid derived cytotoxic mediators which react with proteins. The consequences are numerous and can lead to several pathologies (inflammation, arteriosclerosis, etc.)

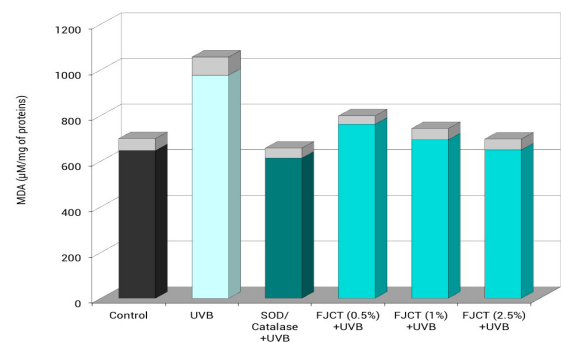
#### Lipid peroxidation in the physiological conditions



**Decrease of MDA (Malondialdehyde) rate**

→ At concentrations of 0.5%, 1% and 2.5%, decrease of the physiological lipid peroxidation, which was translated by a decrease of the MDA rate by 19%, 25% and 27% respectively

#### Lipid peroxidation induced by UVB



**Decrease of MDA (Malondialdehyde) rate**

→ At concentrations of 0.5%, 1% and 2.5% , decrease of the lipid peroxidation induced by UVB (150mJ/cm<sup>2</sup>) which was translated by a decrease of the MDA rate by 22%, 29% and 33% respectively, compared to SOD/catalase (-37%)

### Technical information Formulating Fragile Japanese Cherry tree

**INCI name of cells**  
prunus serrulata leaf cell extract

**form**  
cells (20%) in glycerin or sunflower oil (80%)

**aspect**  
liquid

**concentration**  
starting at 0.5%

**dispersible**  
in any formulation

## Study of the inflammation mediators

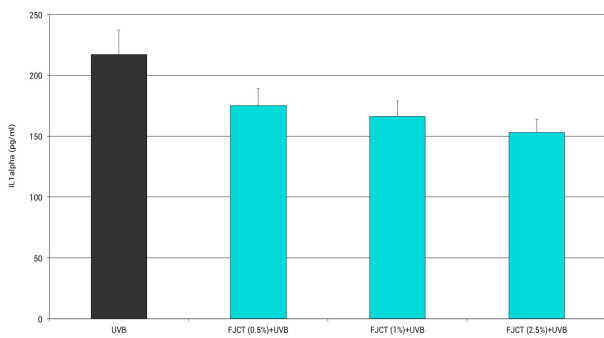
The inflammation is the answer of tissues to aggressions: all defense mechanisms through which they recognize, destroy and eliminate any foreign substances. Different types of cells take part in those mechanisms but in the epidermis, it is the keratinocytes we will study. The beginning of inflammation, its diffusion starting from the initial location involve chemical factors that are locally synthesized or at the state of inactive precursors. Naolys decided to study 3 inflammation mediators synthesized at the level of the keratinocytes of hair bulb, 2 famous cytokines and a prostaglandine.

IL1-alpha is an intracellular messenger cytokine synthesized 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.

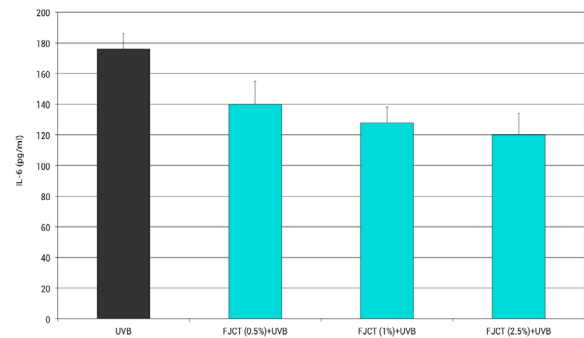
### Study of the IL-1 alpha



#### Decrease of the IL-1 alpha

→ At concentrations of 0.5%, 1% and 2.5%, decrease of IL-1 alpha respectively by 19%, 24% and 29%

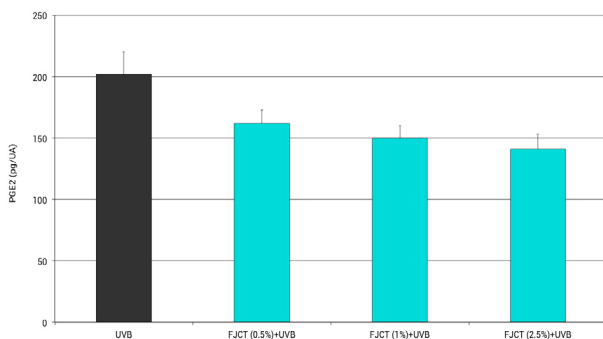
### Study of the IL-6



#### Decrease of the IL-6

→ At concentrations of 0.5%, 1% and 2.5%, decrease of IL-6 respectively by 20%, 27% and 32%

### Study of the PGE2



#### Decrease of the PGE2

→ At concentrations of 0.5%, 1% and 2.5%, decrease of PGE2 respectively by 20%, 26% and 30%