

# Inside Heart Egyptian blue lily

*Slowing down the internal cell unbalance*

## A STORY

The Egyptian blue lily | *Nymphaea caerulea*, *Nymphaeaceae*  
**A divine symbol in a mythical civilization**

*As an aquatic plant of South, blue lily comes out of water, it doesn't lie at the surface; but like any lily, it was cooked for a long time before (its rhizom). Its original environment first was the calm waters of Nile because it comes from Africa and likes hot climates. Very often used in religious rituals, it represented many concepts in Ancient Egypt: a symbol of creation and of god Nefertem, therefore a symbol of power, but also a symbol of renaissance for Egyptians. It is often found on buildings as a decoration component.*

## 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 anti-ageing action

Slowing down internal cell ageing to limit signs of ageing.

Because every type of skin components is hit by degradation, it is necessary to limit some by actions in the heart of skin. To keep a younger skin for a long time.



## PRODUCT BENEFITS

### Anti-ageing

#### Anti-ageing

Limits the internal cell degradation, and cell disorders, increasing with ageing.

#### Anti-oxidant

Slows down general cell oxidation, reduces 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 cosmetic or skincare product dedicated to decreasing skin cell ageing.*

#### Vitalizing

Contributes to keep original cell and molecular functions in skin.

**NÆOLYS**

Related products | INSIDE HEART GARDENIA | TOTAL GENERATION CENTELLA ASIATICA

**HOW IT WORKS**

# Inside Heart Egyptian blue lily: limiting internal modifications at the main skin levels

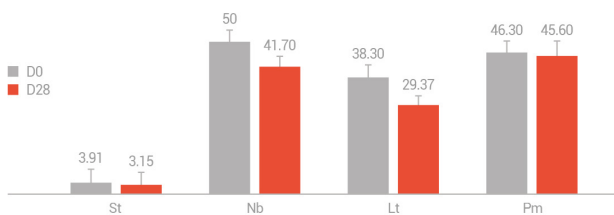
Inside Heart Egyptian blue lily contributes to the inside «rejuvenation» of cells at two levels, thanks to a global action. First, it decreases physiological and induced oxidation in cells of epidermis, meaning damages of cell quality by the creation of free radicals which destabilize cell structures, therefore their functions. Second, it decreases the physiological modification of proteins in the dermis by acting on an ageing process: glycation, a chain reaction that modifies the proprieties of collagens and elastin by disrupting them and preventing their renewal, then fibers get stiff.

Thanks to that action, cells and their proteins keep on functioning at a normal level: skin keeps its resistance, its suppleness and elasticity.

## Clinical testing results

### Decrease of wrinkles (crow's feet)

ASSESSMENT OF THE ANTI-WRINKLE EFFECT (MEAN DATA)



### Results of the study

- Decrease of the total surface of wrinkles by 20%
- Decrease of the number of wrinkles by 17%
- Decrease of the length of wrinkles by 23%



Day 0



Day 28

### Conditions of the study

- Survey made on 20 women during 28 days, with crow's feet
- Emulsion with 0.5% of Inside Heart Egyptian blue lily (dispersion form)
- Assessment made by analysis of cutaneous prints (Quantirides)

## Technical information Formulating Inside Heart Egyptian blue lily

**INCI name of cells**

Nymphaea caerulea leaf cell extract

**form**

cells (20%) dispersed in vegetal glycerine (80%)

**aspect**

liquid

**concentration**

starting at 0.5%

**dispersible**

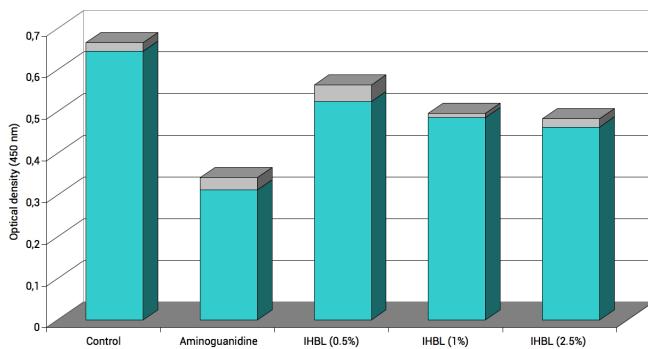
in any formulation

## *in vitro* testing results

### Study of the glycation of fibroblasts - dermis level

With ageing, skin changes and becomes less elastic and more rigid, wrinkles appear, complexion changes, etc. One of the factors well known and involved in those changes is the glycation reaction or the proteins glycation. It is a molecular modification caused to proteins with a long life, like proteins in the extra cellular matrix, when they are in contact with glucose, coming from our blood. Indeed glucose reacts spontaneously (with no enzymes) with NH from amino acids of proteins leading to products called AGEs (Advanced Glycosylation End products) known to form crosslinks and to accumulate in tissues. Glycation changes the properties of those modified proteins, prevents them from renewal and make them more resistant to proteolysis. In the same time, AGEs form crosslinks in tissues like collagens and elastine in the extra cellular matrix, which become more and more rigids, and break. This reaction leads to wrinkles, skin sagging and dryness and more difficulties to heal.

### Study of the glycation of fibroblasts



#### Decrease of the non enzymatic glycation of fibroblasts

→ At concentrations of 0.5%, 1% and 2.5%, a significant inhibitive activity of glycation at the fibroblasts level in culture respectively by 19%, 25% and 28%.

## Study of the lipid peroxidation

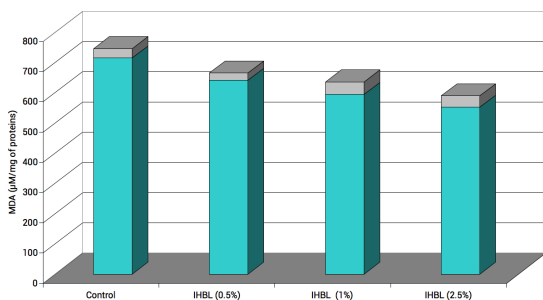
Because it is a reaction indicating oxidative stress, Naolys chose to study the release of MDA during physiological lipid peroxidation and lipid peroxidation induced by UVB.

When we measure the MDA (malondialdehyde), one of the chemical products created by the chemical chain reaction induced by the free radicals, then we have a good information about the anti-oxidant activity of a substance, as MDA is an indicator of cytotoxicity induced by oxidant processes.

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.)

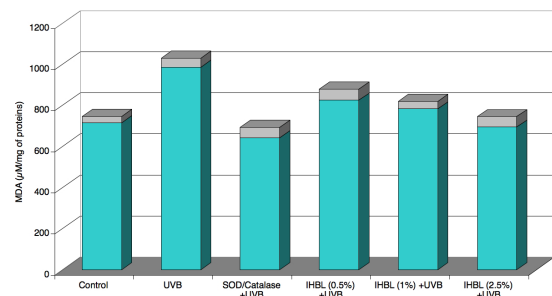
### Lipid peroxidation in the physiological conditions



#### 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 10%, 17% and 23% 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 16%, 21% and 30% respectively compared to protective enzymes SOD/catalase (-35%).