



Balancing Energy Asian ginseng

Regaining a balanced energy

A STORY

The Asian ginseng | *panax ginseng*, *Araliaceae*

The Asian plant of life

Found in the forests of East Asia (Mandchouria, Korea) more than 5000 years ago, that perennial herbaceous plant, known all over the world with its anthropomorphic root (ginseng means « man-root » in classical Chinese), would have many healing properties, according to Asian traditional medicines. It grows widely in the shadow, under trees; but its culture, started in the end of Middle Age in Korea, demands a lot of care and time: it takes 6 to 8 years before getting rhizomes of good quality. Indeed, it contains many components (ginsenoids, phenols,...), that may have tonifying, anti-inflammatory, anti-oxidant effects, it would reduce cholesterol.

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 energizing action

Increases cell energy and limits free radicals to produce a more radiant tone.

Because, like any part of the body, skin is sometimes tired, it is necessary to help it to regain its energyskin is sometimes. For a skin more beautiful, that feels an impression of well being.



PRODUCT BENEFITS

Energy

Energizing

Improves skin metabolism. Helps to stimulate cell regeneration and all cell functions in the epidermis.

Anti-oxidant

Limits the creation of free radicals due to the physiological processes and free radicals induced by UVB.

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 relaunching skin cell activity.

HOW IT WORKS

Balancing Energy Asian ginseng: increasing a cell metabolism with control

Balancing Energy Asian ginseng relaunches cell energy in epidermis by increasing cell energetic production, that is creating through respiration in cell mitochondriae. It contributes to boost chemical reactions (oxidations), that supply ATP, the source of elemental energy for cells, by maintaining the global energetic balance respect (energetical homeostasia), meaning that it keeps a balance between degradation processes (catabolism) and synthesis processes (anabolism). Those processes are inclined to unbalance with ageing. Besides, it minimizes the production of free radicals, that lead many cell disorders in short and long term: they also can limit cell activity.

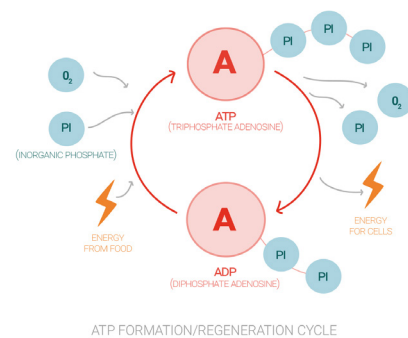
Thanks to those actions, skin cells can get back a level of activity to fill their functions, including those delayed by ageing.

in vitro testing results

Study of cellular metabolism

To study cellular metabolism, Naolys studied cellular respiration in the consumption of oxygen and the synthesis of ATP that takes place at the end of the respiration process, to the ATP/ADP cycle.

Cellular respiration is a redox chemical reaction which supplies energy to cells to grow and to function. Cells produce energy with glucides. But the energy released during oxidation of nutrients cannot be used directly by cells. It has to be caught by a transitional element, which is in majority, ATP (adenosine triphosphate), a nucleotide produced by mitochondrions, as its hydrolysis releases a high quantity of energy. But that transitional play and the fact that ATP stocks are not very important induce an intense renewal of that molecule. Therefore a continuous, quick and big production of ATP is needed. The ATP production never stops and ATP is continuously regenerated thanks to the cycle in cells. But that production decreases with ageing, as well as the ATP formation/regeneration cycle.



Technical information Formulating Balancing Energy Asian ginseng

INCI name of cells

panax ginseng leaf cell extract

form

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

aspect

liquid

concentration

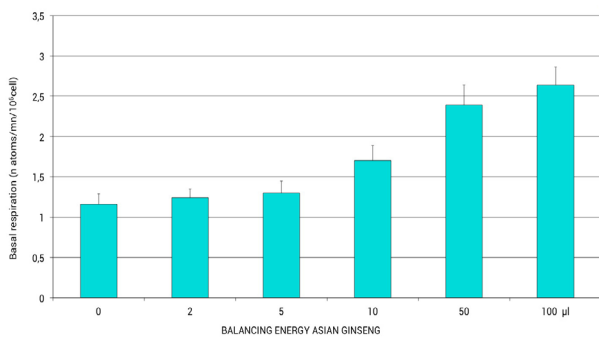
starting at 0.5%

dispersible

in any formulation

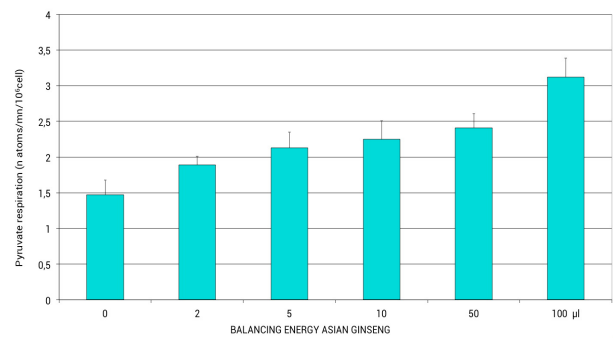
Study of the energetic and respiratory metabolism of keratinocytes

Respiration speed - oxygen consumption



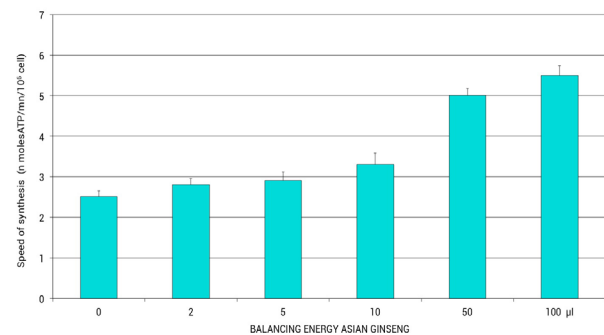
Increase of the speed of cell basal respiration

Respiration speed - oxygen consumption



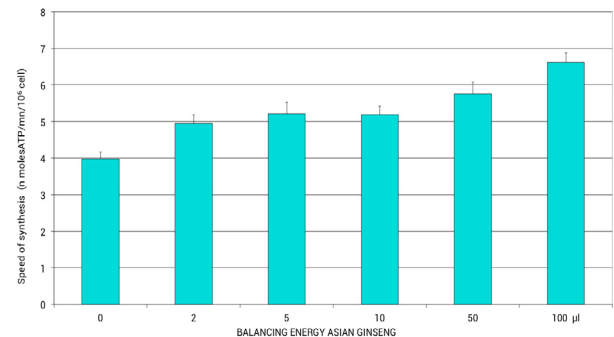
Increase of the speed of mitochondrial respiration

Speed of synthesis of ATP - basal cellular synthesis rate



Increase of the speed of the synthesis of ATP

Speed of synthesis of mitochondrial ATP



Increase of the speed of the synthesis of ATP

→ At **0.5% concentration**:

- increase of the speed of cell basal respiration
 - increase of the speed of mitochondrial respiration
 - increase of the speed of the synthesis of ATP (cell basal and mitochondrial)
 - simultaneous increase of ATP, ADP and AMP concentrations
- Stable energetic balance (stable EC)

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.

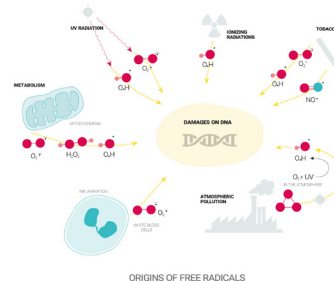
When we measure the MDA (malondialdehyde), one of the chemical products created by the chemical chain reaction induced by the free radicals, indicating of cytotoxicity by oxidative processes, then we have a good information about the anti-oxidant activity of a substance.

Normally, the endogenous production of free radicals (physiological lipid peroxydation) is counterbalanced by various defense mechanisms.

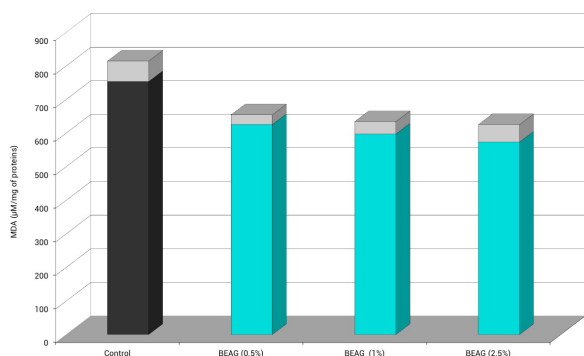
However, many situations can induce the appearance of an excess of free radicals (induced lipid peroxidation) such as intense exposition to sun, intoxication by certain chemical products, contamination by toxins, intense inflammatory reactions, etc.

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.)



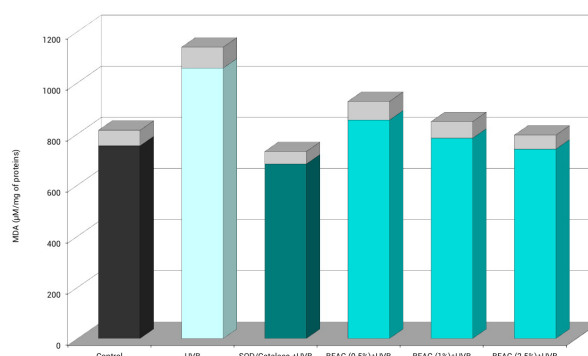
Lipid peroxidation in the physiological conditions



Decrease of MDA 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 17%, 21% and 24% respectively

Lipid peroxidation induced by UVB



Decrease of MDA rate

→ At concentrations of 0.5%, 1% and 2.5%, decrease of the lipid peroxidation induced by UVB (150mJ/cm²) which was translated by a decrease of the MDA rate by 19%, 26% and 30% respectively compared with protective enzymes SOD/catalase (-35%)