ECTive® MD

Concept and ingredients to improve the quality of life

amitahc

your health, our care

amitahc, health care specialist, introduces an high tech ingredient to rebalance and maintain the ideal conditions for the cells to survive.

ECTive® MD

Produced by

ROELMI·HPC
Health & Personal Care

ECTOIN: A NEW FRONTIER IN MEDICAL DEVICES

Ectoin is a **powerful molecule**, an osmolyte produced by naturally occurring extremophile bacteria in order to protect themselves from exogenous stresses, such as UV rays or the excessive salinity of the environments in which they live.

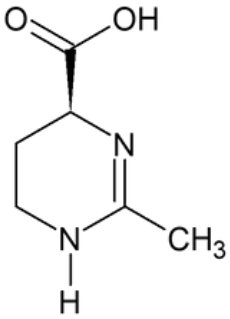
It is a naturally active and multifunctional substance able to protect biomolecules from environmental stress: sunlight and blue light, temperature, dryness and osmolarity, as well as balancing the cellular microenvironment.

ORIGIN

Ectoine is a cyclic amino acid derivative that acts as an extremolyte (osmolyte from extremophiles), isolated firstly by Galinski and colleagues from the bacterium *Ectothiorhodospira halochloris.*

ROELMI HPC has obtained **ECTive® MD** starting from a specific strain through a patented fermentation process.

The ingredient is a natural protective agent widely used for the treatment of respiratory diseases, allergic and dermatologic conditions. It can be **used in numerous medical devices**, thanks to its physical mechanism of action of "preferential exclusion" which regulates the hydration of the molecules, protecting them from negative aggressions.

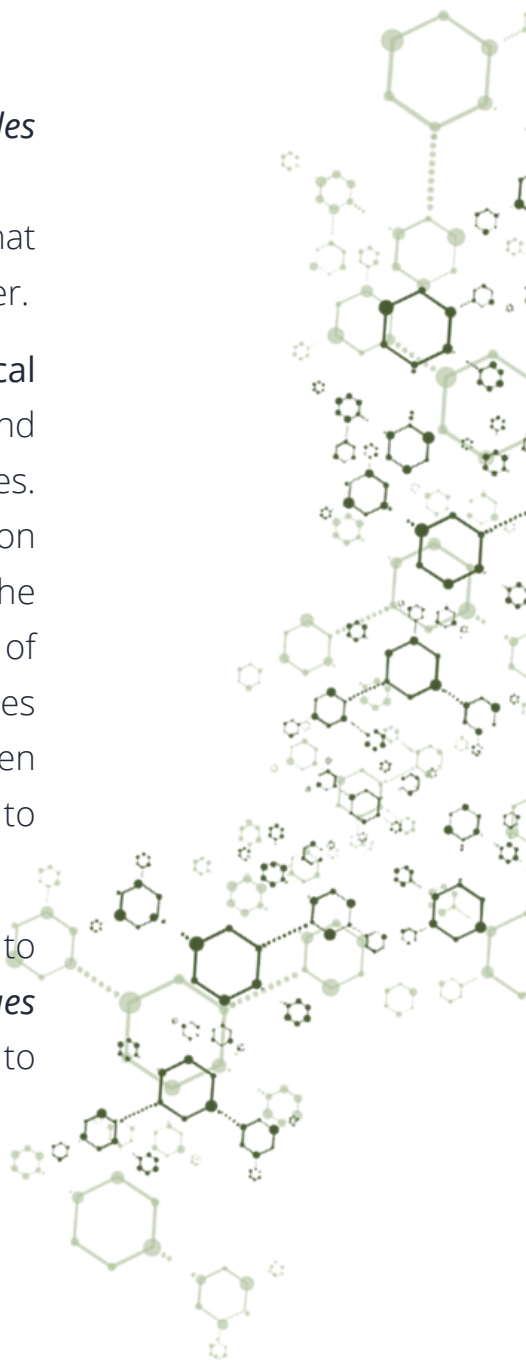


MECHANISM OF ACTION

The main activity of Ectoine is to organize molecules of water surrounding it in a structural way.
In fact it is a protective osmolyte for cells that balances the amount of inter and extracellular water.

ECTive® MD stabilizes biomolecules via a physical mechanism, called "***preferential exclusion***" and thereby protecting those from negative influences. According to this theory, the protein's stabilization effects of ectoine are due to their action on the solvent water, leading to a preferential exclusion of the osmolyte from the protein and macromolecules surface, modulating only the distance between molecules of water, without interacting, in order to keep it stable in his native structure.

Using ***Ectoine*** in a topical application, it permits to create ***a real barrier of water protecting tissues*** making able proteins and biomolecules to restructure in their more stable form.



INDICATIONS

ECTive® MD acts against the denatured state of the proteins and promote the correct folding and an appropriate hydration.

Thanks to its physico-chemical characteristics and its high water solubility ECTive® MD is ideally suited as osmostress protectant widely used for the treatment of ophthalmic, vaginal, rectal diseases and dermatological conditions (dermatitis, sunburn, psoriasis and dandruff).

APPLICATIONS

Shampoo

Rectal ointments

Eye drops

Vaginal suppositories

Dermatological creams

STUDIES

In vitro tests

ECTive® MD shown the ability to protect cells from salty or chlorine water-induced osmotic stress.

In vivo tests

HYDRATION TEST

20 subjects living in Beijing, in daily contact with a polluted environment and a high level of heavy metals in the air.

Results

ECTive® MD formulated at 1% in a face cream has been shown to balance the skin microbiota better than the formula placebo, hydrating it better and making it more elastic in just 28 days of daily treatment.

BOOSTER EFFECT

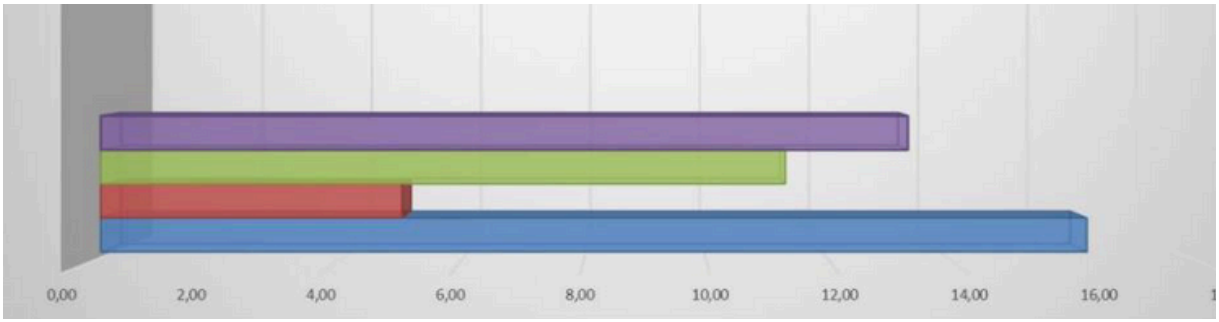
Carried out on 20 volunteers with normal combination skin for 28 days.

Results

ECTive® MD increases skin hydration of **14.3%** compared to T0 thanks to the synergy with a selected ingredient within the formulation, i.e. medium molecular weight sodium hyaluronate.

NEW

New in vitro studies on the ability of the ingredient to absorb UVA, UVB and blue light have recently been made, giving back **excellent results such as the 11% increase** compared to placebo of the reflectance value of visible light (700 nm - 1 mm).



Difference of Sample and Placebo %R | Maximum Difference of Sample and Placebo %R

ECTive™ MD (Ectoine) % Mean | WATER %Mean

These tests, in addition to giving new indications about possible applications of ectoine, can lay the foundations for the application of the ingredient within medical devices aimed at protecting the eyes and skin from light sources such as the sun and screens cellphones and computers.

Discover more about ECTive® MD

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