

aurealis™

Deep hydration, lasting beauty

MOIS

TURE

NATbeauty™

Market Opportunities

Epidermis acts as a barrier for the skin against daily exposure to dry air, cleaning products, extreme temperatures and other environmental factors. Providing adequate moisturizing for the epidermis is an essential factor in keeping this barrier efficient. Skin without adequate moisture can appear dull and unhealthy. **Moisturizing is therefore essential for both the health and the radiance of the skin.**

Premium Characteristics

Naturex has screened many botanical extracts to assess their moisturizing properties. Among them, **the extract of the flower of the bitter orange (*Citrus aurantium* L.) showed spectacular results.**

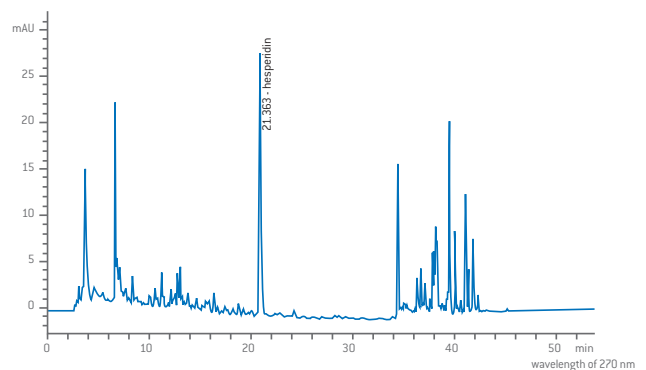
Bitter orange is a fruit tree, native to Southeast Asia and now cultivated throughout the Mediterranean. Its rind is used to make a fragrant essential oil used in perfumery. It also has medicinal effects. The tree's flowers are made into orange flower water which is widely used in Mediterranean cuisine.

Naturex has developed Aurealis™, an extract of *Citrus aurantium* flowers with a specific profile.

This unique profile ensures the quality of the extract thus its efficacy.



HPLC



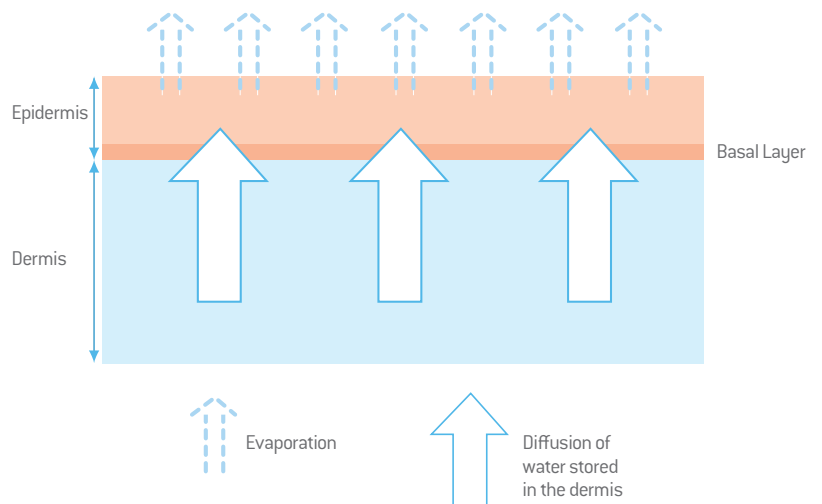
Hyaluronic Acid, the moisturizing regulator

Skin water reserves are stored mainly in the dermis. Water gradually moves through the different layers of the epidermis and evaporates from the surface of the skin. The moisturizing process is therefore conditioned by the balance between diffusion and evaporation, but also by the binding capacity of water by the epidermis.

In the Extra Cellular Matrix, glycoaminoglycans are the main carriers in the hydration process. **Hyaluronic Acid (HA)**, the most important of the compounds known as glycoaminoglycans, **regulates skin moisturizing thanks to its excellent water-retention properties.** HA content decreases during the aging process causing difficulty for the skin to retain moisture.

Keratinocytes of the basal layer produce HA in the epidermis and then regulate the moisture levels in the tissues.

Moisturizing Process

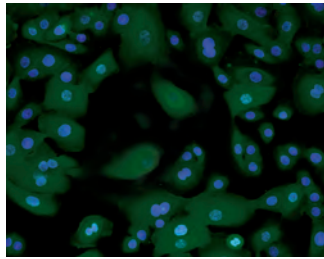


Aurealis™ action

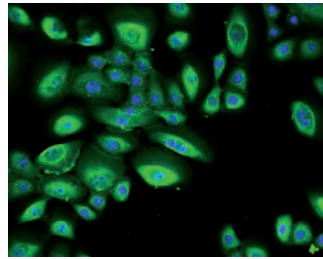
Keratinocytes
stimulation

In-vitro studies

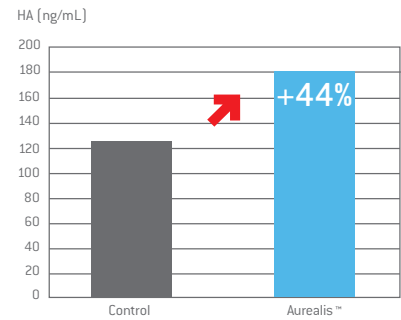
Increase of Hyaluronic Acid Synthesis



Control



Aurealis™



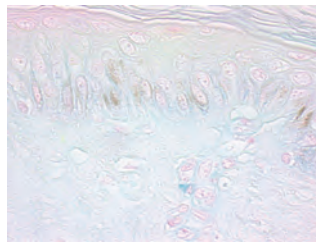
Aurealis™:

- Increases the production of Hyaluronic Acid by the cells (NHEK);
- Promotes the secretion of newly synthesized molecules.

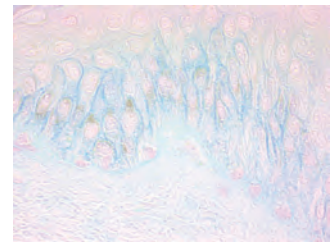
Ex-vivo studies

Increase of Glycoaminoglycans Synthesis in the Extra Cellular Matrix

Normal human skin explants
Aurealis™: in a solution soaked onto paper
Every 2 days, 4h/day, vs control
Coloration of GAG acids: Blue Alcian
Duration: 10 days



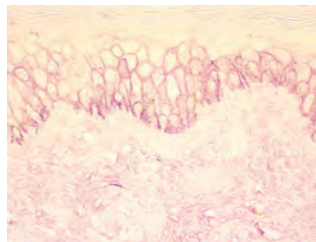
Control



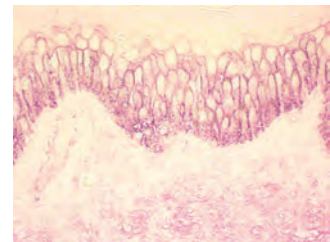
Aurealis™

Increase of Hyaluronic Acid Synthesis in the Extra Cellular Matrix

Normal human skin explants
Aurealis™: in a solution soaked onto paper
Every 2 days, 4h/day, vs control
Coloration of HA: HABP
Duration: 10 days



Control



Aurealis™

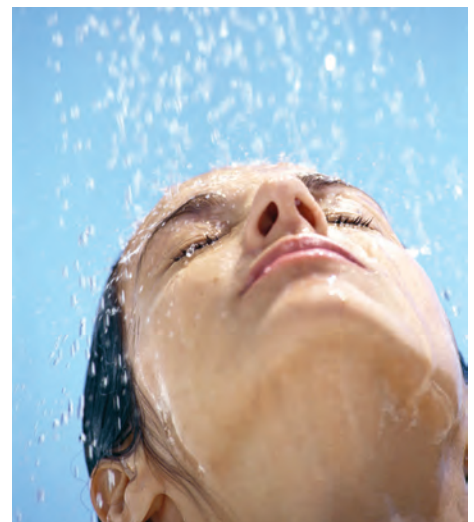
Balance of diffusion-
evaporation

Water retention
(limited losses)

Moisturized
Skin

Aurealis™ can be used:

- Daily to keep the skin moisturized;
- To promote the natural skin barrier in particularly difficult conditions (e.g., very low temperature, use of irritating products, etc.);
- To prevent the lack of moisture due to the aging process.



Aurealis™ is a moisturizing active from bitter orange. It improves the moisturizing process by maintaining a balance of water diffusion-evaporation.

Commercial name	Aurealis™
Complete name	Citrus aurantium extract - <i>Citrus aurantium</i> L.
Active markers	Flavonoids
Scientific Results	<p><i>In vitro study</i> Aurealis™: - Increases the production of Hyaluronic Acid by the cells (NHEK) - Promotes by +44% the secretion of newly synthesized molecules</p> <p><i>Ex-vivo studies</i> Aurealis™: - Increases glycoaminoglycans amount in the extracellular matrix of the epidermis - Increases hyaluronic acid amount in the extracellular matrix of the epidermis</p> <p>These results contribute to: - Maintain the balance of water diffusion/evaporation - Enhance water retention via limited losses</p>
Claims	Improves skin moisturizing
Applications	In skin care preparations
Safety	This product has been evaluated by Eurotox toxicologist

Specific data

Version	In powder form
INCI name	Citrus aurantium amara (bitter orange) flower extract (and) maltodextrin (and) silica
Solubility	Water, ethanol
Recommended dosage	0.2 - 0.5%
Labels	ECOCERT validated
Version	In glycerol form
INCI name	Glycerin (and) water (and) citrus aurantium amara (bitter orange) flower extract
Solubility	Water, ethanol
Recommended dosage	1 - 2%
Labels	ECOCERT validated
Version	In propylene glycol form
INCI name	Propylene glycol (and) water (and) citrus aurantium amara (bitter orange) flower extract
Solubility	Water, ethanol
Recommended dosage	1 - 2%