

Hylasome™ EG10

Cross-linked Hyaluronic Acid Inspired by Dermatologists



Hylasome™ EG10

INCI : Sodium Hyaluronate
Crosspolymer

CAS #: 105524-32-1

EC #: Polymer Exempt

**50x the water binding
capacity of hyaluronic
acid**

Free Radical Scavenger

**5x the moisturization
than hyaluronic acid
after 24 hours**

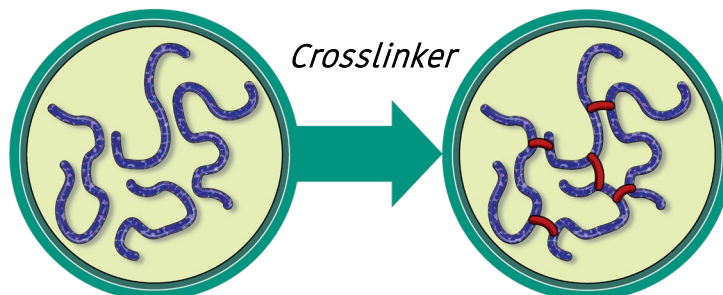
Hylasome™ EG10 is a chemically crosslinked hyaluronic acid derived from a non-animal source. It possesses an exceptionally high water-binding capacity resulting in excellent moisturizing abilities. It is also a scavenger of damaging free radicals.

Hylasome™ EG10 has a unique nonequilibrium gel structure with gel domains that hold tightly bound water. The material forms a film on the skin and delivers this water over time.

CROSSLINKING

Hyaluronic Acid

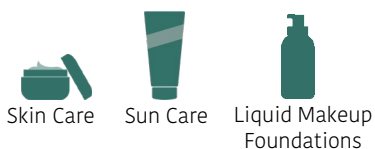
Hylasome™ (Crosslinked HA)



1-2 Million MW

“Infinite” MW

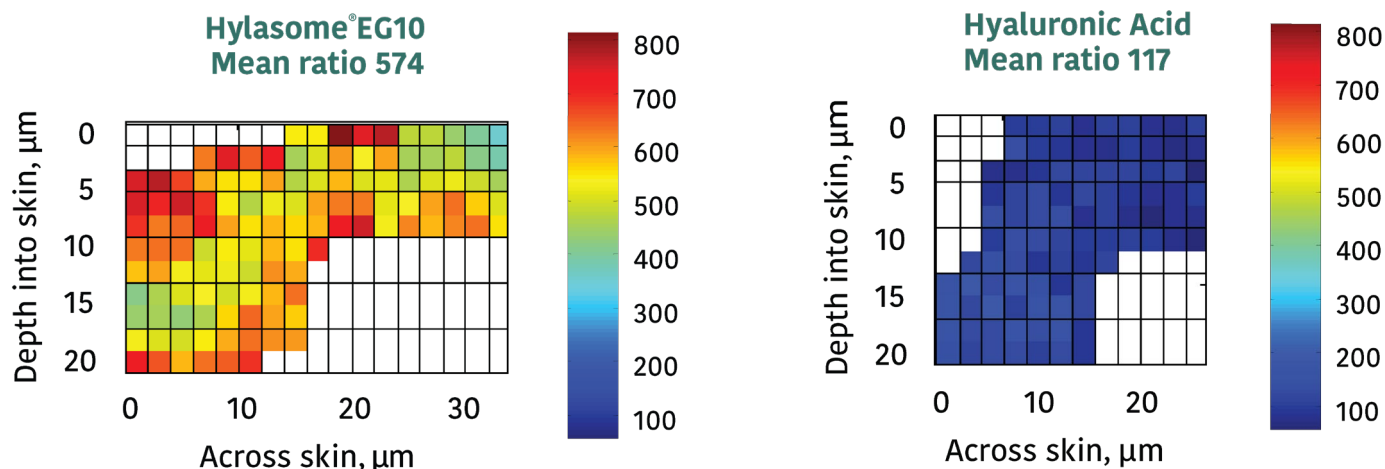
Recommended applications



Vantage

Moisture retention analysis in the stratum corneum

Five times more moisture in Stratum Corneum after 24hrs (Hylasome™ EG10 vs. Hyaluronic Acid)

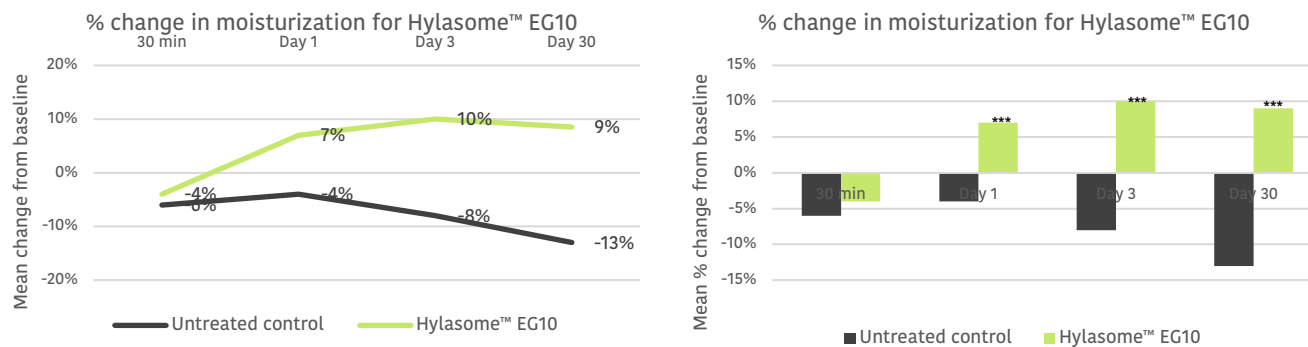


Results of an ex vivo skin moisturization experiment; Excised human skin was treated with Hylasome™ EG10 or hyaluronic acid, both at 0.1% solids in D2O, and held at 55% relative humidity for 24 hours. Stratum corneum water (D2O) content was then measured by confocal Raman spectroscopy. The values and colors indicate water (D2O) content in two dimensions (depth into and across the skin sample). Hylasome™ EG10 treated skin had 5x more stratum corneum moisture than the hyaluronic acid-treated skin.

Skin moisturization improvement

A clinical evaluation of Hylasome™ EG10 was conducted on a panel of 34 subjects, age 45 to 60 year-old. The panelists were selected because they suffered from skin dryness. The study lasted 30 days, with data points taken at 30 min, day 1 and day 3 for short-term effects and at day 30 for long-term effects. Hylasome™ EG10 was used at 3% in a O/W emulsion.

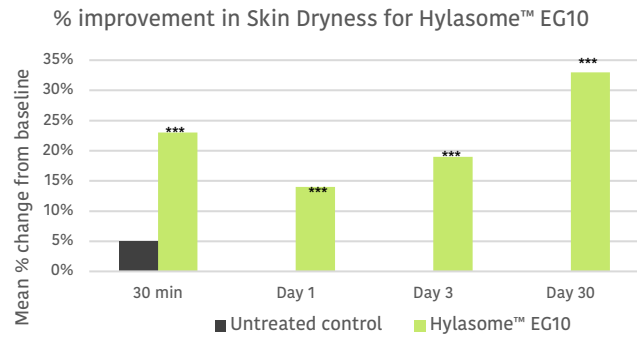
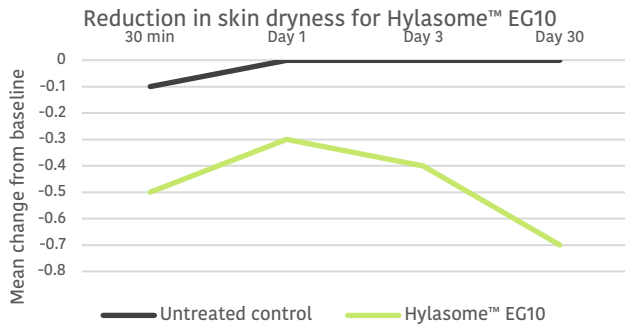
The first evaluation of skin moisturization was performed using a Corneometer® CM 825.



Hylasome™ EG10 demonstrated a statistically significant increase in skin hydration after 1, 3 and 30 days of product use when compared to untreated control.

Skin dryness reduction

During the same study, a visual assessment of skin dryness on the outer side of the lower legs was performed by a trained expert grader.

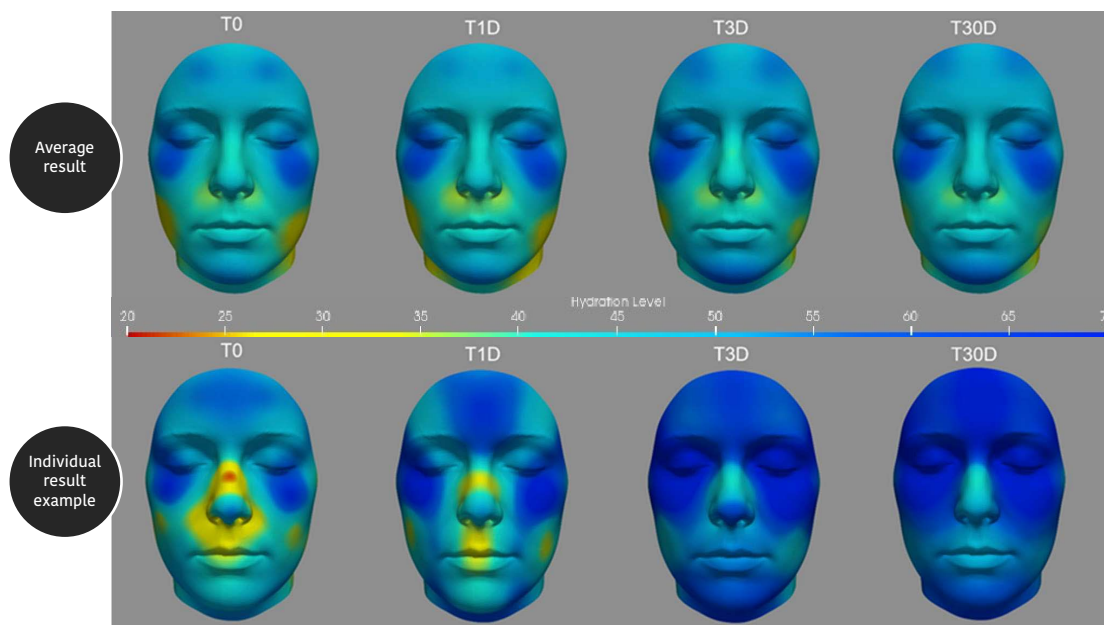


***Statistically significant vs control (T30m p-value <0.001, T1D p-value 0.001, T3D p-value <0.002, TD30 p-value <0.001)

Skin treated with Hylasome™ EG10 saw a significant reduction in skin dryness scores and a statistically significant improvement in visual skin dryness at all time points compared to untreated control.

Face moisture mapping

During the same study, Newtonone Hydration Mapping was used to analyze the effect of Hylasome™ EG10 on facial moisture at different time points. The blue shades represent areas of higher moisture, and the red shades represent areas of lower moisture.



Moisture mapping confirms that Hylasome™ EG10 visibly improves the overall face moisturization of panelists with dry skin

Hylasome™ EG10

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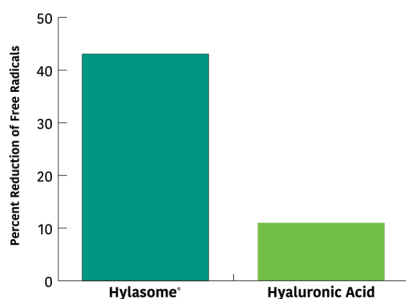
Typical Properties of	Hylasome™ EG10
Appearance	Colorless fluid gel
Odor	None
Color	Colorless
Solubility	Soluble in Water
Recommended Use Level	1-5%

Preservative System: Pentylene Glycol and Ethylhexylglycerin

Free Radical Scavenging by Hylasome™ EG10

Hylasome™ EG10 was found to reduce free radicals by 43% compared to untreated samples and 4X better than Hyaluronic acid .

Antioxidant activity measured *invitro* [xanthine oxidase/hypoxanthine]



Hylasome™ EG10 is a more effective free radical scavenger than hyaluronic acid.

Formulation guidelines

Incorporation

Hylasome™ EG10 consists of gel particles that can be used in various types of formulations:

- Emulsions: After the two phases have been combined and the emulsion has formed, cool the batch to 40 °C. Slowly mix in the Hylasome™ EG10 with propeller agitation and continue cooling and mixing.
- Gel based formulations using Hydrillien 9 and/or Carbomer: after polymer dispersion at 75 °C - 85 °C, add desired ingredients, then add neutralizer if required: triethanolamine, NaOH, or AMP-95. When batch reaches 45 °C, add Hylasome™ EG10 with mixing and cool to 25 °C.
- Hydrophobic substances: To incorporate Hylasome™ EG10 directly 'into' hydrophobic materials, use an emulsifier or solubilizer with the hydrophobic substance, and then add Hylasome™ EG10. For example: Mix polysorbate 20 (or 85) with vitamin E, allow to dissolve, add Hylasome™ EG10 and mix until uniform.
- If it is desired to add Hylasome™ EG10 to 'finished formulations', in most cases, Hylasome™ EG10 may be added directly to the finished formulation with low shear mixing agitation.

Stability and compatibility:

- Stable under normal temperature and pressures. Nonflammable material, keep container closed.
- Incompatible with cationic compounds causing cloudiness and precipitation of Hylasome™ EG10
- pH stable from pH 4-8.