Instructions

Type	TL100	TG100
INCI name	Sodium Hyaluronate Crosspolymer, Pentylene Glycol, Aqua	
Character	Colorless and transparent aqueous gel	Colorless and transparent aqueous gel containing soft particles
Recommended Dosage	1%-5%	0.05%-2%
Usage	It can be added directly to the water phase, stirring till completely dissolved.	The particles are visible, like “HA droplet”. They are still present in the solution after this product is dissolved in the aqueous phase. The particles will become smaller even disappear during the homogenization process.
Application	It can be used in moisturizing, anti-aging and anti-pollution products with different forms, such as cream, emulsion, essence, mask, etc.	

Reference Formula

Multiple HA Moisturizing Essence

INCI NAME	wt/%
Aqua	To 100
Allantoin	0.2
Sodium Hyaluronate (HA-T)	0.05
Sodium Hyaluronate (HA-TLM)	0.1
Hydrolyzed Sodium Hyaluronate(miniHA)	0.2
Aminobutyric Acid(GabacareBL98T)	0.1
Butylene Glycol	5.0
Sodium Hyaluronate Crosspolymer (Hyacross TL100)	3.0
Carnosine	0.2
Pentylene Glycol	3.0

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CREATIVE TECHNOLOGY FOR VIBRANT LIFE

BLOOMAGE BIOTECHNOLOGY CORPORATION LIMITED

Add: No.678 Tianchen St., High-Tech Development Zone, Jinan, China 250101
Tel: +86 531 82685998 Fax: +86 531 82685988
www.bloomagebioactive.com E-mail: customer@bloomagebioactive.com

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Hyacross™

Hyaluronic Acid Elastomer

Excellent protective network with long-lasting moisturizing effect on the skin

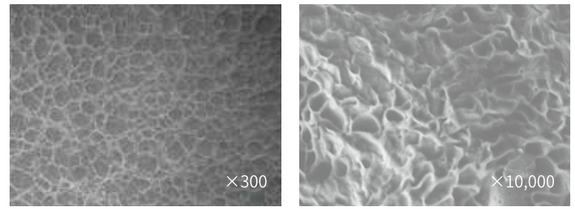
- Smooth and not sticky feeling
- Forms a crosslinked network on the skin surface
- Long-lasting moisturizing effect
- Protects skin against UV and air pollution

Hyacross™ Hyaluronic Acid Elastomer

Hyacross is a crosslinked polymer derived from natural Hyaluronic Acid (HA). Hyacross appears like an elastic gel with high viscosity able to form invisible biological film on the skin surface with various effects, such as moisturizing, protection, slow release, etc.

Spongeous Structure

The Hyacross microstructure was studied by using scanning electron microscopy. Hyacross can form a 3D “breathable” layer on the surface of the skin that improves the skin barrier function, reduces the water evaporation from cuticle and prevents the skin damage caused by external aggressions like UV ray, pollution, etc.

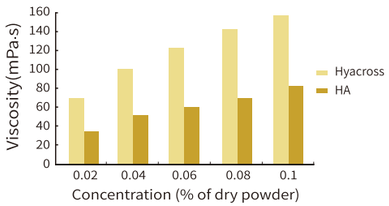


Hyacross microstructure

1 Long-lasting moisturizing effect

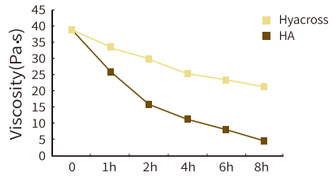
Excellent water-binding capacity

The viscosity of a Hyacross solution is 2-3 times that of HA solution at the same concentration, which indicates that Hyacross can bind more water molecules because of its crosslinked structure. Hyacross behaves like a “micro reservoir” delivering continuously water to the skin.

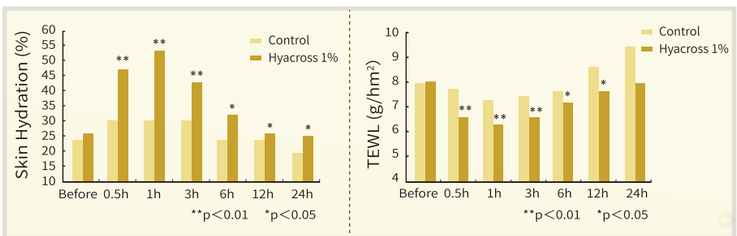


Good resistance to Hyaluronidase

Hyacross shows better resistance to Hyaluronidase than common HA, so the film formed by Hyacross on the skin surface is more stable and durable.



24 hours of long-lasting moisturizing effect

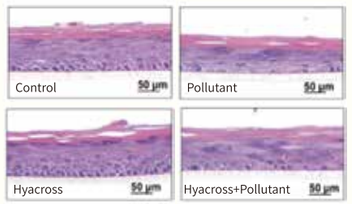


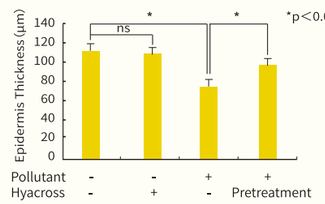
Hyacross can keep cuticle moisturized because of its excellent water binding capacity and decrease the evaporation of the deeper skin moisture by forming a dense film on the skin surface. Compared to the control group, the skin hydration of Hyacross group was increased by 85% after 0.5h and 110% after 1h; the skin TEWL of Hyacross group was reduced by 18% after 0.5h and by 22% after 1h.

2 Protects skin against environmental pollution

Hyacross can protect skin against particulate matter (PM) pollution

1 Hyacross can reduce the skin damage caused by pollutants

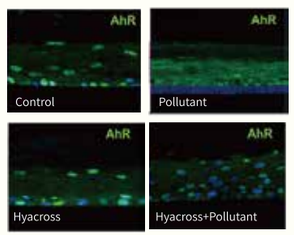


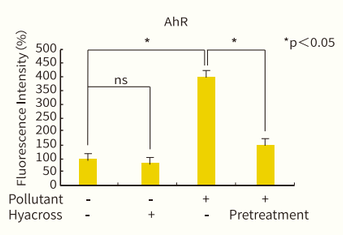


The skin tissue of the pollutant group showed abnormal morphology and the skin thickness decreased 38.6μm compared with the control group. The skin tissue damage was reduced by pretreatment with Hyacross and the thickness of skin tissue increased 20.97μm compared to the pollutant treated group.

2 Hyacross can significantly reduce the expression of AhR and CYP1A1

- The expression decrease of AhR (Aryl hydrocarbon receptor, Green)

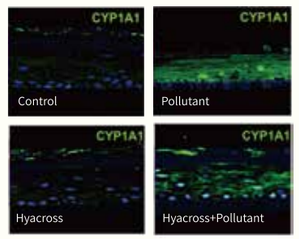


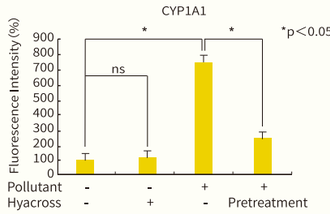


AhR can mediate the toxicity of PAHs.

When Hyacross was pretreated 24 hours prior to the treatment of pollutant, and then cultured for 24 hours with pollutant treatment, the expression of AhR was reduced by 63.26%.

- The expression decrease of CYP1A1 (Aryl hydrocarbon hydroxyla, Green)

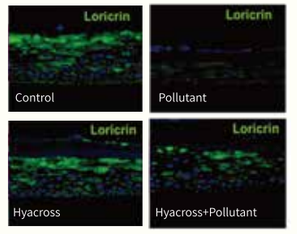


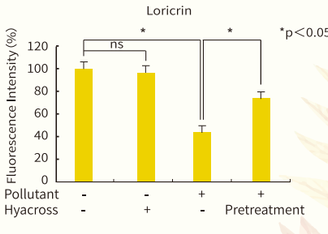


CYP1A1 could catalysis the oxidation of carcinogens from PAHs.

When Hyacross was pretreated 24 hours prior to the treatment of pollutant, and then cultured for 24 hours with pollutant treatment, the expression of CYP1A1 was reduced by 71.44%.

3 Hyacross can significantly increase the expression of loricrin





Loricrin could regulate skin barrier function, Green

The expression of loricrin involved in the skin barrier function increased by 64.93% compared to the pollutant treated tissue group.

The above data are all from a third-party institution.