AquaGlucan™

immediate hydration with long term benefits

Actera

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next generation technology for for naturally supple and healthy skintone

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INCI
Water (and) Propanediol (and) Glycerin
(and) Beta-Glucan

Applications

- Water-based gels, serums, lotions, and gel-creams
- Face and body moisturizers
- Overnight treatments
- Face masks and wipes
- After-shaving products

Key Benefits

- Immediate and long-term moisturization
- Anti-aging, anti-wrinkles
- Anti-redness, antioxidant, skin soothing
- Supports the production of collagen in the skin

Formulation Guidelines

Suggested use level:
0.5% to 10.0% (clinically tested at 5.0%)

Suggested pH range:
4.0 to 7.5

AquaGlucan is a water-soluble bioactive. We recommend to add it to the water phase of any cosmetic and personal care formulation at 45ºC or at lower temperatures. Combine with glycerin or glycols for even longer-lasting moisturization.

Bioactive Rationale

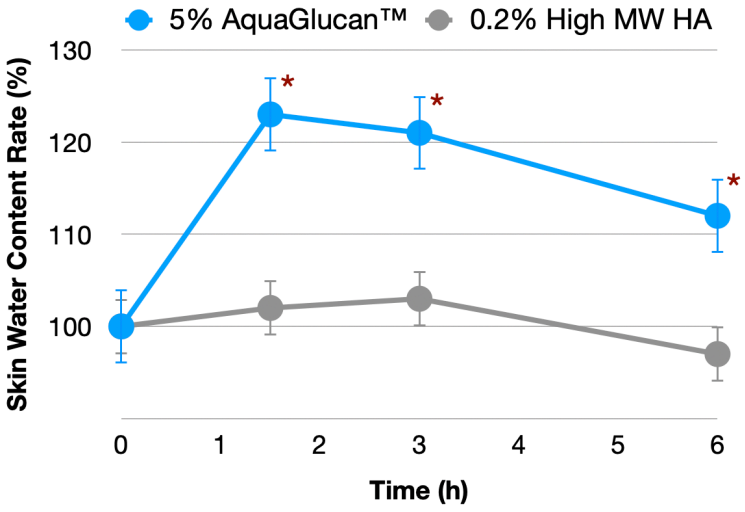
Beta-glucans are natural glucose polymers found in mushrooms, yeasts, seaweeds, and oats. These polysaccharides promote skin health due to their moisturizing effect, antioxidant activity, anti-wrinkle activity, and wound healing capacity. Natural beta-glucans form a protective film on the skin that retains water and activates cell proliferation.

AquaGlucan is a 100% natural product derived from the fermentation of the edible mushroom Schizophyllum commune. The beta-glucan extracted from this mushroom, also known as schizophyllan, is a water-soluble =(1-3, 1-6)-glucan with an average molecular weight of 1,200,000 Da. Schizophyllan also has superior biological activity than other beta-glucans.

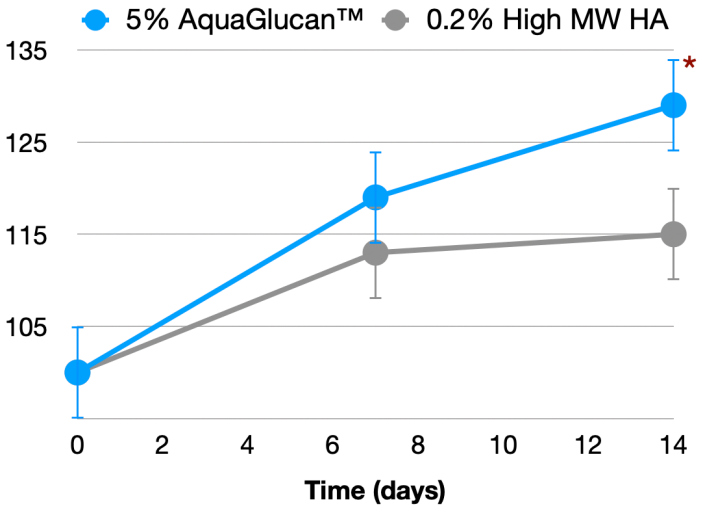
Fruiting body of Schizophyllum commune

higher performance than HA

Clinical results show that 5% AquaGlucan (about 0.06% beta-glucan) has **better immediate and long-term moisturizing effects** than high molecular weight Hyaluronic Acid (0.2%).



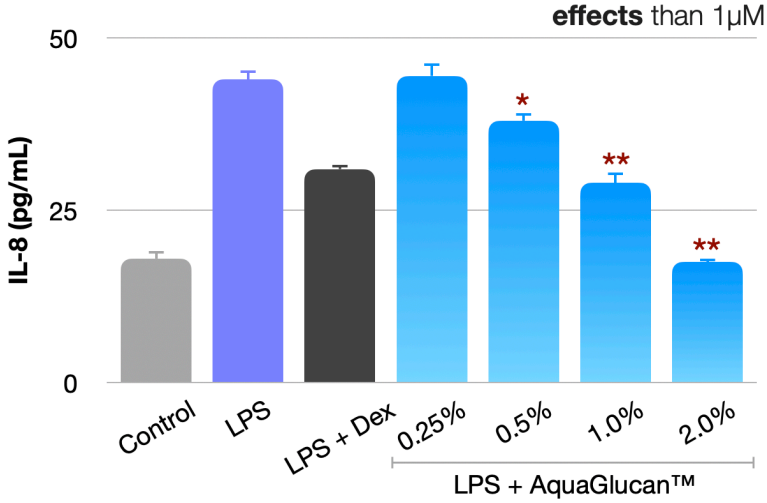
Method: human clinical, apply each formulation to different areas of the arm, measure skin water content at 0h, 1.5h, 3h, and 6h (Corneometer CM825). n= 10. *P <0.01, if compared to HA.



Method: human clinical, apply each formulation to different areas of the arm daily, measure skin water content at 0, 7, and 14 days (Corneometer CM825). n= 14. *P <0.05, if compared to HA.

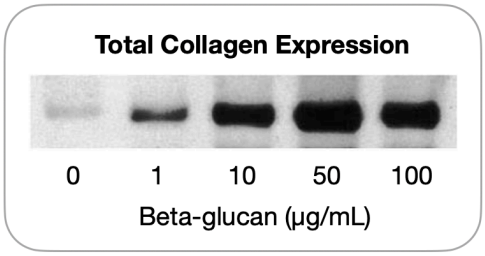
unique benefits for a youthful complexion

Results show that 2% AquaGlucan has **better anti-inflammatory effects** than 1µM Dexamethasone and can inhibit cell stress response.



Method: *in-vitro*, culture human mast cells LAD-2 with placebo, dexamethasone, or beta-glucan for 12h, then add LPS to accelerate cell degranulation (immune stress response). After 45 min, collect supernatant and determine IL-8 content (inflammatory mediator) by ELISA. **P <0.01 and *P <0.05, if compared to LPS.

Beta-glucan is also known to **accelerate the collagen synthesis** in human fibroblasts.



Method: *in-vitro*, culture human fibroblasts NHDF with beta-glucan for 48h, determine total collagen expression by Western Blot after treatment with different concentrations.

References

DU, B. et al. Skin Health Promotion Effects of Natural Beta-Glucan Derived from Cereals and Microorganisms: a Review. Phytother. Res., v. 28, p. 159-166, 2014.

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WEI, D. et al. Glucan Stimulates Human Dermal Fibroblast Collagen Biosynthesis Through a Nuclear Factor-1 Dependent Mechanism. Wound Rep. Reg., v. 10, p. 161-168, 2002.

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