Chemical and physical properties

- High molecular weight water soluble polysaccharide extracted from Suizenji nori, a freshwater alga (cyanobacterium)
- Light green powder
- Molecular weight ~ 1.6 x 10^7 Da

Use guideline

- Yields thixotropic gel
- Cold processable
- Incorporate slowly in water under stirring to avoid any lumps. Stir until the mixture is homogenous (more than 1 hour)
- A 0.5% sacran dispersion is available
- Use level: 0.05-0.5%

Cosmetic benefits

- Restores skin’s elasticity properties, helps to moisture it and smoothes its surface
- May moderate the development of allergic dermatitis (anti-inflammatory effects)

Water retaining properties

Sacran is capable of retaining more than 6000 times its own weight of water.
Data show that compared to hyaluronic acid (Mw=150-180 kDa) sacran can retain 5 times more water.
The saline absorption efficiency of sacran decreased to about one-half of the value for water, but the value is still very high.

Safety and regulatory information

Safety: A study has shown that epicutaneous application of sacran, in diseased mice in a curative protocol, has significantly inhibited the development of allergic dermatitis skin lesions and reduced the number of scratching behavior episodes. Human studies indicate that sacran ameliorates the skin elasticity and skin hydration.

REACH: Aphanothece sacrum expolysaccharides is exempted from registration.

Aphanothece sacrum expolysaccharides is listed on the following chemical inventories: CTFA, CosIng and KCID.

October 2016
In vivo efficacy study

Asian female volunteers, aged between 35 to 60 years old, having dry skin, applied a formulation containing 0.2% of sacran.

Skin hydration: Corneometry

![Graph showing skin hydration over time with and without sacran]

The application of the formulation containing sacran increases skin hydration.

Transpidermal water loss

![Graph showing transepidermal water loss with and without sacran]

The figures demonstrate that sacran decreases the transepidermal loss more significantly than hyaluronic acid which is known to improve skin moisture and exert skin barrier repair activity.

Skin elasticity: Cutometry

![Graph showing skin elasticity over time with and without sacran]

Skin elasticity: a significant increase of more than 33% was detected in the area treated with the sacran formulation.

Skin appearance: microscopic epicutaneous aspect

![Images showing skin appearance before and after application of sacran]

The application of sacran formulation significantly improves skin condition.

Anti-wrinkle activity

![Images showing wrinkle evaluation before and after application of sacran]

Wrinkle evaluation was performed using silicone rubber replica with the quantiride system. There was a decrease in all measured parameters after 4 weeks of product usage. These results show the anti-wrinkle effect of sacran.