

# Raya Hyaluron tremella and Raya Hyaluron cationic

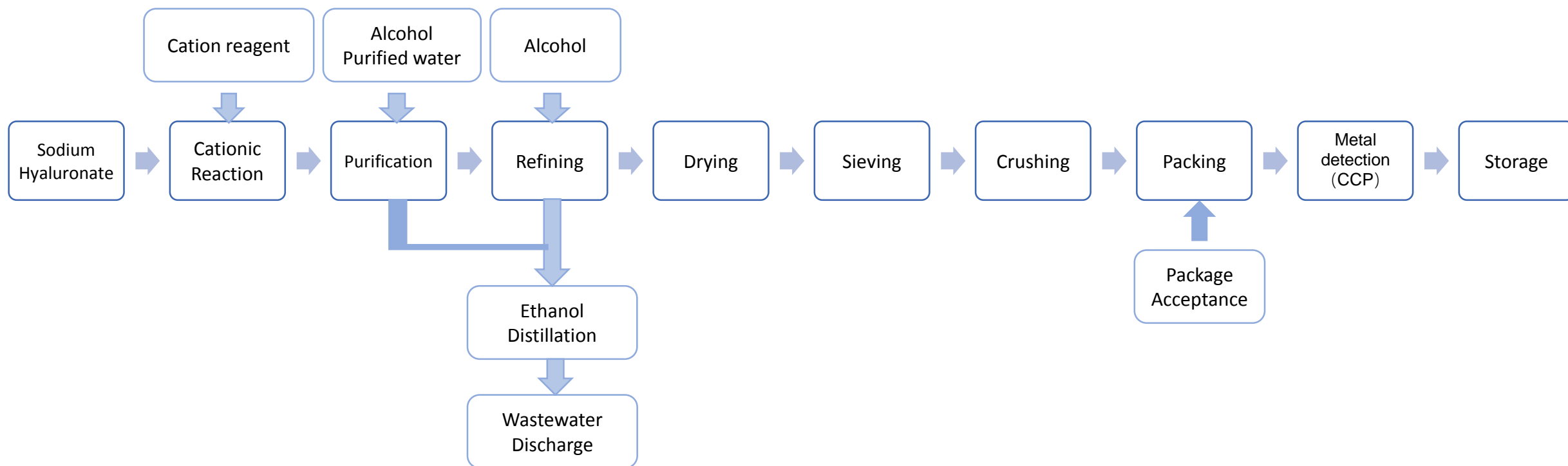
New versatile tools for cosmetic applications !!!

# Raya Hyaluron cationic

- Raya Hyaluron cationic is a kind of new product developed on the basis of ordinary sodium hyaluronate. Besides the same high moisturizing properties and high viscoelasticity as ordinary sodium hyaluronate, it also has a good adsorption property. It is used in hair care products and cleaning cosmetics products, and it can be adsorbed on the hair and skin surface to keep it in a moist state and it does not be washed away easily by rinsing water. When added Raya Hyaluron cationic into skin care products, you obtain good ductility of hairs. When it is used on skin the feeling is refreshing without any oily feeling. Skin becomes more moist and shinier by long-term use.



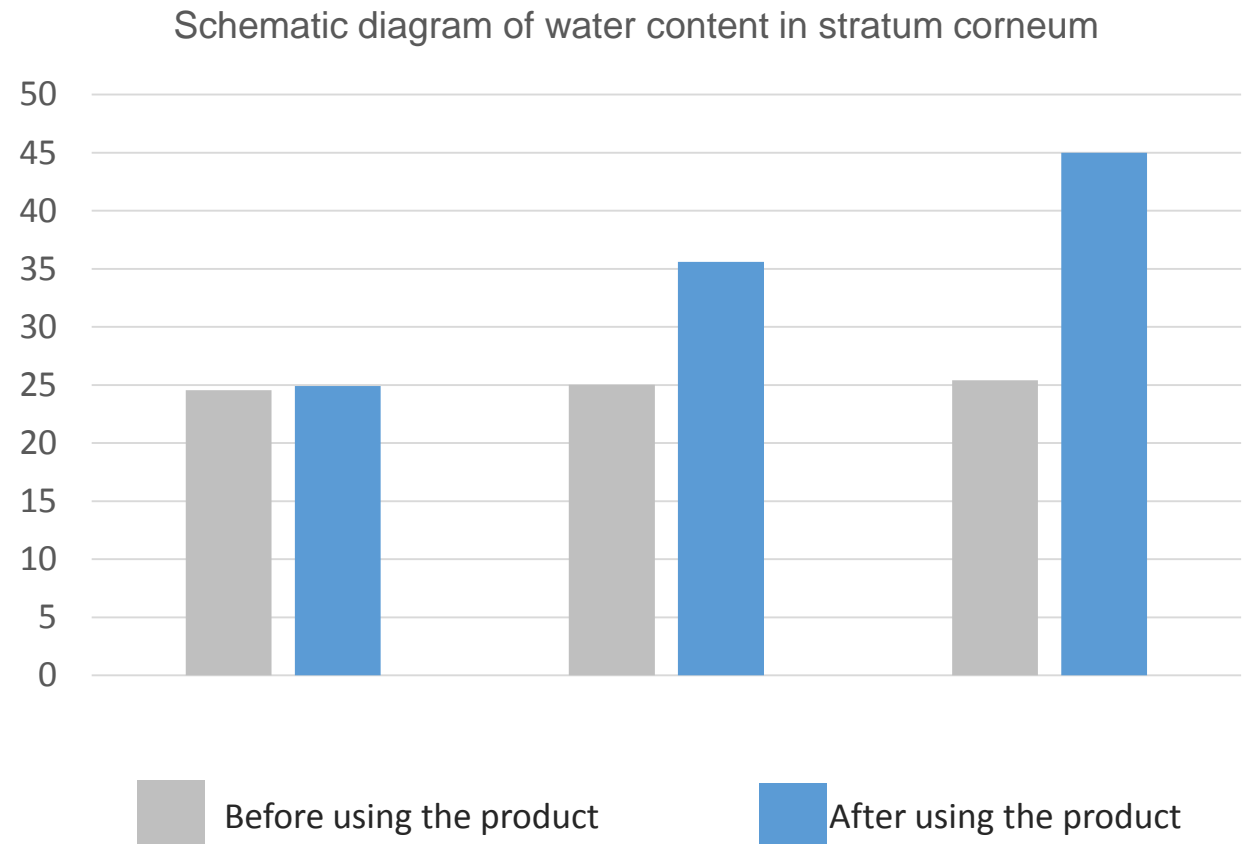
# Raya Hyaluron cationic Process Flow Chart



## □ Unique moisturizing properties

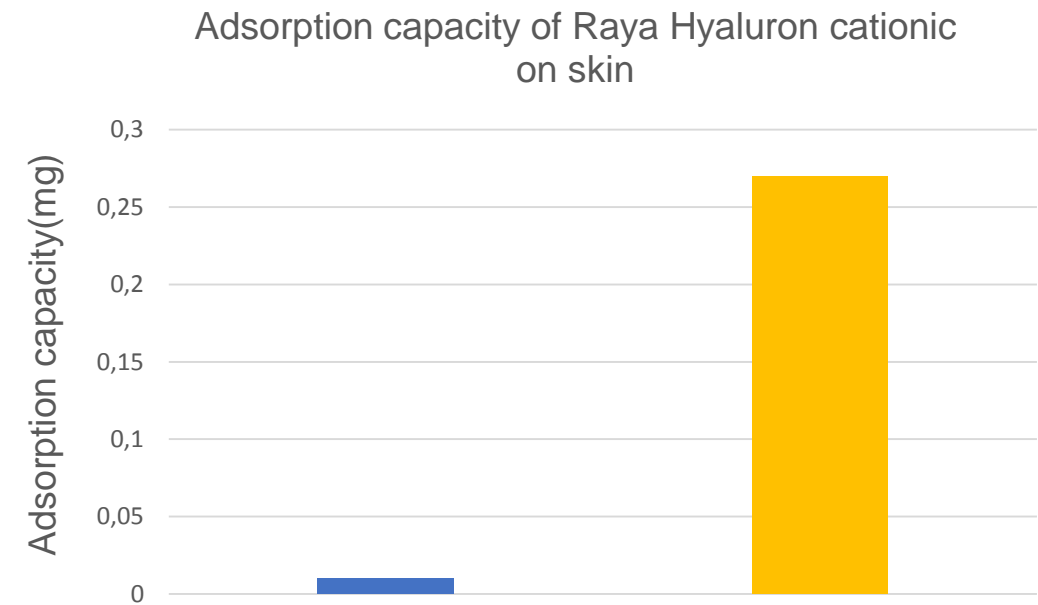
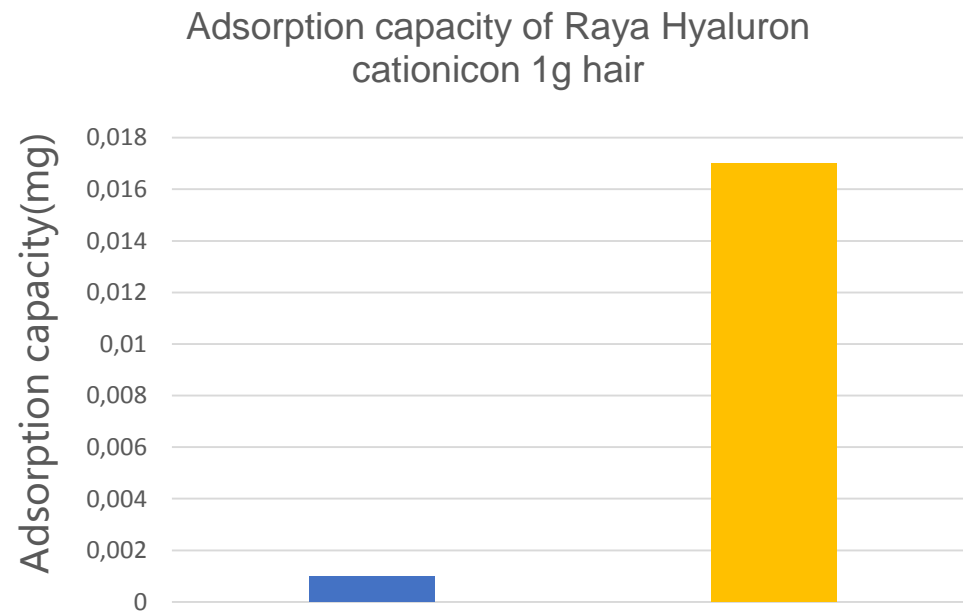
After using Raya Hyaluron cationic, the moisture content of the stratum corneum increased significantly, and the increased content was much higher than the ordinary sodium hyaluronate increased. This shows that the using of Raya Hyaluron cationic plays a better role in moisturizing than ordinary sodium hyaluronate.

Schematic diagram of water content in stratum corneum



## □ Good effect of adsorption and affinity

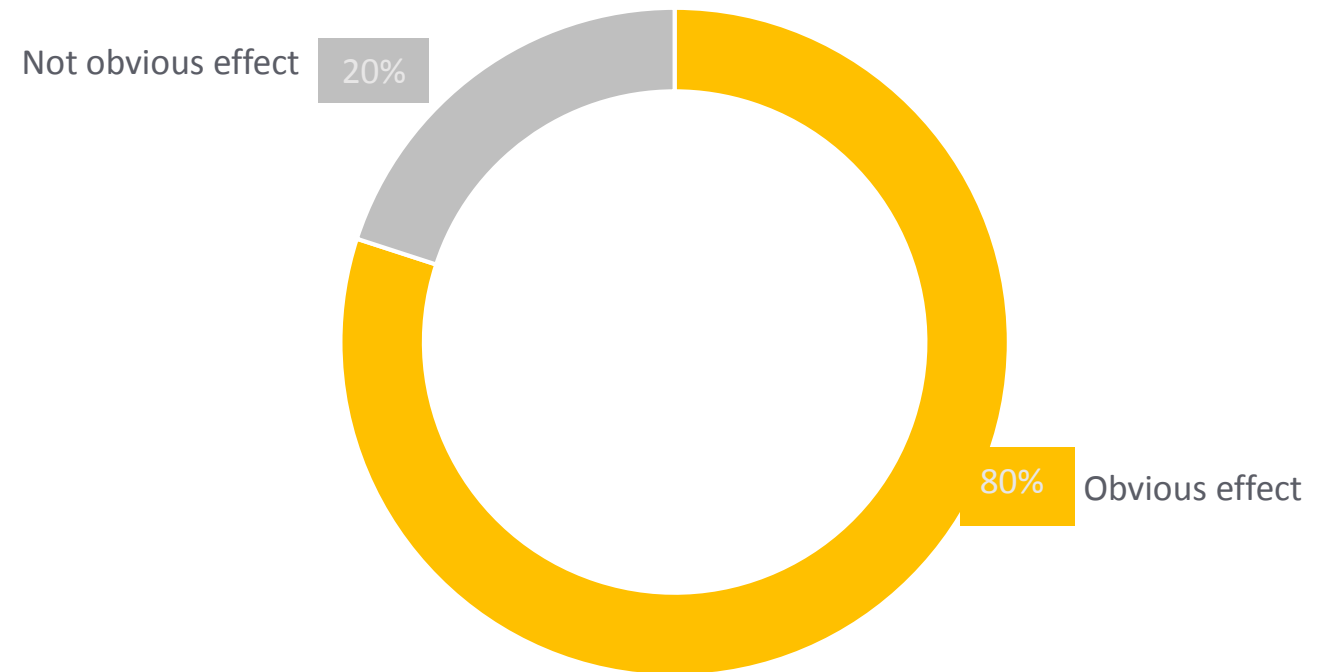
Raya Hyaluron cationic is more easily adsorbed on the skin and hair surface, and it is not easy to be washed away by water. It plays an important role in moisturizing long lasting and efficiently.



## □ Better skin feeling, be absorbed more easily

When adding Raya Hyaluron cationic into skin care products, you feel a good ductility when it is used also the skin feeling is refreshing without any oily feeling after use. Skin becomes more moist and shinier when long-term use.

Skin sensory analysis after using Raya Hyaluron cationic



Test Objects: 10 peoples (women)

Experimental Method: Administer Raya Hyaluron cationic to local skin (three times a day), three days later, the data collected confirmed if testers felt moisture and soft, and whether the degree of moist improved.

- Shampoo and hair care products:

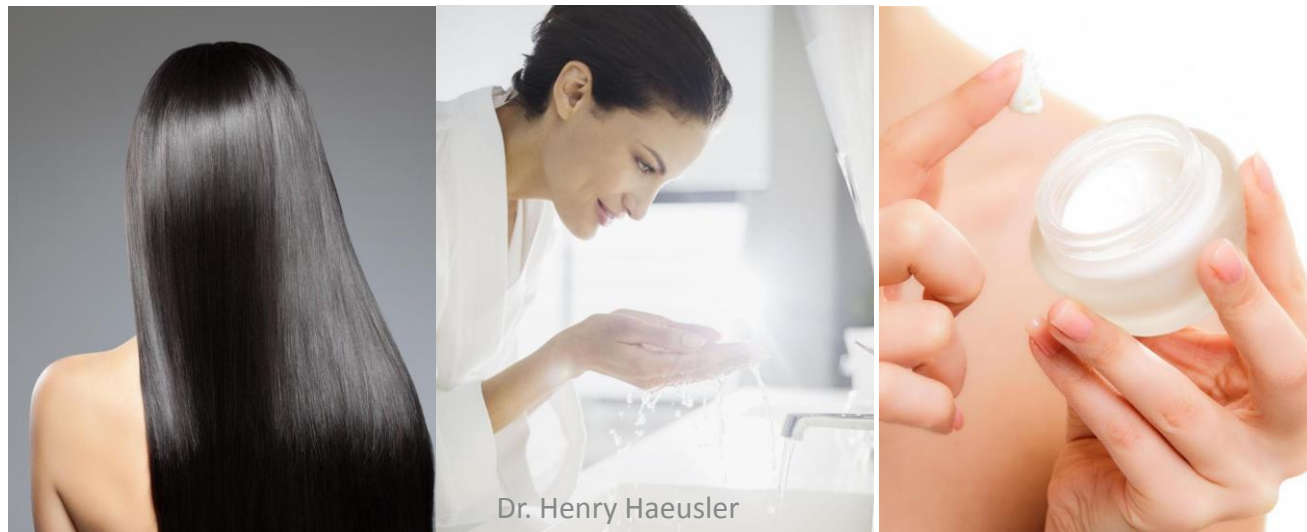
Shampoo, hair conditioner, hair mask, hair care agent, etc..

- Cleaning cosmetics products:

Facial cleanser, cleansing cream, cleansing foam, soap, shower gel, etc..

- Skin care products:

UV protection products, lotion, skin emulsion, cosmetic liquid, toner, etc..



# Product description

- ◆ Dosage recommended: 0.5%-1%
- ◆ Method of use: Can be dissolved in water directly, and has good compatibility. It can be used with majority moisturizing agent, oil, preservatives, surfactants, etc.



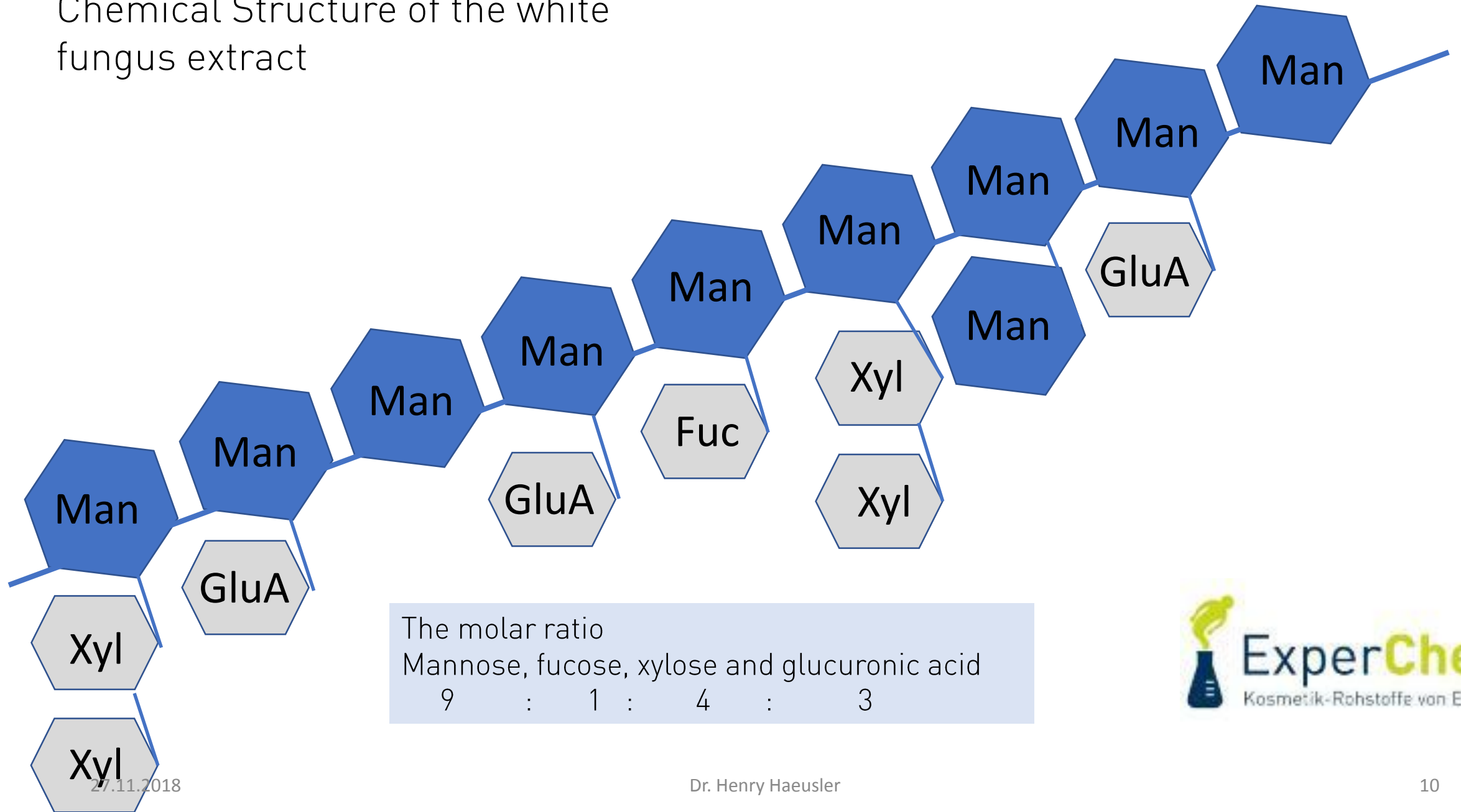


# Raya Hyaluron Tremella

Raya Hyaluron Tremella is a new type of plant derived high efficiency humectant extracted from Fungus fuciformis . It is a kind of water soluble polymer, the average molecular weight is over one million Da, and the molecular structure backbone is Mannan made up by alpha (1-3) - glycosidic bond composition, and the branched chain by glucuronic acid, xylose and fucose . The active part is common structural part of alpha (1-3) - mannan.



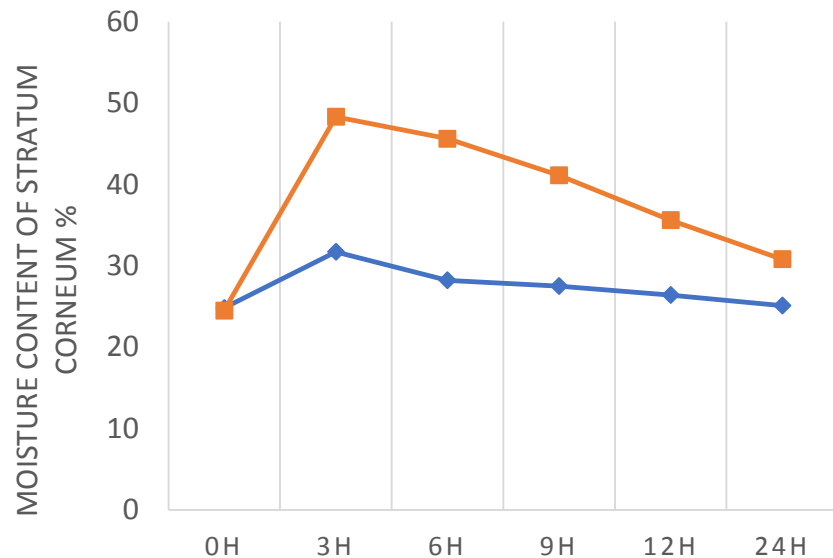
# Chemical Structure of the white fungus extract



# Efficacy – Efficient Moisturizing – (water retention)



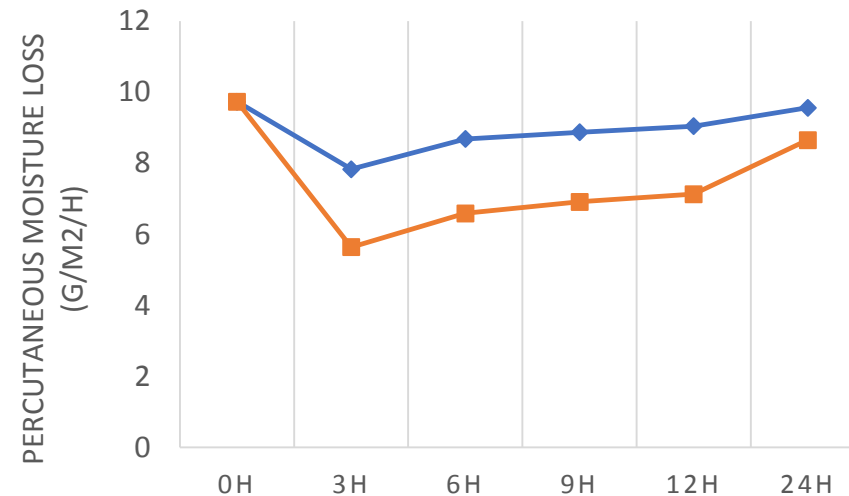
Raya Hyaluron Tremella can significantly enhance the absorption of water in the skin cell, increase the moisture content of skin . Forms a layer of moisturizing protective film to reduce the moisture loss on the surface of the skin.



3h later after using, the moisture content increased as below:

Raya Hyaluron Tremella: Group: 97.1%

Water Control Group: 27.8%



3h later after using, the percutaneous moisture loss decreased as below:

Raya Hyaluron Tremella Group: 42.0%

Water Control Group: 19.5%

# Efficacy



- **Antioxidation and anti-aging**

With the certain ability of scavenging superoxide radical and hydroxyl radical, it prevents skin from aging by inhibiting peroxidation, and promote skin regeneration by increasing the vitality of the skin cells. So Tremella helps to delay the skin aging and repaire damaged skin.

- **Improve the skin feeling**

Tremella is a kind of high molecular polymer, with good skin affinity and high viscosity. Lubricating effect is obvious after using the skin care products with Tremella added in, and the skin feels moist and smooth with no dry and tight feeling.

- **Emulsifying impact**

Tremella has a certain effect of emulsification. In the specific formula application, it replaces the partial emulsifier and reduces the actual consumption of emulsifier.



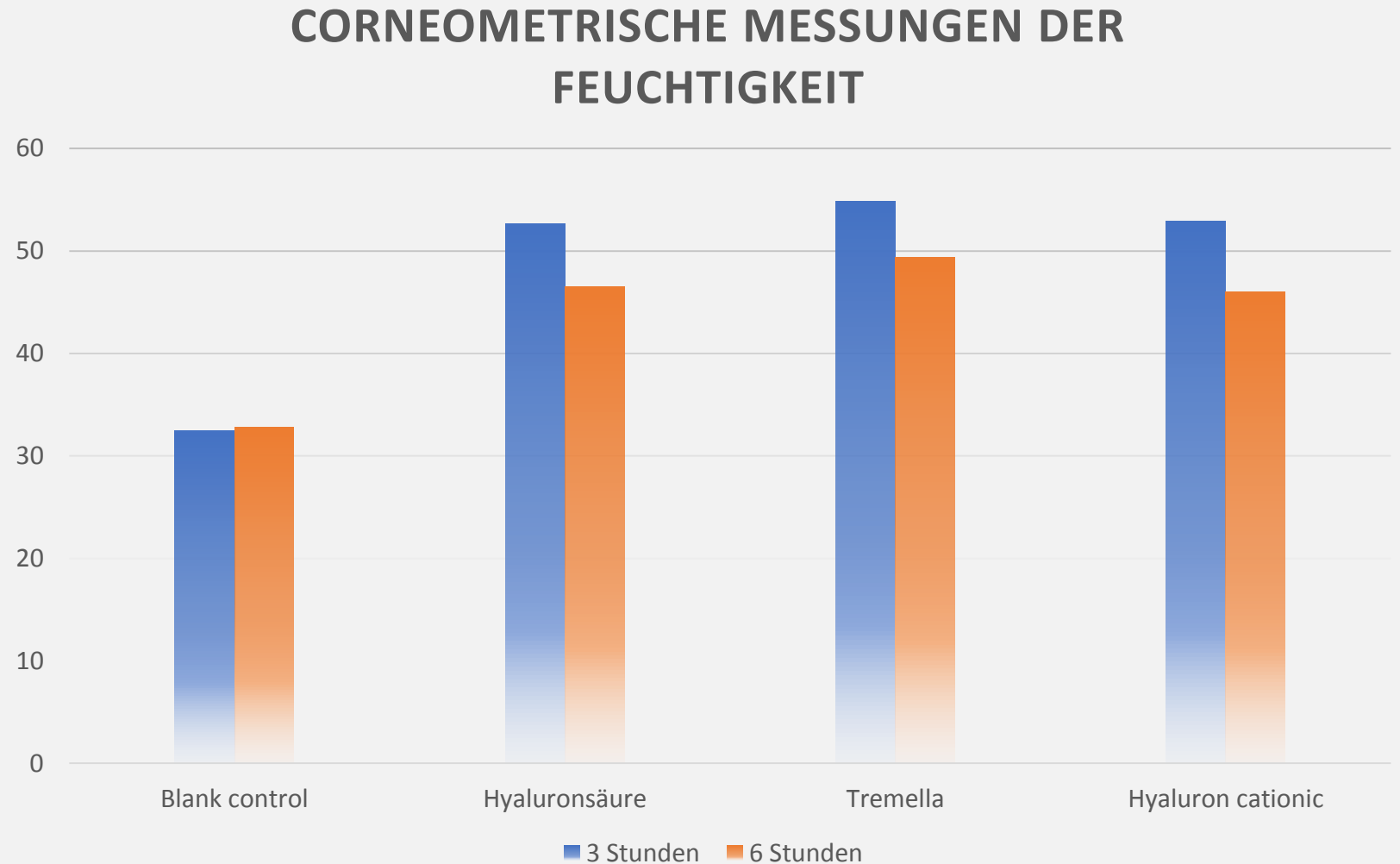
# Product description

- ◆ Recommended dosage: 0.01%-0.5%
- ◆ Usage: soluble in water, can be directly added into the aqueous phase.
- ◆ Applications: especially for essence, mask, cream, lotion, toner and other cosmetics.



# Feuchtigkeitseffekt (Corneometrie)

- Hyaluronsäure
- Tremella fungi
- Hyaluron cationic



# Conclusions

- Plant source.
- Natural, safe and effective.
- Moisture replenishment and retention.
- Good affinity to skin, and no sticky feeling.
- Scavenging free radicals and renovating damaged skin.
- The structure is not easy to be destroyed and biological activity is high
- Compared with HA and HA cationic slightly better moisturizing effect on the skin , proofed by in vivo measurements with 20 females

