It is important to reduce a stimulus of cosmetic products. Though the stimulus of cosmetics is one of the most troubles for woman, nobody can make cosmetic products without a stimulus in actual fact. The consumers’ trend of cosmetics becomes changing to the low stimulus, and the market of the cosmetic for sensitive skin is growing widely annually. It is reported that the cosmetic products formulated by many surfactant or many preservative cause a critical condition to the skin because they are stimulatory ingredients.

“Stinging” is also gathering attention from cosmetic market. “Stinging” gives feeling like a stinging to skin, which not causes the erythema to skin. The stimulus is caused by the transmitter substance which released from epidermal cell after penetration.

We have studied various systems of stimulus, and then evaluated relief ability from stimulus about various ingredients.

As a result, we developed ROYALBIocyte as a high abirritant agent, which is hydrolyzed protein in royal jelly.

**CHARACTERISTICS**

[Skin abirritant effect]
- Erythema inhibitory effect
- Inhibitory function of production of inflammatory cytokine
- Inhibitory effect ROS (Reactive oxygen species) production

[Component]
- [Royalisin] [Apisin] *special protein of Royal jelly
- No fishy odour

**Recommendation products**
- sensitive skin products
- baby skin products
- Shampoo for child
- Permanent wave
- Hair dye
- Peeling products
[Reducing stimulus and inhibitory effect of IL-1α production]

Fig. 1 shows cell viability and IL-1α production after applying SLS to the epidermal cell. ROYALBIOCYTE helps to survive epidermal cell from stimulus of SLS. ROYALBIOCYTE is highly effective in inhibiting the IL-1α, leading to reduce the stimulus of “Stinging”.

![Graph showing cell viability and IL-1α production](image)

Fig1. Reducing stimulus and inhibitory effect of IL-1α production

[Erythema inhibitory effect]

Photo 1 shows evaluation of erythema on human skin by ammonium solution. Ammonium solution gives an erythema and an edema to skin. On the other hand, every symptoms of stimulus, which are an erythema and an edema, weren’t observed on the ROYALBIOCYTE-applied area. The result indicates that ROYALBIOCYTE prevents from the strong stimulus.

![Photo showing erythema effect](image)

Photo1. Skin abirriant effect on human skin