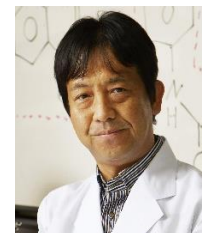


## Development of functional cosmetics containing isoliquiritigenin (ILG)

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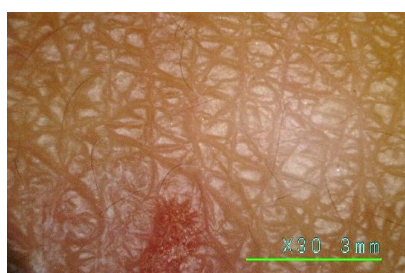
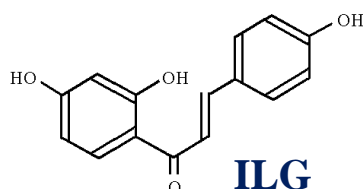


### Summary;

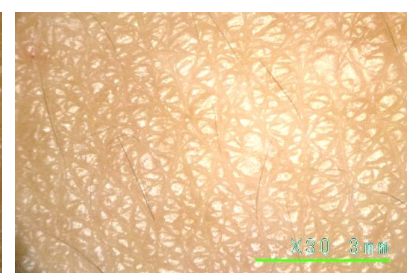
The number of people suffering from a variety of skin problems such as skin aging, atopic skin, and sensitive skin is increasing year by year. The share of functional cosmetics to prevent aging is increasing, and there is a great demand for the development of cosmetics with academically proven functionality. Previous studies have demonstrated that a minor component of the herbal medicine licorice, ILG (isoliquiritigenin), has multiple physiological functions useful for aging care.

### Results and discussion:

ILG (isoliquiritigenin) has been shown to possess anti-inflammatory, anti-allergic, platelet aggregation inhibitory (thrombogenic inhibitory) antioxidant, hyaluronan degrading enzyme inhibitory, anti-nephritic, anti-ulcerous properties. These physiological activities are extremely important functions for anti-aging. Furthermore, many studies have reported that ILG exhibited useful physiological activities, such as tyrosinase inhibitory effect (melanin production inhibitory effect), antibacterial effect, acute leukemia inhibitory effect, and NF- $\kappa$ B (p65) activation inhibitory effect.



**Before treatment**



**20 days after treatment**

As shown in Fig. 1, after the beauty essence containing ILG was applied to the skin surface of atopic dermatitis, efficient improvement of the skin condition was realized as a personal impression.

Our bodies are subject to constant metabolism, and skin tissues are always renewed. The renewal of epidermal tissues is called “*Turnover*”. The time that a turnover takes is approximately 30 days in 20 generations. The time of a turnover becomes long from year to year, and, surprisingly, is approximately 80 days in 50 generations. During a turnover, the skin tissues are exposed to the various severe disorders, such as ultraviolet irradiation, allergic dermatitis, excessive drying, active oxygen production, bacterial infection, chemical substance stimulation and various physical injuries.

The skin tissue disorder promotes aging of the skin, and, therefore, the aging of the skin accelerates remarkably so as to be older. If the turnover becomes slow with aging, the wrinkles, stains and skin roughness formed become hard to be removed. Therefore, in aging care of the skin, it is necessary to remove the obstacles to skin tissues in the turnover. The formation of healthy skin tissues seems to be promoted by removing the obstacles to skin tissues using ILG.