



# Market Watch

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## Neohesperidin Dihydrochalcone (NHDC)

Studies have found that NHDC, as a flavonoid derivative, has the effects of removing free radicals in the skin, promoting skin metabolism, reducing pigmentation and moisturizing the skin. In vitro experiments have found that the IC<sub>50</sub> of NHDC to tyrosinase is 802  $\mu$  m/L, which is about 2 times and 60 times of VC and  $\beta$ -Arbutin. The human patch experiment found that NHDC is asexual to the human body; the total effective rate of 2% NHDC gel pair is 86%. NHDC is expected as a new type of cosmetics.


## Oral beauty has become a new consumer trend

According to a report released by PricewaterhouseCoopers in August 2021, the scale of China's health market has reached more than 13 trillion yuan, with a compound annual growth rate of 13% in the past eight years. With the rise of oral niacinamide and hyaluronic acid products, the proportion of oral beauty is gradually increasing.



At present, China has become the world's second largest oral beauty market. Among the many oral cosmetic ingredients, collagen, hyaluronic acid, ceramide, and niacinamide have always been popular in the market. With the increasing demand for differentiation of oral beauty products, a new oral beauty material-N-acetylglucosamine has begun to enter people's field of vision.









## Glyceryl glucoside



Studies have found that glycerol glucoside has excellent moisturizing ability, and literature proves that 2- $\alpha$  glycerol glucoside can significantly increase the expression of aquaporin AQP3, and AQP3 protein plays an important role in the water retention function of skin epithelial cells. At the same time, studies have shown that glycerol glucoside has good skin permeability and can effectively reduce water loss. In addition, 2- $\alpha$ GG has a variety of physiological activities, such as activating and promoting cell regeneration; enhancing cell viability and accelerating cell metabolism; enhancing cell antioxidant capacity; promoting collagen synthesis, etc. The above characteristics make the substance useful as a cosmetic raw material. In addition, 2- $\alpha$ GG also has non-cariogenic properties, cures diabetes, and promotes the growth of probiotics. Therefore, it may be used as a health food additive in the future.





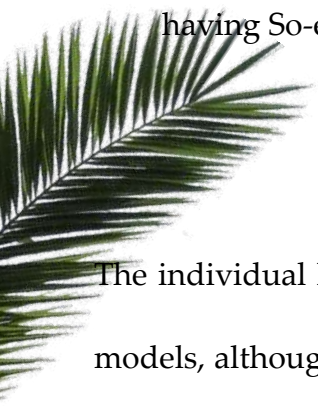
## **Ginger, turmeric, Chinese cinnamon and *Atractylodes chinensis* extract was found to improve wrinkle formation among female subjects with soft and delicate skin**

A herbal cream formulated with ginger, turmeric, Chinese cinnamon and *Atractylodes chinensis* extract was found to improve wrinkle formation among female subjects with soft and delicate skin, suggesting that it may help prevent or slow skin ageing.

The randomised, double-blind, placebo-controlled study was conducted in South Korea, which recruited 21 female subjects between 35 to 54 years old, had wrinkles, and classified as having So-eum skin (SE).

Based on the Korean system of Sasang constitutional medicine, SE type individuals have soft and delicate skin. Other types include the Tae-eum (TE) which have thin and white skin, Tae-yang (TY) for its thick and rough skin with large pores, and So-yang (SY) which have thin, smooth and resilient skin.

In this study, a herbal cream (1%) was formulated specially, containing the extracts of *Zingiber officinale* Roscoe (ginger), *Atractylodes chinensis* (Bunge) Kodiz, *Curcuma longa* L. (turmeric) and *Cinnamomum cassia* (L.) J.Presl (Chinese cinnamon).



The individual herbal components have been studied for its properties in anti-ageing in animal models, although “the herbal formulation containing all four herbs has not been studied in terms of clinical trial,” researchers wrote in the Integrative Medicine Research.

“This study provides scientific evidence for improving symptoms according to the SCM, and our findings would be useful information for personalised medicine and integrative medicine field.”

