〈原　著〉

グリコール酸誘起皮膚刺激に対するシスチン誘導体の抑制効果

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Preventive Effects of Cystine Derivatives on Glycolic Acid Induced Skin Irritation

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Abstract

Recently, glycolic acid has proved to be a versatile peeling agent and now widely been used to treat acne, although it may induce skin irritation, characterized by stinging, burning and itching. Substances capable of counteracting sensory irritation are of great practical interest. Strontium nitrate has been demonstrated to inhibit sensory irritation and inflammation when applied topically. A derivative of cystein demonstrates the inhibition of photoaging by inhibiting of NF-κB activation and also shows the reduction of skin irritation on mice skin induced by surfactants. On the other hand, there are a lot of methods to evaluate the sensitive skin and/or the magnitude of the skin irritation. In an attempt to discover new anti-irritant compounds and the methodology of evaluating the skin irritation, we evaluated the efficacy of cystein derivertive (*N,N′*-diacetyl-L-cysteindimethylester; DACDM) in reducing chemically-induced skin irritation. In the random of order, 2% DACDM or control was applied to the left or right cheeks, and then 20% glycolic acid was applied to the same sites. The magnitude of irritation sensation was evaluated each minute for the first 10 min after topical application using a visual analogue scale. The result is that DACDM reduced the irritation sensation about 12% off. This study demonstrated that DACDM application as a pretreatment may act as a topical anti-irritant agent, especially, in reducing chemically-induced skin irritation, also show the methodology to evaluate the efficacy of chemicals on the skin irritation.

Key words: glycolic acid, skin irritation, NF-κB, *N,N′*-diacetyl-L-cysteindimethylester, visual analogue scale.