

〈原 著〉

コウジ酸ラウリルエステルとコウジ酸の皮膚透過性および 皮膚内分布の比較

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Comparison of Skin Penetration and Skin Distribution of Kojic Acid Laurate with Those of Kojic Acid

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Abstract

This study was designed to compare the *in vitro* skin penetration, skin distribution and inhibitory effect on tyrosinase of kojic acid laurate (ester) with those of kojic acid. The ester penetrated across the rat skin more slower than kojic acid. The ester was not detected in the receptor fluid, suggesting the hydrolysis of ester bond during skin penetration. The amount of ester distributed in the epidermis was relatively much compared with that of kojic acid. The ratio of the total amount (ester+kojic acid) in the epidermis/the cumulative amount penetrated at 24 h after application was 2-fold over that of kojic acid, indicating the high residence of ester in the epidermis. Enhancers such as *d*-limonene and *n*-octyl- β -D-thioglucoiside extensively enhanced the penetration of kojic acid through the skin compared with ester. The ester and kojic acid inhibited tyrosinase activity to the same extent. Thus, the ester seems to be useful as a whitening agent.

Key words: kojic acid, kojic acid laurate, skin penetration, skin distribution, tyrosinase inhibition.