

〈原 著〉

Yucatan micropig 皮膚におけるエステル化合物の代謝に及ぼす アルコール類の影響

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The Effect of Alcohols on the Metabolism of Ester Compounds in Homogenate of Yucatan Micropig Skin

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Abstract

In the present study, we examined whether the transesterification reaction occurs between ester compounds and alcohols in the homogenate of excised skin of Yucatan micropig. We used methyl and propyl *p*-hydroxybenzoate, methyl nicotinate and methyl caprate as ester compounds and *n*-propanol, *i*-propanol, ethylene-glycol, propylene-glycol and glycerin as alcohols. All compounds hydrolyzed without alcohol, and hydrolysis and transesterification of compounds with alcohol were occurred. Both formation were decreased by *bis*-nitrophenylphosphate as an inhibitor of carboxylesterase (CES). It is suggested that CES participates both reactions. In the presence of alcohol, the amount of hydrolyzed compound decreased and the sum of the amounts by hydrolysis and transesterification were almost equal to hydrolyzed compound without alcohol. Thus, it is suggested that transesterification compound formed in place of the decrease of hydrolysate. Lipophilicities of transesterified compounds were sometimes higher than that of parent ester compounds. Therefore, pharmacokinetics of drug in skin might be different as it expected.

Key words: skin metabolism, carboxylesterase, transesterification, alcohol, Yucatan micropig.