

〈原 著〉

眼刺激性試験代替法の検討： 角膜脂質リポソームの応用(1)

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An Alternative Method to the Draize Eye Irritation Test: Use of Liposome Prepared from Corneal Lipids (1)

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Abstract

Liposomes containing 4-methylumbelliferyl phosphate (Um-P) were prepared using the lipid extracts from bovine eyes and were incubated with 12 surface-active agents. The Um-P released from the liposomes by each test agent was hydrolyzed with alkaline phosphatase and the resultant 4-methylumbelliferone was assayed spectrofluorometrically. The values for Um-P₅₀ (the concentration of test material at which 50% of Um-P is released) showed a good inverse correlation with the irritation scores obtained by the Draize eye test. The correlation coefficients between Um-P₅₀ values and corneal scores and between Um-P₅₀ values and total scores were -0.737 and -0.734, respectively. The results suggest that the liposomal assay reported here may be useful as an in vitro model for predicting eye irritancy of chemicals.