

STUDIES ON THE IN VITRO SPF TEST METHOD OF SUNSCREEN PRODUCTS

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The present study was undertaken to develop the *in vitro* sun protection factor(SPF) test method having good correlation with *in vivo* method using human. 8% homomentyl salicylate, P3 reference standard and commercially available sunscreen products were measured by the *in vitro* method using SPF 290S analyzer, and the SPF_s were compared with the SPF_s measured by *in vivo* test method. *In vitro* SPF_s of 8% HMS and P3 reference standard were 4.59 ± 0.12 and 14.94 ± 0.83 . There are good correspondence, correlation coefficients were 0.9506 and 0.9769 respectively, between the *in vitro* and *in vivo* SPF_s for the sunscreen creams and lotions. Correlation coefficients of makeup base/liquid foundation, lotion labeled with “shake before use” and compact powder were 0.8812, 0.8632 and 0.5984 respectively. The optimum mixture ratio of compact powder and cream base represents 1:0.8. These results suggest that the *in vitro* SPF test method will be able to be used as an alternative method for *in vivo* SPF in case of lotion and cream.