Synopsis of Original Research Paper

Immunological Effects of Sun Screen on Human and Murine Keratinocytes Irradiated with Ultra Violet B Light

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UVB is well known to induce anti-ENA antibody binding on the surface of human cultured keratinocytes. In SLE-prone MRL/lpr mice, UVB irradiation accelerates the onset of skin lesions and augments the cytotoxicity of cultured cells. Based on our previous reports, we examined the preventive effects of sun screen on DVB-induced changes *in vitro* and *in vivo*.

Normal human cultured keratinocytes were purchased from Clonetics (EPIPACK, San Diego). MRL/1 mice were maintained in our laboratory. As the sun screen, di-(p-methoxycinnamoyloxy) -mono- (2'-ethylhexanolyloxyl) propane was dissolved in acetone for *in vitro* test and in the base cream for the *in vivo* test.

In vitro MTT assay revealed the 1–2 % sun screen solution in acetone blocked completely the DVB-induced cytotoxicity of EPI-PACK cells, mouse keratinocytes and mouse fibroblasts in culture. Anti-ENA antibody binding to cultured human keratinocytes was markedly suppressed by sun screen. Long-term exposue to 500 mJ/cm^2 UVB light accelerated the development of skin lesions in MRL/1 mice painted with base cream. In contrast, 2 or 4 % sun screen painting blocked the early onset of skin lesions.

These results suggested the usefulness of sun screen in the prevention of photocytotoxicity in human and murine lupus dermatoses.