

**[P-32]****Evaluation of skin sensitization to skin whitening agents by local lymph node assay in Balb/c mice**

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The use of skin whitening agents have been recently increased in various kinds of cosmetic products, although there were reports that whitening agents might cause allergic contact dermatitis. A murine local lymph node assay (LLNA) has been developed as an alternative to guinea pigs for contact sensitization potential. This study was carried out to investigate the skin sensitization potential of three whitening agents, kojic acid, arbutin, azelaic acid, by LLNA using a non-radioisotopic endpoint. Female Balb/c mice were exposed topically to a weak allergen,  $\alpha$ -hexylcinnamaldehyde (HCA), and three whitening agents following LLNA protocol. Lymph node(LN) weight and cell proliferation in ears and auricular lymph node using Bromodeoxyuridine(BrdU) immunohistochemistry were evaluated. As results, LN weights were significantly increase at the HCA group compared to the vehicle control. A weak allergen, HCA(20% and 30%) elicited 3-fold or greater increase in cell proliferation of lymph nodes as well as increase in cell proliferation of ear by BrdU immunohistochemistry. However, in the case of skin whitening agent groups, there were no significant changes in LN weight and cell proliferation in the ear and lymph node of mice treated with 5, 10 and 20% three whitening agents compared to the vehicle control. These results show that these three skin whitening agents do not have contact sensitization potential at tested concentrations in Balb/c mice by LLNA.

Key words : Skin whitening agents, BrdU, immunohistochemistry, LLNA