

P-81

NON-RADIO ISOTOPIC ENDPOINT FOR LOCAL LYMPH NODE ASSAY USING IMMUNOHISTOCHEMISTRY

Jong Kwon Lee, Jae Hyun Park, Hyung Soo Kim, Eun Jung Jang, In Chang Hwang, Seung
Tae Jung, Jun H. Eum, and Hye Young Oh

Immunotoxicology Division, National Institute of Toxicology Research, Korea Food and Drug
Administration, 122-704, Seoul, Korea.

A murine local lymph node assay (LLNA) has been developed as an alternative to guinea pig models for contact sensitization potential. However, a disadvantage of the LLNA is the need for the use of radioactive material. In this study, we aimed to investigate the development of non-radio isotopic endpoint for LLNA using immunohistochemistry. Female Balb/c mice were treated by the topical application on the dorsum of both ears with strong sensitizer DNCB (2,4-dinitrochlorobenzene), TDI (Toluene diisocyanate) and strong irritant SLS (Sodium lauryl sulfate), once daily for three consecutives. The proliferation of cells in auricular lymph node, spleen, thymus and ear were analyzed by labelling index (LI) of BrdU incorporation in cells. The organ weights of lymph node in the mice treated with allergens, DNCB and TDI were more increased dose-dependently compared to vehicle control. And weights of lymph node in strong irritant, SLS were also slightly increased dose-dependently compared to control. The LI of ear in DNCB and TDI were highly increased compared to that of control. And LI of ear in SLS were also increased compared to vehicle control. The LI of lymph node in DNCB and TDI were dramatically increased compared to that of control. However, the LI of lymph node in SLS were not significantly increased compared to vehicle control. This data represents that BrdU LI of lymph node could be useful method for screening for irritant and allergen. These results suggest that local lymph node assay using immunohistochemistry could be an useful alternative to the standard assay of sensitization test.