First evaluation report on the LLNA： BrdU-ELISA for skin sensitization testing

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Summary

Per a determination made by the Health Sciences Group in 2004, an LLNA-BrdU test method for assessing skin-sensitization potency without using radioisotope-labeled compounds, as proposed by Chemicals Evaluation and Research Institute, Japan, was evaluated as an alternative to the local lymph node assay (LLNA). The LLNA-BrdU method is quite similar to the LLNA-DA method proposed by Daicel, which indexes the change of ATP content, so the skin-sensitization potency test working group (WG) that was organized to evaluate the LLNA-DA method by the Peer Review Panel was also asked to review LLNA-BrdU. A preliminary review of the applicant's data by the WG determined the LLNA-BrdU to have some advantages: a) based on the same principle as the original LLNA, not incorporated ^{3}H-methyl thymidine but bromodeoxyuridine (BrdU) into DNA, to index cell proliferation, b) equally efficacious in terms of identifying skin-sensitization potency although the increase rate of the index was slightly smaller than the original LLNA, c) do without using radioisotopes, d) simple and convenient. In order to evaluate suitability as a regulatory-use test method, however, additional information about reliability of data and interlaboratory variation is needed. For that purpose the protocol was first modified in response to comments from the Peer Review Panel, and then the Validation Committee of the Japanese Society for Alternative to Animal Experiments (JSAAE) was requested to conduct a multi-laboratory validation.