

Evaluation of the Murine Local Lymph Node Assay (LLNA) for Assessing the Allergic Contact Dermatitis Hazard Potential of Pesticide Formulations

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ICCVAM and NICEATM jointly evaluated the usefulness and limitations of the LLNA for assessing the allergic contact dermatitis hazard potential of pesticide formulations. Most of the 104 formulations evaluated are water-soluble and were tested in an aqueous vehicle (1% Pluronic L92). Of the formulations for which LLNA and guinea pig (GP) data were available for the complete formulation (n = 23), the LLNA classified 52% (12/23) as sensitizers, while GP tests classified only 13% (3/23) as sensitizers, indicating a greater sensitivity for classifying sensitizers in the LLNA. All three formulations identified as sensitizers in GP tests were also LLNA sensitizers. The LLNA identified, as sensitizer, an additional seven substances that the GP tests classified as nonsensitizer, an overprediction rate of 50% (10/20). Based on these data, ICCVAM and an international independent peer review panel recommended that the LLNA could be used for testing pesticide formulations. This recommendation was forwarded to ICCVAM member agencies, which agreed on this expanded use of the LLNA. Several agencies also indicated that they would communicate the ICCVAM recommendations to stakeholders, and encourage appropriate use. OECD TG 429, updated in 2010, reflects the results of this evaluation, which should expand the use of the LLNA for allergic contact dermatitis hazard testing, as well as reducing and refining animal use. The views above may not represent the official position of any government agency. ILS staff supported by NIEHS contract N01-ES-35504.

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