JaCVAM statement on the ADRA, an alternative method for evaluating skin sensitization

At a meeting held on 12 December, 2023 at National Institute of Health Sciences (NIHS) in Tokyo, Japan, the Japanese Center for the Validation of Alternative Methods (JaCVAM) Regulatory Acceptance Board unanimously endorsed the following statement:

Proposal: This test method detects the covalent bond reaction between a protein and a chemical substance, an early key event in the sensitization mechanism and provides important information for determining skin sensitization potential of chemical substance. However, as this test method is an in chemico test that lacks a metabolic system, sensitization potential of chemical substances show below may not be correctly detected. Weak sensitizers, metal salts, highly hydrophobic substances, sensitizers that require a metabolic system or activation by an abiotically. Based on the above facts, this test method alone, like other alternative methods, cannot evaluate skin sensitization potential; thus, we recommend its use in combination with cell based alternative methods for other key events as described in OECD Guideline 497 or in silico methods such as quantitative structure–activity relationship (QSAR).

This statement was released following a review prepared by the skin sensitization test JaCVAM Editorial Committee to acknowledge that the results of the review and study by the JaCVAM Regulatory Acceptance Board have confirmed the usefulness of this assay.

Based on the above, we proposed the ADRA method as a useful means for assessing skin sensitization potential during safety assessments by regulatory agencies.

Nishikawa Akiyoshi
Chairperson,
JaCVAM Regulatory Acceptance Board.

Hirabayashi Yoko
Chairperson,
JaCVAM Steering Committee.

February 26, 2024

The JaCVAM Regulatory Acceptance Board was established by the JaCVAM Steering Committee, and is composed of nominees from the industry and academia.

This statement was endorsed by the following members of the JaCVAM Regulatory Acceptance Board:

Nishikawa Akiyoshi (Division of Pathology, Center for Biological Safety and Research:CBSR, NIHS / Nagoya Tokushukai General Hospital) : Chairperson
Hirabayashi Yoko (CBSR, NIHS)
Kojima Koichi (Food and Drug Safety Center)
Matsumoto Kazuhiko (Nagoya City University)
Nakamura Ruriko (National Institute of Technology and Evaluation)
Nishimura Jihei (Pharmaceuticals and Medical Devices Agency)

Term: From 1st April 2022 to 31st March 2024

This statement was endorsed by the following members of the JaCVAM steering Committee after receiving the report from JaCVAM Regulatory Acceptance Board:

Hirabayashi Yoko (CBSR, NIHS): Chairperson
Hayashi Akiko (Ministry of Health, Labour and Welfare)
Honma Masamitsu (NIHS)
Inazumi Yoshihiko (Ministry of Health, Labour and Welfare)
Ishii Koji (National Institute of Infectious Diseases)
Kanda Yasunari (Division of Pharmacology, CBSR, NIHS)
Kitajima Satoshi (Division of Cellular and Molecular Toxicology, CBSR, NIHS)
Maki Kazushige (Pharmaceuticals and Medical Devices Agency)
Masumura Kenichi (Division of Risk Assessment, CBSR, NIHS)
Ogawa Kumiko (Division of Pathology, CBSR, NIHS)
Sugiyama Keiichi (Division of Genetics and Mutagenesis, CBSR, NIHS)
Taquahashi Yuhji (Animal Management Section of the Division of Toxicology, CBSR, NIHS)
Tsukano Masaaki (Ministry of Health, Labour and Welfare)
Yokota Masahiko (Pharmaceuticals and Medical Devices Agency)
Ashikaga Takao (Division of Risk Assessment, CBSR, NIHS): Secretary