



Interagency Coordinating Committee on the Validation of Alternative Methods

About ICCVAM

Many current methods for assessing potential hazards of chemical products use laboratory animals. **Alternative test methods** replace or reduce the use of animals or refine animal use to enhance animal well-being or avoid pain and distress.

The **Interagency Coordinating Committee on the Validation of Alternative Methods (ICCVAM)** is made up of 16 federal research and regulatory agencies working together to advance the acceptance of alternative test methods. Through ICCVAM, U.S. federal agencies work together to:

- Review and make recommendations on test method use.
- Share expertise on technologies and strategies to reduce animal use.
- Provide guidance to test method developers.
- Collaborate with U.S. and international stakeholders to advance test method acceptance.

ICCVAM gets support from the National Toxicology Program Interagency Center for the Evaluation of Alternative Toxicological Methods (NICEATM).

ICCVAM's Impact

ICCVAM and NICEATM activities have supported the following advances in reducing or replacing animal use in required testing.

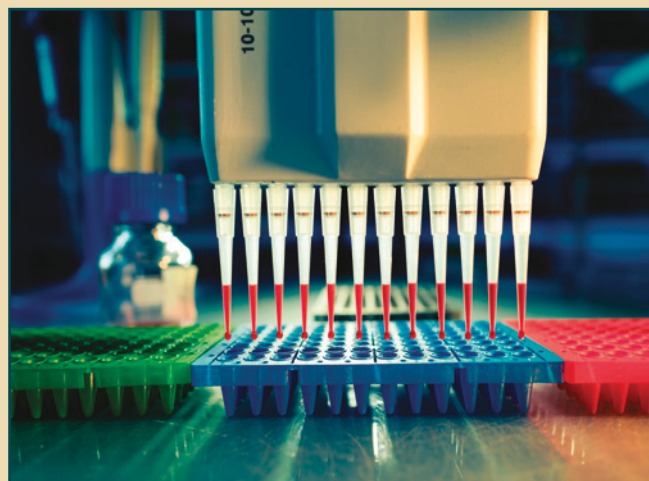
- U.S. Environmental Protection Agency (EPA) guidance waiving acute dermal lethality studies for pesticide formulations.
- Broad acceptance of a non-animal approach for identifying skin sensitizers by U.S. and international agencies.
- Acceptance by EPA of non-animal approaches for identifying potential endocrine disruptors.
- Advancement of a non-animal approach for pertussis vaccine testing.
- Publication of international test guidelines for non-animal methods for identifying eye and skin irritants.

Success Story: Endocrine Disruption

The Issue: EPA, an ICCVAM member agency, screens chemicals for their potential to affect hormone signaling in the endocrine system. The amount of testing needed for this mandate makes traditional animal testing impractical.

What ICCVAM Did: NICEATM and EPA scientists developed and validated a defined approach that combines data from high-throughput assays to identify chemicals with the potential to interact with the estrogen receptor pathway. The defined approach was accepted by EPA in 2015.

Impact: This was the first use of computational tools to replace a regulatory requirement for animal-based testing.



Advancing Alternatives to Animal Testing

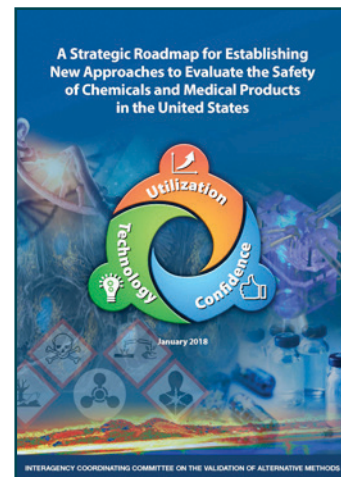
- Federal agencies work to reduce the use of animals for chemical safety testing.
- Agencies interact through ICCVAM to coordinate activities to replace, reduce, or refine animal use.
- ICCVAM receives input from, and partners with, stakeholders outside the federal government, including regulated industry, academia, animal welfare organizations, and test method developers.
- ICCVAM also works with international partners to promote worldwide acceptance of new test methods.

Strategic Roadmap

ICCVAM's activities are guided by the **Strategic Roadmap for Establishing New Approaches to Evaluate the Safety of Chemicals and Medical Products in the United States**. This document describes a framework to enable development, establish confidence in, and ensure use of new approaches to toxicity testing through addressing three strategic goals:

- Connect end users with the developers of new approach methodologies.
- Foster the use of efficient, flexible, and robust practices to establish confidence in new methods.
- Encourage the adoption and use of new methods and approaches by federal agencies and regulated industries.

The strategic roadmap is available at <https://ntp.niehs.nih.gov/go/natl-strategy>.



Success Story: Skin Sensitization

The Issue: Allergic contact dermatitis (ACD) may develop in people exposed to skin-sensitizing chemicals. Widely used methods to identify chemicals that could cause ACD use animals, but international restrictions on animal testing for cosmetics and other products are driving interest in non-animal test methods.

What ICCVAM Did: The ICCVAM Skin Sensitization Workgroup developed a defined approach that uses non-animal and computational inputs to predict animal test outcomes and human skin sensitization hazard more accurately than any of the individual inputs. ICCVAM scientists have been working with international colleagues to propose practical ways to facilitate adoption of non-animal defined approaches for skin sensitization assessments. NICEATM and Cosmetics Europe evaluated a number of these defined approaches, finding that they may be more accurate than animal tests for predicting human skin sensitization hazard.

Impact: These activities have supported greater regulatory acceptance of non-animal approaches for skin sensitization testing, including a 2018 EPA draft science policy to accept results obtained using these approaches in lieu of animal test data.



Current Focus Area: Acute Oral Systemic Toxicity

The Issue: One of ICCVAM's high-priority efforts is to develop alternative test methods for common acute toxicity tests, including tests for acute oral systemic toxicity.

What ICCVAM Did: The ICCVAM Acute Toxicity Workgroup organized a global project to develop computational models of acute oral systemic toxicity that predict five specific endpoints needed by regulatory agencies. Models developed for the project were presented at an April 2018 workshop.

Next Steps: Consensus predictions generated for the project are available through the NICEATM and EPA websites, as well as downloadable software. Links to these resources are available on the project webpage at <https://ntp.niehs.nih.gov/go/tox-models>. The consensus models will be described in a manuscript to be published in 2019.

Stakeholder Engagement

ICCVAM organizes three events every year to communicate with stakeholders — a Communities of Practice webinar, a public forum, and a public meeting of its advisory committee. ICCVAM also presents updates on activities at major scientific meetings. Information about activities can be found on the NICEATM website at <https://ntp.niehs.nih.gov/go/niceatm>. Updates on ICCVAM activities are distributed through the NICEATM listserv. To subscribe, go to <https://go.usa.gov/xE8jU>. ICCVAM also publishes a summary of recent activities in a biennial report. To view the reports, go to <https://ntp.niehs.nih.gov/go/iccvam-bien>.



Communication with international partners is needed for new test methods to be accepted worldwide. ICCVAM interacts with international counterparts through the International Cooperation on Alternative Test Methods and the Test Guidelines Programme of the Organisation for Economic Co-operation and Development.

ICCVAM Member Agencies

- Agency for Toxic Substances and Disease Registry
- National Cancer Institute
- National Institute for Occupational Safety and Health
- National Institute of Environmental Health Sciences
- National Institute of Standards and Technology
- National Institutes of Health
- National Library of Medicine
- Occupational Safety and Health Administration
- U.S. Consumer Product Safety Commission
- U.S. Department of Agriculture
- U.S. Department of Defense
- U.S. Department of Energy
- U.S. Department of the Interior
- U.S. Department of Transportation
- U.S. Environmental Protection Agency
- U.S. Food and Drug Administration

More Information

About NICEATM:
<https://ntp.niehs.nih.gov/go/niceatm>

About ICCVAM:
<https://ntp.niehs.nih.gov/go/iccvam>

NICEATM and ICCVAM meetings and workshops:
<https://ntp.niehs.nih.gov/go/3Rs-wksp>

ICCVAM biennial reports:
<https://ntp.niehs.nih.gov/go/iccvam-bien>