



Interagency Coordinating Committee on the Validation of Alternative Methods

Fit-for-Purpose Validation

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

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Moving away from animal-based testing is no longer just a matter of ethics, it's a matter of public health.

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Exploring New Approaches

- ICCVAM has recognized the need for an evolving concept of validation that is responsive to new technologies and on-going advancements in biomedical research
 - Better alignment with the vision laid out by the National Academy of Sciences in the 2007 NRC Report on Toxicity Testing in the 21st Century (NRC, 2007) while simultaneously fulfilling the mission of ICCVAM to promote the use of non-animal test methods



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Exploring New Approaches

- There is significant worldwide interest in understanding how pathways become engaged in toxicity responses
- The aim is that this knowledge will lead to predictive, integrated test strategies that combine *in silico* approaches with multiple *in vitro* assays
- Various statistical and mathematical approaches for integrating assay results and other relevant information warrant consideration by ICCVAM

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“Fit-for-Purpose” Validation

Test method validation is a process based on scientifically sound principles by which the relevance and reliability of a particular method or process are established for a specific purpose - OECD GD34

- Keep principals of GD34 while expanding the concepts of relevance and reliability
- Focus on purpose, as opposed to demonstrating equivalence to animal-based results
- Acknowledge that no assay is perfect, recognize that most will be used in weight of evidence approach
- Level the playing field: hold animal-based methods to same standard as *in vitro* tests / understand variability and limitations of both

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Advantages

- Performance-based evaluations using mechanistic understanding of pathways provide higher confidence than single-endpoint approaches
- Removes barriers to entry, encouraging development and use of new technologies
- Faster and less expensive

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Challenges

- Results from animal tests used as the measure of success for human-based approaches
- “Institutional Inertia” favors the use of animal-based methods and provides rationale for resistance to change

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Thank you!

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