UNITED STATES ICCVAM Advancing Alternatives to Animal Testing

Interagency Coordinating Committee on the Validation of Alternative Methods

20 YEARS

The Strategic Roadmap: What Lies on the Horizon?

SACATM Meeting
September 2-3, 2020

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 Institute of Standards and Technology • National Library of Medicine • Occupational Safety and Health Administration

Key Technologies

- Machine Learning > requires large volumes of high quality, machine readable data

UNITED STATES ICCVAM Advancing Alternatives to Animal Testing

Key Technologies

- Machine Learning > requires large volumes of high quality, machine readable data
- High Throughput Transcriptomics

UNITED STATES ICCVAM Advancing Alternatives to Animal Testing

Key Technologies

- Machine Learning > requires large volumes of high quality, machine readable data
- High Throughput Transcriptomics
- Dynamic Modeling of Biological Systems

UNITED STATES ICCVAM Advancing Alternatives to Animal Testing

Key Technologies

- Machine Learning > requires large volumes of high quality, machine readable data
- High Throughput Transcriptomics
- Dynamic Modeling of Biological Systems
- Microphysiological Systems

UNITED STATES ICCVAM Advancing Alternatives to Animal Testing

Key Technologies

- Machine Learning > requires large volumes of high quality, machine readable data
- High Throughput Transcriptomics
- Dynamic Modeling of Biological Systems
- Microphysiological Systems
- Error Corrected DNA Sequencing

UNITED STATES ICCVAM Advancing Alternatives to Animal Testing

Opportunities

- Developmental Neurotoxicity
- Cardiovascular Safety
- Cancer Hazard and Risk
- Biological Products

UNITED STATES ICCVAM Advancing Alternatives to Animal Testing

EUROPEAN COMMISSION

2019 report on the statistics on the use of animals for scientific purposes in the Member States of the European Union in 2015-2017

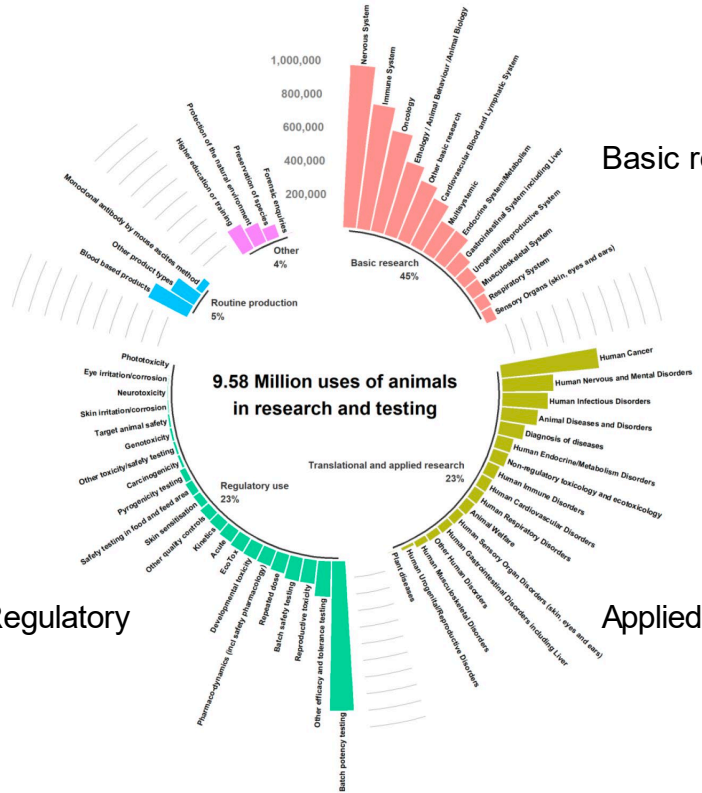


Figure 3: All uses of animals for research and testing in 2017

Basic research

Regulatory

Applied research

Research = 68%

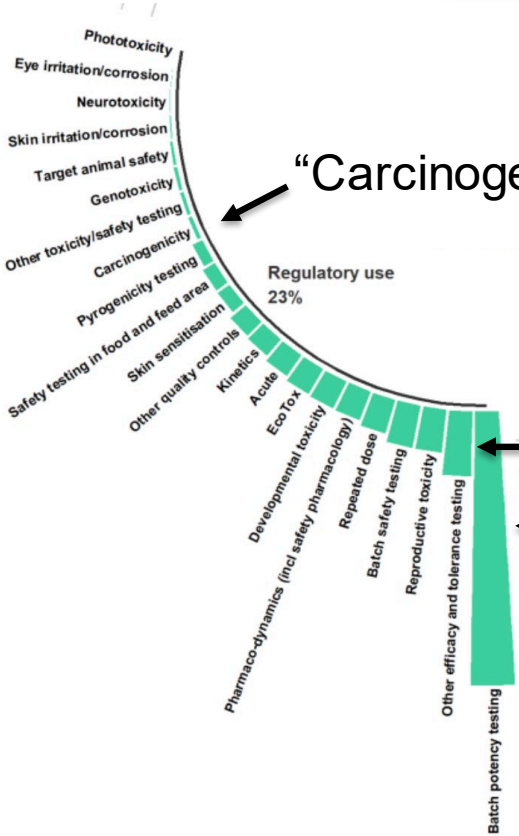
Regulatory = 23%

https://ec.europa.eu/environment/chemicals/lab_animals/reports_en.htm

UNITED STATES ICCVAM Advancing Alternatives to Animal Testing

EUROPEAN COMMISSION

2019 report on the statistics on the use of animals for scientific purposes in the Member States of the European Union in 2015-2017



"Carcinogenicity"

Regulatory Testing

"Other efficacy testing"

"Batch potency testing"

"Biologics"

https://ec.europa.eu/environment/chemicals/lab_animals/reports_en.htm

UNITED STATES ICCVAM Advancing Alternatives to Animal Testing

Continued Evolution of ICCVAM

Clarifying Questions?

UNITED STATES
ICCVAM
Advancing Alternatives to Animal Testing