



National Institute of
Environmental Health Sciences
Division of Translational Toxicology

Collection of Alternative Methods for Regulatory Application (CAMERA)



SACATM September 12, 2025



CAMERA Beta to Launch in 2025

 An official website of the United States government [Here's how you know](#) ▾

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CAMERA Collection of **A**lternative **M**ethods for **R**egulatory **A**pplication

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CAMERA is an interactive database and user interface providing online access to validated alternative methods for U.S. regulatory and other contexts of use.

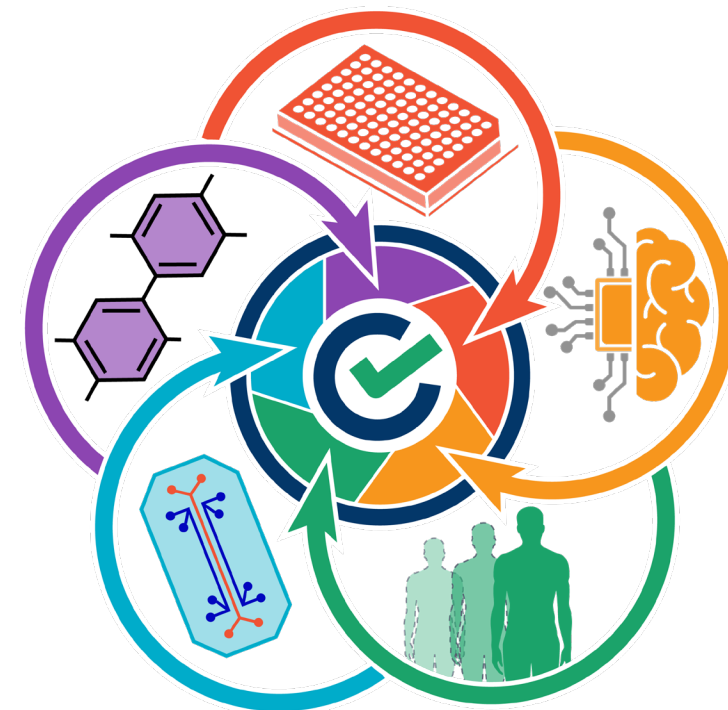
CAMERA is a central hub and unified resource of validated alternative methods that enhances accessibility to validation study reports, data, protocols / SOPs, and information on regulatory guidance.

Users can filter searches by alternative method types, defined approaches, Test Method Endpoint, and regulatory guidance.

CAMERA is supported by the NTP Interagency Center for the Evaluation of Alternative Toxicological Methods ([NICEATM](#)) and operates under direction and oversight of the Interagency Coordinating Committee on the Validation of Alternative Methods ([ICCVAM](#)).

Why was CAMERA initiated?

- [ICCVAM Authorization Act \(42 U.S.C. 285I-3\)](#)
- Proposed by ICCVAM agency partners to facilitate access to validated NAMs due to an identified critical need for a unified resource that enhances accessibility to validated or qualified NAMs that have been accepted for regulatory application.
- Developed by NICEATM, under ICCVAM steering committee
- NIEHS funding initial beta version development & sustained via federal contracts & collaborations
- NIH Press Release April 29, 2025: [NIH to prioritize human-based research technologies](#)
- FDA Press Release April 10, 2025: [FDA Announces Plan to Phase Out Animal Testing Requirement for Monoclonal Antibodies and Other Drugs](#)



CAMERA Project Team, in Collaboration with NICEATM Team

NIH / NIEHS

- Warren Casey, Director of Strategic Partnerships – CAMERA Application Owner
- Nicole Kleinstreuer, Acting NIH Deputy Director for Program Coordination, Planning, and Strategic Initiatives
- Matthew Stout, COR

SOAR Contractor, Axle

- Katie Needham, Senior Project Manager

Dynanet

- Peter Anih, Chief Technology Officer
- Ana Lombera, VP of Strategy and Operations
- Joey Pahira, VP of Health Care
- Prince Osei-Akyeampong, Full Stack Developer
- TuBosun Abioye, Database Architect
- Srinivas Rampally,
- Caleb DeGroote, Project Manager & Scrum Master

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Objective of CAMERA



Publicly available, interactive, web-based user interface and database



Provides access to validated & qualified new approach methodologies (NAMs) for regulatory and other contexts of use



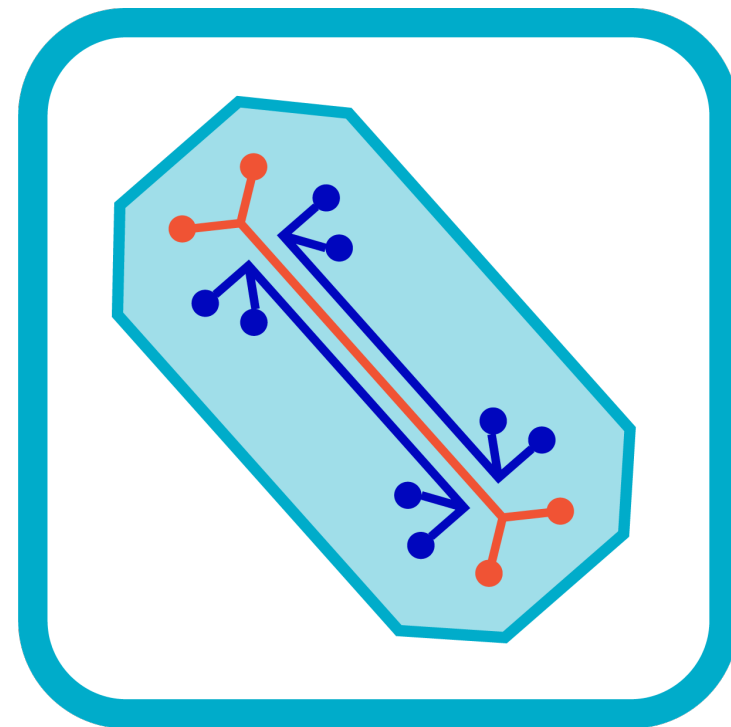
Aims to become a central hub for alternative methods and validation reports



For CAMERA, validated and qualified NAMs are defined as an alternative method with regulatory guidance or test guidelines

New Approach Methodologies (NAMs)

- **New Approach Methodologies (NAMs)** refers to any technology, methodology, approach, or combination thereof that can be used to provide information on chemical hazard and risk assessment and supports replacement, reduction, or refinement of animal use (3Rs). (ICCVAM document, [Validation, Qualification, and Regulatory Acceptance of New Approach Methodologies](#))



*CAMERA is aligned to ICCVAM definitions (ICCVAM document, [Validation, Qualification, and Regulatory Acceptance of New Approach Methodologies](#))

CAMERA Provides:

A unified resource of
validated and qualified
alternative methods

Test methods details
(applicability domain, mode
of action, chemical
information)

Test method comparisons

Protocols / Standard
Operating Procedures
(SOPs)

Validation study reports

Validation study data

Access to publications via
PubMed query

Information on relevant
guidelines and regulatory
guidance

User Features Include:



Full-text search



Filtered search dropdowns



Tool tips



Data visualizations



Content download capabilities

Search

Search for NAM, keyword, chemical name

Test Method Type ⓘ

-Select-

- ☐ Defined Approach (8)
- ☐ In Vitro (16)
- ☐ In Chemico (1)
- ☐ Ex Vivo (1)
- ☐ In Silico (2)

Test Method Endpoint ⓘ

-Select-

- ☐ Eye Irritation (8)
- ☐ Skin Sensitization (7)
- ☐ Skin Irritation (4)
- ☐ Skin Corrosion (4)
- ☐ Dermal Corrosion (1)

Regulatory Guidance and Test Guidelines ⓘ

-Select-

- ☐ CPSC (1)
- ☐ OECD (13)
- ☐ FDA (1)

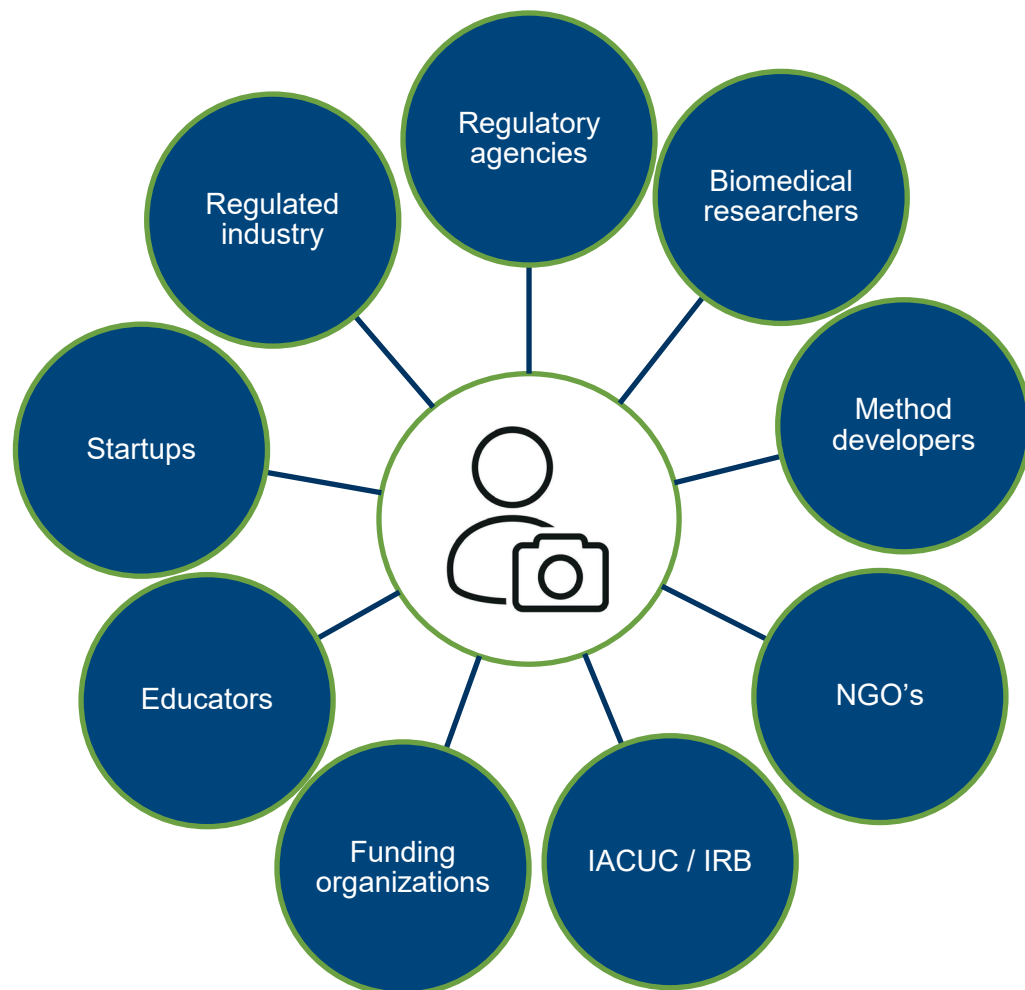
Search

Scope of Methods for Inclusion at Beta Deployment 2025



- **Beta prioritized validated/qualified NAMs:**
 - Toxicology, human health effects
 - Non-animal test methods
 - Skin sensitization, skin irritation, eye irritation, corrosion
 - OECD test guidelines
- **Future-state post-Beta:** method types and sources to be expanded in scope

CAMERA End Users & Use Cases



CAMERA supports a variety of use cases, such as:

Understanding how test methods were developed, tested, and validated.

Analyzing validation study data to evaluate performance and limitations.

Applying standardized procedures to conduct alternative methods.

Gaining insight into regulatory agency perspectives and acceptance of alternative methods for specific context of use.

Determining alignment of methods with regulatory requirements.

Selecting appropriate test methods for assessing specific biological endpoints.

Identifying areas requiring further research.

Guidance & Feedback to Support CAMERA Development

Steering Committee

- Federal staff from agencies to guide the content and functionality of CAMERA

CPSC

DTRA

EPA

FDA – CBER, CDER, CDRH, HFP, CVM

NIH – NIEHS, NLM, OD

OSHA

Scientific Community End Users

- Individuals from the scientific community to provide end user input and feedback on CAMERA's content and functionality

ARDF

Indiana University

Alto Predict, LLC

IQ MPS

The Clorox Company

North Carolina Central
University

The Dow Chemical Company

OECD

Gilead Sciences

PCRM

HESI

PETA Science Consortium

Humane Society International

Spelman College

ICCS

University of Washington

IIVS

University of Pittsburgh

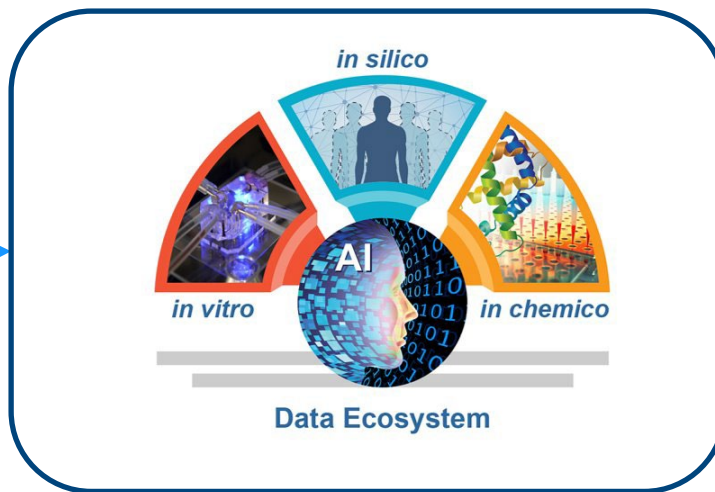
Future Collaboration: Complement-ARIE & CAMERA

Complement-ARIE



Complement Animal Research in Experimentation: to catalyze the development, standardization, validation, and use of human-based new approach methodologies (NAMs) that will transform the way we do basic, translational, and clinical sciences. In addition to the VQN, Technology Development Centers and the NAMs Data Hub and Coordinating Center are the other components of the Complement-ARIE program. ([Complement-ARIE](#))

VQN



Validation & Qualification Network: The VQN will establish common data elements and standardize reporting for preclinical, clinical, and safety performance. Validation and/or qualification of novel combinatorial NAMs – using two or more platforms or technologies to address a specific issue – for regulatory and pre-regulatory use for biomedical research, safety/hazard screening, drug discovery, or drug development. ([VQN](#))

CAMERA



Collection of Alternative Methods for Regulatory Application: NAMs validated and/or qualified via the VQN will be housed in CAMERA's database for users to access via the UI webpage. ([CAMERA](#))



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Thank You & Questions

