

Resource Summary Report

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OpenTox Framework

RRID:SCR_008686

Type: Tool

Proper Citation

OpenTox Framework (RRID:SCR_008686)

Resource Information

URL: <http://www.opentox.org/dev/apis/api-1.1/structure>

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Description: Tools for the integration of data from various sources (public and confidential), for the generation and validation of computer models for toxic effects, libraries for the development and seamless integration of new algorithms, and scientifically sound validation routines. The goal of OpenTox is to develop an interoperable predictive toxicology framework which may be used as an enabling platform for the creation of predictive toxicology applications. OpenTox is relevant for users from a variety of research areas: Toxicological and chemical experts (e.g. risk assessors, drug designers, researchers) computer model developers and algorithm developers non specialists requiring access to Predictive Toxicology models and data OpenTox applications can combine multiple web services providing users access to distributed toxicological resources including data, computer models, validation and reporting. Applications are based on use cases that satisfy user needs in predictive toxicology. OpenTox was initiated as a collaborative project involving a combination of different enterprise, university and government research groups to design and build the initial OpenTox framework. Additionally numerous organizations with industry, regulatory or expert interests are active in providing guidance and direction. The goal is to expand OpenTox as a community project enabling additional expert and user participants to be involved in developments in as timely a manner as possible. To this end, our mission is to carry out developments in an open and transparent manner from the early days of the project, and to open up discussions and development to the global community at large, who may either participate in developments or provide user perspectives. Cooperation on data standards, data integration, ontologies, integration of algorithm predictions from different methods, and testing and validation all have significant collaboration opportunities and benefits for the community. OpenTox is working to meet the requirements of the REACH legislation using alternative testing methods to contribute to the reduction of animal experiments for toxicity testing. Relevant international authorities (e.g., ECB, ECVAM, US EPA, US FDA) and industry organizations participate actively in the advisory board of the OpenTox project and provide input for the continuing development of requirement definitions and standards

for data, knowledge and model exchange. OpenTox actively supports the development and validation of in silico models and algorithms by improving the interoperability between individual systems (common standards for data and model exchange), increasing the reproducibility of in silico models (by providing a quality source of structures, toxicity data and algorithms) and by providing scientifically sound and easy-to-use validation routines. OpenTox is committed to the support and integration of alternative testing methods using in vitro assay approaches, systems biology, stem cell technology, and the mining and analysis of human epidemiological data. Hence the framework design must take into account extensibility to satisfy a broad range of scientific developments and use cases.

Abbreviations: OT

Resource Type: data or information resource

Keywords: drug, epidemiological, experiment, framework, algorithm, animal, application, assay, chemical, computer, data, human, interoperable, in vitro, knowledge, method, mining, model, platform, researcher, stem cell, systems biology, technology, testing, toxicity, toxicology, validation, ontology

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Alternate IDs: nif-0000-33775

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Ratings and Alerts

No rating or validation information has been found for OpenTox Framework.

No alerts have been found for OpenTox Framework.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We have not found any literature mentions for this resource.