An Ontology to Represent Knowledge on Animal Testing Alternatives

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Reduce | Replace | Refine

EU Directive 86/609/EEC for the protection of laboratory animals obliges scientists to consider whether a planned animal experiment can be replaced, reduced or refined. However, the 3Rs principle can only be fulfilled if all relevant information on alternative methods is available to all those involved in the planning, authorisation and performance of animal experiments. Go3R is being developed to fulfil this need.

Branches of the Ontology

In 28 branches the Go3R ontology defines 16,620 concepts containing 87,218 labels. 1,227 concepts were newly defined to specifically describe 3Rs relevant knowledge.

- 3Rs Institutions
- 3Rs Methods in the Life Sciences
- 3Rs Relevant
- 3Rs Research Projects
- Animal Care and Handling
- Animal Conditions, Physiological or Psychological
- Animal Experiments
- Animal Species
- Animal Use Alternatives
- Bioethics
- Biological Material & Organisms for Animal Use Alternatives
- Body Systems & Structures (MeSH)
- Diseases & Symptoms (MeSH)
- In Vitro Culture Technology & Equipment
- In Vitro Experimental Design
- In Vivo Experimental Design
- Laboratory aAnimal Science
- Laboratory Animals
- Life Sciences (MeSH)
- Method Specification
- Methodology
- Product Properties & Effects
- Product Testing & Assessment
- Statistics (MeSH)
- Substances, Preparation & Products (MeSH)
- Toxic Actions of Substances (MeSH)
- Toxicity Testing Strategies, 3Rs
- Validation of Test Methods

Reference:
Sauer et. al. (2009) Go3R - Semantic Internet Search Engine for Alternative Methods to Animal Testing. ALTEX, Vol. 26, No. 1, pp. 17-31.

Finding Alternatives

The ontology is used to categorize the results of the PubMed search. Each of the documents retrieved is automatically assigned to one or more relevant terms of the ontology. Manual curation helps to improve this assignment.

You made 679 curations so far.
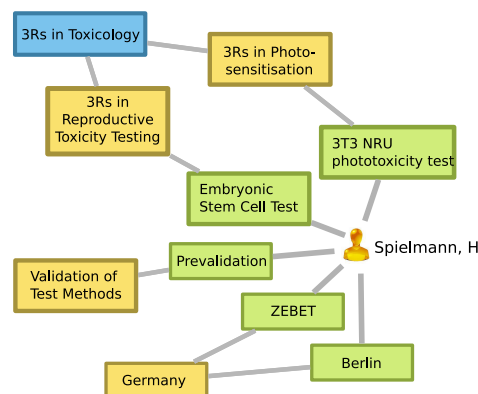Curation saved.

10 textmined terms:
- sensitization
- Animal Experimentation
- Animals
- Animal Testing Alternatives
- Evaluation Studies as Topic
- Genes
- Genetic Engineering
- Suggestion
- Toxicogenetics
- Transgenes

The ontology enables the user to select those documents that are of interest to him, for example "3Rs in toxicology" (see example below).

Finding 3Rs-Experts

The search engine Go3R uses the ontology to find experts or potential collaborators through the semantics of their work.
For example the author Spielmann can be retrieved through any of the concepts in the network below.

Available under: **www.Go3R.org**

Intelligent Table of Contents

PubMed has found 583 citations for the query "eye irritation" – 62 articles relate to "3Rs in Toxicology.

"3Rs relevance signet"

Sub-list of publications for "3Rs in Toxicology."