
Model Repository

David P. Nickerson

Catherine M. Lloyd

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The models listed below all conform with the CellML 1.0 Specification. They are based on published mathematical models taken from various peer reviewed journals, from conference proceedings, and from text book defined metabolic pathways. We have remained true to the original publications and have not assumed any reaction kinetics or initial values if they were not included in the original publication. All sources of information have been referenced in the model documentation.

This part of the CellML website contains models which represent several types of cellular processes including models of electrophysiology, metabolism, signal transduction and mechanics. In order to facilitate the process of finding a particular model of interest, the models have been grouped into broad subject categories. However, since several of the models have overlapping topics and could be grouped under more than one subject heading, the models have also been labelled with keywords which enable finer repository searches to be carried out. Using the repository search [http://www.bioeng.auckland.ac.nz/physiome/php/repository_search.php] facility, it is also possible to search for models based on other criteria, for example, those which are published by a particular author of interest.

The models listed below have been validated to a certain degree. Current validation processes include comparing the equations in the original paper with a PDF of the equations used in the CellML description (these PDFs are generated using the MathML Renderer [[../public/tools/index.html](#)], a tool which extracts the MathML from the CellML and transforms it to LaTeX). The correctness of the CellML is also checked by using a ????? As tool development continues, both by the CellML team at the Bioengineering Institute and by international collaborators, we expect to be able to carry out the ultimate form of validation by running simulations and comparing these results with those of the original publication.

There is another model repository, for models which have been designed to test CellML processing software. These models are available at the Tool Test Repository page [[tooltest/index.html](#)].

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