

cy3sbml: a Cytoscape app for SBML

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Summary: cy3sbml is an app for the work with SBML in Cytoscape 3 providing the following functionality: SBML import; support of SBML Core and the Layout, Qualitative Model, Groups, Hierarchical Model Composition, and Flux Balance Constraints packages; reaction-species and extended SBML graphs; access to MIRIAM and SBO-based annotations; use of SBML attributes for visual mappings, network filtering and visualization; SBML validation. cy3sbml includes importer for BioModels and BiGG models to load SBML from standard repositories.

In addition to porting all functionality to Cytoscape 3 many new features have been implemented since the initial Cytoscape 2 release

- support of the additional SBML packages comp and groups as well as fbc version 2
- implementation of kinetic graphs in addition to species-reaction graphs, providing insights into the relationship between parameters, kinetic laws, reactions, etc.
- resolving additional annotation information from primary annotations using the ontology lookup service (OLS)
- Integration with additional apps and systems biology workflows via OSGI APIs and commands accessible via cyREST
- redesign of GUI using web technology (JavaFx WebView)
- integration with BiGG database
- simple installation via app store

Availability and implementation: Freely available for non-commercial purposes from the Cytoscape App Store at <http://apps.cytoscape.org/apps/cy3sbml>

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Supplementary information: Source code and additional information at <https://github.com/matthiascoenig/cy3sbml/>