

CellDesigner™ 3.2

A Modeling Tool for Biochemical Networks



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<http://systems-biology.org>

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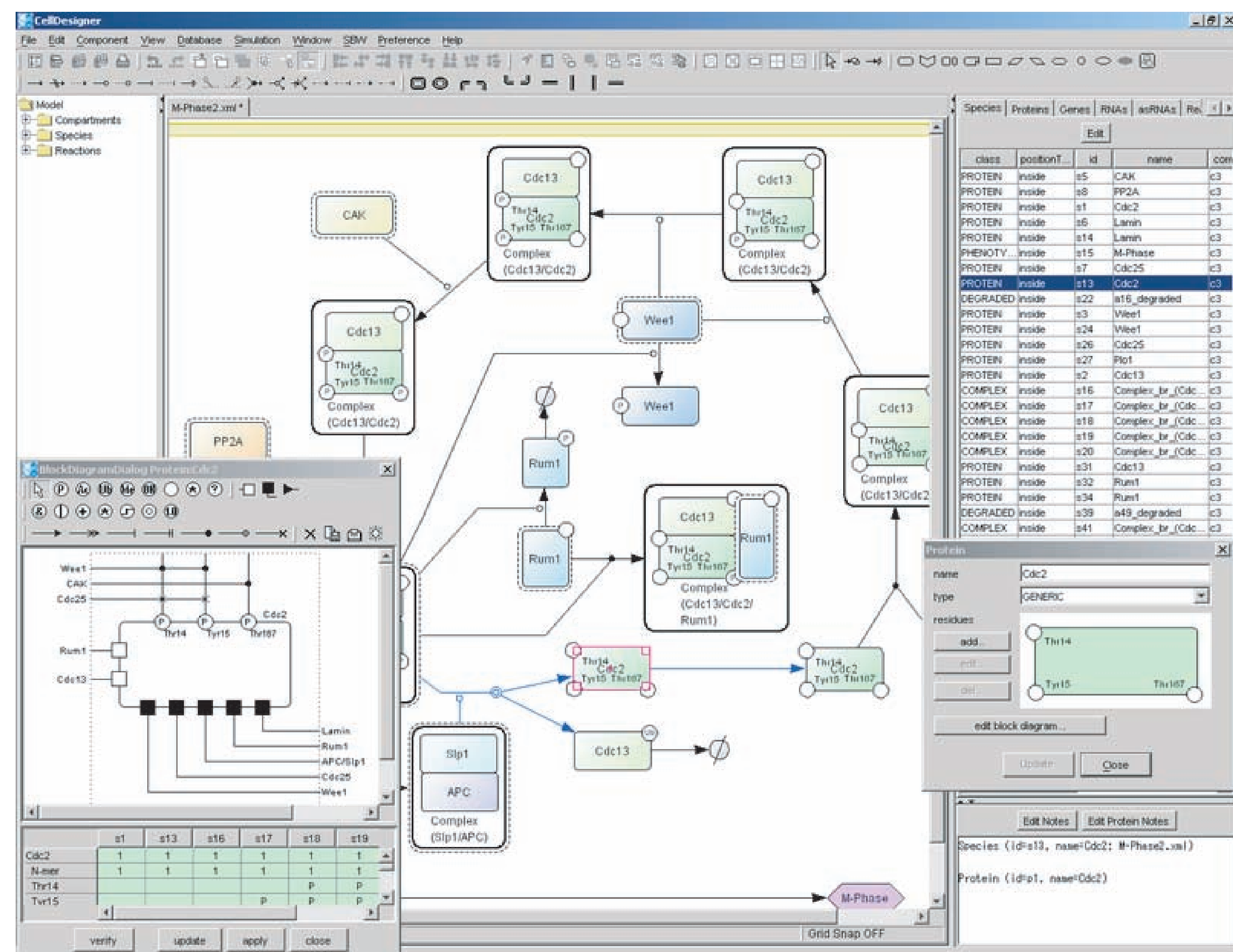
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What is CellDesigner?

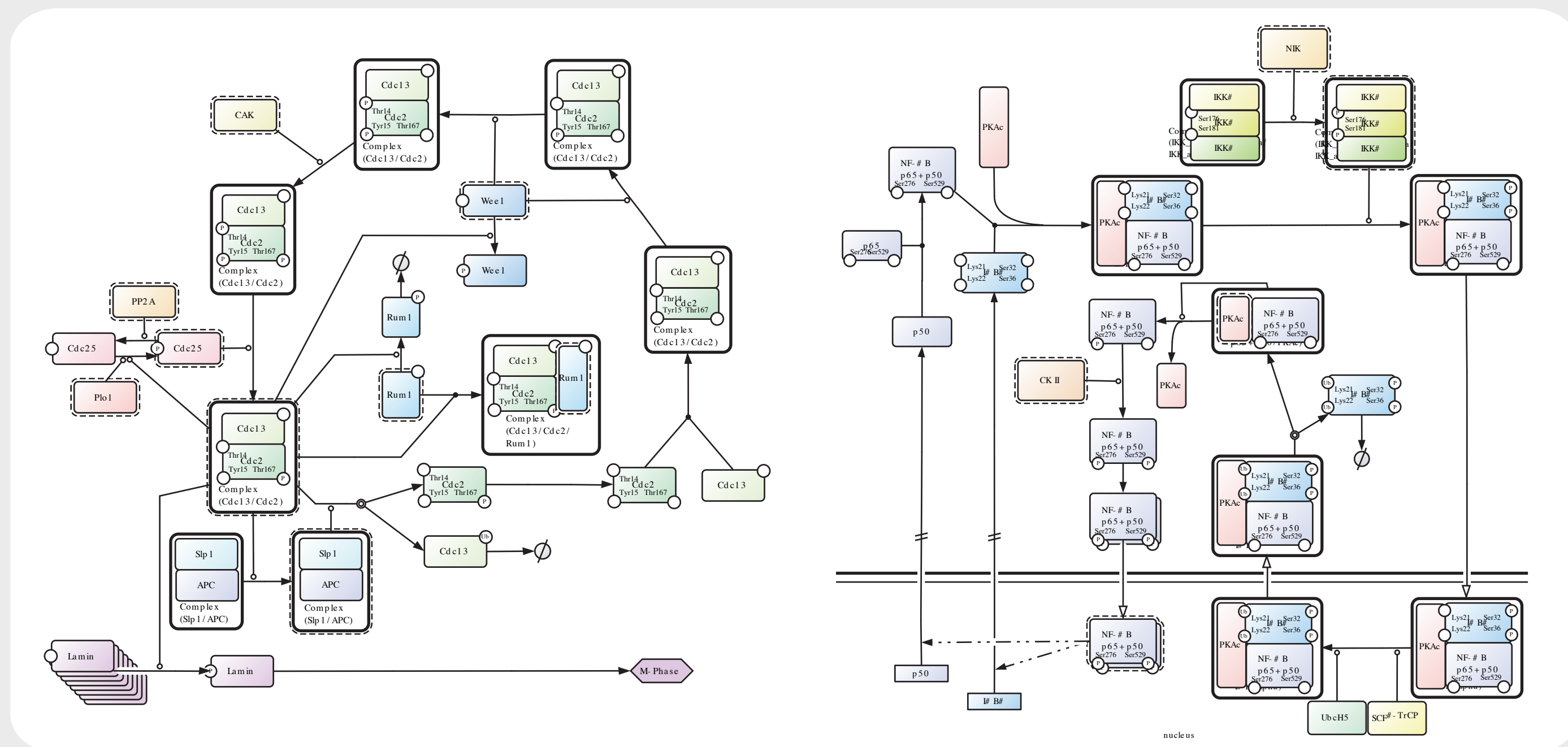
CellDesigner™ is a structured diagram editor for drawing gene-regulatory and biochemical networks. Networks are drawn based on the process diagram, with the graphical notation system proposed by Kitano, and are stored using the Systems Biology Markup Language (SBML), a standard for representing models of biochemical and gene-regulatory networks. Networks are also able to link with simulation and other analysis packages through Systems Biology Workbench (SBW).

Major Features:

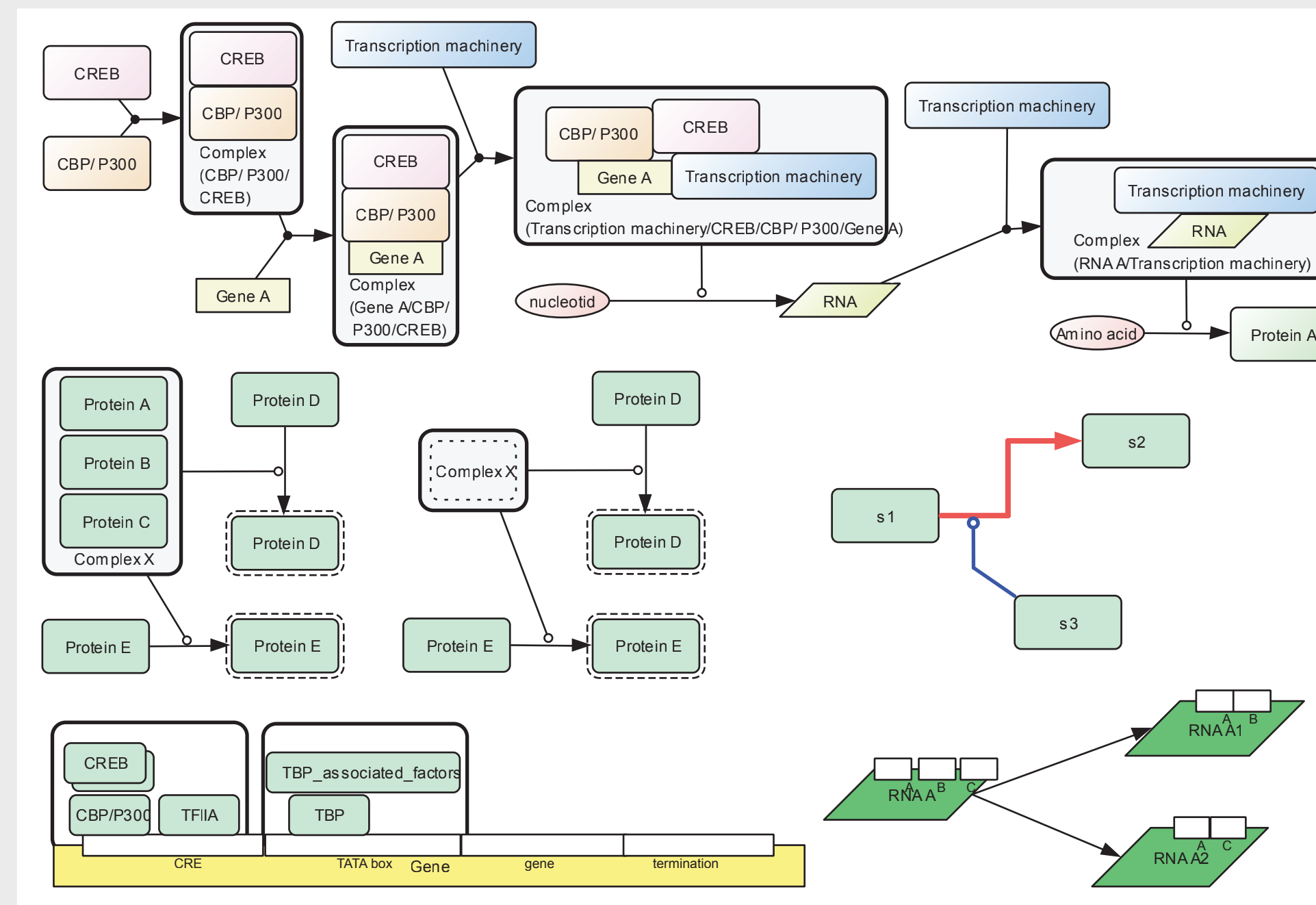
- Representation of biochemical semantics
- Detailed description of state transition of protein
- SBML compliant (SBML Level-1, Level-2 document)
- Integration with SBML ODE Solver (simulator)
- Integration with SBW-enabled simulation modules
- Extreme portability as a Java application



Create a New Model



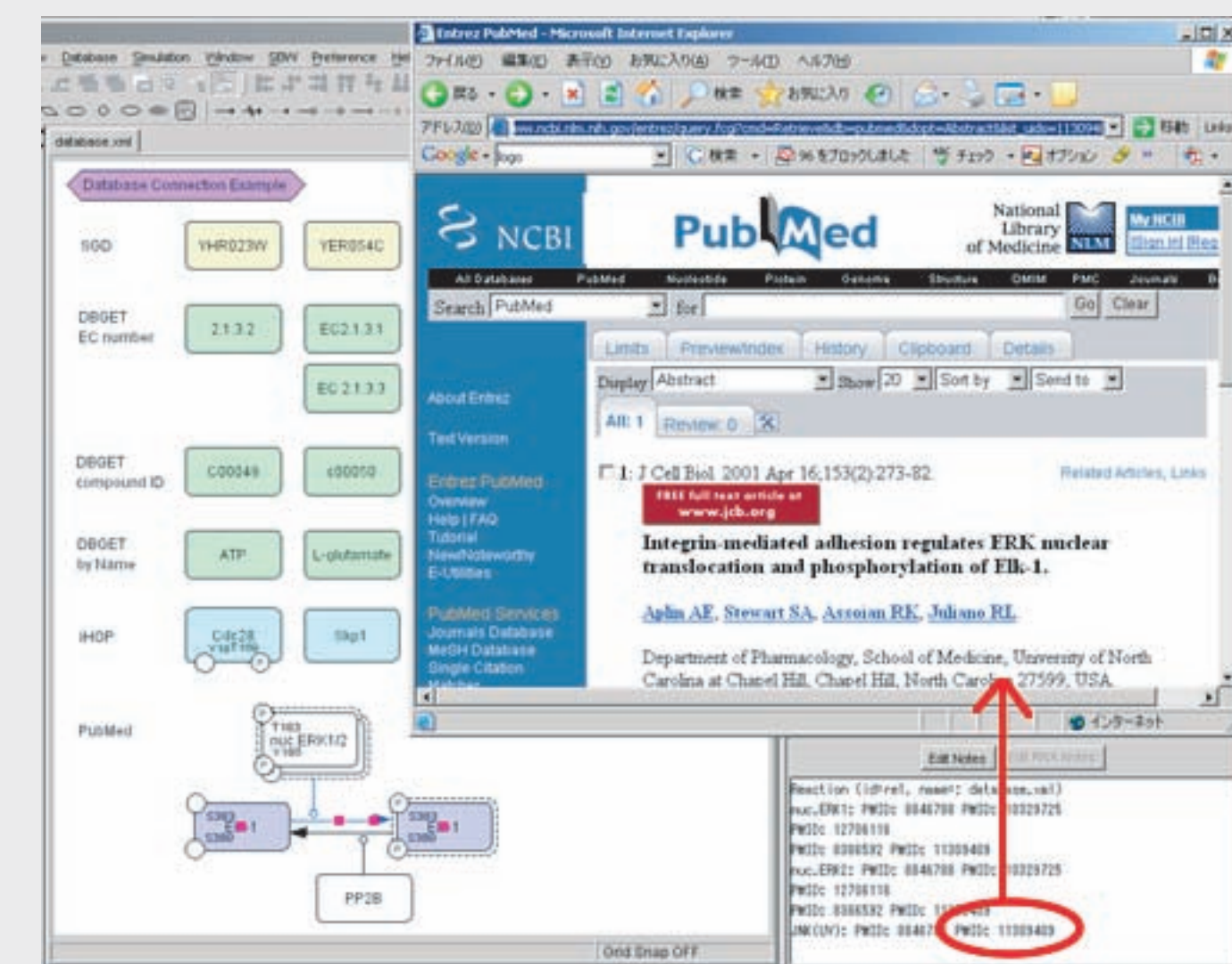
with comprehensive Graphical Notation:



A new notation that enhanced previous process diagram into gene and RNA, as well as protein complex structure. Ver3.2 implements most part of notations described in

Kitano, H. et al. "Using process diagrams for the graphical representation of biological networks", Nature Biotechnology, 2005 Aug;23(8):961-6. PMID: 16082367

with References to Existing Databases



Direct connection to Databases:

- BioModels
- PubMed
- Entrez Gene
- SGD
- DBGET
- iHOP

Browse / Edit / Export SBML Models

CellDesigner can read/write SBML documents:
The models you created with CellDesigner can be used with more than 100 SBML compliant software.

SBML Model Repositories:

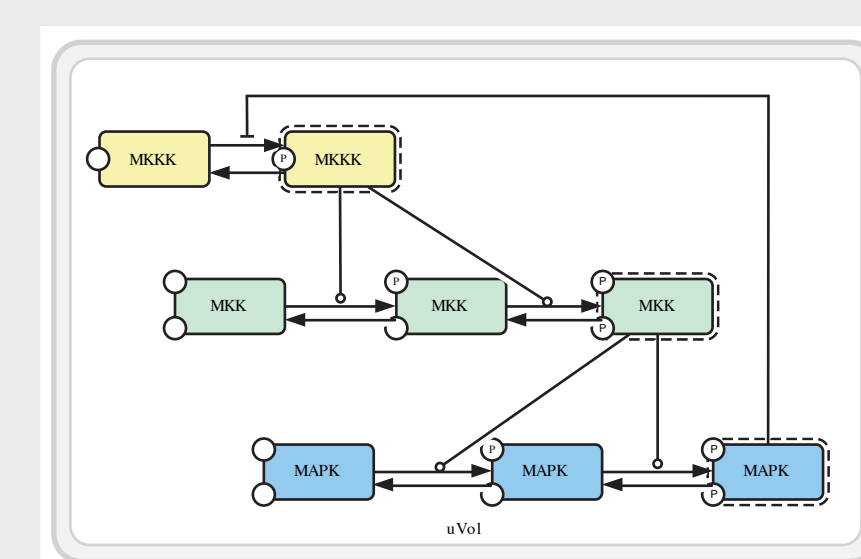
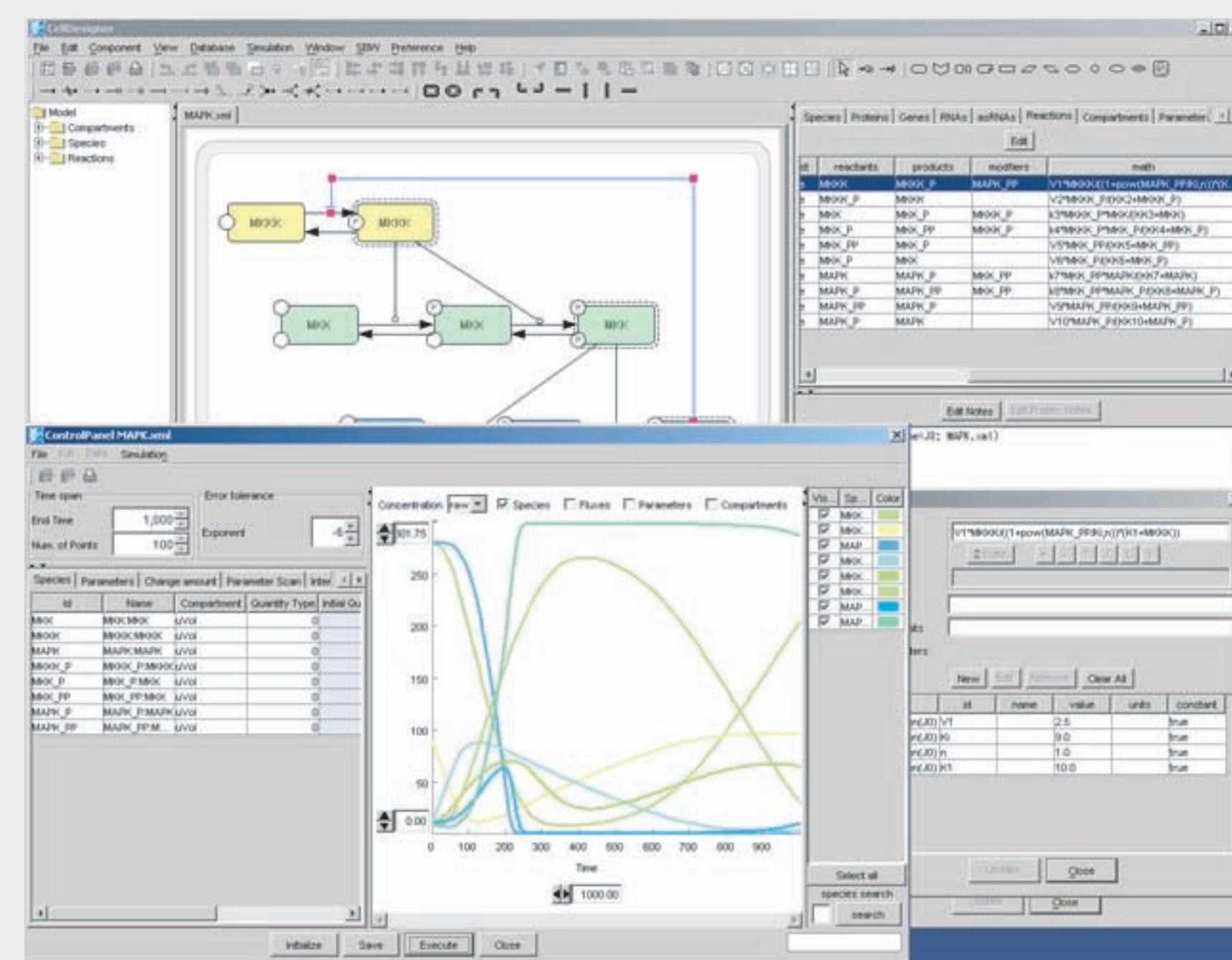
- BioModels.net: <http://biomodels.net/>
- SBML models repository: <http://sbml.org/models/>
- SBML-converted KEGG pathways: <http://systems-biology.org/>
- PANTHER™ system: <http://www.pantherdb.org/>

for more information on model repositories, check
<http://systems-biology.org>

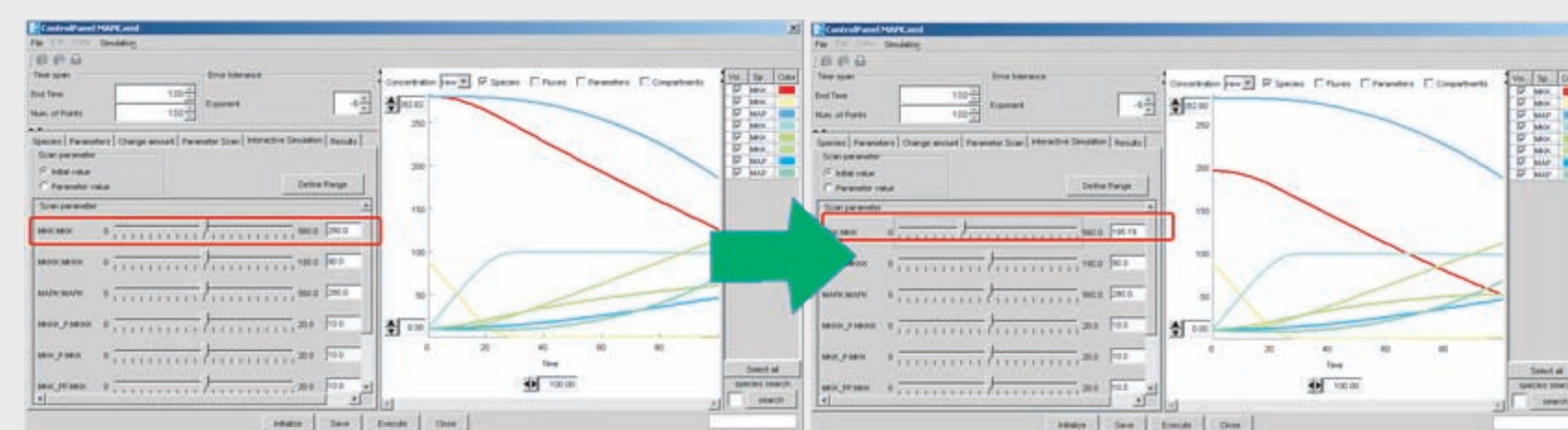
To Standardize Systems Biology Graphical Notation:
check also <http://sbgn.org>

Simulate and View the Dynamics through an intuitive graphical interface

CellDesigner3.2 supports direct simulation and parameter scan by an integration with SBML ODE Solver.



id reactants products modifiers math
J0 MKKK MKKK P V1=MKKK/((1+pow(MAPK_PP/Ki1)*(K1+MKKK))
J1 MKKK P MKKK V2=MKKK_P/(K2+MKKK_P)
J2 MKK MKK P MKKK P K3=MKKK_P/(K3+MKKK_P)
J3 MKK P MKK PP MKKK P K4=MKKK_P/(K4+MKKK_P)
J4 MKK PP MKK P V5=MKKK_P/(K5+MKK_P)
J5 MKK P MKK V6=MKKK_P/(K6+MKK_P)
J6 MAPK MAPK P MKK PP K7=MKKK_P/(K7+MAPK_P)
J7 MAPK P MKK PP MKK PP K8=MKKK_P/(K8+MAPK_P)
J8 MAPK PP MKK PP V9=MAPK_PP/(K9+MAPK_PP)
J9 MAPK P MAPK V10=MAPK_P/(K10+MAPK_P)



Acknowledgement:

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CellDesigner is freely available from
<http://celldesigner.org/>
contact: info@celldesigner.org

Supported Environments:
CellDesigner requires Java5 Runtime Environment (JRE1.5.0 or later) on
- Windows (2000 or later)
- MacOSX (10.3 or later)
- Linux with X Window System

