



---

# SBML Frequently Asked Questions

---

Andrew Finney, Michael Hucka  
{afinney, mhucka}@caltech.edu  
ERATO Kitano Symbiotic Systems Project  
Control and Dynamical Systems, MC 107-81  
California Institute of Technology, Pasadena, CA 91125, USA  
<http://www.sbml.org/>

Principal Investigators: John Doyle and Hiroaki Kitano

*Revision* : 1.25  
January 29, 2004

This Frequently Asked Questions (FAQ) document answers questions about the Systems Biology Markup Language (SBML). It is a non-normative document that does not define any aspect of SBML; rather, it provides information about the language and its use.

## FAQ Contents

<b>1</b>	<b>SBML Introduction and Background</b>	<b>4</b>
1.1	What is SBML? . . . . .	4
1.2	What is the purpose of SBML? . . . . .	4
1.3	What can be represented in SBML?	

## 7.2 Who are the “SBML Editors”?

---

# 1 SBML Introduction and Background

## 1.1 What is SBML?

The Systems Biology Markup Language (SBML) is a machine-readable format for describing qualitative and quantitative models of biochemical networks. It can also be used to express the interactions of biochemical networks with other phenomena. By a “biochemical network”, we mean a system consisting of biochemical entities linked by chemical reactions that alter, transport and/or transform the entities.

The primary encoding of SBML is



## 2.2 Are software libraries available for programming with SBML?

The matrix in Table [2](#)

Note that since all Level 1 models can be translated to SBML Level 2, tools that read SBML Level 2 can be made to support Level 1 reasonably easily. Moreover, the availability of `libsbml` makes it much easier

- [SBML Level 1 Version 2](#). This is the latest version of SBML Level 1 and supercedes the original SBML Level 1 Version 1 definition. As explained elsewhere ([Question 3.4](#)), Level 2 and Level 1 are intended









```
        </cmeta: i denti fier>
    </cmeta: bi o-enti ty>
</rdf: Descrip ti on>
</rdf: RDF>
...
```

#### 6.10.8 Discontinuities

Avoid the use of discontinuous operators like piecewise.

#### 6.10.9 Delay

Avoid the use of the built-in delay operator.

#### 6.10.10 Events

Avoid the use of the events.

#### 6.10.11 Units

Do not expect tools to interpret units. Ensure your tool can parse models which use entirely default units.

### 6.11 How much effort should I invest in preserving the SBML form when round-tripping models through my software?

The first priority should be to support as much of the SBML standard as possible both for reading and writing. You should write using the most interoperable form as possible as described in Question 6.10. To maximize interoperability beyond this requires trying to include as much of an imported SBML model as possible when rewriting it in SBML. This includes preserving annotation data and avoiding mangling id and name fields. The order of structures, other than rules, and the white space between elements do not require preservation.

---

## 7 Organization

### 7.1 What is the overall SBML development process?

SBML development has been and continues to be motivated and directed by the systems biology community. The process is managed by the *SBML Editors* (see next question), but they do so under the control of the community. The editors collect proposals for SBML changes and discuss them with the community. The reading and discussion of proposals is done in the *SBML Editors* mailing list. The reading and discussion of proposals is done in the *SBML Editors* mailing list. The reading and discussion of proposals is done in the *SBML Editors* mailing list.

#### 7.4 What are “SBML Forum” Meetings?

7.8 I have identified a feature or features that are missing from SBML. How to do I start a working

The I3C doesn't create standards; instead, it encourages their development and then makes recommendations on standards to its members. I3C has a close relationship with OMG.

#### **7.12 Why isn't SBML being developed under the auspices of a standards body like the OMG?**



---

## 9 Help

9.1 My question is not answered in this FAQ list. Who should I contact?