Metadata Tools

**ANNOTARE:** [https://code.google.com/p/annotare/](https://code.google.com/p/annotare/)

Forms-based software for annotating biomedical investigations and resulting data. Supports biomedical ontologies, contains standard templates for common experimental types, and includes a design wizard for creating your own forms.

**ISA CREATOR:** [http://isatab.sourceforge.net/tools.html](http://isatab.sourceforge.net/tools.html)

Open source, stand-alone application that assists with planning and describing experiments and facilitates export and import of data directly to and from some public repositories. Additional tools are available in the ISA-Tools software suite for parsing ISA-Tab into R data structures and for parsing PERL and Python for ISA-Tab. ISA-Tab is the required format for publishing data in Nature Publishing’s Scientific Data journal. Creates separate descriptive files for your experimental files.

**MORPHO:** [http://knb.ecoinformatics.org/morphoportal.jsp](http://knb.ecoinformatics.org/morphoportal.jsp)

Allows you to describe ecological experiments and to create a catalog of data and descriptions that you can query. Includes an interface to the Knowledge Network for Biocomplexity (KNB) for sharing, querying, viewing, and retrieving data.

**OMERO:** [http://www.openmicroscopy.org/site/products/omero](http://www.openmicroscopy.org/site/products/omero)

Repository software for importing, viewing, organizing, describing, analyzing, and sharing microscopy images from anywhere you have Internet access. Includes the ability to create user groups with different permissions for sharing data.

**ONTOMATON:** [http://isatab.sourceforge.net/tools.html](http://isatab.sourceforge.net/tools.html)

Ontology searching and automated tagging via NCBO’s Bioportal of biomedical ontologies within Google spreadsheets. Part of the ISA-Tools suite. Annotations are generated within your tabular data file.

**RIGHTFIELD:** [http://www.rightfield.org.uk/](http://www.rightfield.org.uk/)

Open source tool that allows searching and selecting of ontology terms from within Microsoft Excel. Allows you to assign a pre-determined list of options to a particular cell within the spreadsheet. All annotations are embedded within the spreadsheet. User can select from the NCBO’s BioPortal ontologies, or import an ontology from a URL or your local machine.
## Metadata Tools Chart

<table>
<thead>
<tr>
<th>SOFTWARE</th>
<th>TYPE</th>
<th>PLATFORMS SUPPORTED</th>
<th>DATA FORMATS</th>
<th>METADATA SCHEMA*</th>
<th>RESEARCH SUBJECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annotare</td>
<td>desktop application</td>
<td>Windows (XP, Vista, 7), Mac (OS X)</td>
<td>any format</td>
<td>MIAME</td>
<td>High-throughput biomedical investigations that can be described using the MIAME format</td>
</tr>
<tr>
<td>ISA Creator</td>
<td>desktop application</td>
<td>Windows, Mac, Linux</td>
<td>any format</td>
<td>ISA-Tab</td>
<td>Good for life sciences</td>
</tr>
<tr>
<td>Morpho</td>
<td>desktop application</td>
<td>Windows, Mac (OS 8, 9, X), Linux</td>
<td>any format</td>
<td>EML</td>
<td>Ecology</td>
</tr>
<tr>
<td>OMERo</td>
<td>desktop application</td>
<td>Windows, Mac (OS X), Linux; requires local server setup</td>
<td>image files, over 100 formats supported</td>
<td>NA</td>
<td>Microscopy</td>
</tr>
<tr>
<td>OntoMaton</td>
<td>Google spreadsheet plug-in</td>
<td>Windows, Mac, Linux</td>
<td>tabular data</td>
<td>NA</td>
<td>Best for biomedical research</td>
</tr>
<tr>
<td>RightField</td>
<td>Excel plug-in</td>
<td>Windows, Mac (OS X), Linux</td>
<td>tabular data</td>
<td>NA</td>
<td>any field</td>
</tr>
</tbody>
</table>

* DEFINITIONS OF METADATA SCHEMAS:
- MIAME: Minimum Information About a Microarray Experiment
- EML: Ecological Markup Language
- ISA-Tab: Investigation, Study, and Assay general-purpose tabular format
- NA: no metadata schema is used in this tool