

# Source ontologies for VIVO

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## Background

Source ontologies may be imported in their entirety or included selectively through the [MIREOT](#) approach – minimum information to reference an external ontology term – used when importing an entire ontology would include unnecessary classes, properties, or axioms.

## Imports vs. modules

The Integrated Semantic Framework is maintained in a file repository on GitHub [\[full ISF\]](#) [\[VIVO-ISF\]](#) that reflects the source ontologies while creating distribution modules grouping classes and properties more by function, such as grants, agents, education, etc.

## Ontologies Integrated into the Integrated Semantic Framework

The ISF ontology leverages the following ontologies in a unified, semantic structure:

- VIVO – <http://vivoweb.org/ontology/core>
- eagle-i Resource Ontology (ERO) – <https://open.med.harvard.edu/wiki/display/eaglei/Ontology>
- Basic Formal Ontology (BFO) – <http://www.ifomis.org/bfo>
- Bibliographic Ontology (BIBO) – <http://bibliographic-ontology.org/>
- Cell Ontology (CL) – <http://cellontology.org/?q=download>
- Event Ontology – <http://motools.sourceforge.net/event/event.html>
- Friend of a Friend (FOAF) – <http://www.foaf-project.org/>
- Gene Ontology (GO) – <http://geneontology.sourceforge.net/#code>
- [Geopolitical.owl](#), from the U.N. Food and Agriculture Organization
- Information Artifact Ontology (IAO) – <https://github.com/information-artifact-ontology/IAO/>
- Ontology for Biomedical Investigations (OBI) – <http://obi.sourceforge.net/ontology/Information/>
- Ontology of Clinical Research (OCRe) – <http://code.google.com/p/ontology-of-clinical-research/>
- Reagent Ontology (ReO) – <http://code.google.com/p/reagent-ontology/>
- Relations Ontology (RO) – <http://obofoundry.org/ro/>
- Software Ontology (SWO) – <http://theswo.sourceforge.net/>
- Sequence Ontology (SO) – <http://www.sequenceontology.org/>
- SKOS (Simple Knowledge Organization System) – <http://www.w3.org/2004/02/skos/>
- Uberon (Uber anatomy ontology) – <http://obo.svn.sourceforge.net/viewvc/obo/uberon/releases/>
- vCard – <http://www.w3.org/TR/vcard-rdf/>