

NCI PROTÉGÉ EXTENSION

Quick Start Guide



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ABOUT THIS GUIDE

This section introduces you to the *NCI Protégé Extension Quick Start Guide*. It includes the following topics:

- *Purpose* on this page
- *Audience* on this page
- *Topics Covered* on page 1
- *Additional References* on page 2
- *Text Conventions Used* on page 2

Purpose

This guide provides an overview of the NCI Protégé Extension. It explains how to use the Extension to build and manage ontologies for the NCI Thesaurus.

Audience

Typical User

This guide is designed for ontology editors who need to make the transition from using TDE to using Protégé. It is not intended for administrators, developers, or end users of the generated vocabulary.

Prerequisites

To get the most out of this guide, you should be familiar with the following topics:

- Core editing concepts in TDE
- General knowledge of ontology structures
- General familiarity with OWL representations of ontologies.

Topics Covered

If you have worked with previous versions of the NCI Protégé Extension, see *Additional References* on page 2.

If you are new to the NCI Protégé Extension, read this brief overview, which explains what you will find in each chapter and appendix.

- *Chapter 1* explains where to find the Protégé installation files and how to install the application.
- *Chapter 2* provides an overview of the NCI Protégé Extension.
- *Chapter 3* explains how to use the NCI Protégé Extension to perform core editing tasks

Additional References

For more information about OWL, Protégé, and the NCI Protégé Extension, see the following references:

- The W3C OWL specification: <http://www.w3.org/2004/OWL/>
- Stanford Protégé home page: <http://protege.stanford.edu/>
- Access to software downloads and tutorials: <http://www.co-ode.org/>
- Documentation available on GForge: http://gforge.nci.nih.gov/docman/?group_id=174; see the *General Protégé/OWL Documentation* folder.

Text Conventions Used

This section explains conventions used in this guide. The various typefaces represent interface components, keyboard shortcuts, toolbar buttons, dialog box options, and text that you type.

Convention	Description	Example
Bold	Highlights names of option buttons, check boxes, drop-down menus, menu commands, command buttons, or icons.	Click Search .
URL	Indicates a Web address.	http://domain.com
text in SMALL CAPS	Indicates a keyboard shortcut.	Press ENTER.
text in SMALL CAPS + text in SMALL CAPS	Indicates keys that are pressed simultaneously.	Press SHIFT + CTRL.
<i>Italics</i>	Highlights references to other documents, sections, figures, and tables.	See <i>Figure 4.5</i> .
<i>Italic boldface monospace type</i>	Represents text that you type.	In the New Subset text box, enter <i>Proprietary Proteins</i> .
Note:	Highlights information of particular importance	Note: This concept is used throughout the document.
{ }	Surrounds replaceable items.	Replace {last name, first name} with the Principal Investigator's name.

CHAPTER 1

INSTALLING PROTÉGÉ

This chapter explains where to find the Protégé installation files and how to install the application. It includes the following topics:

- *Downloading the Installation Files* on this page
- *Preparing for the Installation* on page 4
- *Installing the Application Files* on page 5

Downloading the Installation Files

To download the installation files for Protégé and the NCI-specific plug-ins, follow these steps:

1. Access the GForge site for the NCI Protégé GUI project:
<http://gforge.nci.nih.gov/projects/tegegui/>
2. Click the **Files** tab.
3. In the *tegegui* area of the tab, download the three files listed in *Table 1.1* to a temporary directory (such as *C:\temp* or *C:\Downloads*) on your hard drive:

<i>File name</i>	<i>Purpose</i>
<i>install_protege.exe</i>	Installs the Protégé application.
<i>protege.lax</i>	Sets the memory heap size to 500 MB. If you aren't sure whether you have enough memory, contact your local EVS administrator.
<i>NCIProtegeExtension.zip</i>	Includes a <i>.jar</i> file that updates Protégé to include NCI-specific performance enhancements and transaction support.

Table 1.1 Installation files for Protégé and NCI-specific plug-ins

4. Note the name of the directory in which you stored the files.

Preparing for the Installation

Uninstalling Previous Versions

Before installing the latest version of Protégé, follow these steps to uninstall any previous versions:

1. On the Windows Desktop, follow this path:
Start > Control Panel > Add or Remove Programs
2. In the Add or Remove Programs window, locate all entries for Protégé.

Figure 1.1 shows the *Currently installed programs* list with one selected entry for Protégé.

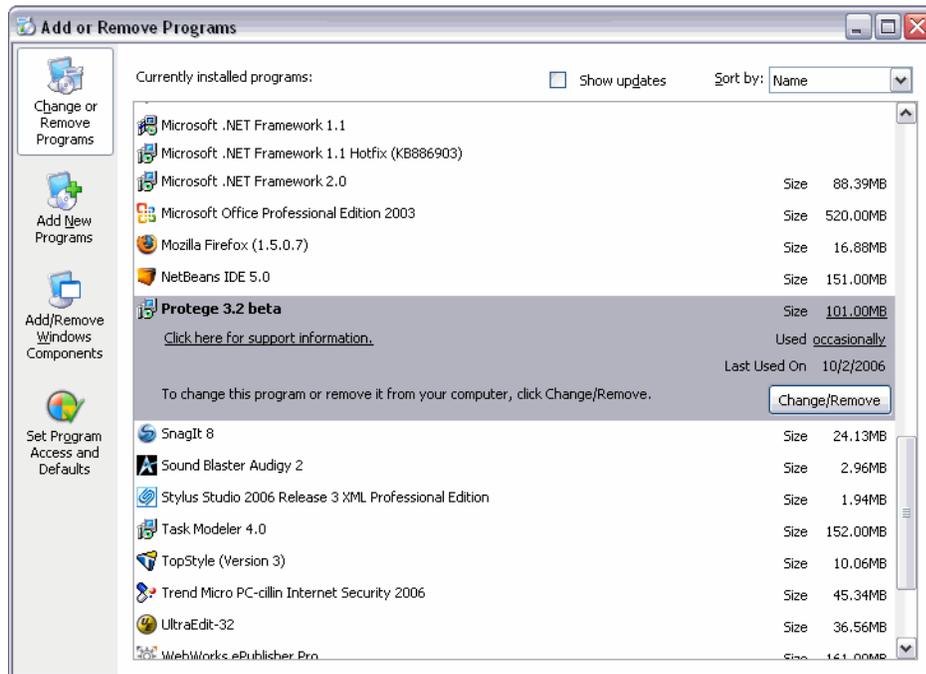


Figure 1.1 Add or Remove Programs window

3. Select each entry, then click the **Change/Remove** button.
 Once the program is removed, the entry disappears from the list.

Deleting Additional Directories

The Protégé uninstall procedure does not automatically delete all related directories. To remove any remaining directories, follow these steps:

1. Using Windows Explorer, browse to *C:\Program Files\Protege 3.2 Beta*.
2. Select and delete any remaining directories.

Note: Based on testing results by the Protégé Development team, you do not need to delete Windows Registry entries.

Installing the Application Files

Installing the install_protege.exe File

To install the main Protégé application file, follow these steps:

1. Locate the folder in which you installed the downloaded files.
2. Double-click the *install_protege.exe* file.
The Protégé 3.2 beta window opens with the Introduction displayed.
3. Click **Next** to continue through the Introduction and Important Information windows.
4. In the Choose Components window, select the **Basic + OWL** option by clicking the icon to the left of that option, as shown in *Figure 1.2*.

Basic + OWL option



Figure 1.2 Choose Components window

5. Click **Next**.
6. In the Choose Install Folder window, accept the default directory, *C:\Program Files\Protege_3.2_beta*, then click **Next**.

7. In the Choose Java VM window, select the first option, **Install a Java VM specifically for this application**, shown in *Figure 1.3*.

Selecting this option ensures that the installation will use the correct version of Java, even if other versions are installed on your computer.



Figure 1.3 Choose Java VM window

8. Click **Next**.
9. Review the settings in the Pre-Installation Summary window.
 - If you need to change any of the settings, click **Previous** to return to the appropriate window; or
 - If the settings are correct, click **Install** to start the installation.
10. When the Install Complete window shown in *Figure 1.4* appears, click **Done** to close the window.

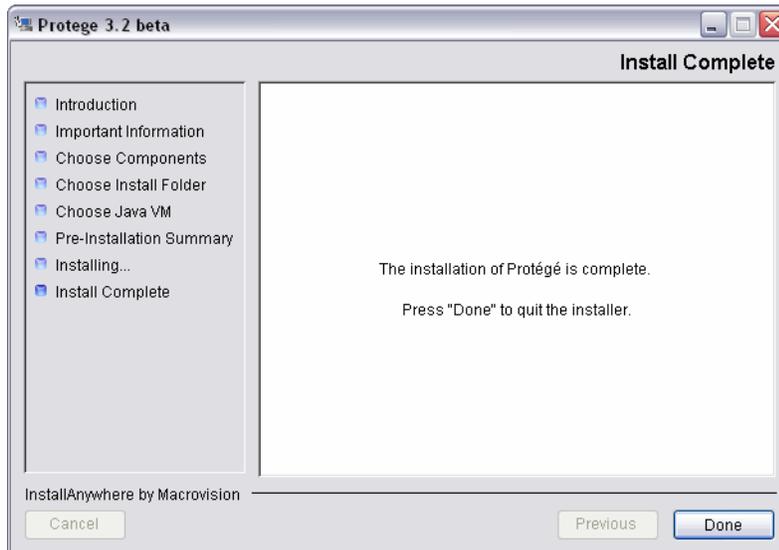


Figure 1.4 Install Complete window

Installing the protégé.lax File

The *protégé.lax* file sets the memory heap size to 500 MB. To install the file, follow these steps:

1. Return to the directory where you downloaded the installation files.
2. Right-click the *protégé.lax* file, then select **Copy**.
3. Navigate to the Protégé main directory (*Protégé 3.2 beta*).
4. Paste the file to the main directory.

A message appears, asking you to confirm whether you want to overwrite the existing file.

5. Click **Yes**.

Installing the NCI Extension.zip File

The *NCI Extension.zip* file is an update of the Protégé OWL application. It includes a *.jar* file that updates Protégé to include NCI-specific performance enhancements and transaction support.

To install the file, follow these steps:

1. Return to the directory where you downloaded the installation files.
2. Right-click the *NCI Extension.zip* file.
3. In the context menu, select **WinZip > Extract to...**
4. In the WinZip Extract window, browse to the *Protégé 3.2 beta* directory.
5. Click **Extract**.

A message appears, asking you to confirm whether you want to overwrite existing files.

6. Click **Yes**.

Extracted files are automatically installed in the main folder and in specific plug-in folders.

Confirming that the Installation Directory was Created

Using Windows Explorer, browse to confirm that the following directory was created on your hard drive:

C:\Program Files\Protege_3.2_beta

CHAPTER 2

ABOUT THE NCI PROTÉGÉ EXTENSION

This chapter provides an overview of the NCI Protégé Extension. It includes the following topics:

- [Overview](#) on this page
- [About the Interface Components](#) on page 10

Overview

Background

Protégé is an open-source development environment for ontologies and knowledge-based systems. The OWL plug-in extends Protégé to support the Web Ontology Language (OWL). Both tools were developed at Stanford Medical Informatics.

Protégé and the OWL plug-in support ontology editing in a multi-user, client/server environment. Using these tools, users at geographically dispersed locations can concurrently edit the same ontology data.

The NCI Protégé Extension is a Protégé tab plug-in developed for the NCI-specific editing environment. This plug-in provides additional editing capabilities that are not available in the Protégé OWL plug-in.

To facilitate use of the NCI Extension, the Ontology Description Logic (DL) used by Apelon's Terminology Development Environment has been converted to OWL.

Advantages

The NCI Protégé Extension includes the following enhancements:

- A simplified editing interface that facilitates consistent editing and workflow
- Built-in workflow features that accommodate such tasks as pre-merge, merge, pre-merge, and merge
- A policy manager for access control

- An Advanced Query tab for enhanced searching
- Customized dialog boxes for editing synonyms with source data (FULL_SYN properties) and definitions with qualifiers (DEFINITION properties).

About the Interface Components

NCI Editor tab

The NCI Editor tab plug-in has a multi-tabbed interface, with different tabs used for different tasks. This guide covers each of the tabs and the tasks that they support.

Figure 2.1 shows the Protégé window with the **NCI Editor** tab enabled.

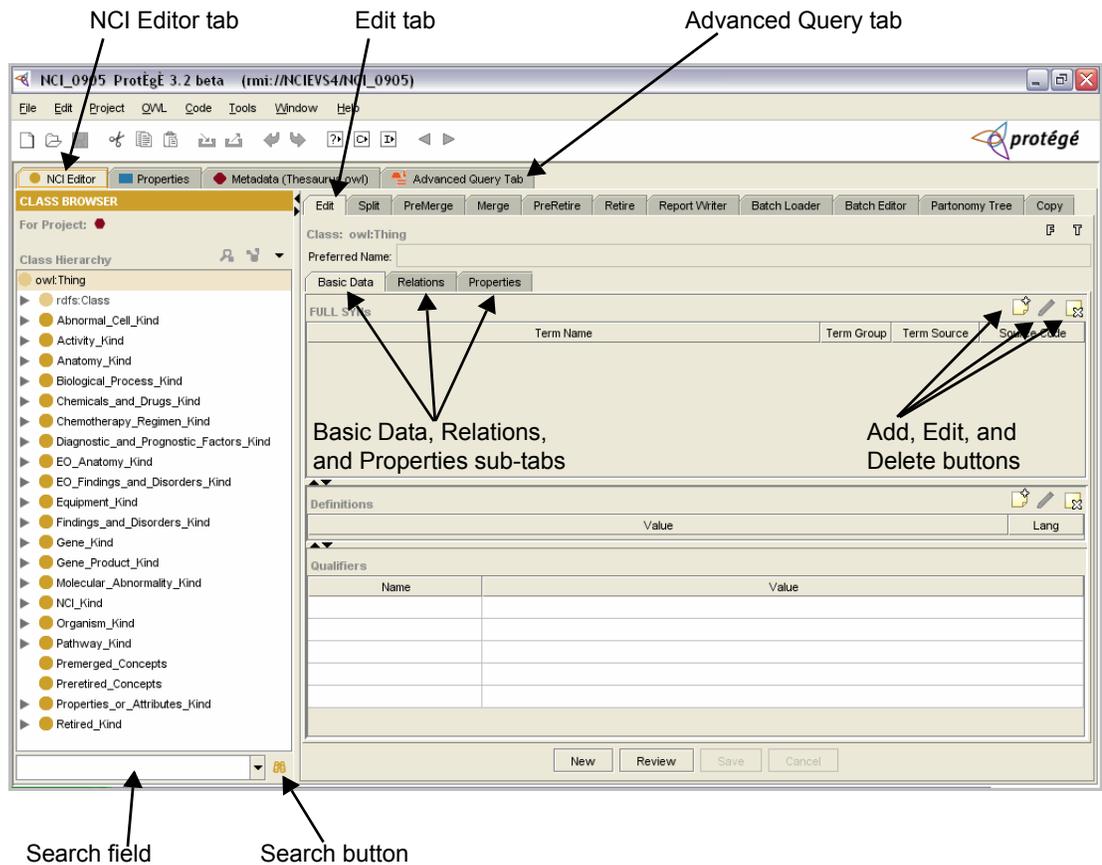


Figure 2.1 Protégé GUI with active Edit tab

Note: You can also find the **Search** field and **Search** button in many Protégé windows.

Edit Tab

The NCI Editor tab opens with the **Edit** tab displayed in front. This tab is used to maintain annotation and relation data for classes, including

- Special annotation properties that uniquely identify a class, such as the name, preferred name, and code
- Basic data about a class, including FULL_SYN annotation properties, DEFINITION annotation properties, and DEFINITION qualifiers
- Related data, including restrictions, named superclasses, and associations
- Other annotation property data, including simple properties such as an annotation property without qualifiers, and complex properties such as GO_ANNOTATION and LONG DEFINITION, with one or many qualifiers.

The **Edit** tab has a header panel with two buttons and a class identifier. Most of the tasks that it supports are carried out using its three sub-tabs: **Basic Data**, **Relations**, and **Properties**. The following sections discuss the header panel and the three sub-tabs.

Header Panel

The header panel is the top section of the **Edit** tab. [Figure 2.2](#) shows the layout of the panel, and [Table 2.1](#) describes each interface component.

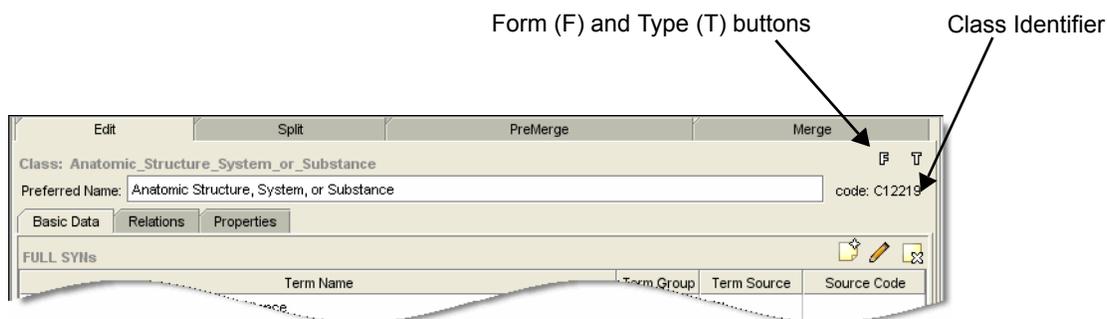


Figure 2.2 Edit panel.

Component	Description
Form (F) button	Provides a shortcut to the original OWL Form tab.
Type (T) button	Opens an OWL plug-in Class Editor window, which enables users to see an Inferred View of the selected class.
Class Identifier	Shows the Class Name, Preferred Name, and Code.

Table 2.1 Edit panel interface components

Basic Data Sub-tab

Figure 2.3 shows the layout of the **Basic Data** sub-tab, and Table 2.2 describes each interface component.

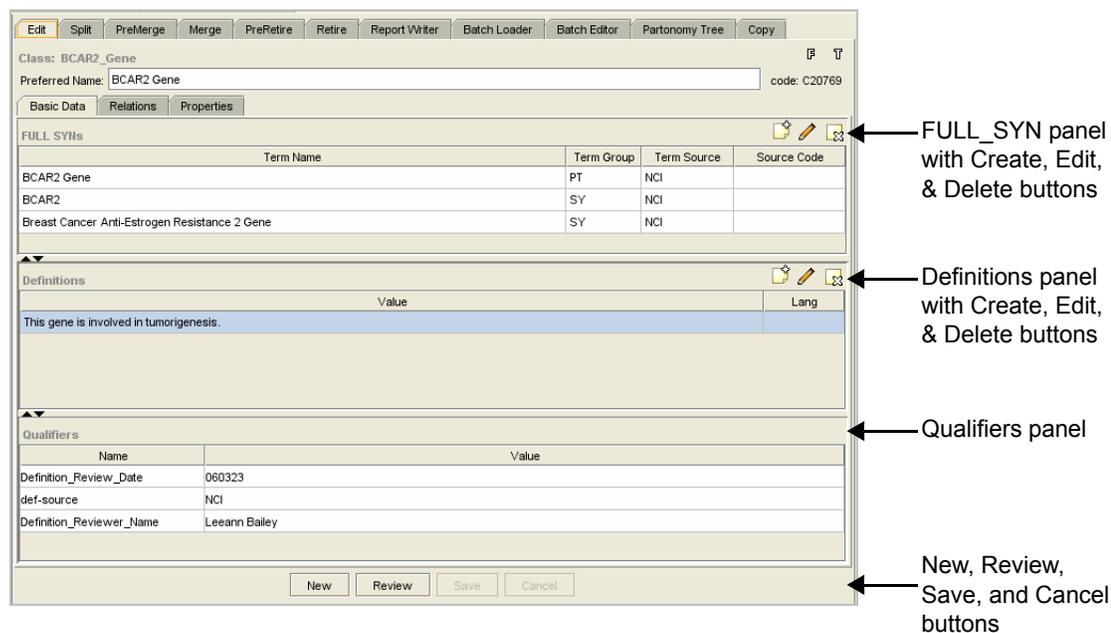


Figure 2.3 Basic Data sub-tab

Component	Description
FULL SYNs panel	Displays FULL_SYN values. The header panel provides three buttons for creating, editing, and deleting FULL_SYN annotation properties.
Definitions panel	Displays definition values. The header panel provides three buttons for creating, editing, and deleting definition properties.
Qualifiers panel	Displays the following qualifier values for definition properties: <i>Definition_Review_Date</i> , <i>def-source</i> , and <i>Definition_Reviewer_Name</i>). Of these three values, only <i>def-source</i> is editable. To edit this value, click the Edit button in the header Panel of the Definitions component.
New button	Creates a new class.
Review button	Opens the Review window, a concept report window showing changes made to a concept. This window shows changes held in memory, even before they are saved to the knowledge base.
Save button	Commits changes to the knowledge base.
Cancel button	Discards unsaved changes.

Table 2.2 Basic Data sub-tab interface components

Relations Sub-tab

Figure 2.4 shows the layout of the **Relations** sub-tab, and Table 2.3 describes each interface component.

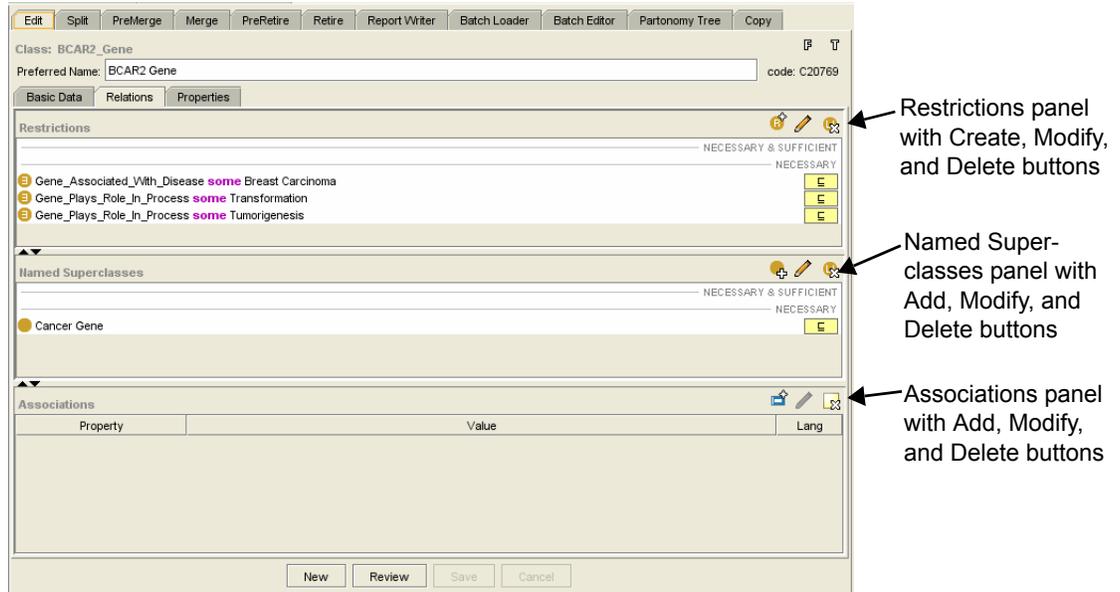


Figure 2.4 Relations sub-tab

Component	Description
Restrictions panel	Displays restriction values. The header panel has three buttons for creating, modifying, and deleting restrictions.
Named Superclasses panel	Displays named superclass values. The header panel has three buttons for adding, modifying, and deleting superclasses.
Associations panel	Displays association values. The header panel has three buttons for adding, modifying, and deleting associations.

Table 2.3 Relations sub-tab interface components

Properties Sub-tab

Figure 2.5 shows the layout of the **Properties** sub-tab, and Table 2.4 describes each interface component.

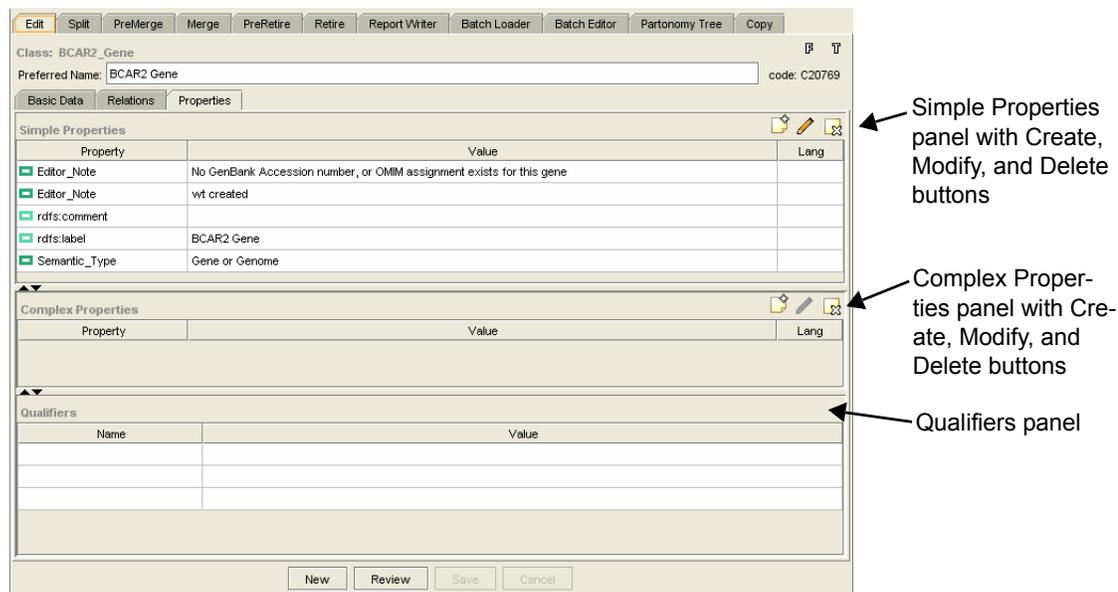


Figure 2.5 Properties sub-tab

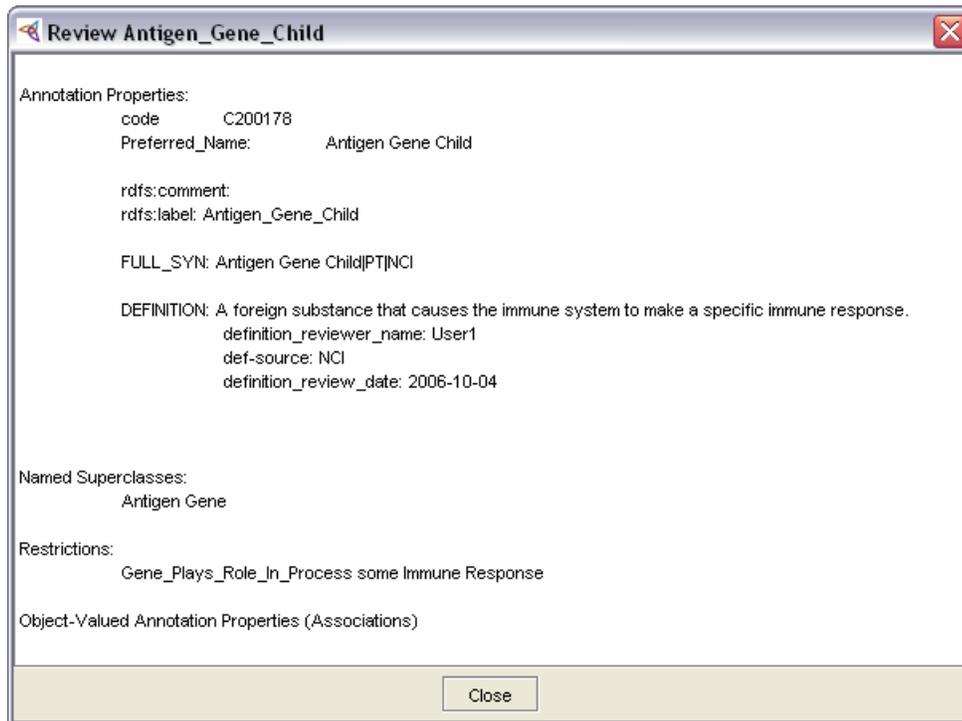
Component	Description
Simple Properties panel	Display simple property values. The header panel includes buttons for creating, modifying, and deleting simple properties.
Complex Properties panel	Display complex property values. The header panel includes buttons for creating, modifying, and deleting complex properties.
Qualifiers panel	Displays qualifier values for complex properties. Click the Edit button in the Complex Properties header panel to edit these values.

Table 2.4 Properties sub-tab interface components

Review Window

Each of the sub-tabs in the last three sections includes a **Review** button, which opens a Review window. This window shows information for a newly created class, even before that class has been saved to the database. Since concept editing in Protégé is split into different tabs, use this window often to verify changes.

For more information about how this window is used in the workflow, see [Creating a Concept](#) on page 30.



Split Tab

The **Split** tab includes two horizontal panes that display, respectively, existing concepts and new concepts. [Figure 2.6](#) shows the layout of this tab, and [Table 2.5](#) describes each interface component.

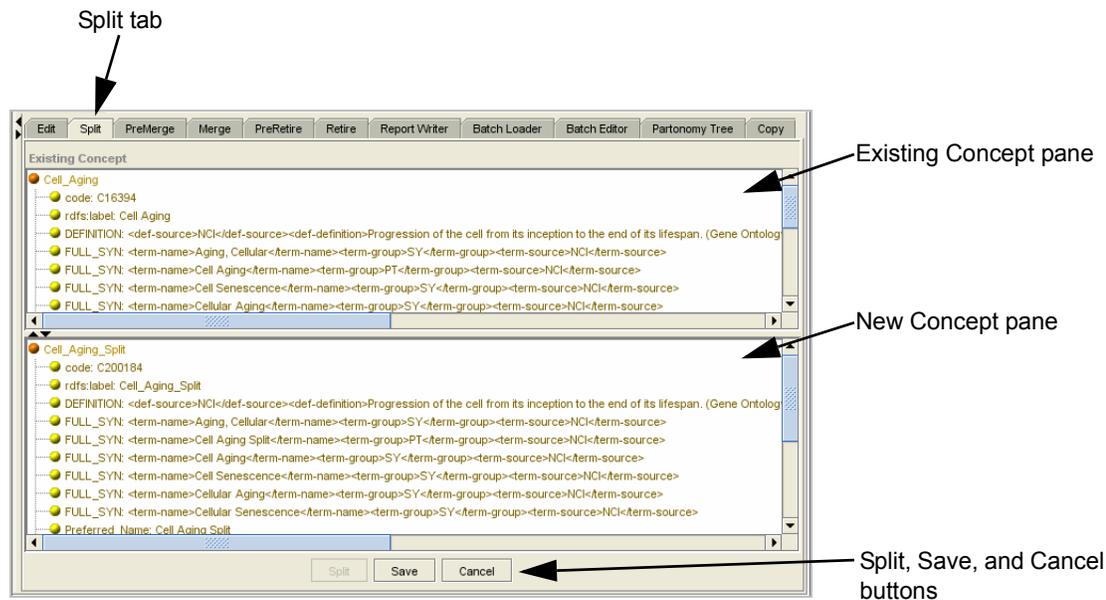


Figure 2.6 Split tab

Component	Description
Existing Concept pane	Shows a tree representation of a selected existing class.
New Concept pane	Shows a tree representation of a new class that has been cloned from an existing class.
Split button	Creates a new class based on the content of the class shown in the Existing Concept pane. This is known as <i>cloning</i> a class.
Save button	Saves a newly created class to the knowledge base.
Cancel button	Discards unsaved data and aborts the action.

Table 2.5 Split tab interface components

PreMerge Tab

The **PreMerge** tab enables you to flag two classes for a merge. [Figure 2.7](#) shows the layout of this tab, and [Table 2.6](#) describes each interface component.

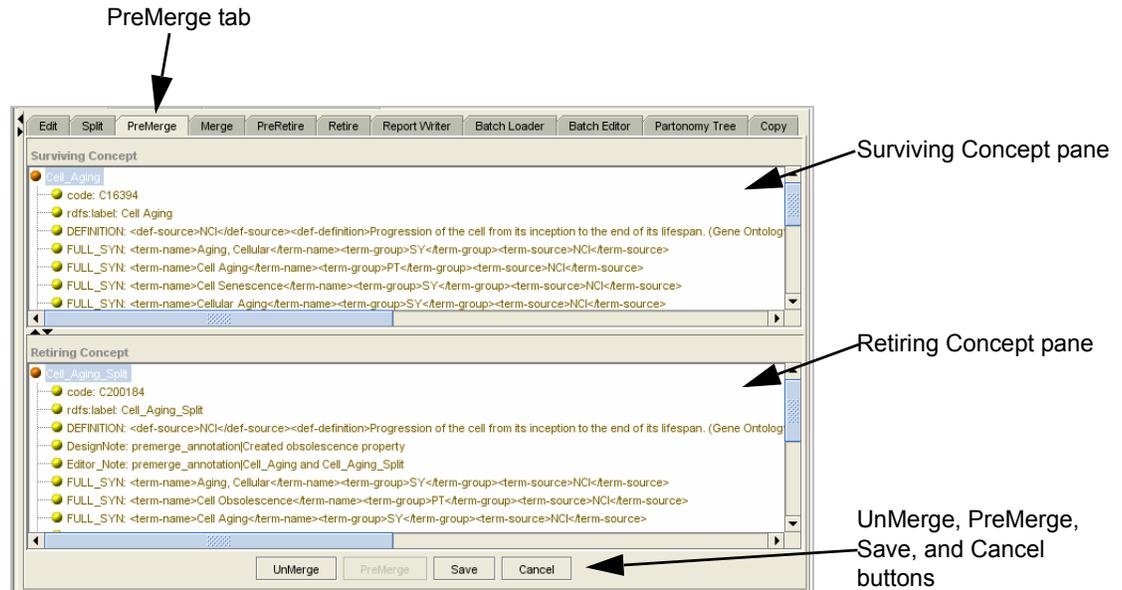


Figure 2.7 PreMerge tab

Component	Description
Surviving Concept pane	Shows a tree representation of a selected class that has been designated as a surviving class.
Retiring Concept pane	Shows a tree representation of a selected class that has been designated as a retiring class.
UnMerge button	Removes a previously set pre-merge flag.
PreMerge button	Flags two classes for a merge. You provide an Editor Note and a Design Note.
Save button	Saves concepts with the following annotation properties: <ul style="list-style-type: none"> Surviving concept = <i>Merge_Source</i> Retiring concept = <i>Merge_Target</i> <p>Note: The value of each property is the code of the referenced class.</p>
Cancel button	Reverses a pre-merge operation. All users can perform this function.

Table 2.6 PreMerge tab interface components

Merge Tab

Note: Only workflow managers can perform this task.

The **Merge** tab enables authorized users to merge two concepts that have already been flagged for a merge using the pre-merge action.

Figure 2.8 shows the layout of the Merge tab, and *Table 2.7* describes each interface component.

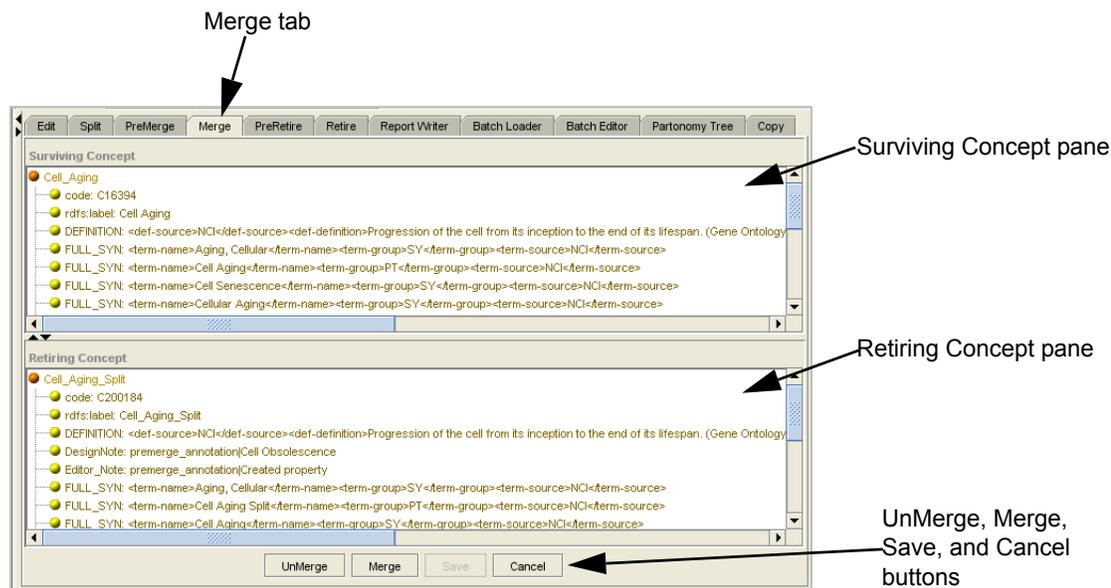


Figure 2.8 Merge tab

Component	Description
Surviving Concept pane	Shows a tree representation of a selected class that has been flagged for a merge. This class has a Merge_Source annotation property.
Retiring Concept pane	Shows a tree representation of a selected class that has been designated as a retiring class.
UnMerge button	Removes a previously set pre-merge flag.
Merge button	Flags two classes for a merge.
Save button	Merges the classes and saves the changes to the database.
Cancel button	Reverses a pre-merge operation. All users can perform this function.

Table 2.7 Merge tab interface components

PreRetire Tab

The **PreRetire** tab enables you to flag a class for retirement. [Figure 2.9](#) shows the layout of this tab, and [Table 2.8](#) describes each interface component.

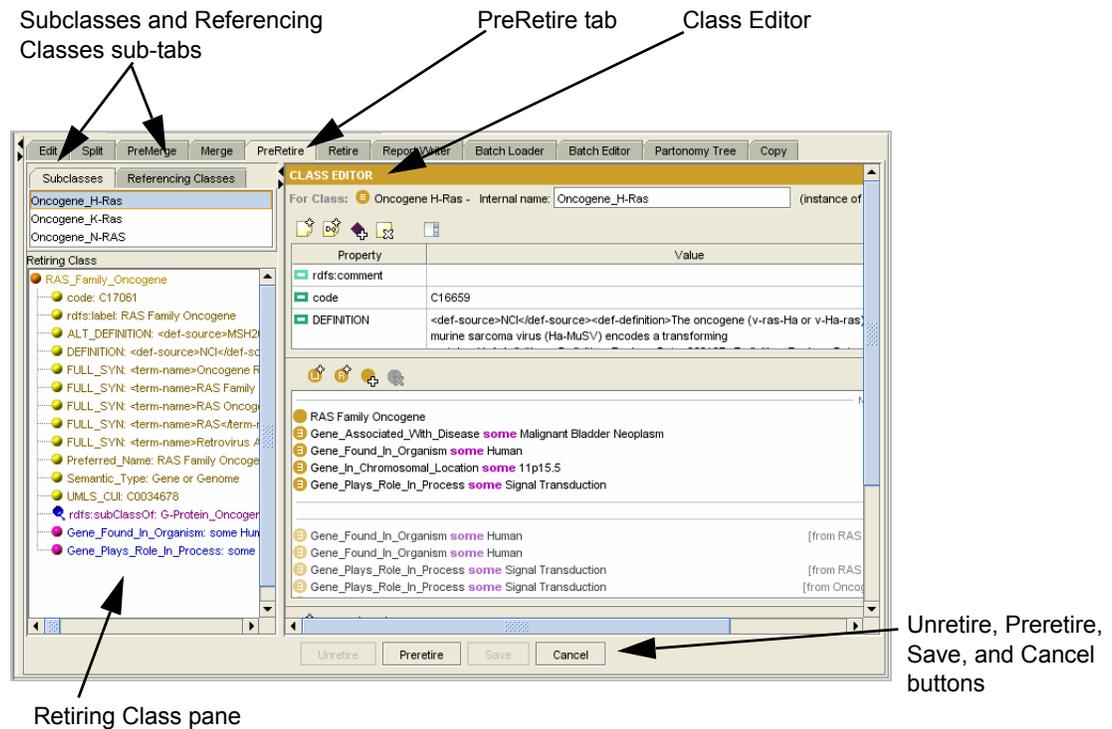


Figure 2.9 PreRetire tab

Component	Description
Subclasses sub-tab	Shows the names of all subclasses of the currently selected class.
Referencing Classes sub-tab	Shows the names of all subclasses that have the currently selected class as a referred class.
Retiring Classes pane	Shows a tree representation of a selected class that has been designated as a retiring class.
Class Editor	Used to re-tree a selected subclass (that is, assign the subclass to another superclass) or display and modify a selected referring class. This component is an existing OWL plug-in.
Unretire button	Reverses a pre-retire action.
Preretire button	Flags a selected class for retirement. Similar to the pre-merge action, the user provides a Editor note and a Design note.
Save button	Saves a selected class to the knowledge base with a pre-retire flag.
Cancel button	Discards changes made to a selected class and terminates the action.

Table 2.8 PreRetire tab interface components

Retire Tab

Note: Only workflow managers can perform this task.

The **Retire** tab enables authorized users to perform a retire action on a class that has been flagged by a pre-retire action. *Figure 2.10* shows the layout of this tab, and *Table 2.9* describes each interface component.

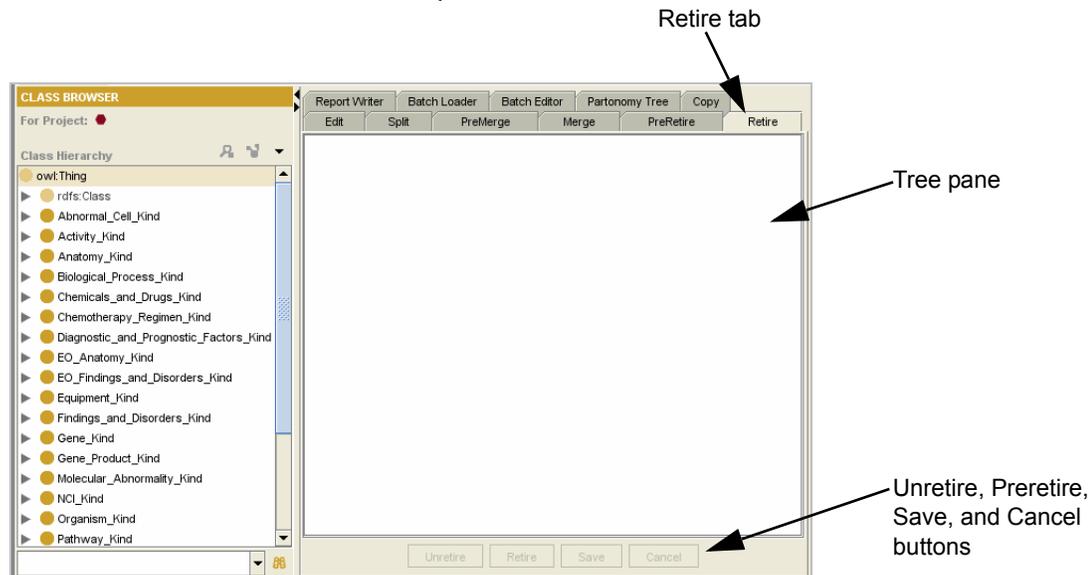


Figure 2.10 Retire tab

Component	Description
Tree pane (right side)	Shows a tree representation of a selected class that has been flagged for retirement. You can drag a class from the Class Hierarchy and drop it into this pane.
Unretire button	Removes a previously set pre-retire flag.
Retire button	Retires a class.
Save button	Saves changes to the knowledge base and formally retires the class by re-treeing it from <i>pre-retired</i> to <i>retired</i> .
Cancel button	Discards changes made to a selected class and terminates the action.

Table 2.9 Retire tab interface components

Report Writer Tab

The **Report Writer** tab enables you to produce reports for selected classes. [Figure 2.11](#) shows the layout of this tab, and [Table 2.10](#) describes each interface component.

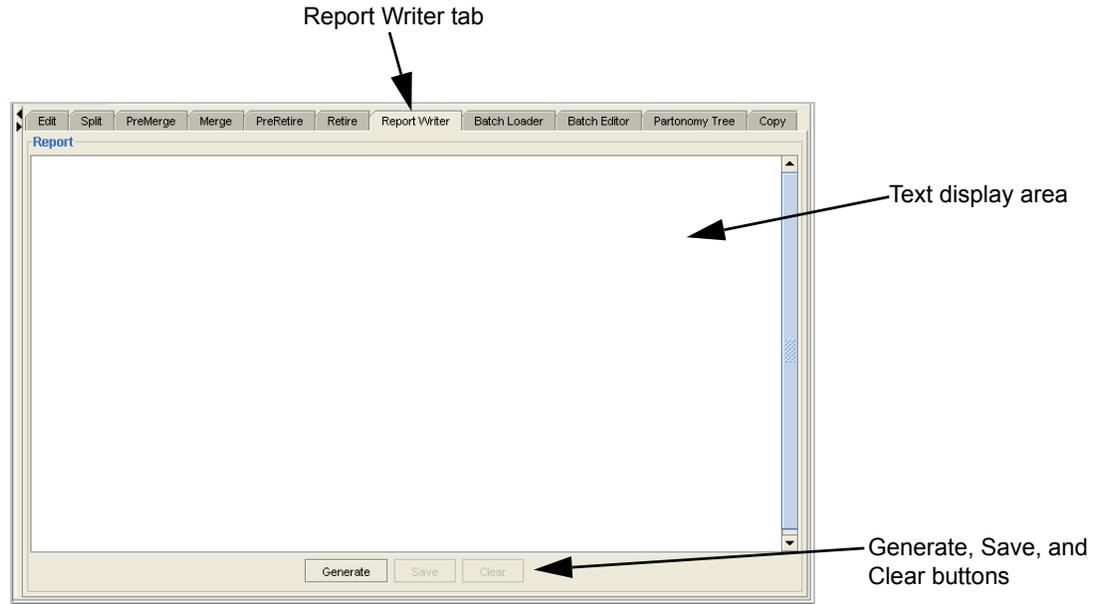


Figure 2.11 Report Writer tab

Component	Description
Text display area (right side)	Displays the content of a report generated from a selected class in the Class Hierarchy.
Generate button	Triggers the display of report content for a selected class.
Save button	Saves the report to an ASCII file.
Clear button	Clears the text display area.

Table 2.10 Report Writer tab interface components

Batch Loader tab

The **Batch Loader** tab loads a batch of classes into the knowledge base. [Figure 2.12](#) shows the layout of this tab, and [Table 2.11](#) describes each interface component.

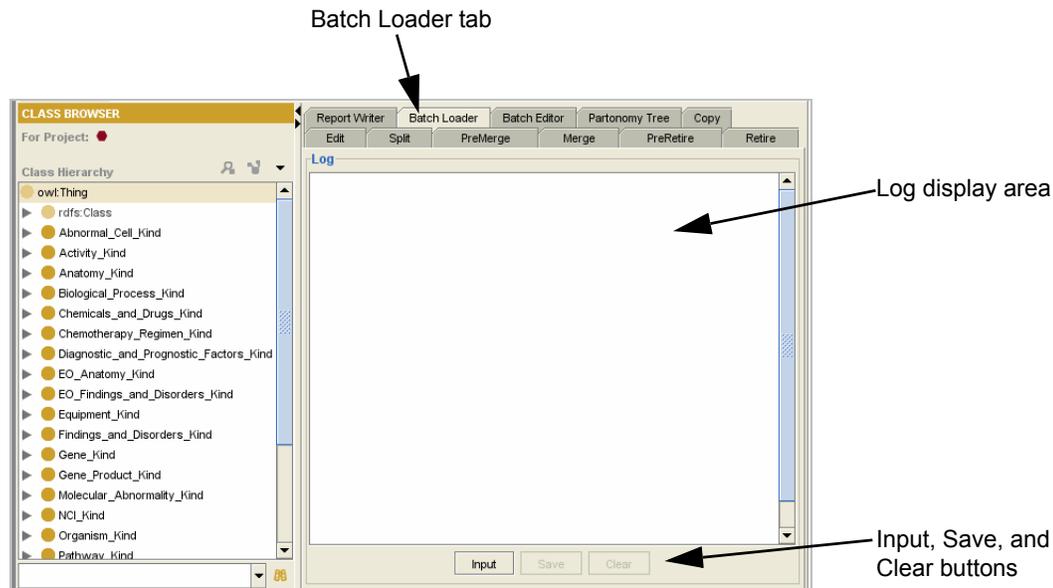


Figure 2.12 Batch Loader tab

Component	Description
Log display area (right side)	Displays the log status (the status of the batch load).
Input button	Accepts a tab-delimited input file and starts the batch load process.
Save button	Saves the log to an ASCII file.
Clear button	Clears the text display area.

Table 2.11 Batch loader tab interface components

Batch Editor Tab

The **Batch Editor** tab enables you to edit a batch of classes. [Figure 2.13](#) shows the layout of this tab, and [Table 2.12](#) describes each interface component.

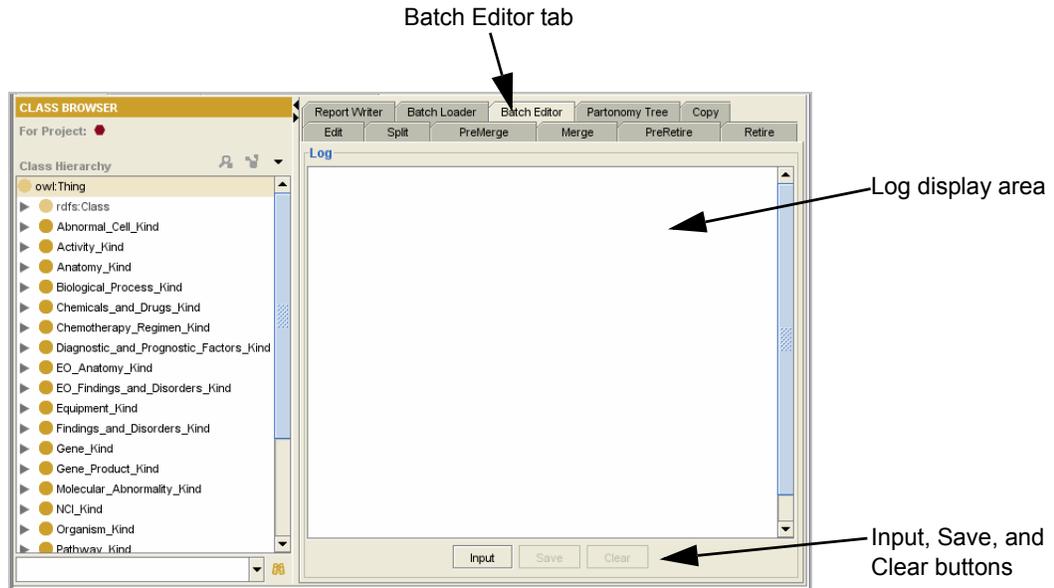


Figure 2.13 Batch Editor tab

Component	Description
Log display area (right side)	Displays the log status (the status of the batch edit process).
Input button	Accepts a tab-delimited file and starts the batch edit process.
Save button	Saves the log to an ASCII file.
Clear button	Clears the text display area.

Table 2.12 Batch Editor tab interface components

Partonomy Tree Tab

The **Partonomy Tree** tab enables you to select a root class and display it as a partonomy tree. A partonomy tree shows classes that are connected by *part_of* relations.

Figure 2.14 shows the layout of the **Partonomy Tree** tab, and *Table 2.13* describes each interface component.

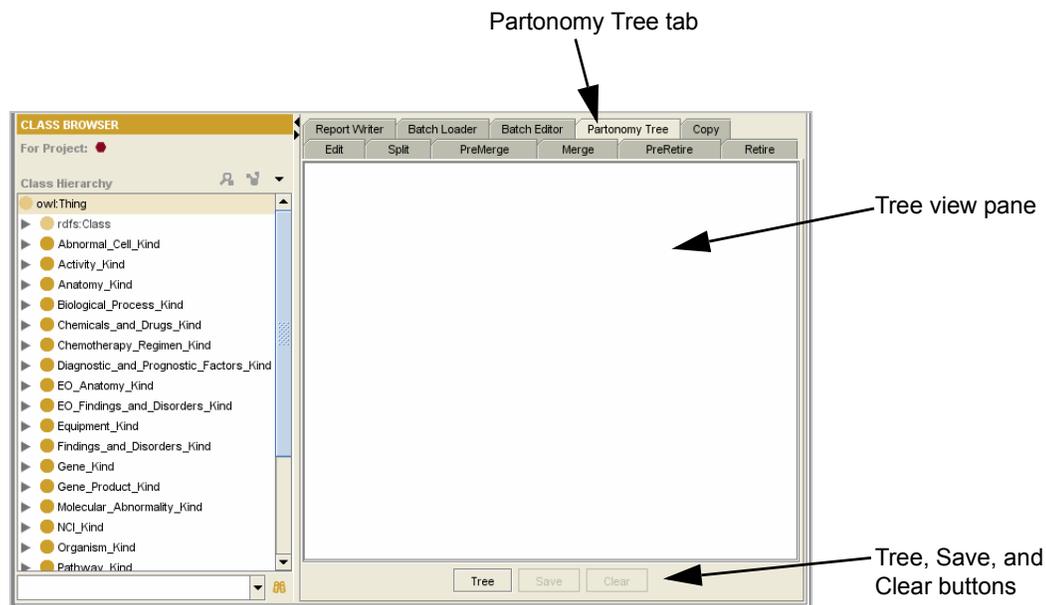


Figure 2.14 Partonomy Tree tab

Component	Description
Tree view pane (right side)	Displays a partonomy tree generated from a selected root class.
Tree button	Triggers the generation of a partonomy tree from a selected root class.
Save button	Saves the partonomy tree as an ASCII file.
Clear button	Clears the tree view pane.

Table 2.13 Partonomy Tree tab interface components

Copy Tab

The **Copy** tab enables you to (1) edit two classes simultaneously and (2) clone new classes from existing classes. [Figure 2.15](#) shows the layout of this tab, and [Table 2.14](#) describes each interface component.

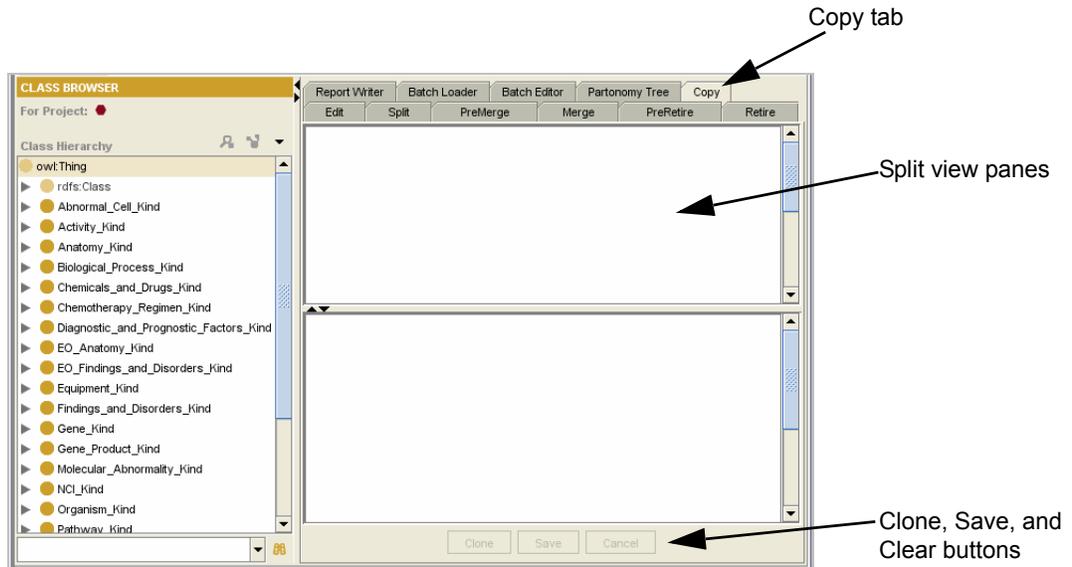


Figure 2.15 Copy tab

Component	Description
Split view panes (right side)	Displays selected classes from the Class Hierarchy.
Clone button	Creates a clone of the selected class.
Save button	Saves changes to the knowledge base.
Clear button	Clears the split view panes.

Table 2.14 Copy tab interface components

CHAPTER 3

USING THE NCI PROTÉGÉ EXTENSION

This chapter explains how to use the NCI Protégé Extension to perform core editing tasks. It includes the following topics:

- *Getting Started* on page 28
- *Searching* on page 33
- *Creating a Concept* on page 30
- *Treeing Concepts* on page 37
- *Asserting Annotation Properties* on page 39
- *Asserting Relations* on page 42
- *Adding an Association* on page 48
- *Splitting a Concept* on page 50
- *Merging Concepts* on page 52
- *Pre-retiring a Concept* on page 55
- *Retiring a Concept* on page 58
- *Loading a Batch of Classes* on page 59
- *Editing a Batch of Classes* on page 61
- *Generating a Partonomy Tree* on page 63

Getting Started

Note: If you do not already have a user name and password for logging into Protégé, contact your local EVS administrator.

To start Protégé and connect to the database, follow these steps:

1. On the Windows Desktop, follow this path:

Start > All Programs > Protégé 3.2 Beta > Protégé

A command line window opens, followed by two GUI windows:

- The Protégé 3.2 beta window, and
 - The Welcome to Protégé window, displayed in front.
2. In the Welcome to Protégé window, click the **Open Existing File** button, as shown in *Figure 3.1*.

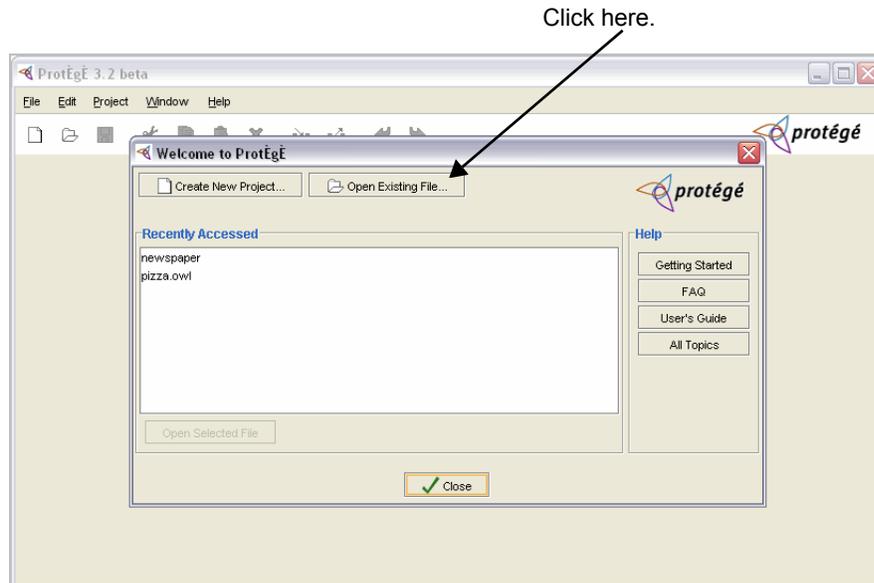


Figure 3.1 Protégé GUI with Welcome window

- In the Open Project window, click the **Server** button on the lower left, as shown in [Figure 3.2](#).
- Enter the Host Machine Name.
You only need to enter the Host Machine Name the first time you log in.

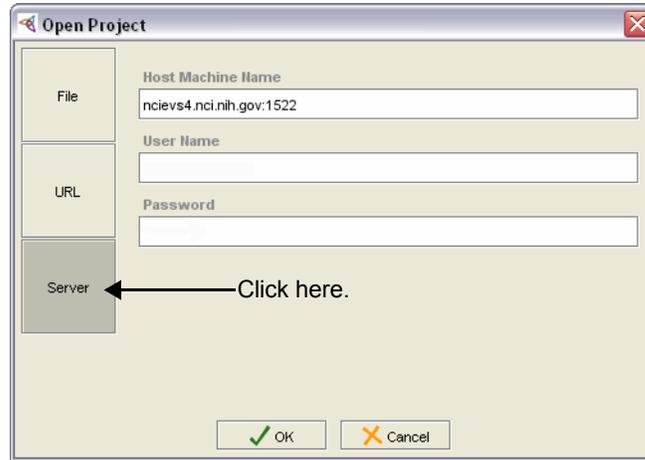


Figure 3.2 Open Project window with Server selected

- In the fields on the right, enter your user name and password, then click **OK**.
- In the Select Project window, click the current project version (for example, **NCI_0905**), then click **OK**.

[Figure 3.3](#) shows the Protégé window with the **NCI Editor** tab enabled.

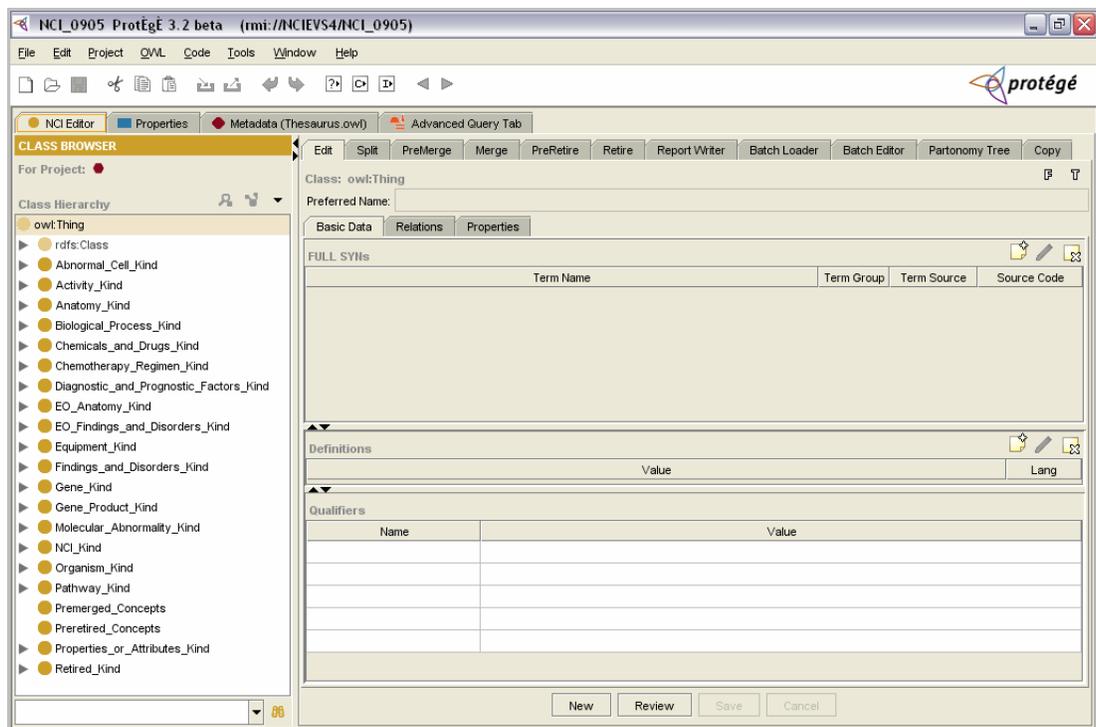


Figure 3.3 Protégé GUI with active Edit tab

Creating a Concept

To create a concept, follow these steps:

1. Click the **Edit** tab.
2. Click the **Basic Data** sub-tab.
3. Click the **New** button.
4. In the Create Subclass window, click the **Select Superclass** button (the yellow dot on the right) to select a parent class. *Figure 3.4* has a pointer to the button.

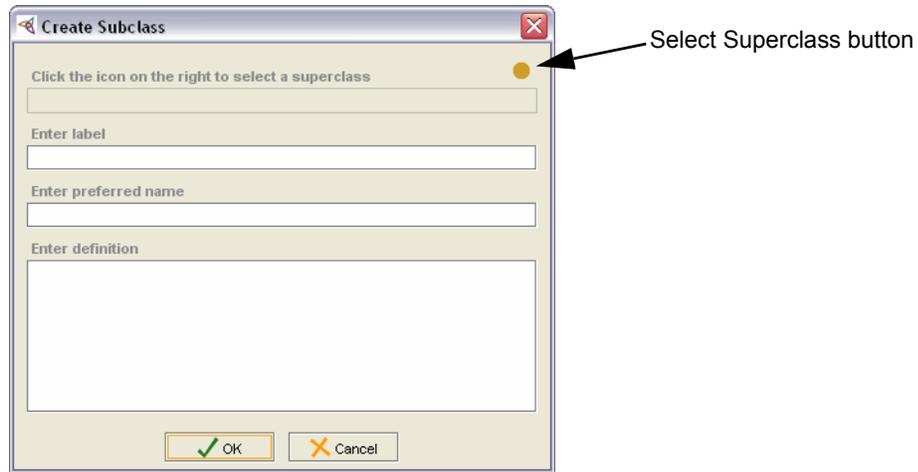


Figure 3.4 Create Subclass window

5. In the Select Concrete Cls window, select a class, then click **OK** to return to the Create Subclass window.
The name of the selected class now appears in the upper part of the window.
6. Complete the fields listed in *Table 3.1*.

Field	Data
Enter label	Type an OWL-compliant label for the new class.
Enter preferred name	Type a preferred name for the new class.
Enter definition	Add a definition for the new class.

Table 3.1 Data for new class

7. After completing all fields as shown [Figure 3.5](#), click **OK**.

Figure 3.5 Create Subclass window with completed fields

8. Verify the following results:
- In the main Protégé window, the new class now appears in the Class Hierarchy on the left.
 - On the **Basic Data** sub-tab (shown in [Figure 3.6](#)), the FULL SYNs and Definitions panels show the information that you added.
 - On the **Basic Data** sub-tab, Qualifiers have been automatically created: *definition_reviewer_name*, *def-source*, and *definition_review_date*.

Figure 3.6 New class information

- Click the **Review** button to open the Review window for the new class.

As shown in *Figure 3.7*, the Review window summarizes information for the new class, even though it has not yet been saved to the database. Since concept editing in Protégé is split into different tabs, use this window often to verify changes.

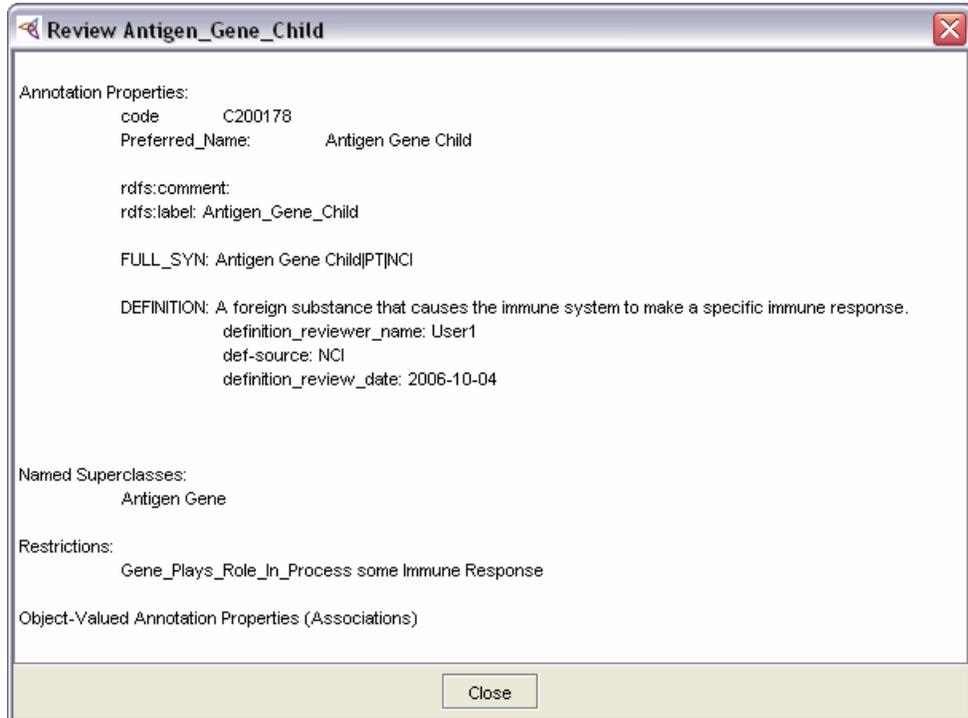


Figure 3.7 Review window

- Examine the newly created concept and ensure that all relations and properties are correct.
- Close the Review window.
- If the information in the Review window was correct, click the **Save** button to commit your changes to the database.

Searching

Performing a Simple Search

Protégé provides a text field for simple searches. This field is located in the left side of the main window, under the Class Browser.

To perform a simple search, follow these steps:

1. Type all or part of a concept name in the text field shown in [Figure 3.8](#).
2. (Optional) Use wild cards such as an asterisk (*) to refine your search.
3. Click the **Search for Class** button  to the right of the field, or press ENTER.



Figure 3.8 Search text field and Search for Class button

If the search returns multiple results, a search results window opens, as shown in [Figure 3.9](#).

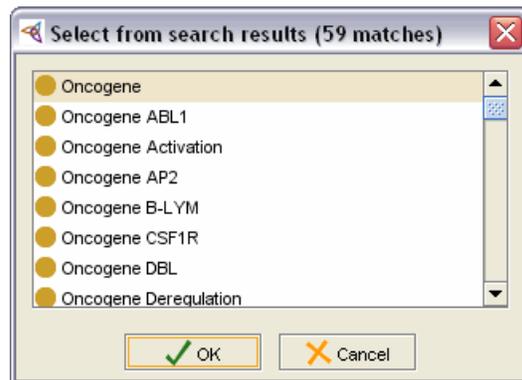


Figure 3.9 Search results window

4. Select a result, then click **OK**.
5. Verify the following results:
 - The class is selected in the Class Hierarchy on the left.
 - On the **Edit** tab, the **Basic Data**, **Relations**, and **Properties** sub-tabs display details for the selected class.

Performing an Advanced Search

About the Advanced Query Tab

The NCI Protégé Extension includes an Advanced Query plug-in that adds an **Advanced Query** tab to the interface. See [Figure 3.3](#) on page 29 for the exact location of the tab in the main window.

The **Advanced Query** tab offers much more extensive and flexible searching:

- You can search on the concept name or on any property, including FULL_SYN, DEFINITION, or preferred name.
- You can use operators such as *exact match*, *contains*, *begins with*, *ends with*, or *sounds like*.
- You can apply **Match All** (AND) or **Match Any** (OR) parameters.

[Figure 3.10](#) shows the layout of the **Advanced Query** tab.

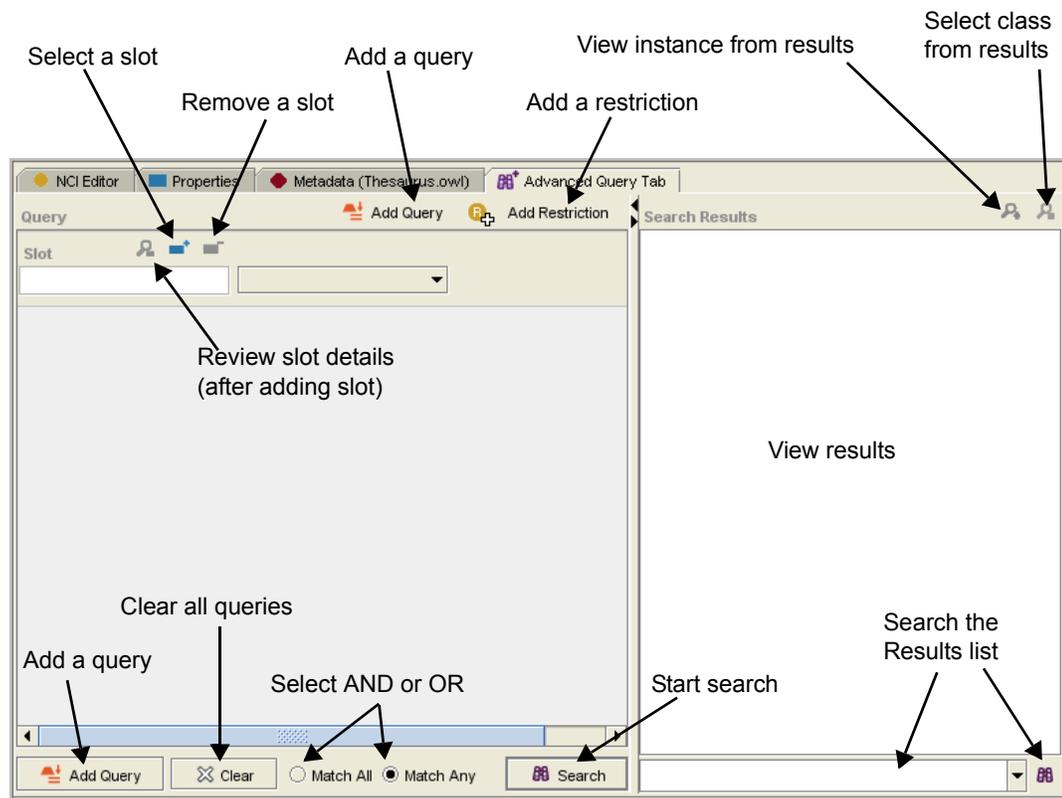


Figure 3.10 Advanced Query tab

Building an Advanced Query

Since query criteria will vary according to the goals of your search, the following scenario is intended mainly to introduce you to the advanced query features.

Scenario: Suppose that you want to find one of the HOX genes, and you can't recall the exact name of the gene that you want. Follow these steps to search for the gene:

1. Click the **Advanced Query** tab.
2. In the Query pane on the left, click the **Select Slot** button .
3. In the Select Slot window, select **:NAME**, then click **OK**.

The search criteria drop-down list now shows the value *contains*. You can normally select a different search criterion for queries, but for this example, leave the value as is.

4. In the **String** field, type *HOX*.

The first query sentence now shows as *name contains HOX*. [Figure 3.11](#) shows how the **Advanced Query** tab displays this information.

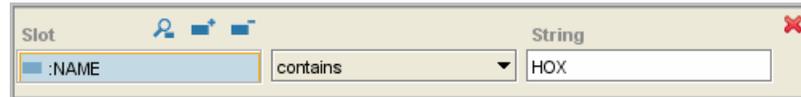
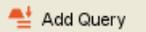


Figure 3.11 First query

5. To add a second query, click the **Add Query** button .
6. Click the **Select Slot** button .
7. In the Select Slot window shown in [Figure 3.12](#), select FULL_SYN from the list, or type *full* in the lower text field, then click **OK**.

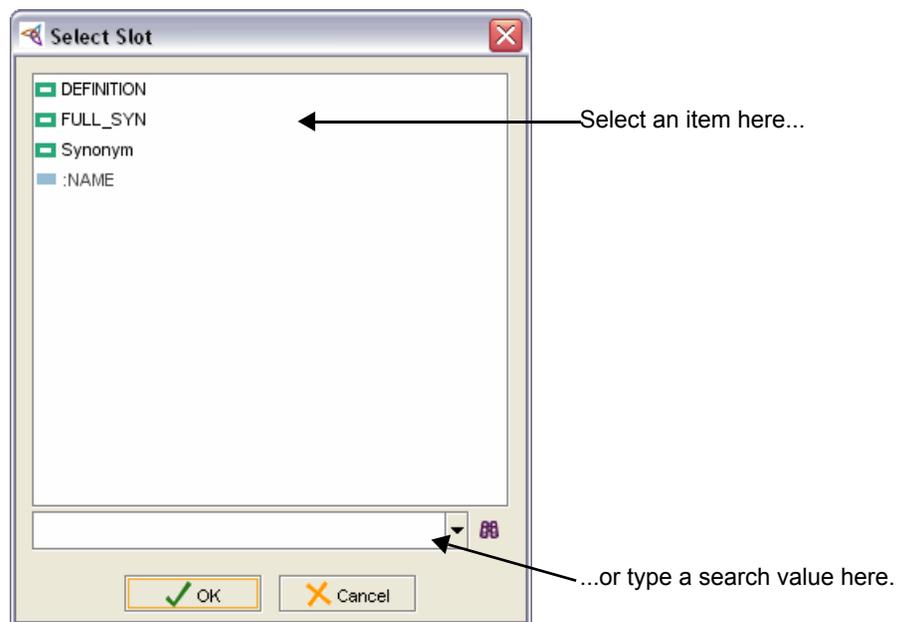


Figure 3.12 Select Slot window

- In the String field, type **HOX**.

Your query should now resemble [Figure 3.13](#).

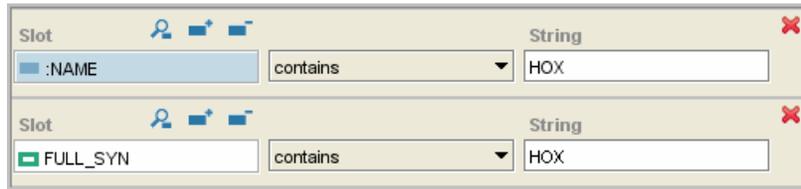


Figure 3.13 Second query added

- (Optional) To add a restriction to the query, click the **Add Restriction** button



- In the lower part of the Query pane, select the **Match Any** option (OR search).

- Click **Search**

The results appear in the pane on the right. Note that the results returned concepts that include HOX in the concept name, as well as HOX anywhere in the FULL_SYN.

Viewing Items from the Search Results List

The Search Results pane provides two buttons for viewing specific items from the results list. These buttons are located in the upper right area of the pane. See [Figure 3.10](#) on page 34 for their exact location.

To view specific items, follow these steps:

- Select the item that you want to view.
- Click either of the following buttons, depending on what you want to view:



- Click the **View Instance** button to open the selected class instance in a standalone Class Editor window. The window shows annotations, asserted conditions, and disjoint classes. Click the **Close** button in the upper right to close the window.



- Click the **View CIs in the NCI Edit Tab** button to view the selected instance in the **Edit** tab. The tab displays the selected class in the Class Hierarchy and the Basic Data for the class on the right.

Treing Concepts

On the **Edit** tab, the **Relations** sub-tab includes a Named Superclasses panel for treeing concepts. The upper right area of the panel includes buttons for adding, modifying, and deleting superclasses. The following sections detail the steps for performing these three tasks.

Adding a Named Superclass

To add a named superclass, follow these steps:

1. Click the **Edit** tab.
2. Click the **Relations** sub-tab.
3. In the Named Superclasses panel, select the class for which you want to create a named superclass.
4. Click the **Add Named Class** button .
5. In the Select a class window (shown in [Figure 3.14](#)), locate a concept by browsing the hierarchy, or by typing a known term in the search field.

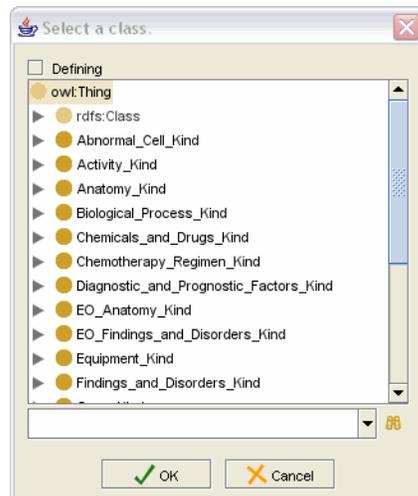


Figure 3.14 Select a class window

6. With the class selected, click **OK** to close the Select a class window.
As shown in [Figure 3.15](#), the Named Superclasses panel now lists the new class.



Figure 3.15 Named Superclasses panel with new named superclass

7. Click the **Save** button on the bottom of the **Relations** sub-tab.
8. Click **Yes** to confirm that you want to save the class.
If the class was successfully saved, a second confirmation message appears:
Concept saved successfully.
9. Click **OK** to acknowledge the second message.

Modifying a Named Superclass

To modify a named superclass, follow these steps:

1. Click the **Edit** tab.
2. Click the **Relations** sub-tab.
3. In the Named Superclasses panel, select the class to be modified.
4. Click the **Modify Superclass** button .
5. In the Modify Named Superclass window shown in [Figure 3.16](#), click the **Select a Superclass** button on the right (yellow dot with a plus sign).

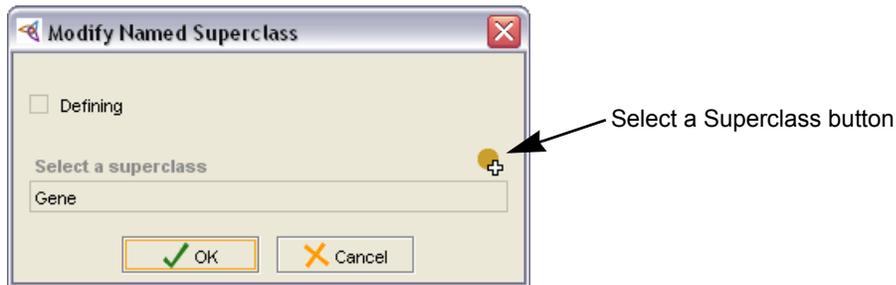


Figure 3.16 Modify Named Superclass window

6. In the Select Concrete CIs window shown in [Figure 3.17](#), locate a concept by browsing the hierarchy, or by typing a known term in the search field.

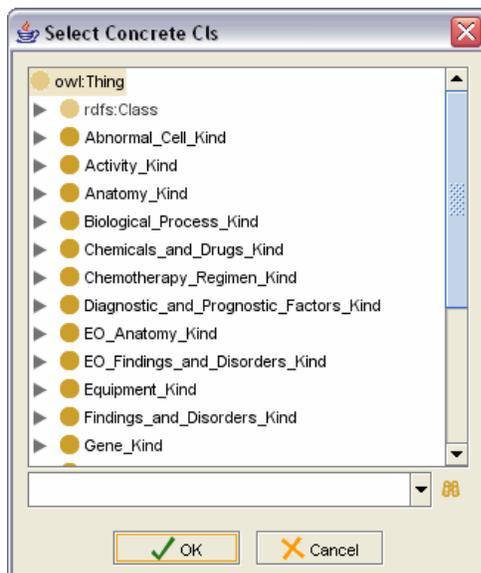


Figure 3.17 Select Concrete CIs window

7. With the class selected, click **OK** to close the Select Concrete CIs window.
In the Modify Named Superclass window, the selected class name now appears.
8. Click **OK** to accept the modification.

Deleting a Named Superclass

To delete a named superclass, follow these steps:

1. Click the **Edit** tab.
2. Click the **Relations** sub-tab.
3. In the Named Superclasses panel, select the class to be deleted.
4. Click the **Delete Selected Row** button , located in the header area of the panel.
5. When the confirmation message appears, click **Yes**.

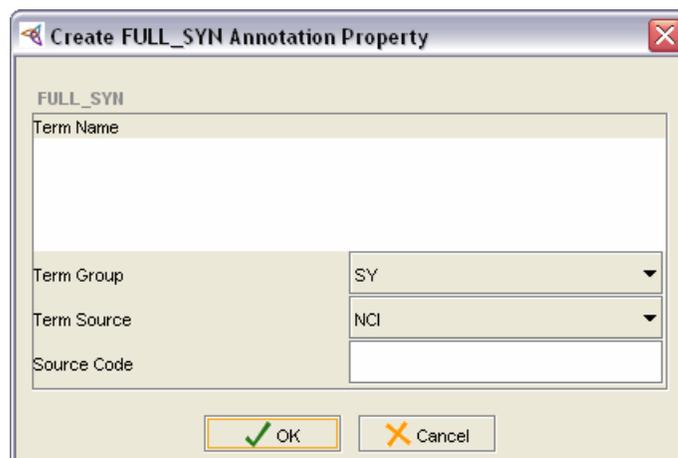
The selected class is removed from the Named Superclasses panel.

Asserting Annotation Properties

Adding Atoms to Concepts

To add atoms to concepts, follow these steps:

1. In the Class Hierarchy pane on the left, browse to the desired class.
2. On the **Edit** tab, click the **Basic Data** sub-tab.
The selected class is displayed in the FULL SYNs panel.
3. Click the **Create new annotation value** button , located in the header area of the FULL SYNs panel.
4. In the Create FULL_SYN Annotation Property window (shown in [Figure 3.18](#)), type a term name.



The screenshot shows a dialog box titled "Create FULL_SYN Annotation Property". It has a close button in the top right corner. The main area is divided into several sections:

- A text input field labeled "Term Name" with a large empty space below it.
- A "Term Group" dropdown menu currently showing "SY".
- A "Term Source" dropdown menu currently showing "NCI".
- A "Source Code" text input field.

 At the bottom of the dialog, there are two buttons: "OK" (with a green checkmark icon) and "Cancel" (with a red X icon).

Figure 3.18 Create FULL_SYN Annotation Property window

5. Ensure that **SY** is selected for the Term Group, then click **OK**.
6. The new synonym now appears in the FULL SYNs list.
Note: The new synonym is not permanent until the concept is saved.

Modifying Existing Atoms

To modify an existing atom, follow these steps:

1. On the **Edit** tab, click the **Basic Data** sub-tab.
2. Select a class, then click the **Modify selected annotation** button , located in the header area of the FULL SYNs panel.
3. In the Edit FULL_SYN Annotation Property window (shown in [Figure 3.19](#)), change information as necessary (for example, term name or term type).

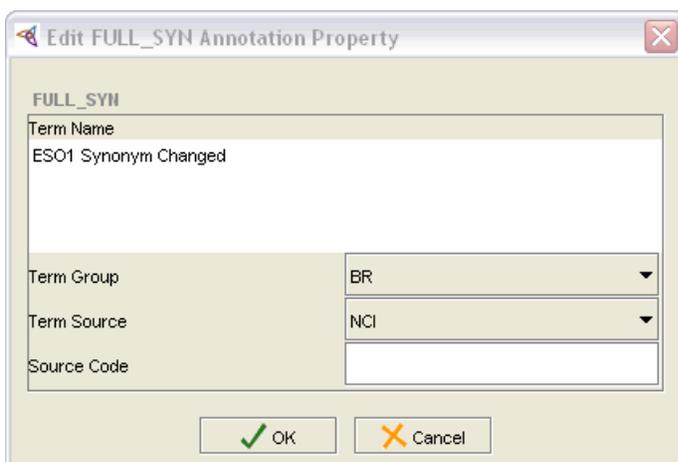


Figure 3.19 Edit FULL_SYN Annotation Property window

4. Click **OK** to close the editing window.
Note: If you change the term type to a type that is designated as a preferred term in the NCI editing rules (for example, AQ), an error message appears. If this happens, repeat this procedure and select another term type.

Deleting Atoms

To delete an atom, follow these steps:

1. On the **Edit** tab, click the **Basic Data** sub-tab.
2. In the FULL SYNs panel, select the atom to be deleted.
3. Click the **Delete selected annotation** button , located in the header area of the panel.
4. When the confirmation message appears, click **Yes**.
 The selected class is removed from the FULL SYNs panel.

Modifying a Definition

Note: You can edit and spell-check a definition in a word processing application such as MS Word, then copy the text into the Description field when performing this task.

To change the definition of a concept, follow these steps:

1. On the **Edit** tab, click the **Basic Data** sub-tab.
2. In the Definitions panel, select the definition to be changed.
3. Click the **Modify selected annotation** button , located in the header area of the panel.
4. In the Edit DEFINITION Annotation Property window (shown in [Figure 3.20](#)), edit the text in the **Description (definition value)** field.
5. Click **OK**.

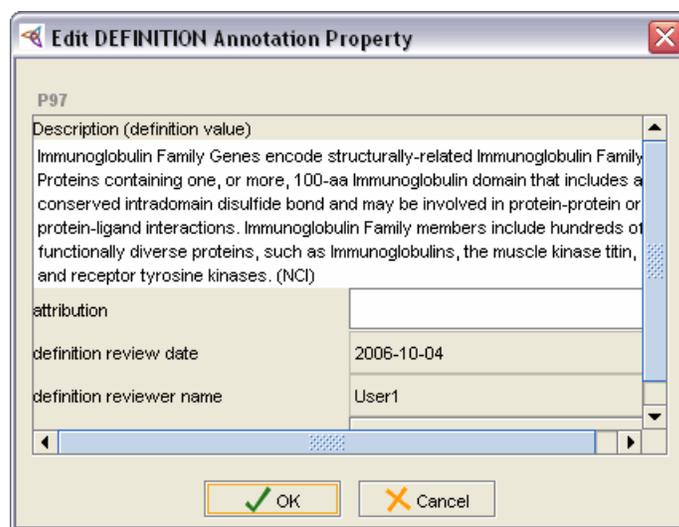


Figure 3.20 Edit DEFINITION Annotation Property window

Note: If you leave extra spaces in the edited definition, you cannot save it to the knowledge base. A built-in utility checks for extra spaces, so if your definition includes them, you will receive the following error: *Unable to save <Concept Name> -- Cannot have non-printable character*. If this happens, repeat this procedure, remove the spaces, and save again.

Asserting Relations

Adding a Restriction

To add a restriction to a class, follow these steps:

1. In the Class Hierarchy, select the class to which you want to add a restriction.
2. On the **Edit** tab, click the **Relations** sub-tab.
3. In the header area of the Restrictions panel, click the **Create Restriction** button  (the first of the three buttons on the right).
4. In the Create a Restriction window (shown in [Figure 3.21](#)), click the **Create a Role** button on the right. This button is identical to the button in the last step.

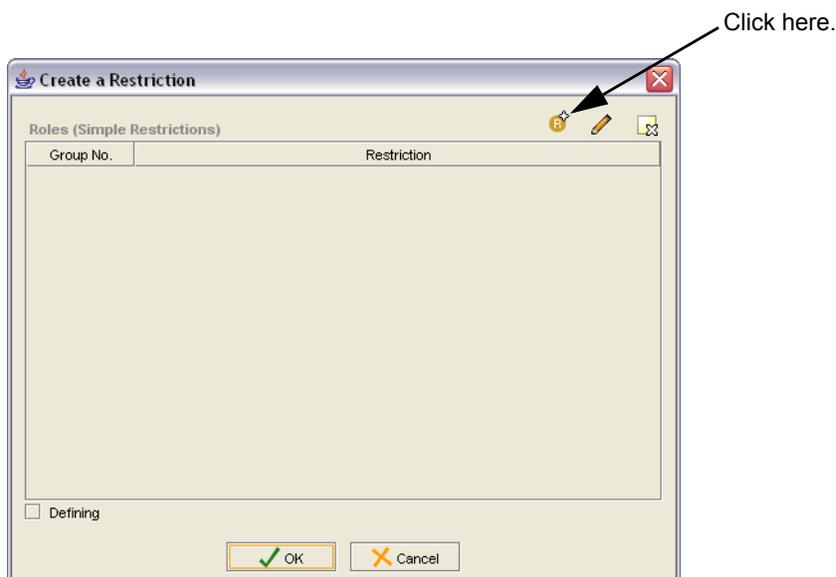


Figure 3.21 First Create a Restriction window

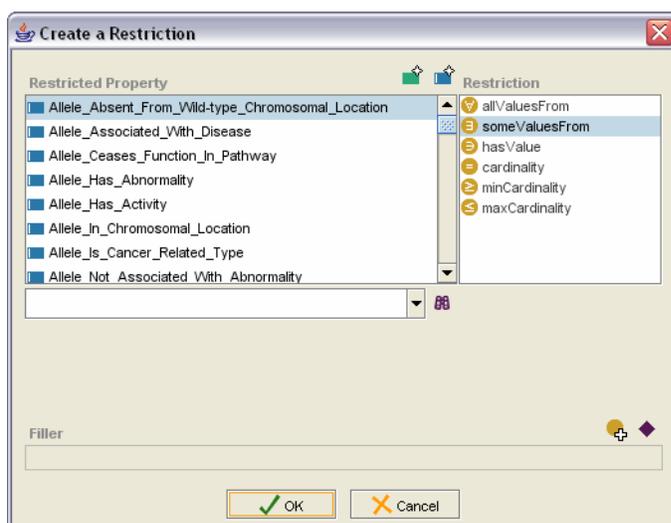


Figure 3.22 Second Create a Restriction window

5. In the second Create a Restriction window, do the following:
 - a. Select an item in the **Restricted Property** list.
 - b. Select a modifier in the **Restriction** list (for example, **someValuesFrom**).
 - c. In the lower area of the window, click the **Select a named class (filler)** button  .
 - d. In the Select Concrete CIs window, locate a class by drilling down in the hierarchy, or by typing a known term in the search field.
 - e. Click **OK** to close the Select Concrete CIs window.

In the Create a Restriction window, the selected value now appears in the **Filler** field.
6. Click **OK** to close the Create a Restriction window.

The new restriction now appears in the original window.
7. (Optional) If applicable, check the **Defining** box in the lower left of the window.

Note: To add a role group or class expression, see [Adding a Role Group](#) on page 44.
8. Click **OK**.

The new restriction now appears in the Relations panel.
9. Repeat steps 4. through 7. to add more restrictions.
10. Click the **Save** button at the bottom of the Relations sub-tab.

Adding a Role Group

To add a role group, follow these steps:

1. In the Class Hierarchy, select the class to which you want to add a role group.
2. On the **Edit** tab, click the **Relations** sub-tab.
3. In the header area of the Restrictions panel, click the **Create Restriction** button  (the first of the three buttons on the right).
4. In the Create a Restriction window (shown in [Figure 3.23](#)), click the **Create a Role** button on the right. This button is identical to the button in the last step.

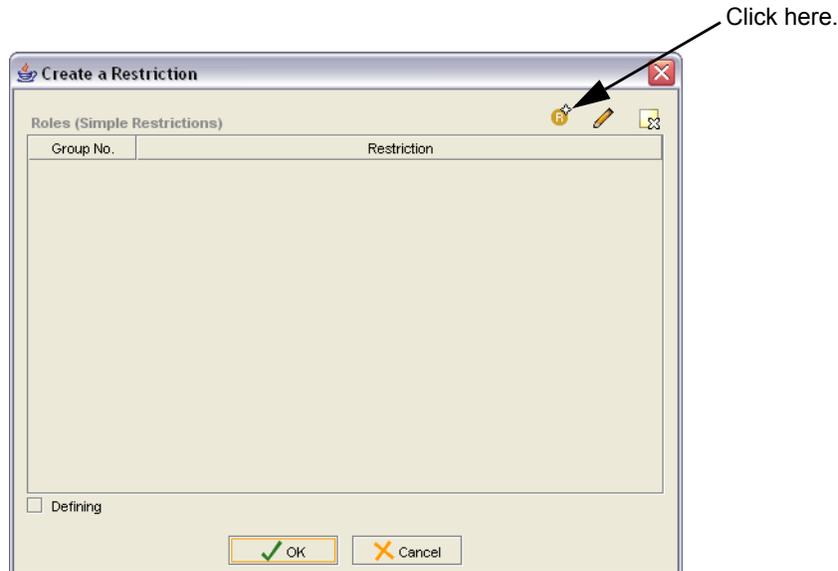


Figure 3.23 First Create a Restriction window

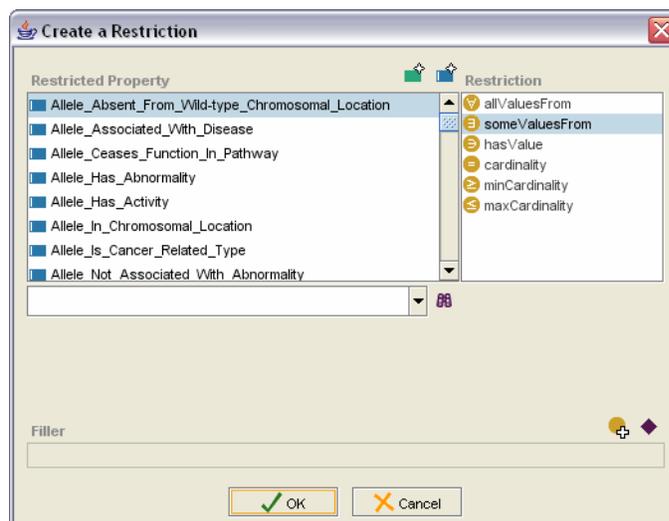


Figure 3.24 Second Create a Restriction window

5. In the second Create a Restriction window, do the following:
 - a. Select an item in the **Restricted Property** list.
 - b. Select a modifier in the **Restriction** list.
 - c. In the lower area of the window, click the **Select a named class (filler)** button  .
 - d. In the Select Concrete CIs window, locate a class by drilling down in the hierarchy, or by typing a known term in the search field.
 - e. Click **OK** to close the Select Concrete CIs window.

In the Create a Restriction window, the selected value now appears in the **Filler** field.

6. Repeat steps 4. through 5.e. to add more restrictions.
7. Click **OK** to close the Create a Restriction window.
The restrictions are added to the original window.

8. To assign roles to a group, follow these steps:

Note: If you assign a zero (0) instead of 1 in the next two steps, you will build a class expression—not a role group expression.

- a. Double-click a number field in the **Group No.** column on the left, shown in [Figure 3.25](#).
- b. Type a new number, then click elsewhere to deactivate the field.

9. (Optional) If applicable, check the **Defining** box in the lower left of the window.

Group No. column for
assigning numbers

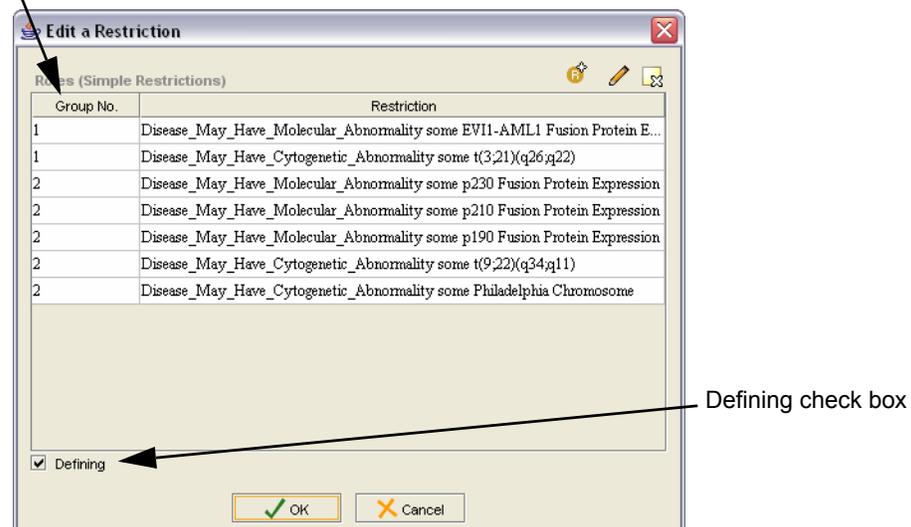


Figure 3.25 Role group example

10. Click **OK**.

The new role group now appears in the Relations panel. It is easily identifiable by the length of the expression, as shown in [Figure 3.26](#).

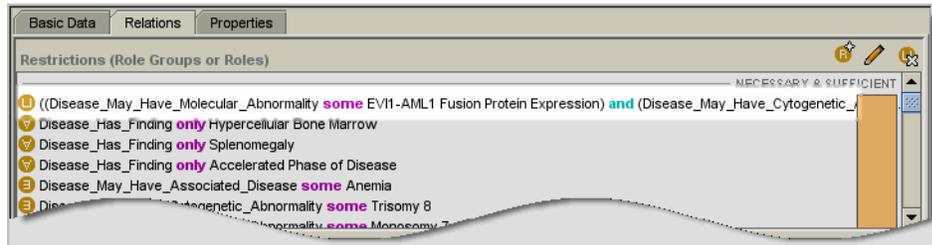


Figure 3.26 Role group expression

11. Click the **Save** button at the bottom of the Relations sub-tab.

Modifying a Restriction

Note: You cannot edit a restriction that results from inheritance.

To edit a restriction, follow these steps:

1. On the **Edit** tab, click the **Relations** sub-tab.
2. On the Restrictions panel, select the restriction to be edited.
3. Click the **Modify a restriction...** button , the second button on the right of the header area.
4. In the Edit a Restriction window, select the restriction to be modified.
5. Click the **Modify a role (simple restriction)** button on the right. (See [Figure 3.27](#).) This button is identical to the button in step 3.

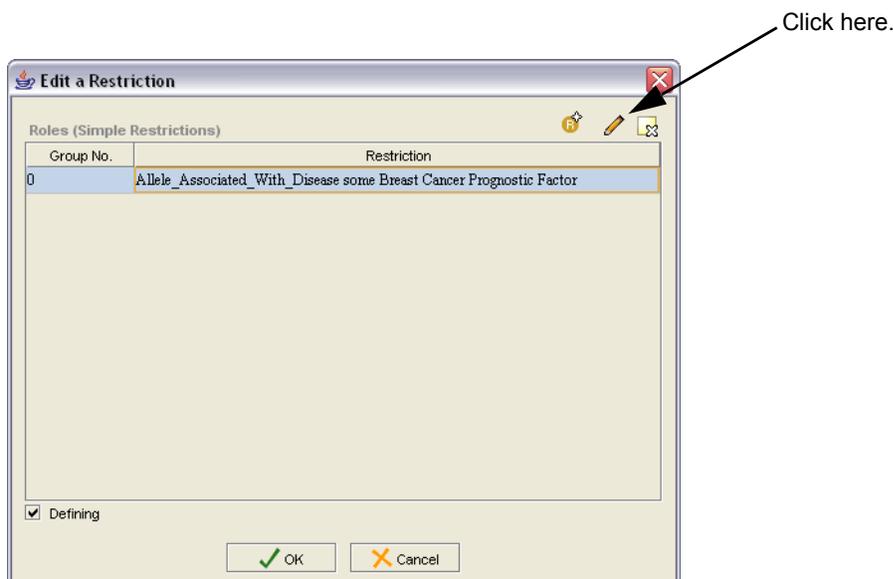


Figure 3.27 Edit a Restriction window

6. In the Modify a Restriction window, do the following:
 - a. Select an item in the **Restricted Property** list.
 - b. Select a modifier in the **Restriction** list.
 - c. In the lower area of the window, click the **Select a named class (filler)** button  (the first button on the second row).
 - d. In the Select Concrete Cls window, locate a class by drilling down in the hierarchy, or by typing a known term in the search field.
 - e. Click **OK** to close the Select Concrete Cls window.

In the Modify a Restriction window, the selected value now appears in the **Filler** field.
7. Click **OK** to close the Modify a Restriction window.

The new restriction now appears in the original window.
8. Click **OK** to close the Edit a Restriction window and return to the Relations sub-tab.
9. Click the **Save** button.

Deleting a Restriction

To delete a restriction, follow these steps:

1. On the **Edit** tab, click the **Relations** sub-tab.
2. On the Restrictions panel, select the restriction to be deleted.
3. Click the **Delete selected row** button , located in the header area of the panel.
4. When the confirmation message appears, click **Yes**.

The selected restriction is removed from the Restrictions panel.
5. Click the **Save** button.

Adding an Association

An association is a non-inheriting relationship between two named concepts. An example is *Has_Salt_Form*. OWL represents an association as an annotation property of object type.

Note: The example used in the following procedure is for illustrative purposes only. The example adds the association *Has_Target* to the concept Phagocytosis.

To add an association, follow these steps:

1. In the Class Hierarchy, follow this path:
Biological Process > Cellular Process > Cell Defense Process > Phagocytosis
2. On the **Edit** tab, click the **Relations** sub-tab.
3. In the Associations panel, click the first of the three buttons  in the right of the header area. The button screen tip reads **Add existing resource as value...**
4. In the Add an Object-Valued Property window (shown in [Figure 3.28](#)), an identical button appears to the right of the **Select a property** field. Click this button.

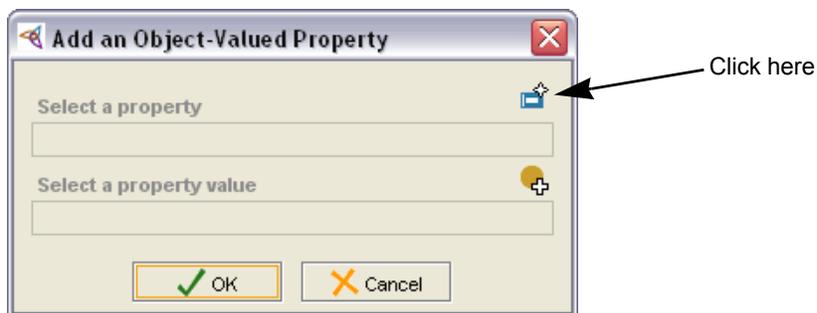


Figure 3.28 Add an Object-Valued Property window

5. In the Select a Property window, select **Has_Target**, then click **OK** to close the window.

In the Add an Object-Valued Property window, the selected value now appears in the **Select a property** field.

6. Click the button to the right of the **Select a property value** field . The button screen tip reads **Select a property value...**
7. In the Select Concrete CIs window, follow this path:
Anatomy_Kind > Anatomic Structure, System, or Substance > Microanatomic Structure > Cell
8. Click **OK**.

As shown in [Figure 3.29](#), the Add an Object-Valued Property window now shows the value *Cell* in the **Select a property value** field.

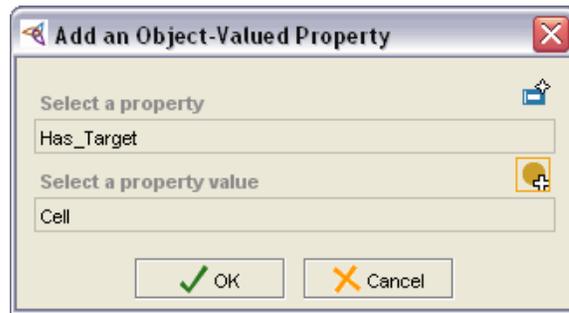


Figure 3.29 Add an Object-Valued Property window with stored values

9. Click **OK** to close the window.

The *Has_Target* association now appears in the Associations panel, as shown in [Figure 3.30](#).

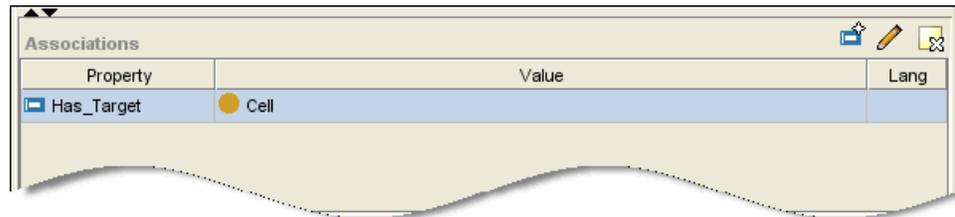


Figure 3.30 Associations panel

Note: If you add a new child concept (for example, *Phagocytosis Child*) at this point, you will see that the association *Has_Target* is not inherited by the child while the restrictions are inherited.

Splitting a Concept

When you split a concept, the new class is assigned a *Split_From* annotation property with a value equal to the code of the original class. This helps to establish an audit trail.

To split a concept, follow these steps:

1. Click the **Split** tab.
2. In the Class Hierarchy on the left, browse to or search for the concept to be split.
3. Drag the concept into the **Existing Concept** pane (the upper pane on the **Split** tab), as shown in *Figure 3.31*.

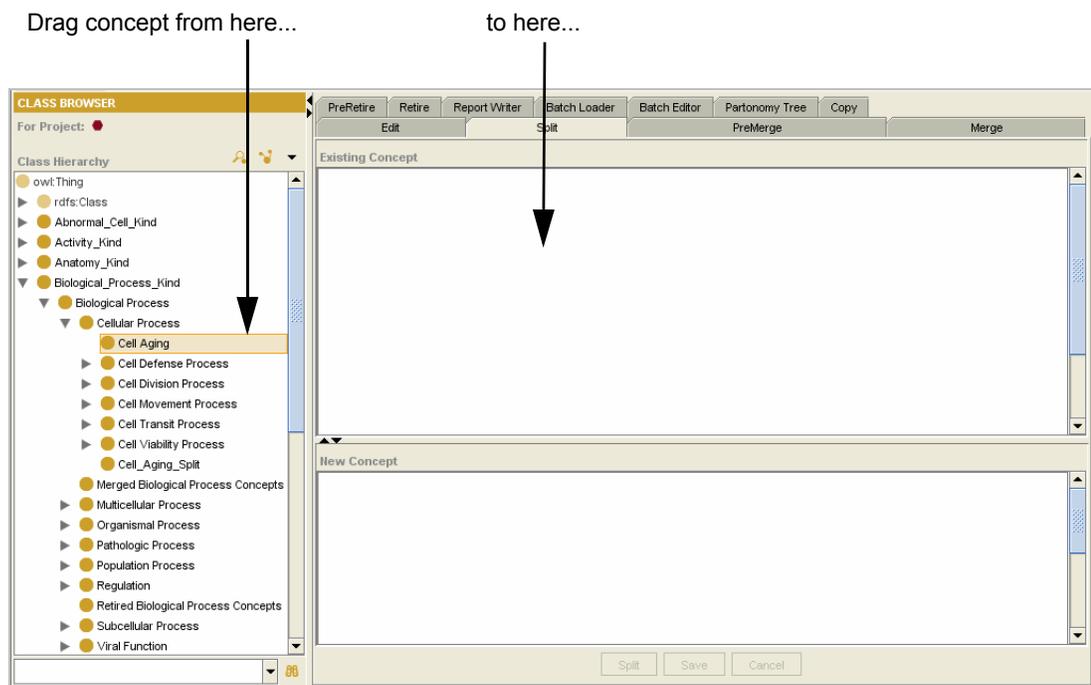


Figure 3.31 Existing Concept panel

4. Click the **Split** button at the bottom of the **Split** tab.
5. In the Enter Class Identifiers window (shown in *Figure 3.32*), enter a label with underscores and a preferred name without underscores.

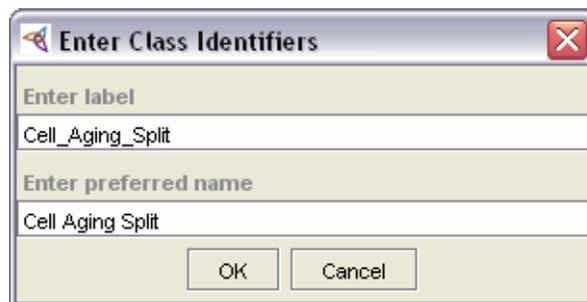


Figure 3.32 Enter Class Identifiers window

6. The split concept now appears in the lower half of the tab, in the New Concept pane, as shown in [Figure 3.33](#).

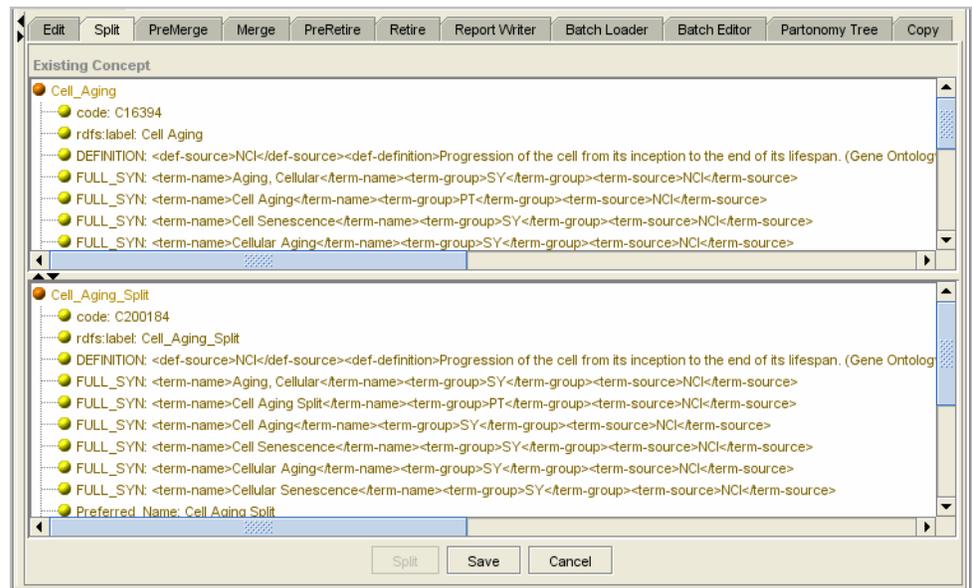


Figure 3.33 Split concepts

7. To make any necessary changes to properties for either concept, follow these steps:
 - a. Select the property to be modified.
 - b. Right-click and select the appropriate task (for example, **Modify Property**).
 - c. In the Edit FULL_SYN Annotation Property window, edit as needed, then click **OK**.
8. Click **Save** to commit your changes to the database.
9. When the confirmation message appears, click **OK**.
The Existing and New Concept panes are now empty.
10. Locate the new concept in the Class Hierarchy.
The new concept appears in the Class Hierarchy as a sibling of the existing concept.
11. View the properties for the new concept:
 - a. Click the **Edit** tab.
 - b. Click the **Properties** sub-tab.
The new concept shows a *Split_From* property with a value equal to the code of the existing concept.

Merging Concepts

PreMerge: Flagging Concepts to be Merged

Note: You can use the **PreMerge** tab to flag concepts for a merge, but only workflow administrators can actually merge two concepts.

To flag a concept to be merged, follow these steps:

1. Click the **PreMerge** tab.
2. In the Class Hierarchy, follow these steps:
 - a. Select the concept with the higher code (the presumed newer concept), then drag it into the **Retiring Concept** pane on the lower right of the **PreMerge** tab.
 - b. Select the concept with the lower code (the presumed older concept, more likely to have been used by dependent coding applications), then drag it into the **Surviving Concept** panel on the lower right.

Figure 3.34 illustrates the paths from the Class Hierarchy to the **Retiring Concept** and **Surviving Concept** panes.

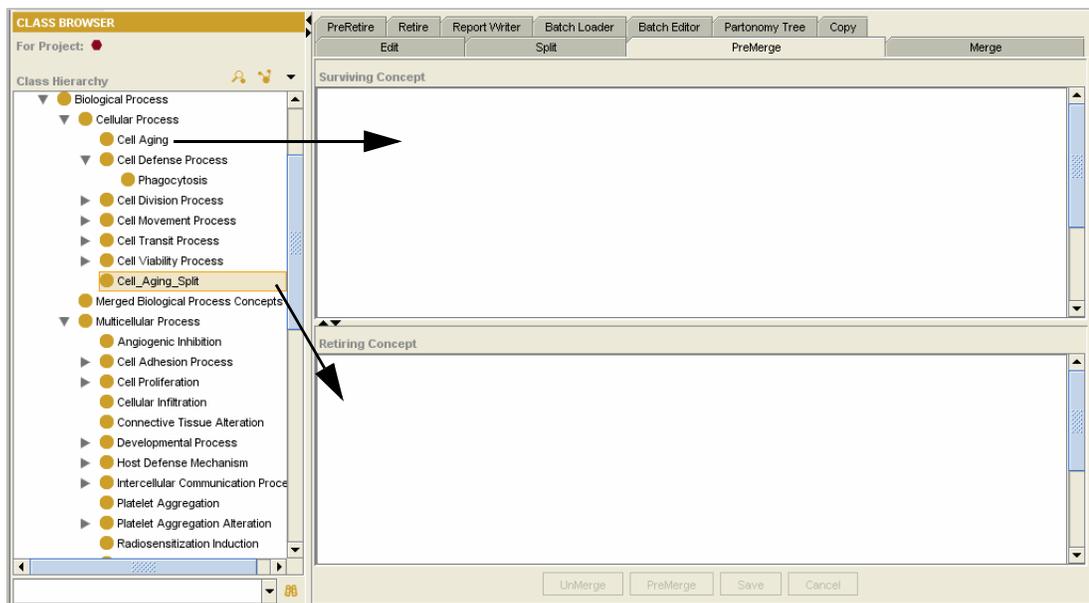


Figure 3.34 Direction for dragging classes to the PreMerge tab

Figure 3.35 shows the PreMerge tab with surviving and retiring concepts displayed.

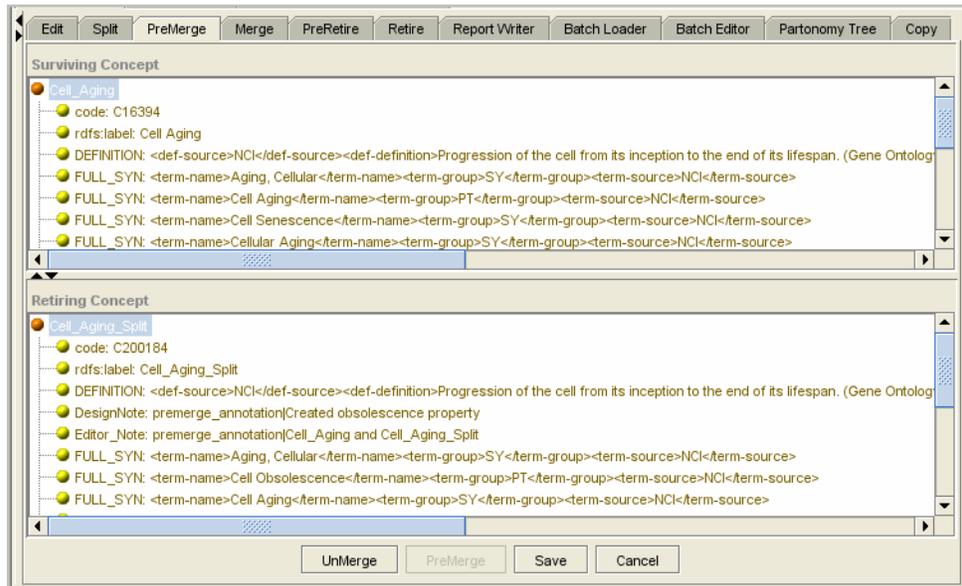


Figure 3.35 PreMerge tab with surviving and retiring concepts

3. To make any necessary changes to properties for either concept, follow these steps:
 - a. Select the property to be modified.
 - b. Right-click and select the appropriate task (for example, **Modify Property**).
 - c. In the Edit FULL_SYN Annotation Property window, edit as needed, then click **OK**.
4. Click the **PreMerge** button at the bottom of the **PreMerge** tab.
5. (Required) In the Enter Notes window, add an **Editor's Note** and a **Design Note**, then click **OK**.

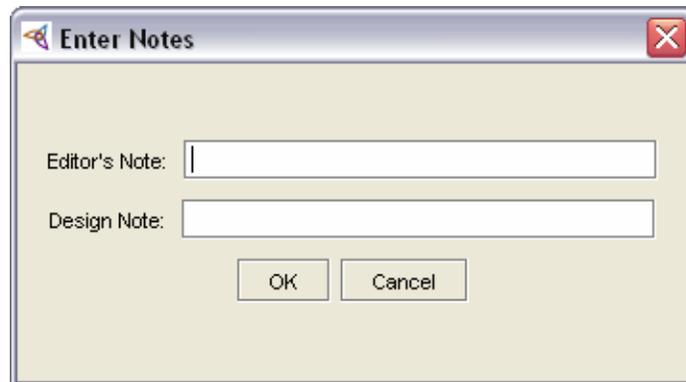


Figure 3.36 Enter Notes window

6. Click **Save** to commit your changes to the database.
7. When the confirmation message appears, click **OK**.

Note: The retiring concept still appears in the `Premerged_Concepts` branch of the Class Hierarchy until an actual merge occurs. If you examine the concept properties under **Edit > Properties**, you will see that a `Merge_Target` property has been added for the concept.

Merging Flagged Concepts

Note: Only workflow administrators can perform this task.

To merge flagged concepts, follow these steps:

1. Click the **Merge** tab.
2. In the Class Hierarchy, locate the **Premerged_Concepts** branch.
3. Select the class to be merged.
4. Drag the class into the Retiring Concept pane.

The Surviving Concept and Retiring Concept panes now show their respective concepts.

5. Click the **Merge** button at the bottom of the **Merge** tab.
6. Click the **Save** button to commit your changes to the database.
7. When the confirmation message appears, click **OK**.

The Surviving Concept and Retiring concept panes are now empty.

Pre-retiring a Concept

Note: You can use the **PreRetire** tab to flag a concept for retirement, but only workflow administrators can actually retire a concept.

Selecting a Concept to be Retired

1. Click the **PreRetire** tab.
2. In the Class Hierarchy on the left, browse to or search for the concept to be pre-retired.
3. Drag the concept into the **Retiring Class** panel on the **PreRetire** tab.

The **Subclasses** sub-tab shows the child concepts of the selected class in the upper panel. If other classes reference the selected concept by role relations, you can see them by clicking the **Referencing Classes** sub-tab. [Figure 3.37](#) shows the Class Hierarchy and the PreRetire tab with all panes displayed.

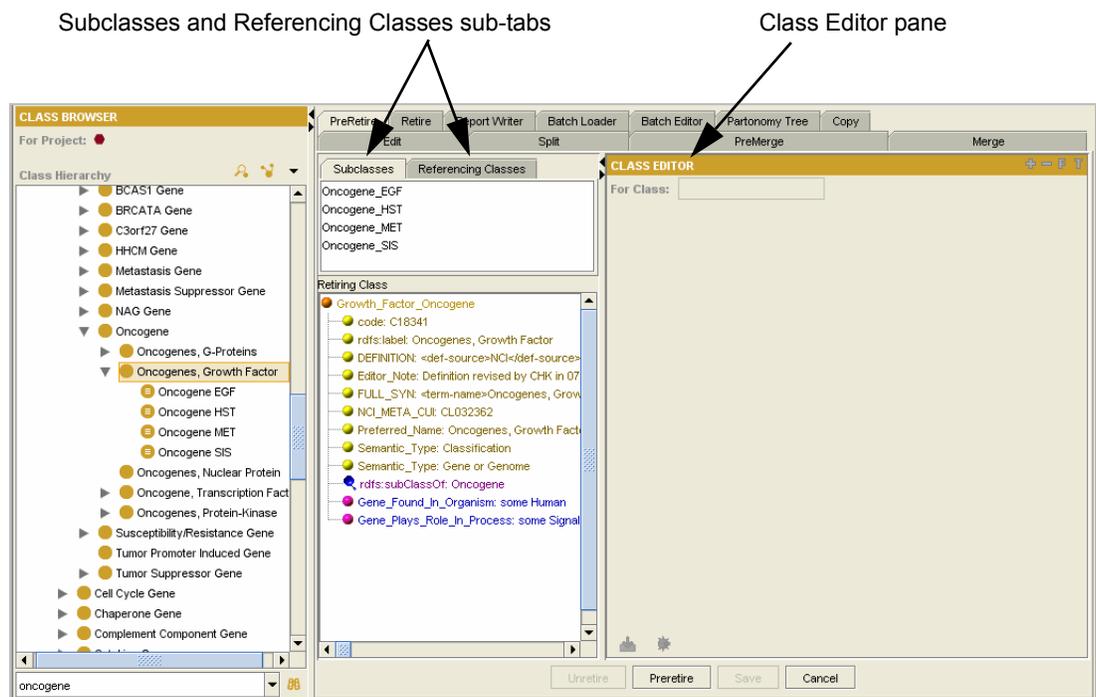


Figure 3.37 PreRetire tab with subclasses

Re-treeing the Concept

To re-tree a concept, you eliminate dependencies for the current concept and then add another parent concept. To accomplish this, follow these steps for each item in the **Subclasses** panel:

1. Click a subclass to select it.

Detailed information now appears in the Class Editor pane on the right.

2. Collapse the center panel, or scroll all the way to the right until you can see the Asserted Conditions panel—the center panel in the Class Editor pane.

Figure 3.38 shows only the Class Editor with a pointer to the Asserted Conditions panel.

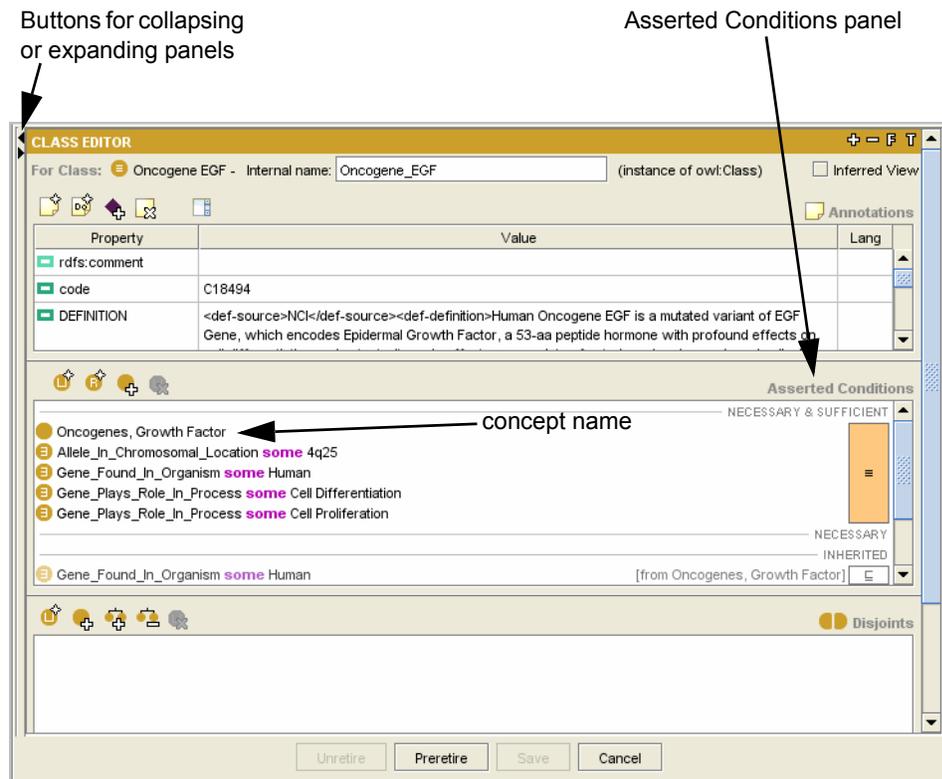


Figure 3.38 Asserted Conditions panel

3. Select the first row that shows the concept name.
4. Click the **Delete Selected Row** button .
5. When the confirmation message appears, click **OK**.
6. Click the **Add Named Class** button .

7. In the Select a named class to add window, locate a concept by browsing the hierarchy, or by typing a known term in the search field.

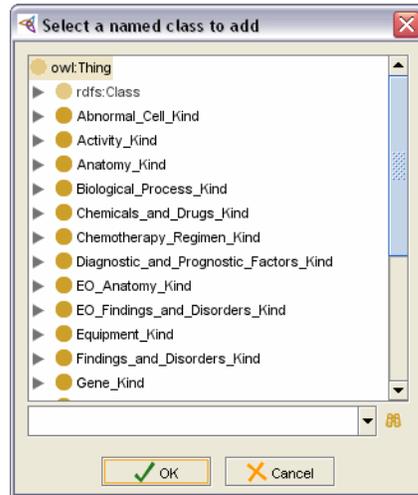


Figure 3.39 Select a named class to add window

8. After locating the class, click **OK** to close all open windows.
9. Repeat this procedure for all classes shown in the Subclasses panel.

Completing the PreRetire Task

To pre-retire the concept, follow these steps:

1. Click the **PreRetire** button at the bottom of the **PreRetire** tab.
2. (Required) In the Enter Notes window (shown in [Figure 3.40](#)), add an Editor's Note and a Design Note, then click **OK**.

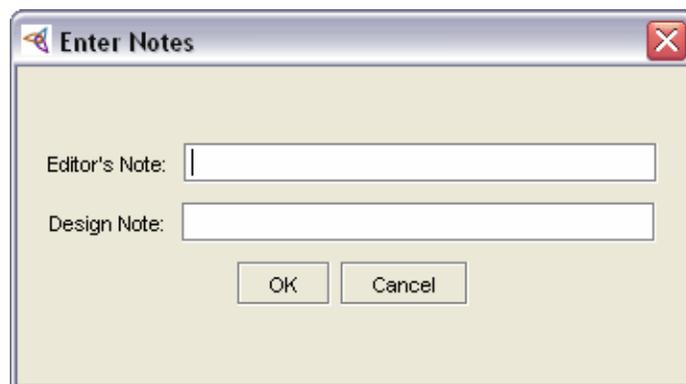


Figure 3.40 Enter Notes window

3. When the confirmation message appears, click **OK**.
4. Click the **Save** button to commit your changes to the database.

Retiring a Concept

Note: Only workflow administrators can perform this procedure.

To retire a concept, follow these steps:

1. Click the **Retire** tab.
2. In the Class Hierarchy on the left, browse to the **Pretired_Concepts** branch.
3. Expand the branch, then select the concept to be retired.
4. Drag the concept onto the **Retire** tab on the right.
5. Click the **Retire** button at the bottom of the **Retire** tab.
6. When a confirmation message appears, click **OK**.
7. Click the **Save** button to commit your changes to the database.

Loading a Batch of Classes

To load a batch of classes into the knowledge base, follow these steps:

1. Using a text editor such as Notepad, prepare and save a tab-delimited input file, as shown in [Figure 3.41](#).

The file should contain a subclass name, preferred name, and superclass.

```

Antigen_Gene    new    property    Synonym Antigen Gene
Antigen_Gene    new    property    Synonym Antigenic Gene
Antigen_Gene    new    property    Synonym Gene, Antigen
Antigen_Gene    new    property    Synonym Gene, Antigenic
Antigen_Gene    new    Role    Anatomic_Structure_Is_Physical_Part_Of    some|Chromosome_Band
Antigen_Gene    new    Role    Anatomic_Structure_Is_Physical_Part_Of    all|Blood_Vessel
Antigen_Gene    edit   property    Synonym Antigen Gene    Antigen    Gene, Modified
Antigen_Gene    edit   Role    Anatomic_Structure_Is_Physical_Part_Of    some|Chromosome_Band
  
```

Figure 3.41 Tab-delimited input file for batch load

2. In Protégé, click the **Batch Loader** tab shown in [Figure 3.42](#).
3. Click the **Input** button on the bottom of the tab.

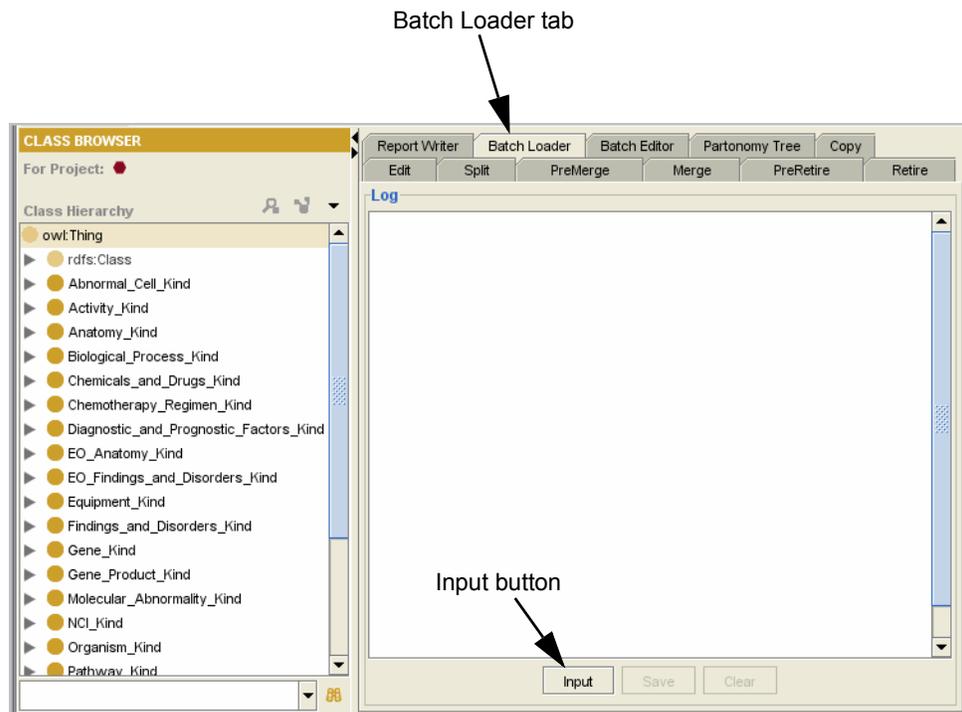


Figure 3.42 Batch Loader tab

4. In the Browse window (shown in [Figure 3.43](#)), click the **Browse** buttons to locate input and output log files.

Note: Creating an output file ahead of time is not necessary. This process will write the output file.

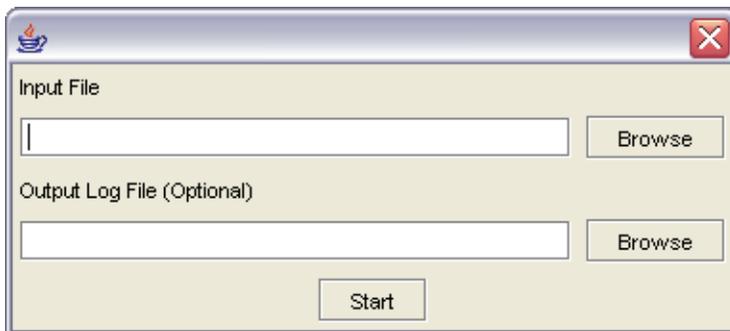


Figure 3.43 Browse window

5. Click the **Start** button.

A progress bar confirms that the batch load has begun. When the process is finished, a small message window confirms the number of completed actions.

6. Click **OK** to close the confirmation window.

A log similar to the one shown in [Figure 3.44](#) appears in the Log display area of the **Batch Loader** tab.

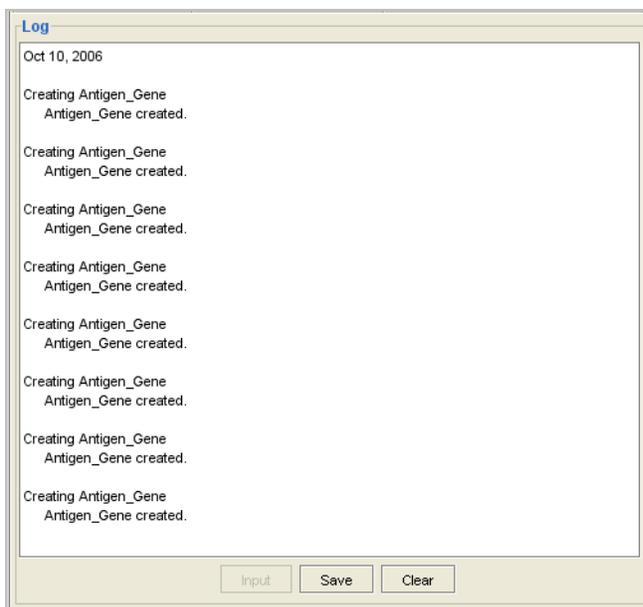


Figure 3.44 Result of batch load

7. (Optional) Click the **Save** button to save the log to an ASCII file.

Editing a Batch of Classes

To edit a batch of classes, follow these steps:

1. Using a text editor such as Notepad, prepare and save a tab-delimited input file, as shown in [Figure 3.45](#).

```

Antigen_Gene      new      property      Synonym Antigen Gene
Antigen_Gene      new      property      Synonym Antigenic Gene
Antigen_Gene      new      property      Synonym Gene, Antigen
Antigen_Gene      new      property      Synonym Gene, Antigenic
Antigen_Gene      new      Role      Anatomic_Structure_Is_Physical_Part_Of      some|Chromosome_Band
Antigen_Gene      new      Role      Anatomic_Structure_Is_Physical_Part_Of      all|Blood_Vessel
Antigen_Gene      edit     property      Synonym Antigen Gene      Antigen      Gene, Modified
Antigen_Gene      edit     Role      Anatomic_Structure_Is_Physical_Part_Of      some|Chromosome_Band

```

Figure 3.45 Tab-delimited input file for batch edit

Each input line of the batch file should contain the following data elements, in the following order:

- Class Name
 - New or Edit
 - Attribute Type (Property or Role)
 - Attribute Name (Property Name or Role Name)
 - Old Value (and modifier, if applicable)
 - New Value (and modifier, if applicable)
2. In Protégé, click the **Batch Editor** tab shown in [Figure 3.46](#).
 3. Click the **Input** button on the bottom of the tab.

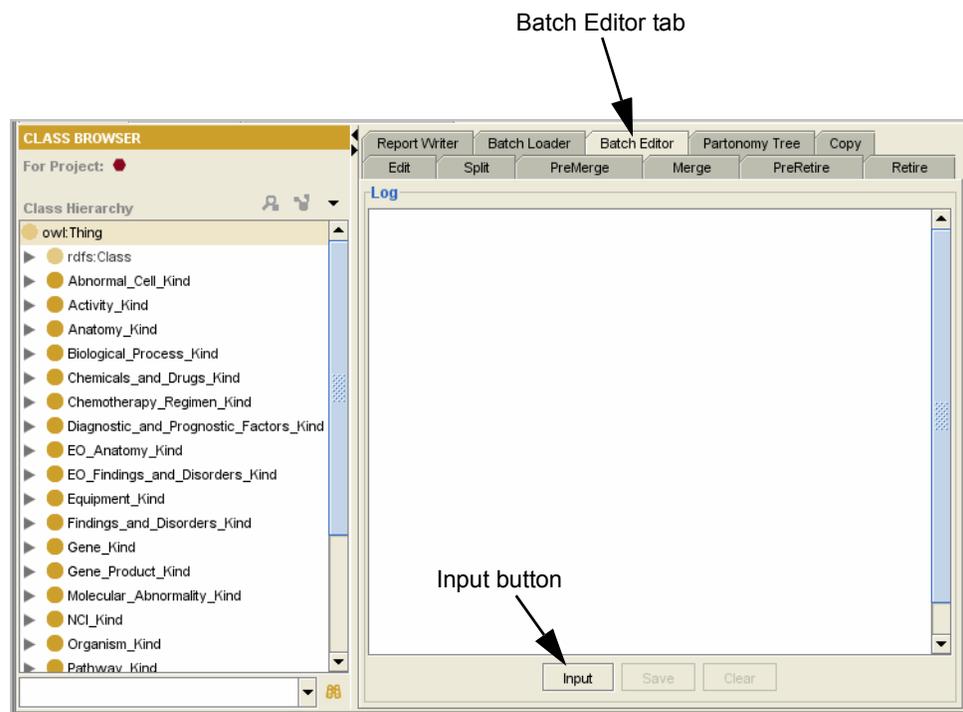


Figure 3.46 Batch Editor tab

- In the Browse window (shown in *Figure 3.47*), click the **Browse** buttons to locate input and output log files.

Note: Creating an output file ahead of time is not necessary. This process will write the output file.

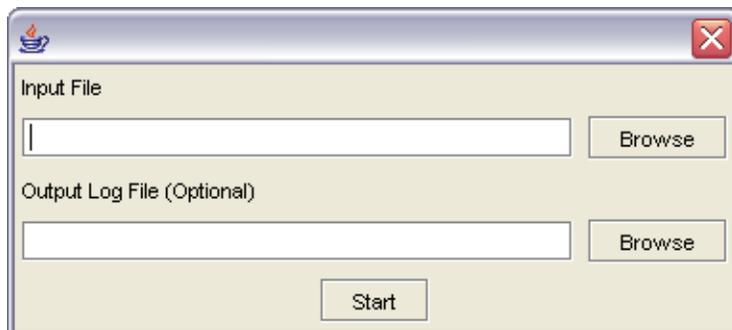


Figure 3.47 Browse window

- Click the **Start** button.

A progress bar confirms that the batch edit has begun. When the process is finished, a small message window confirms the number of completed actions.

- Click **OK** to close the confirmation window.

A log similar to the one shown in *Figure 3.48* appears in the Log display area of the **Batch Editor** tab.

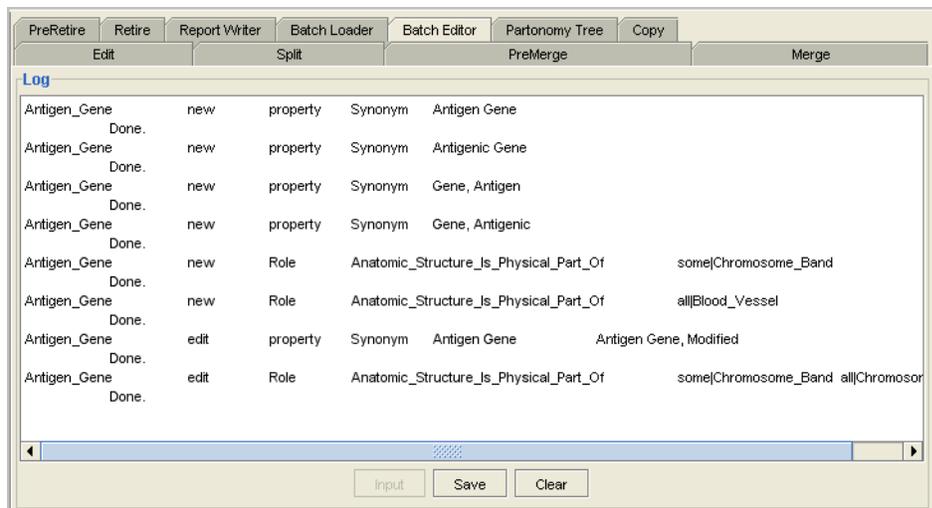


Figure 3.48 Result of batch edit

- (Optional) Click the **Save** button to save the log to an ASCII file.

Generating a Partonomy Tree

The **Partonomy Tree** tab enables you to select a root class and display it as a partonomy tree. A partonomy tree shows classes connected by *part_of* relations.

To generate a partonomy tree from a root class, follow these steps:

1. In the Class Hierarchy, select a root class.
2. Click the **Partonomy Tree** tab, shown in [Figure 3.49](#).
3. Click the **Tree** button on the bottom of the tab.

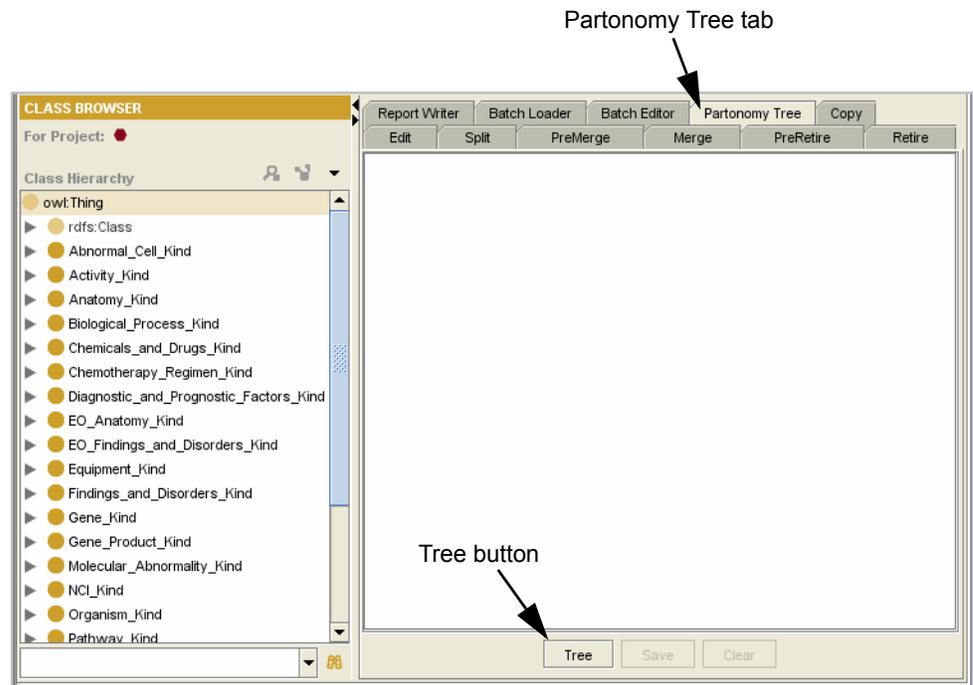


Figure 3.49 Partonomy Tree tab

4. In the Select Transitive Properties window (shown in [Figure 3.50](#)), select one or more restriction names, then click **OK** to generate the tree.

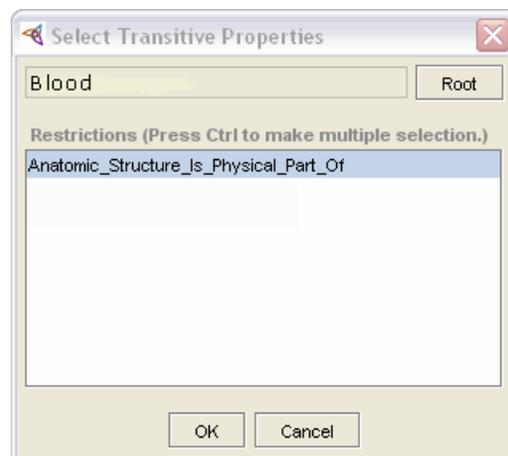


Figure 3.50 Select Transitive Properties window

The partonomy tree appears in the tree view area of the tab. The tree resembles [Figure 3.51](#).

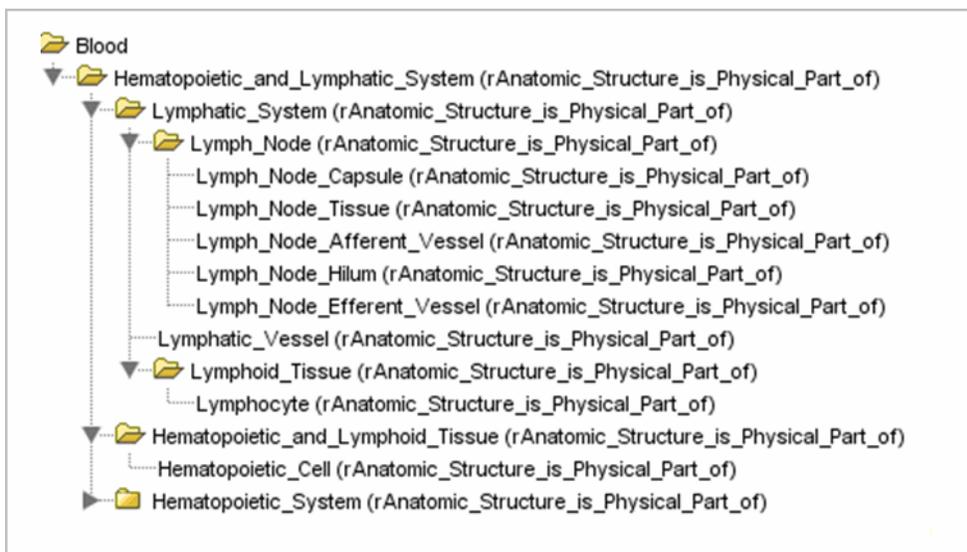


Figure 3.51 Partonomy tree view

5. (Optional) Click the **Save** button to save the tree to an ASCII file.

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