



Protégé 3.4 Plug-in for Editing and Maintaining the NCI Thesaurus

Protégé Conference

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Amsterdam

Sherri de Coronado, Gilberto Fragoso

NCI Enterprise Vocabulary Services



Goal – Integration by Meaning

- EVS provides services and resources that assists to:
 - Integrate different conceptual frameworks for clinical, basic and translational research,
 - Create terminological and taxonomic conventions across systems
- Controlled Terminology Products
 - NCI Thesaurus – an ontology-like cancer-centric controlled terminology
 - NCI Metathesaurus – maps biomedical vocabularies
 - BiomedGT (Biomedical Grid Terminology - **new**)
 - External vocabularies maintained and served: MedDRA, HL7, NDF-RT, LOINC, GO, Zebrafish, RadLex, etc.
- Further info, see: <https://wiki.nci.nih.gov/display/EVS/EVS+Wiki>

Products: NCI Thesaurus



- Reference Terminology for NCI, caBIG, Partners
 - Underpins caCORE, caGRID semantics
- A Federal Standard Terminology
- Public domain, open content license
- 80,000 “Concepts” hierarchically organized into domains
- Broad coverage of the cancer research and clinical domain including prevention and treatment trials
 - Neoplastic and other Diseases
 - Findings and Abnormalities
 - Anatomy, Tissues, Subcellular Structures
 - Agents, Drugs, Chemicals
 - Genes, Gene Products, Biological Processes
 - Animal Models – Mouse, other
 - Research techniques and management, apparatus, clinical and lab, radiology, imagery

Products: NCI Thesaurus (2)



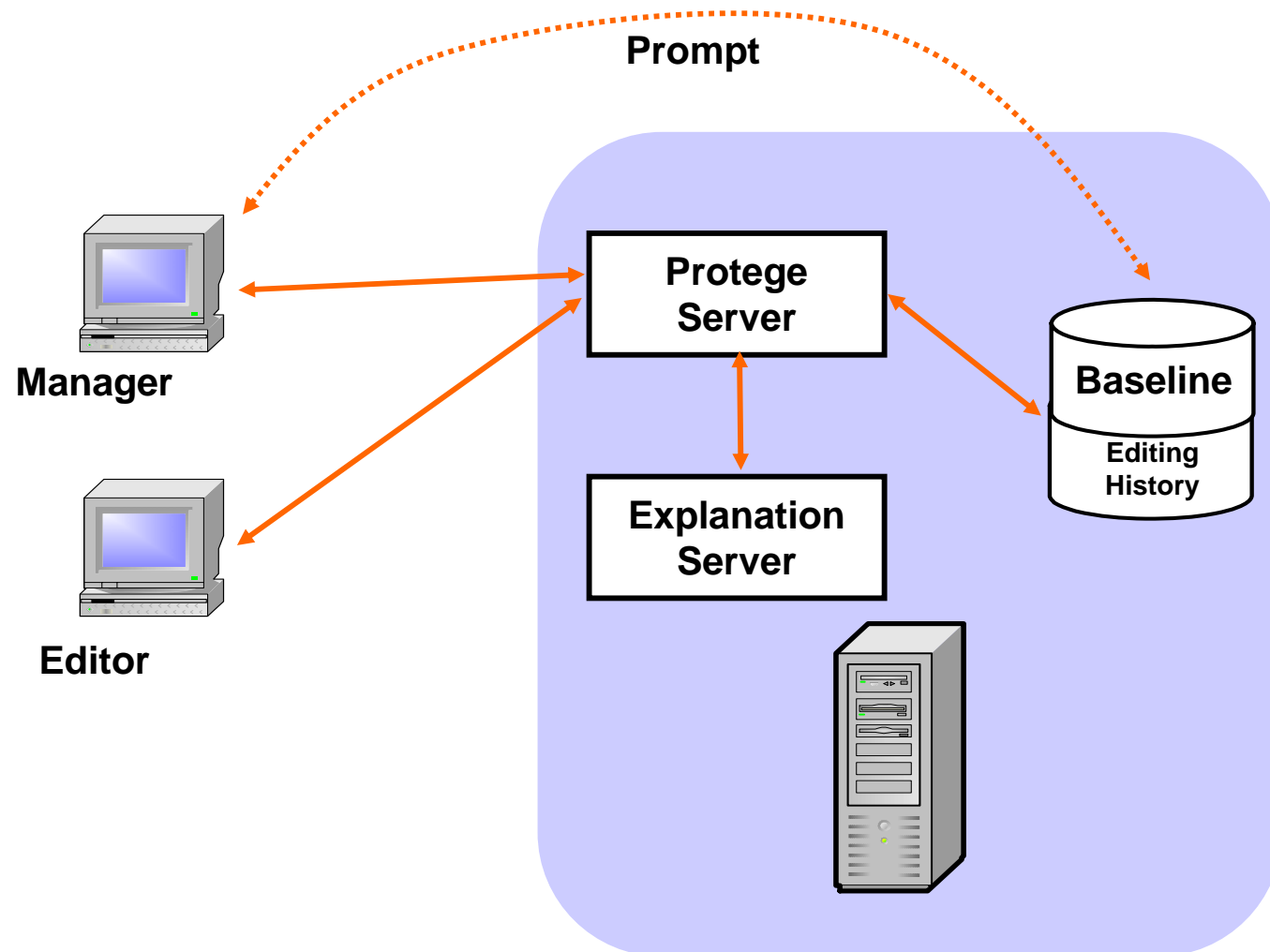
- Description-logic based
- Concept History
- Published Monthly
- Accessible via API, web browsers, downloadable files
- Transition to OWL begun in '03

Editing Tool Requirements



- Shared Data and Distributed Editing
- Reasoning
- GUI for Subject Matter Experts
 - search and reporting facilities
- Editing Consistency
 - basic content – preferred and alternative terms, definition
- Complex Operations
 - merge, split, retirement
 - tied to history tracking
- Rule Enforcement, Edit Checks
 - no duplicate restrictions, semantic type
- Support for Workflow, Editing Roles (manager, editor)

Client – Server Environment



Edit Checks Configured into SW




Table 1 – Selected edit checks built or configured into the software

Edit Check Entity	Description
Concept Name	Cannot be changed (although preferred term can be); it must begin with letter or underscore.
Preferred Name	Concept must have one and only one Preferred Name; it must match the fully qualified synonym with group PT and source NCI.
Duplicates	Duplicate parents, roles and properties are not allowed.
Definition	Each must have 1 review date, 1 review name, 0 or 1 attributes; no characters less than utf-8 32 allowed; !,? or @ allowed, single spaces only in definitions unless preceded by these special characters.
Retired Concept	Only lead editor can retire concepts, although editors can pre-retire concepts. An editor's note should explain the retirement.
Merged Concept	Only lead editor can merge concepts, although editors can pre-merge concepts, and pre-merged concept must include an editor note with value of pre-merge annotation and an explanation if needed.
Split Concept	Check that newly created concept is a valid concept. All checks made during normal create are made during a split.
Other	Cannot create or maintain a restriction relationship that points at a retired, pre-retired or pre-merged class.

NCIEditTab Layout

BiomedGT Protégé 3.4 (rmi://cbapp-q1001.nci.nih.gov/BiomedGT)



File Edit Project OWL Reasoning Code Tools Window Edit Tab Lucene Explanations Collaboration Help



● NCI Editor ●⁺ Lucene Query Tab ■ Properties ● Metadata(BiomedGT.owl) ◆ Explanations ● NCI Workflow


CLASS BROWSER

For Project: ●

Class Hierarchy   ▼




- owl:Thing
 - ▶ ● Abnormal Cell
 - ▶ ● Anatomic Structure, System, or Substance
 - ▶ ● Biochemical Pathway
 - ▶ ● Biological Process
 - ▶ ● Common Word
 - ▶ ● Conceptual Entity
 - ▶ ● Diagnostic or Prognostic Factor
 - ▶ ● Diagnostic, Therapeutic, and Research Equipmen
 - ▶ ● Disease, Disorder or Finding
 - ▶ ● Drug, Food, Chemical or Biomedical Material
 - ▶ ● Molecular Abnormality
 - ▶ ● NCI Administrative Concept
 - ▶ ● Property or Attribute
 - ▶ ● Retired Concept
 - ▶ ● Thesaurus Node
 - ▶ ● Activity
 - ▶ ● entity
 - External
 - Organism
 - Premerged_Concepts
 - Preretired_Concepts

Retire Report Writer Batch Processing Copy Partonomy Tree Workflow
Edit Split PreMerge Merge PreRetire




Class: owl:Thing 

Preferred Name:

Basic Data Relations Properties

Terms   

Term Name	Term Group	Term Source	Source Code	Lang

Definition   

Value	Lang

Qualifiers

NCIEditTab – basic data

BiomedGT Protégé 3.4 (rmi://cbapp-q1001.nci.nih.gov/BiomedGT)

File Edit Project OWL Reasoning Code Tools Window Edit Tab Lucene Explanations Collaboration Help

protégé

NCI Editor Lucene Query Tab Properties Metadata(BiomedGT.owl) Explanations NCI Workflow

CLASS BROWSER

For Project: ●

Class Hierarchy

- material_entity
 - fiat_object_part
 - object
 - Gene Product
 - Gene
 - Antigen Gene
 - Apoptosis Regulation Gene
 - Cancer Gene
 - BCAS1 Gene
 - BRCATA Gene
 - C3orf27 Gene
 - EPST1 Gene
 - HHCM Gene
 - Metastasis Gene
 - Metastasis Suppress
 - NAG Gene
 - Susceptibility/Resista
 - TRERF1 Gene
 - Tumor Promoter Indu
 - Tumor Suppressor G
 - Oncogene
 - Oncogene, Trans
 - Oncogenes, G-P
 - Oncogene TIM

Retire Report Writer Batch Processing Copy Partonomy Tree Workflow

Edit Split PreMerge Merge PreRetire

Class: Oncogene_TIM

Preferred Name: Oncogene TIM code: B18542

Basic Data Relations Properties

Terms

Term Name	Term Group	Term Source	Source Code	Lang
Oncogene TIM	PT	NCI		
Guanine nucleotide regulatory protein TIM gene	SY	NCI		
Rho guanine nucleotide exchange factor 5 gene	SY	NCI		
Transforming immortalized mammary oncogene	SY	NCI		

Definition

Value	Lang
Oncogene TIM encodes a predicted 60 kD protein containing a DBL homology domain, shared by several signal transducing regulators of small GTP-binding proteins. TIM is thought to control cytoskeletal organization through regulation of small GTP-binding proteins. The human gene is located at 7q33-q35.	

Qualifiers

Name	Value
Definition_Review_Date	060127
def-source	NCI
Definition_Reviewer_Name	DEFAULT_Review

oncogene tim

New Delete Review Save Cancel

NCIEditTab – editing definitions and terms

BiomedGT Protégé 3.4 (rmi://cbapp-q1001.nci.nih.gov/BiomedGT)

File Edit Project OWL Reasoning Code Tools Window Edit Tab Lucene Explanations Collaboration Help

protégé

NCI Editor Lucene Query Tab Properties Metadata(BiomedGT.owl) Explanations NCI Workflow

CLASS BROWSER

For Project: ●

Class Hierarchy

- material_entity
 - fiat_object_part
 - object
 - Gene Product
 - Gene
 - Antigen Gene
 - Apoptosis Regulation Gene
 - Cancer Gene
 - BCAS1 Gene
 - BRCATA Gene
 - C3orf27 Gene
 - EPST1 Gene
 - HHCM Gene
 - Metastasis Gene
 - Metastasis Suppress
 - NAG Gene
 - Susceptibility/Resist
 - TRERF1 Gene
 - Tumor Promoter Indu
 - Tumor Suppressor G
 - Oncogene
 - Oncogene, Trans
 - Oncogenes, G-P
 - Oncogene TIM

Retire Report Writer Batch Processing Copy Partonomy Tree Workflow

Edit Split PreMerge Merge PreRetire

Class: Oncogene_TIM

Preferred Name: Oncogene TIM code: B18542

Basic Data Relations Properties

Terms

Term Name	Term Group	Term Source	Source Code	Lang
Oncogene TIM	PT	NCI		
Guanine nucleotide reg				
Rho guanine nucleotid				
Transforming immortali				

Edit FULL_SYN Annotation Property

FULL_SYN

Term

Guanine nucleotide regulatory protein TIM gene

Term Type: SY

Term Source: CA3

Code: CN

Lang: CNU

DN

FB

HD

SN

OK

oncogene tim

NCIEditTab – relations subtab

The screenshot displays the BiomedGT Protégé 3.4 application window. The title bar shows the URL `rmi://cbapp-q1001.nci.nih.gov/BiomedGT`. The menu bar includes File, Edit, Project, OWL, Reasoning, Code, Tools, Window, Edit Tab, Collaboration, Edit Tab, Lucene, Explanations, and Help. The toolbar contains various icons for file operations and navigation. The interface is divided into several panes:

- CLASS BROWSER:** Located on the left, it shows a class hierarchy for 'Myeloid Neoplasm', with 'Philadelphia Chromosome Positive Chronic Myelogenous Leukemia' selected.
- Class: Philadelphia_Chromosome_Positive_Chronic_Myelogenous_Leukemia:** The main editing area, currently on the 'Relations' subtab. It shows the preferred name and code (B9301).
- Restrictions/Groups:** A list of logical restrictions for the class, including:
 - (Disease_Has_Cytogenetic_Abnormality **only** 't(9;22)(q34;q11)') **and** (Disease_Has_Cytogenetic_Abnormality **only** 'Philadelphia Chromosome Positive Chronic Myelogenous Leukemia')
 - Disease_May_Have_Associated_Disease **some** Anemia
 - Disease_May_Have_Finding **some** Fatigue
 - Disease_May_Have_Finding **some** Hepatomegaly
 - Disease_May_Have_Finding **some** 'Weight Loss'
 - Disease_May_Have_Finding **some** 'White Blood Cell Count Increased'
 - Disease_May_Have_Finding **some** 'Chronic Clinical Course'
- Parent Class:** A list of parent classes, including 'Chronic Myelogenous Leukemia' and 'Philadelphia-Positive Myelogenous Leukemia'.
- Associations:** A table with columns for Property and Value, currently empty.

At the bottom of the window, there is a search bar containing 'philadelphia chromosome positive*' and a set of buttons: New, Delete, Review, Save, and Cancel.

NCIEditTab – restrictions

The screenshot displays the BiomedGT Protégé 3.4 application window. The title bar reads "BiomedGT Protégé 3.4 (rmi://cbapp-q1001.nci.nih.gov/BiomedGT)". The menu bar includes File, Edit, Project, OWL, Reasoning, Code, Tools, Window, Edit Tab, Collaboration, Edit Tab, Lucene, Explanations, and Help. The toolbar contains various icons for file operations and navigation. The main interface is divided into several panes:

- CLASS BROWSER:** Located on the left, it shows a class hierarchy for "Philadelphia_Chromosome_Positive_Chronic_Myelogenous_Leukemia". The "Myeloid Neoplasm" class is expanded, showing subclasses like "Chronic Myeloproliferative Neoplasm", "Chronic Eosinophilic Leukemia", "Chronic Idiopathic Myeloid Leukemia", and "Chronic Myelogenous Leukemia". Under "Chronic Myelogenous Leukemia", several subtypes are listed, including "Philadelphia Chromosome Positive Chronic Myelogenous Leukemia".
- Class Editor:** The main workspace shows the selected class. The "Class: Philadelphia_Chromosome_Positive_Chronic_Myelogenous_Leukemia" is displayed. The "Preferred Name" is "Philadelphia Chromosome Positive Chronic Myelogenous Leukemia" and the "code" is "B9301".
- Restriction Editor:** A dialog box titled "Create a Restriction" is open. It allows defining a restriction for a property. The "Restricted Property" list includes "Allele_Absent_From_Wild-type_Chromosomal_Location", "Allele_Associated_With_Disease", "Allele_Ceases_Function_In_Pathway", "Allele_Has_Abnormality", "Allele_Has_Activity", "Allele_In_Chromosomal_Location", "Allele_Is_Cancer_Related_Type", and "Allele_Not_Associated_With_Abnormality". The "Restriction" list includes "allValuesFrom", "someValuesFrom", "hasValue", "cardinality", "minCardinality", and "maxCardinality". The "someValuesFrom" restriction is currently selected. There is a "Defining" checkbox and a "Filler" field.
- Property Editor:** On the right, it shows the "NECESSARY & SUFFICIENT" restriction type. The property is "normality" and the value is "Philadelphia Chromosome Positive Chronic Myelogenous Leukemia".

At the bottom of the window, there are buttons for "New", "Delete", "Review", "Save", and "Cancel". The status bar at the very bottom shows "philadelphia chromosome positive*".

NCIEditTab – class expressions

The screenshot displays the BiomedGT Protégé 3.4 application window. The title bar shows the URL `rmi://cbapp-q1001.nci.nih.gov/BiomedGT`. The menu bar includes File, Edit, Project, OWL, Reasoning, Code, Tools, Window, Edit Tab, Collaboration, Edit Tab, Lucene, Explanations, and Help. The toolbar contains various icons for file operations and editing. The interface is divided into several panes:

- CLASS BROWSER:** Located on the left, it shows a class hierarchy for 'Chronic Myelogenous Leukemia' and its subclasses, including 'Recurrent Chronic Myelogenous Leukemia' which is currently selected.
- Class Editor:** The main area on the right, titled 'Class: Relapsed_Chronic_Myelogenous_Leukemia'. It shows the 'Preferred Name' as 'Recurrent Chronic Myelogenous Leukemia' with a code of 'B9243'. Below this are tabs for 'Basic Data', 'Relations', and 'Properties'.
- Restrictions/Groups:** This section contains several logical expressions for the class. The first expression is highlighted: `(Disease_May_Have_Cytogenetic_Abnormality some 'Philadelphia Chromosome') and (((Disease_May_Have_Molecular_Abno`. Other expressions include `Disease_Has_Finding only 'Hypercellular Bone Marrow'`, `Disease_Has_Finding only 'White Blood Cell Count Increased'`, `Disease_May_Have_Associated_Disease some Anemia`, `Disease_May_Have_Finding some Fatigue`, `Disease_May_Have_Finding some Hepatomegaly`, and `Disease_May_Have_Finding some 'Weight Loss'`.
- Parent Class:** This section shows the class's inheritance. It is currently a subclass of 'Chronic Myelogenous Leukemia' and 'Recurrent Hematologic Malignancy'.
- Associations:** This section is currently empty, with columns for 'Property' and 'Value'.

At the bottom of the window, there are buttons for 'New', 'Delete', 'Review', 'Save', and 'Cancel'.

NCIEditTab – class expressions, editing

The screenshot displays the BiomedGT Protégé 3.4 application window. The main interface shows the 'CLASS BROWSER' on the left, listing various classes under 'Chronic Myelogenous Leukemia'. The 'Create a Restriction' dialog box is open, showing a table of roles and restrictions for the selected class.

Class: Relapsed_Chronic_Myelogenous_Leukemia
Preferred Name: Recurrent Chronic Myelogenous Leukemia code: B9243

Restrictions/Groups

Group No.	Restriction
0	Disease_May_Have_Cytogenetic_Abnormality some 'Philadelphia Chromosome'
1	Disease_May_Have_Molecular_Abnormality some 't(9;22)(q34;q11)'
1	Disease_May_Have_Molecular_Abnormality some 'p230 Fusion Protein Expressi...
2	Disease_May_Have_Molecular_Abnormality some 'p210 Fusion Protein Expressi...
2	Disease_May_Have_Molecular_Abnormality some 't(9;22)(q34;q11)'
3	Disease_May_Have_Molecular_Abnormality some 't(9;22)(q34;q11)'
3	Disease_May_Have_Molecular_Abnormality some 'p190 Fusion Protein Expressi...

Defining

Buttons: OK, Cancel

NCIEditTab – other properties

BiomedGT Protégé 3.4 (rmi://cbapp-q1001.nci.nih.gov/BiomedGT)

File Edit Project OWL Reasoning Code Tools Window Edit Tab Collaboration Edit Tab Lucene Explanations Help

NCI Editor Lucene Query Tab Properties Metadata(BiomedGT.owl) Explanations NCI Workflow

CLASS BROWSER

For Project: ●

Class Hierarchy

- Immunosuppressant
- Lenalidomide
- Nosantine
- Procodazole
- Thymalfasin
- Vaccine
 - AdRTVP-1-Transduced Prost
 - Antineoplastic Vaccine
 - Attenuated Live Virus Vaccin
 - Autologous Epstein-Barr Viru
 - Cancer Prevention Vaccine
 - Conjugate Vaccine
 - DNA Vaccine
 - HIV Vaccine
 - Human Papilloma Virus Vacci
 - Inactivated Vaccine
 - Non-Tumor Cell Derivative Va
 - Peptide Vaccine
 - Polyclonal Vaccine
 - Polyvalent Vaccine
 - Recombinant Viral Vaccine
 - Adenovirus Vaccine
 - ALVAC Vaccine
 - ALVAC-CEA Vaccine

Edit Split PreMerge Merge PreRetire Retire Report Writer Batch Processing Copy Partonomy Tree

Class: ALVAC-CEA_Vaccine code: B1821

Preferred Name: ALVAC-CEA Vaccine

Basic Data Relations Properties

Simple Properties

Property	Value	Lang
Concept_Type	N	
PDQ_Closed_Trial_Se...	42326	
PDQ_Open_Trial_Sear...	42326	
rdfs:comment		
rdfs:label	ALVAC-CEA Vaccine	
Semantic_Type	Immunologic Factor	
Semantic_Type	Pharmacologic Substance	

Complex Properties

Property	Value	Lang
ALT_DEFINITION	A cancer vaccine containing a canary pox virus (ALVAC) combined with the human carcinoembryonic antigen (CEA) gene.	

Qualifiers

Name	Value
def-source	NCI-GLOSS
Definition_Reviewer_Name	DEFAULT_Review

New Delete Review Save Cancel

heart

NCIEditTab – tree panel in copy, split, and merge

The screenshot displays the BiomedGT Protégé 3.4 application window. The title bar reads "BiomedGT Protégé 3.4 (rmi://cbapp-q1001.nci.nih.gov/BiomedGT)". The menu bar includes File, Edit, Project, OWL, Reasoning, Code, Tools, Window, Edit Tab, Collaboration, Edit Tab, Lucene, Explanations, and Help. The toolbar contains various icons for file operations and editing. The interface is divided into several panels:

- CLASS BROWSER:** Located on the left, it shows a "Class Hierarchy" tree. The "Nerve" class is expanded, showing sub-classes like "Cranial Nerve", "Abducens Nerve", "Accessory Nerve", "Cochlear Nerve", "Facial Nerve", "Glossopharyngeal Nerve", "Hypoglossal Nerve", "Oculomotor Nerve", "Olfactory Nerve", "Optic Nerve", "Trigeminal Nerve", "Trochlear Nerve", "Vagus Nerve", "Vestibular Nerve" (highlighted), and "Vestibulocochlear Nerve".
- Existing Concept:** The main panel displays details for the selected "Vestibulocochlear Nerve" concept. It includes fields for code (B13169), rdfs:label (Vestibulocochlear Nerve), rdfs:subClassOf (Cranial_Nerve), Concept_Type (O), and a definition. A context menu is open over the FULL_SYN field, with options: Delete, Modify Property, Copy (highlighted), Paste, and Create Workflow Task.
- New Concept:** Below the existing concept, a "Vestibular Nerve" concept is shown with its own set of properties, including code (B12993), rdfs:label (Vestibular Nerve), rdfs:subClassOf (Cranial_Nerve), and an alternative definition.

At the bottom of the window, there are buttons for "Clone", "Save", and "Clear". The Protégé logo is visible in the top right corner.

NCIEditTab – retirement

The screenshot displays the BiomedGT Protégé 3.4 application window. The title bar reads "BiomedGT Protégé 3.4 (rmi://cbapp-q1001.nci.nih.gov/BiomedGT)". The menu bar includes File, Edit, Project, OWL, Reasoning, Code, Tools, Window, Edit Tab, Collaboration, Edit Tab, Lucene, Explanations, and Help. The toolbar contains various icons for file operations and navigation. The interface is divided into several panes:

- CLASS BROWSER:** Located on the left, it shows a class hierarchy for "For Project: [red dot]". The hierarchy includes Olfactory Chemoreceptor, Peripheral Nervous System Part, Peripheral Nervous System, Axon, Dendrite, Nerve, and Cranial Nerve. Under Cranial Nerve, several nerves are listed, with "Vestibular Nerve" selected and highlighted in blue.
- Retiring Class:** A central pane showing the details of the selected class, "Vestibular Nerve". It lists various properties such as code (B12993), rdfs:label (Vestibular Nerve), rdfs:subClassOf (Cranial_Nerve), ALT_DEFINITION, Concept_Type (O), Display_Name (Vestibular Nerve), and FULL_SYN (multiple instances). The class is marked as "Retiring Class" with a red dot.
- Class Editor:** On the right, it shows the "Class:" editor for "Vestibular Nerve". It includes tabs for Basic Data, Relations, and Properties. The "Terms" section contains a table with columns for Term Name, Term Gr..., Term So..., and Source Code. The "Definition" section has a table with a single column for Value.

At the bottom of the interface, there are buttons for "Preretire", "Save", and "Clear". The "Preretire" button is currently active, indicating the retirement process is in progress.

NCIEditTab – retirement

The screenshot displays the BiomedGT Protégé 3.4 application window. The title bar reads "BiomedGT Protégé 3.4 (rmi://cbapp-q1001.nci.nih.gov/BiomedGT)". The menu bar includes File, Edit, Project, OWL, Reasoning, Code, Tools, Window, Edit Tab, Collaboration, Edit Tab, Lucene, Explanations, and Help. The toolbar contains various icons for file operations and navigation. The interface is divided into several panes:

- CLASS BROWSER:** Shows a class hierarchy for "For Project: [red dot]". The "Nerve" class is expanded, showing "Cranial Nerve" as a subclass. "Vestibular Nerve" is selected.
- Retiring Class:** A list of properties for the selected class, including:
 - code: B12993
 - rdfs:label: Vestibular Nerve
 - rdfs:subClassOf: Cranial_Nerve
 - ALT_DEFINITION: <def-definition>The
 - Concept_Type: O
 - Display_Name: Vestibular Nerve
 - FULL_SYN: <term-name>Vestibular N
 - Preferred_Name: Vestibular Nerve
 - Semantic_Type: Body Part, Organ, or
 - UMLS_CUI: C0042598
 - Anatomic_Structure_Is_Physical_Part
- Class: Vestibular_Nucleus:** The main editor for the selected class. It shows:
 - Preferred Name: Vestibular Nucleus
 - Restrictions/Groups:
 - Anatomic_Structure_Is_Physical_Part_Of some 'Vestibular Nerve'
 - Anatomic_Structure_Is_Physical_Part_Of some 'Floor of the Fourth Ventricle'
 - Anatomic_Structure_Is_Physical_Part_Of some Brain [from 'Brain Nucleus']
 - Parent Class: 'Brain Nucleus'
 - Associations table with columns "Property" and "Value".
- Buttons:** "PreRetire", "Save", and "Clear" are visible at the bottom.

NCIEditTab – reporting

BiomedGT Protégé 3.4 (rmi://cbapp-q1001.nci.nih.gov/BiomedGT)

File Edit Project OWL Reasoning Code Tools Window Edit Tab Collaboration Edit Tab Lucene Explanations Help

NCI Editor Lucene Query Tab Properties Metadata(BiomedGT.owl) Explanations NCI Workflow

CLASS BROWSER

For Project: ●

Class Hierarchy

- owl:Thing
 - Abnormal Cell
 - Anatomic Structure, System, or Substance
 - Biochemical Pathway
 - Biological Process
 - Common Word
 - Conceptual Entity
 - Diagnostic or Prognostic Factor
 - Diagnostic, Therapeutic, and Research Equipmen
 - Disease, Disorder or Finding
 - Drug, Food, Chemical or Biomedical Material
 - Molecular Abnormality
 - NCI Administrative Concept
 - Property or Attribute
 - Retired Concept
 - Thesaurus Node
 - Activity
 - entity
 - External
 - Organism
 - Premerged_Concepts
 - Preretired_Concepts

Lucene Query Tab

BiomedGT Protégé 3.4 (rmi://cbapp-q1001.nci.nih.gov/BiomedGT)

File Edit Project OWL Reasoning Code Tools Window Edit Tab Collaboration Edit Tab Lucene Explanations Help

NCI Editor Lucene Query Tab Properties Metadata(BiomedGT.owl) Explanations NCI Workflow

Query Add Query Add Negate... Add Nested

Slot Preferred_Name String oncogene tim

- contains
- starts with
- ends with
- exact match
- property present
- property absent
- sounds like
- lucene match

Search Results (1 match)

- Oncogene TIM

Clear Match All Match Any Search

Lucene Query Tab

BiomedGT Protégé 3.4 (rmi://cbapp-q1001.nci.nih.gov/BiomedGT)

File Edit Project OWL Reasoning Code Tools Window Edit Tab Collaboration Edit Tab Lucene Explanations Help

NCI Editor **Lucene Query Tab** Properties Metadata(BiomedGT.owl) Explanations NCI Workflow

Query Add Query Add Negate... Add Nested

Slot String

Contributing_Source exact match FDA

Negated Queries (NOT) Add Query Match All Match Any

Slot String

FULL_SYN lucene match FDA

Search Results (0 match)

No results found.

Clear Match All Match Any Search

Lucene Query Tab

The screenshot displays the BiomedGT Protégé 3.4 application window. The title bar shows the URL `(rmi://cbapp-q1001.nci.nih.gov/BiomedGT)`. The menu bar includes File, Edit, Project, OWL, Reasoning, Code, Tools, Window, Edit Tab, Collaboration, Edit Tab, Lucene, Explanations, and Help. The toolbar contains icons for file operations and navigation. The main interface has several tabs: NCI Editor, Lucene Query Tab (active), Properties, Metadata(BiomedGT.owl), Explanations, and NCI Workflow. The Lucene Query Tab shows a query slot with the property `ALT_DEFINITION` and the value `property present`. The Search Results panel on the right displays 8895 matches, with 50 results shown at a time. A context menu is open over the search results, offering options: View CIs, Edit CIs in the NCI Edit Tab, and Create workflow item (highlighted). The bottom of the interface features a search bar with a search icon, a 'Clear' button, radio buttons for 'Match All' (selected) and 'Match Any', and a 'Search' button.

BiomedGT Protégé 3.4 (rmi://cbapp-q1001.nci.nih.gov/BiomedGT)

File Edit Project OWL Reasoning Code Tools Window Edit Tab Collaboration Edit Tab Lucene Explanations Help

NCI Editor Lucene Query Tab Properties Metadata(BiomedGT.owl) Explanations NCI Workflow

Query Add Query Add Negate... Add Nested

Slot

ALT_DEFINITION property present

Search Results (8895 matches shown 50 results at a time)


- 2IT-BAD Monoclonal Antibody 170
- 5-Hydroxyindoleacetic Acid
- ABCB1 wt Allele
- AIDS Dementia
- AIDS-Related Lymphoma
- ALVAC-CEA Vaccine
- APC View CIs
- Abdo Edit CIs in the NCI Edit Tab
- Abdo Create workflow item
- Abdo
- Acanthosis Nigricans
- Accelerated Phase
- Accessory Nerve Disorder
- Acinar Cell Carcinoma
- Acinar Cell
- Acne Keloid
- Acoustic Schwannoma
- Acquired Deformity of Nose
- Acquired Immunodeficiency Syndrome
- Acridine Carboxamide
- Actin Filament
- Actinic (Solar) Keratosis
- Active Immunization
- Acupressure Therapy
- Acupuncture Therapy
- Acustimulation Therapy
- Acute Disseminated Encephalomyelitis
- Acute Erythroid Leukemia
- Acute Hemorrhagic Conjunctivitis
- Acute Infective Polyneuritis
- Acute Leukemia
- Acute Myeloid Leukemia

Clear Match All Match Any Search

NCI Workflow Tab

BiomedGT Protégé 3.4 (rmi://cbapp-q1001.nci.nih.gov/BiomedGT)

File Edit Project OWL Reasoning Code Tools Window Edit Tab Collaboration Edit Tab Lucene Explanations Help



NCI Editor
Lucene Query Tab
Properties
Metadata(BiomedGT.owl)
Explanations
NCI Workflow

ID	Status	Last Updated	Modeler	Task Description	Modeler No
65	ACCEPTED	Wed 01/07/2009 17:42:18 EST	_test_editor	JwongTest: Abdominal Cavity	
74	UPDATED	Thu 04/30/2009 17:26:13 EDT	_test_editor	Test18189: Inflammation	test
78	ASSIGNED	Thu 01/08/2009 18:28:53 EST	_test_editor	Test18628: Ocular Orbit	assigned to test_editor
94	ACCEPTED	Tue 01/13/2009 07:18:29 EST	Sherri DeCoronado	Sherri_test_jan_12_thoracic: Thoracic Cavity	
96	ACCEPTED	Tue 01/13/2009 10:22:32 EST	Sherri DeCoronado	Sherri_test_jan_13a: https://biomedgt-qa.nci.nih.g...	
97	ASSIGNED	Tue 01/13/2009 10:50:44 EST	Sherri DeCoronado	Biliary_Tract (B12851) needs to updated.	TEST NOTE: Make some modification .
104	ASSIGNED	Thu 01/15/2009 21:55:48 EST	David Yee	DYEE_Head4_Test: Head	
106	UPDATED	Thu 01/15/2009 14:45:19 EST	Durga Addepalli	DurgaJan15B: Multicellular Process QA TEST	
114	ACCEPTED	Fri 01/30/2009 00:06:12 EST	_test_editor	Test0129: Angiogram Child TEST	
149	ACCEPTED	Thu 02/19/2009 20:14:40 EST	_test_editor	TestLECell: LE Cell	
150	ACCEPTED	Fri 02/20/2009 14:21:00 EST	Durga Addepalli	Durga_Feb20: QA Lymphocyte Adhesion Pathway	
159	ACCEPTED	Wed 03/18/2009 19:50:09 EDT	_test_editor	TestPkgByDeepak: Had to write this preferred na...	
160	ASSIGNED	Thu 03/12/2009 15:25:14 EDT	_test_editor	TestPkgByDeepak: https://biomedgt-dev.nci.nih.g...	
167	ACCEPTED	Tue 03/24/2009 14:53:23 EDT	_test_editor	TestRousSarcoma: Rous Sarcoma Test Child	
171	ACCEPTED	Tue 03/24/2009 22:00:00 EDT	_test_editor	TestGene: Gene	
172	ACCEPTED	Tue 03/24/2009 21:59:56 EDT	_test_editor	TestGene: Gene Child	
179	ACCEPTED	Tue 04/21/2009 19:18:47 EDT	_test_editor	null (B16994) needs updating.	test2
180	ACCEPTED	Tue 04/21/2009 19:17:33 EDT	_test_editor	null (B16994) needs updating.	test2
194	CREATED	Fri 05/01/2009 10:56:21 EDT	_test_administrator	'C2orf25 Gene' (B100712) needs updating.	need def update
195	CREATED	Fri 05/01/2009 10:56:21 EDT	_test_administrator	'CD24 Gene' (B68758) needs updating.	need def update
196	CREATED	Fri 05/01/2009 10:56:21 EDT	_test_administrator	'DAB2 Gene' (B24502) needs updating.	need def update
201	ASSIGNED	Thu 05/07/2009 14:21:05 EDT	_test_editor	Durga'sMayPackage: Actinobacteria	
202	CREATED	Thu 05/07/2009 12:55:06 EDT	_test_administrator	Durga'sMayPackage: https://biomedgt-qa.nci.nih....	
203	ASSIGNED	Thu 05/07/2009 14:46:42 EDT	_test_editor	Durga'sMayPackage: ATM Signaling Pathway	
204	ASSIGNED	Thu 05/07/2009 14:52:45 EDT	_test_editor	Durga'sMayPackage: ATM Signaling Pathway	
205	ASSIGNED	Thu 05/07/2009 18:03:20 EDT	_test_editor	New_Concept_with_BathLaod_two (B101033) n...	Durga test
206	CREATED	Thu 05/07/2009 18:07:48 EDT	_test_administrator	'Gene Expression Profiling' (B62827) needs upda...	Durga Test
207	UPDATED	Tue 05/12/2009 11:53:52 EDT	_test_administrator	Durga'sMayPackage: Angiogenesis Pathway	class saved
208	CREATED	Thu 05/14/2009 12:53:55 EDT	_test_administrator	Core_Assembly (B19359) needs updating. (B193...	testing split
213	CREATED	Tue 05/19/2009 16:21:29 EDT	_test_administrator	QATest (B102048) needs updating. (B102048) n...	test
216	UPDATED	Fri 05/29/2009 13:16:14 EDT	_test_administrator	QA'sPackage: Messenger RNA QA	class saved
217	COMPLETED	Fri 05/29/2009 17:34:52 EDT	test_administrator	QA'sPackage: https://biomedgt-qa.nci.nih.gov/nd	

User:

Classification and Explanation Service



- Maturing the Pellet reasoner - NCI Classification
 - Prior to initial work: *non-terminating*
 - Improving resource efficiency: 9 hours
 - Algorithmic optimizations: 5 minutes
 - Incremental updates: *seconds*
- Explanation Service
 - Improve the efficiency of editors by identifying problems and causes

Modified from M. Smith, Clark&Parsia

OWL Classes Tab – classification views

BiomedGT Protégé 3.4 (rmi://cbapp-q1001.nci.nih.gov/BiomedGT)

File Edit Project OWL Reasoning Code Tools Window Edit Tab Collaboration Edit Tab Lucene Explanations Help

NCI Editor Lucene Query Tab Properties Metadata(BiomedGT.owl) Explanations NCI Workflow OWLClasses

SUBCLASS EXPLORER

For Project: ●

Asserted Hierarchy

- ▶ 'Common Word'
- ▶ 'Conceptual Entity'
- ▶ 'Diagnostic or Prognostic Factor'
- ▶ 'Diagnostic, Therapeutic, and Research Equip'
- ▶ 'Disease, Disorder or Finding'
- ▶ 'Drug, Food, Chemical or Biomedical Material'
- ▶ 'Molecular Abnormality'
- ▶ 'NCI Administrative Concept'
- ▶ 'Property or Attribute'
- ▶ 'Retired Concept'
- ▼ 'Thesaurus Node'
 - 'Cytoplasmic Protein'
 - ▶ 'Protein Family'
- ▶ Activity

SUBCLASS EXPLORER

For Project: ●

Inferred Hierarchy

- 'Retired Concept'
- 'Thesaurus Node'
 - 'Cytoplasmic Protein'
 - ▶ 'Protein Family'
- Activity
 - entity
 - continuant
 - dependent_continuant
 - independent_continuant
 - material_entity
 - fiat_object_part
 - object
 - 'Gene Product'
 - '14-3-3 Family'
 - 'Cytoplasmic Protein'

CLASS EDITOR for 'Cytoplasmic Protein' (instance of owl:Class)

For Class: `rmi://cbapp-q1001.nci.nih.gov/xml/owl/EVS/BiomedGT.owl#Cytoplasmic_Protein` Inferred View

Property	Value
rdfs:comment	
code	B20206
Concept_Type	N

'Thesaurus Node'
 Gene_Product_Encoded_By_Gene **some** 'Cytoplasmic Protein Gene'
 Gene_Product_Has_Associated_Anatomy **some** Cytoplasm

Logic View Properties View

Class	Changed direct superclasses
● '14-3-3 Family'	Added 'Gene Product'
● 'Cytoplasmic Protein'	Added 'Gene Product'
● 'NOVA Family'	Added 'Gene Product'
● 'UGT1A1*28 Allele'	Moved from 'UGT1A1 Gene' to 'UGT1A1 wt Allele'

Classification Results

Explanation Tab

The screenshot displays the BiomedGT Protégé 3.4 software interface. The title bar shows the application name and the URL `(rmi://cbapp-q1001.nci.nih.gov/BiomedGT)`. The menu bar includes File, Edit, Project, OWL, Reasoning, Code, Tools, Window, Edit Tab, Collaboration, Edit Tab, Lucene, Explanations, and Help. The toolbar contains various icons for file operations and navigation. The main workspace is divided into several panes:

- CLASS BROWSER:** Located on the left, it shows a class hierarchy for the project. The selected class is 'Cytoplasmic Protein'.
- Axioms:** The central pane is split into 'Asserted' and 'Inferred' tabs. Under 'Inferred', it lists 'Named Inferred Superclasses' (Gene Product, Thesaurus Node) and 'Named Inferred Subclasses'.
- Explanations:** The right pane displays the selected axiom: `Cytoplasmic Protein subClassOf Gene Product`. It lists two explanations:
 - `Cytoplasmic Protein subClassOf Gene Product Has Associated Anatomy some C Gene Product Has Associated Anatomy domain Gene Product`
 - `Cytoplasmic Protein subClassOf Gene Product Encoded By Gene some Cytoplas Gene Product Encoded By Gene domain Gene Product`
- Classification Results:** The bottom pane shows a table of classification results.

At the bottom right of the Explanations pane, there are controls for 'Irrelevant parts of explanations' (Show, Color, Hide) and a button for 'All 2 explanations'.

Class	Changed direct superclasses
'14-3-3 Family'	Added 'Gene Product'
'Cytoplasmic Protein'	Added 'Gene Product'
'NOVA Family'	Added 'Gene Product'
'UGT1A1*28 Allele'	Moved from 'UGT1A1 Gene' to 'UGT1A1 wt Allele'

Download site

http://gforge.nci.nih.gov/frs/?group_id=174



NCICB GForge: EVS Collaborative Terminology Dev Tools: Project Filelist - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://gforge.nci.nih.gov/frs/?group_id=174

Most Visited ASL Browser Google NCICB NIH Email mozilla.org Mozilla Builds Interpreting Services LOCAL ASL Browser Remote Access

Protege QA Server BiomedGT OWL File		2008-12-15 10:47
BiomedGT-Fixed-wNS-DefaultAndPrefix.zip	14.77 MB	3 i386 .zip
SmallTestingThesaurus		2008-09-23 10:21
NCIThesaurusSmall.owl	7.3 MB	60 Any Other
NCI Thesaurus OWL File 080711		2008-07-11 18:27
Thesaurus-ByName-080711.zip	8.54 MB	10 i386 .zip
NCI Thesaurus sample fragment		2008-03-21 11:30
sample.owl	120 KB	162 Any text
Protege OWL Raw Data File		2008-02-13 15:35
BiomedGT-080129-08.01d-Modified.zip	14.96 MB	8 Other Other
BiomedGT-080904-08.09a-fixedscript.zip	14.72 MB	2 Other .zip
PROMPT Files and reproduce defect		2008-02-07 14:59
PROMPT_FILES.zip	7.87 MB	3 Other Other Source File
BGTForWiki		2007-12-05 23:33
BGTForWikiLoad.zip	12.62 MB	6 Any .zip
BGTInitialWikiLoad.owl.z	14.77 MB	199 Any .zip
BiomedGT_LGExport.zip	11.08 MB	3 Any .zip
BiomedGT.zip	11.08 MB	6 Any .zip
NCIT Subset 060926 w Retired		2006-09-28 13:57
Thesaurus-ByName-060926-Retired.zip	2.34 MB	51 Any .zip
Package ✉		
1 .3 Protege Public Release Package		2009-05-19 18:36
1.3PulicReleasePackage.zip	124.99 MB	8 Other .zip
Protege 1.2.3.25 Public Release Package		2008-12-19 18:18
PublicReleaseProtegePackage.zip	140.07 MB	6 Other .zip
Project totals	23	36 1 GB 2071

Done

Acknowledgements



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