ODIN:

OntoGene Document Inspector

User Manual, v 0.4

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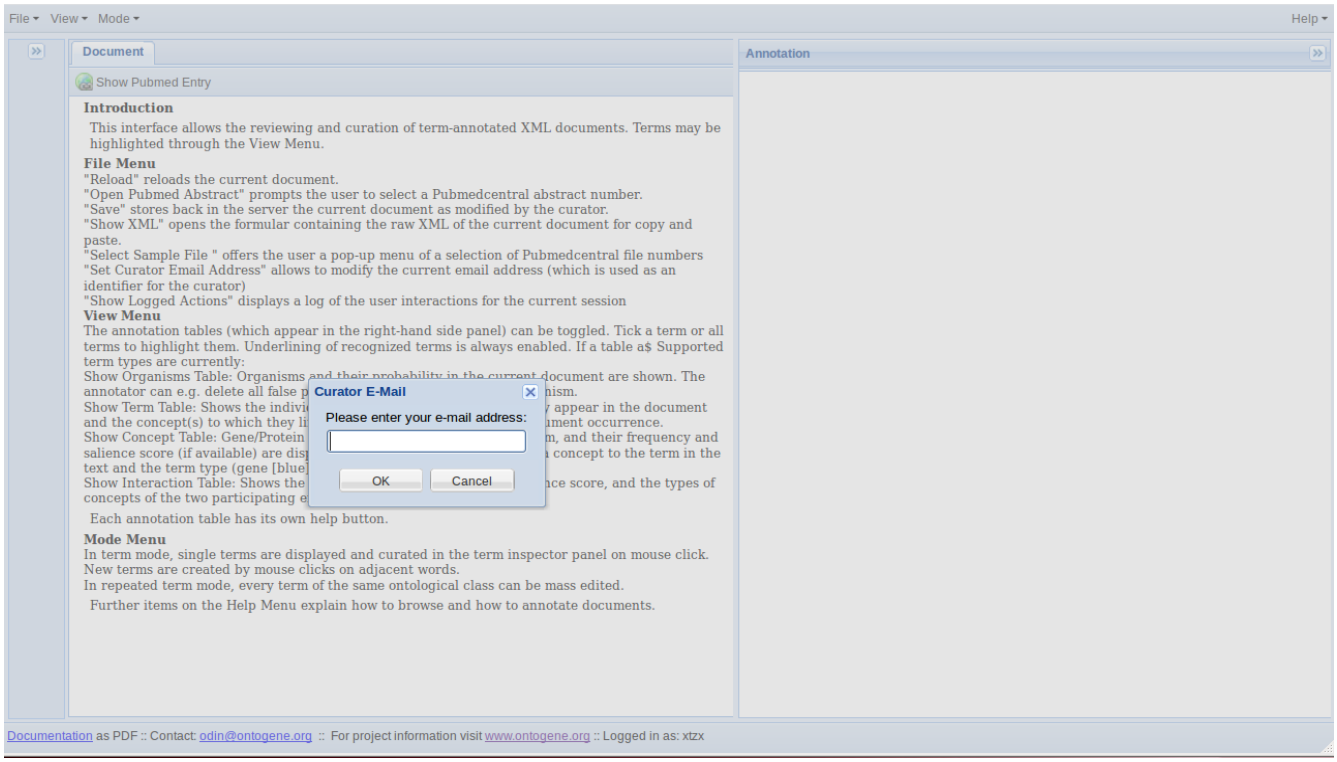
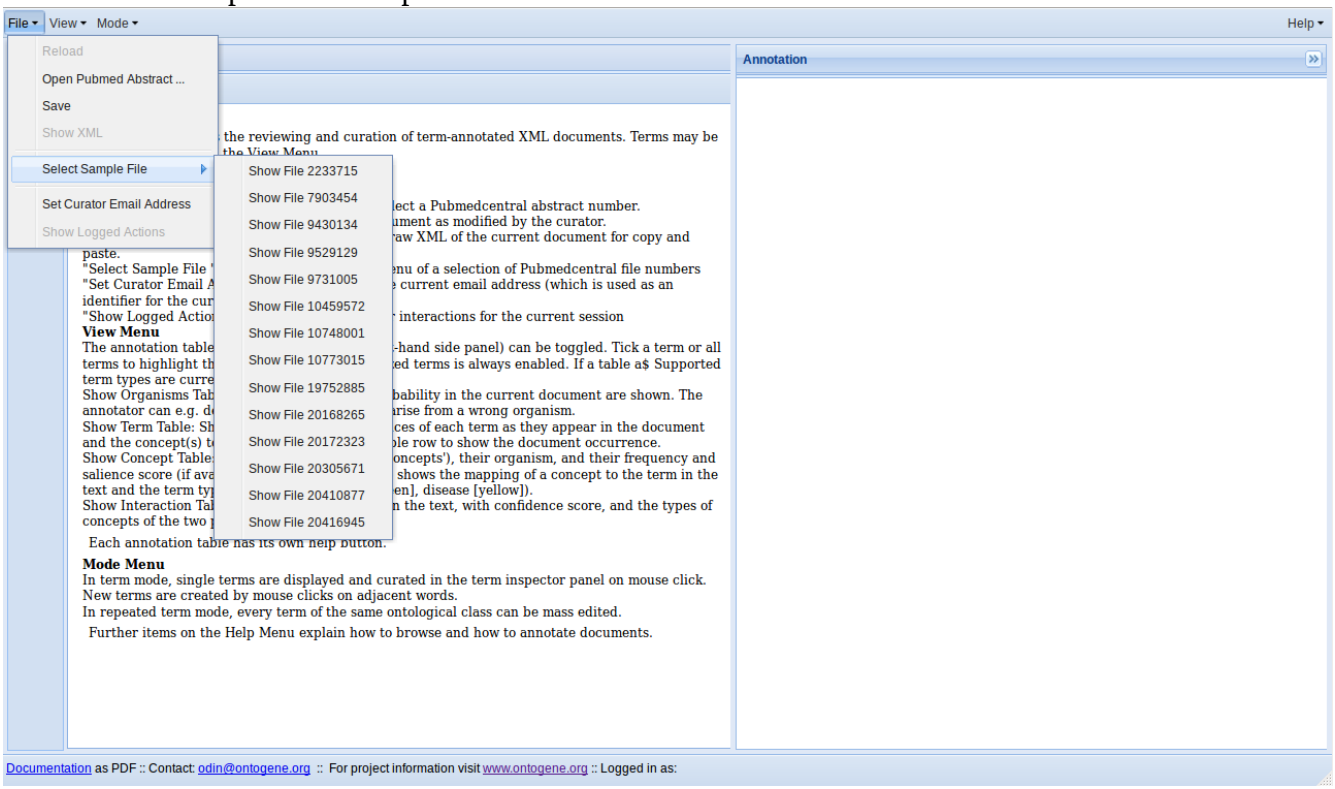
http://www.ontogene.org/

1. Getting Started

Enter your curator identifier (it does not have to be an e-mail address, just make sure it is unique and use it consistently).



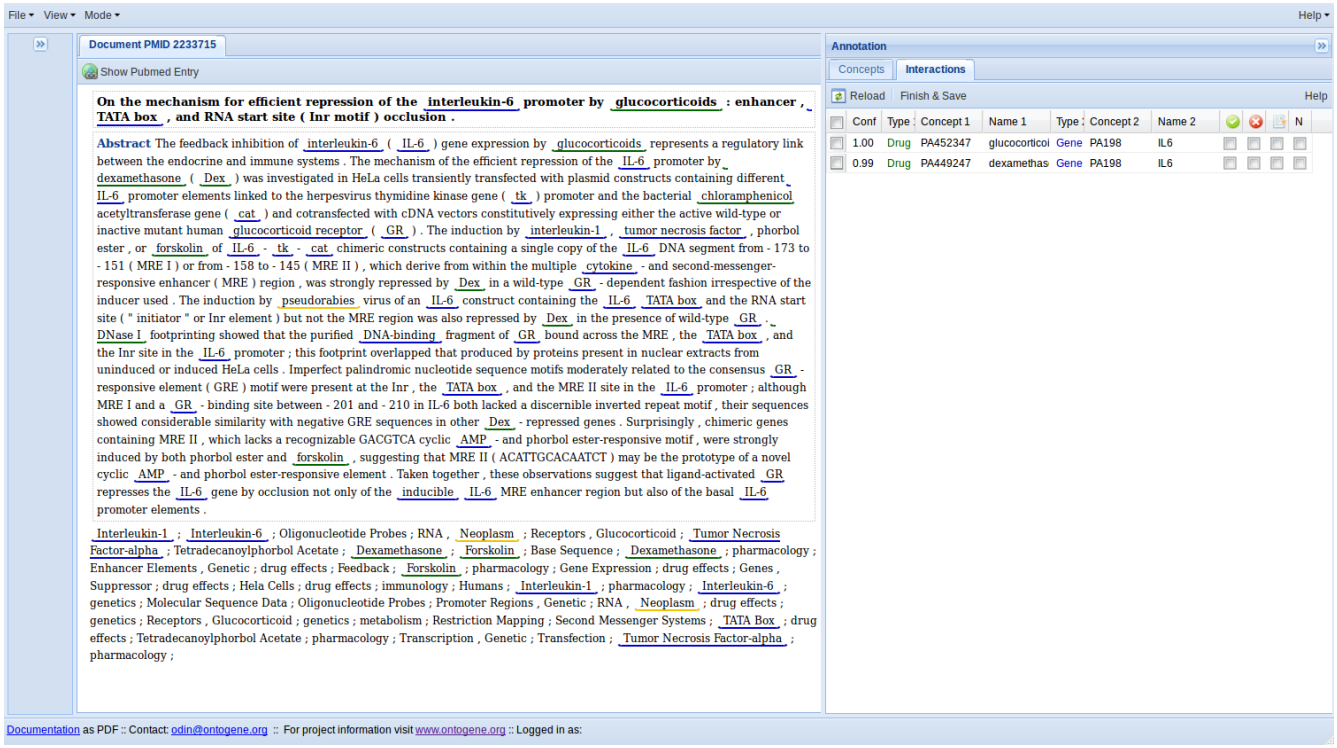
Select a file to inspect. You can either use 'open Pubmed abstract' or, if you want to test, you can also select one of the provided sample files.



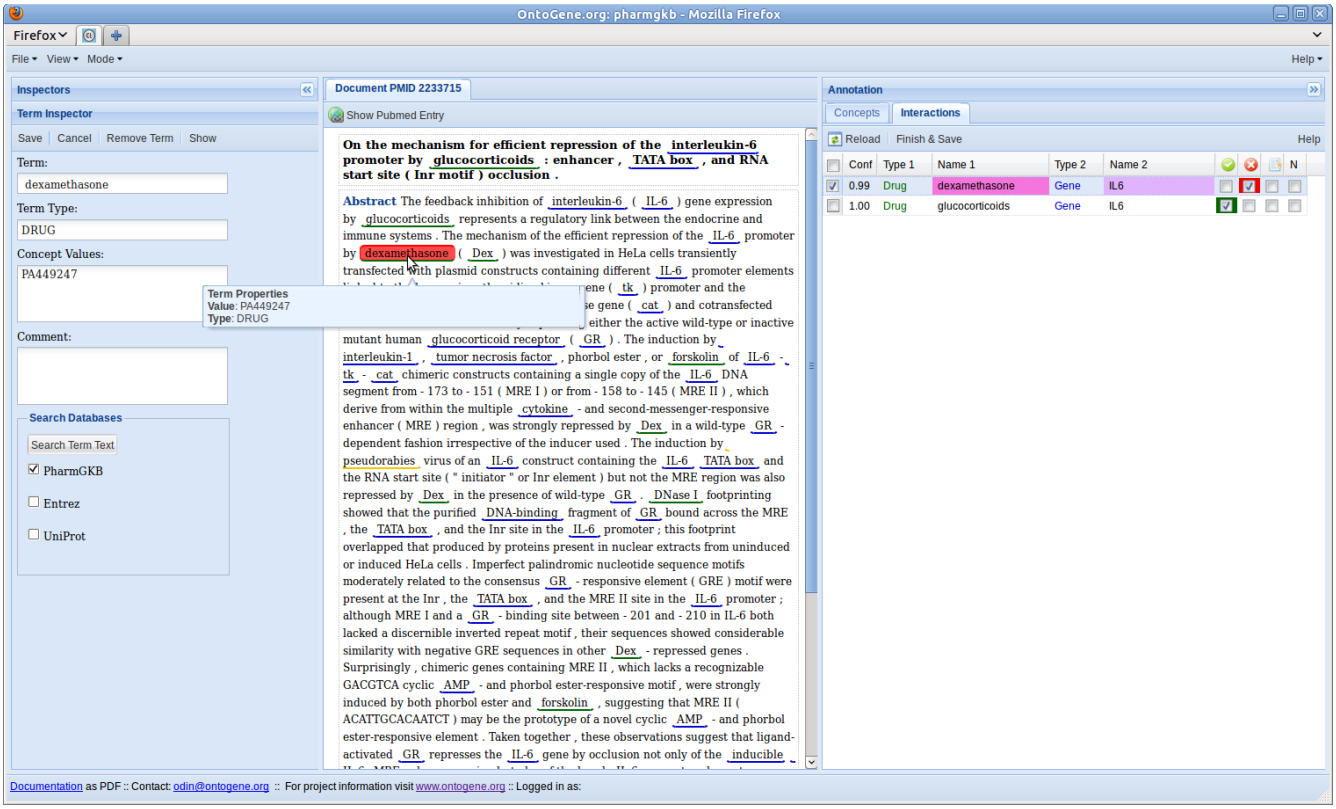
2. The ODIN panels

Below you can see an example of annotated document: the PubMed abstract is in the “Document” panel (left in the picture), the interactions appear in the “Annotation” panel (right side of the picture). If the annotation panel is empty, you can select an annotation type in the 'View'-menu. The available annotations depend on the version of ODIN and the customized application. Typically, they are terms, genes, proteins, organisms, and interaction. In the example we see interaction annotation. The concepts annotation has also been selected in the view menu, and can be brought to the foreground by clicking on the 'concept' tab in the Annotation panel.

A brief online introduction to ODIN is also available, in the 'Help' menu (top right corner).

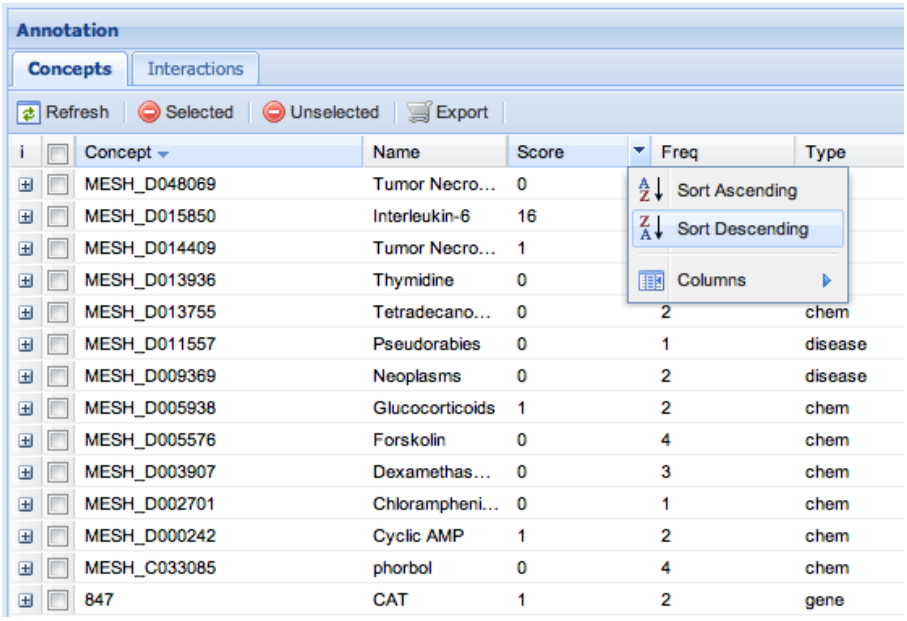


ODIN has actually 3 panels (see figure below): on the left the “Inspector” panel, in the center the “Document” panel, and on the right the “Annotations” panel.
The “Inspector” panel is closed in the beginning, it opens automatically if you click on a term, or if you click the double-arrow on its top (at the left of the interface). We will discuss it in section 4.



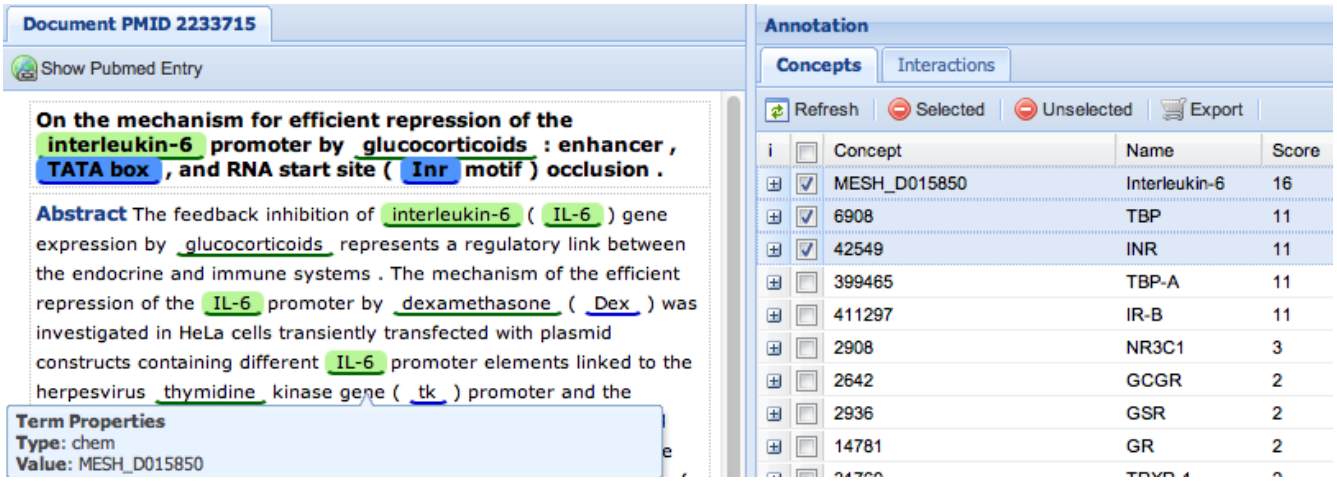
3. Working with Concepts

Click on 'Concepts' in the Annotation panel. All concepts are displayed. Clicking on the right of the column title, you can sort them by the column of your choice.
If you drag the column fringe, the column gets broader or smaller.
If you double-click on a concept or name, a definition is provided in a separate window. ODIN tries to find a definition in a reference database (currently CTD).



i	Concept	Name	Score	Freq	Type
	MESH_D048069	Tumor Necro...	0		
	MESH_D015850	Interleukin-6	16		
	MESH_D014409	Tumor Necro...	1		
	MESH_D013936	Thymidine	0		
	MESH_D013755	Tetradecano...	0	2	chem
	MESH_D011557	Pseudorabies	0	1	disease
	MESH_D009369	Neoplasms	0	2	disease
	MESH_D005938	Glucocorticoids	1	2	chem
	MESH_D005576	Forskolin	0	4	chem
	MESH_D003907	Dexamethas...	0	3	chem
	MESH_D002701	Chlorampheni...	0	1	chem
	MESH_D000242	Cyclic AMP	1	2	chem
	MESH_C033085	phorbol	0	4	chem
	847	CAT	1	2	gene

Ticking the box on the left highlights all occurrences of this concept in the text.

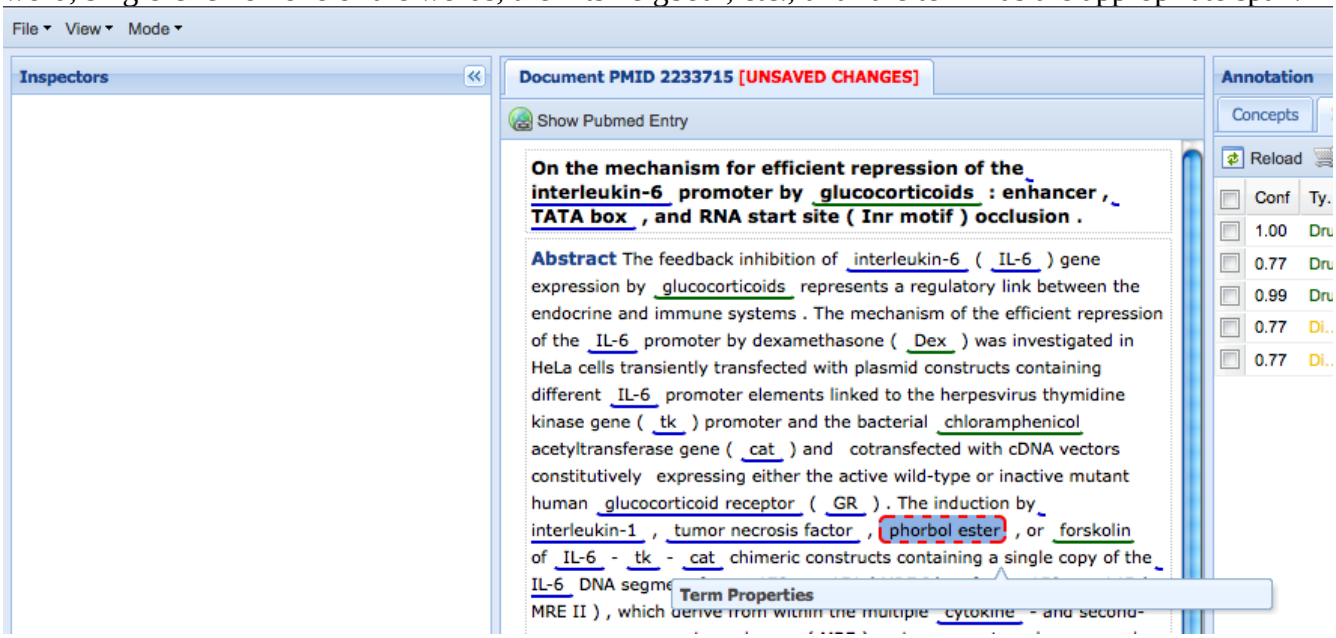


i	Concept	Name	Score
	MESH_D015850	Interleukin-6	16
	6908	TBP	11
	42549	INR	11
	399465	TBP-A	11
	411297	IR-B	11
	2908	NR3C1	3
	2642	GCGR	2
	2936	GSR	2
	14781	GR	2

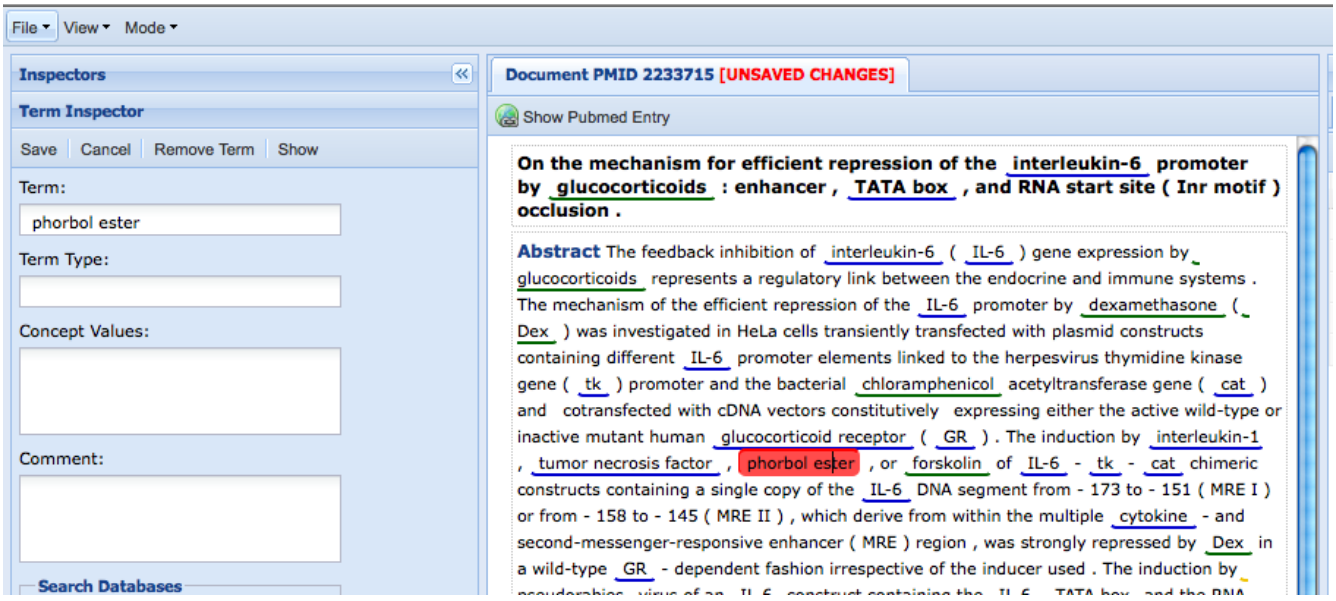
You can delete all selected or unselected concept occurrences in the document using the red buttons on top of the Annotation panel.

4. The Term Inspector

You can manually add missed terms to the database as follows. Double-click on a word to be able to annotate it in the inspector. The first click selects the word (a red dotted frame appears), the second click opens the term inspector (the word gets a red background). If you want to create a multi-term word, single-click on one of the words, then its neigbour, etc., until the term has the appropriate span.

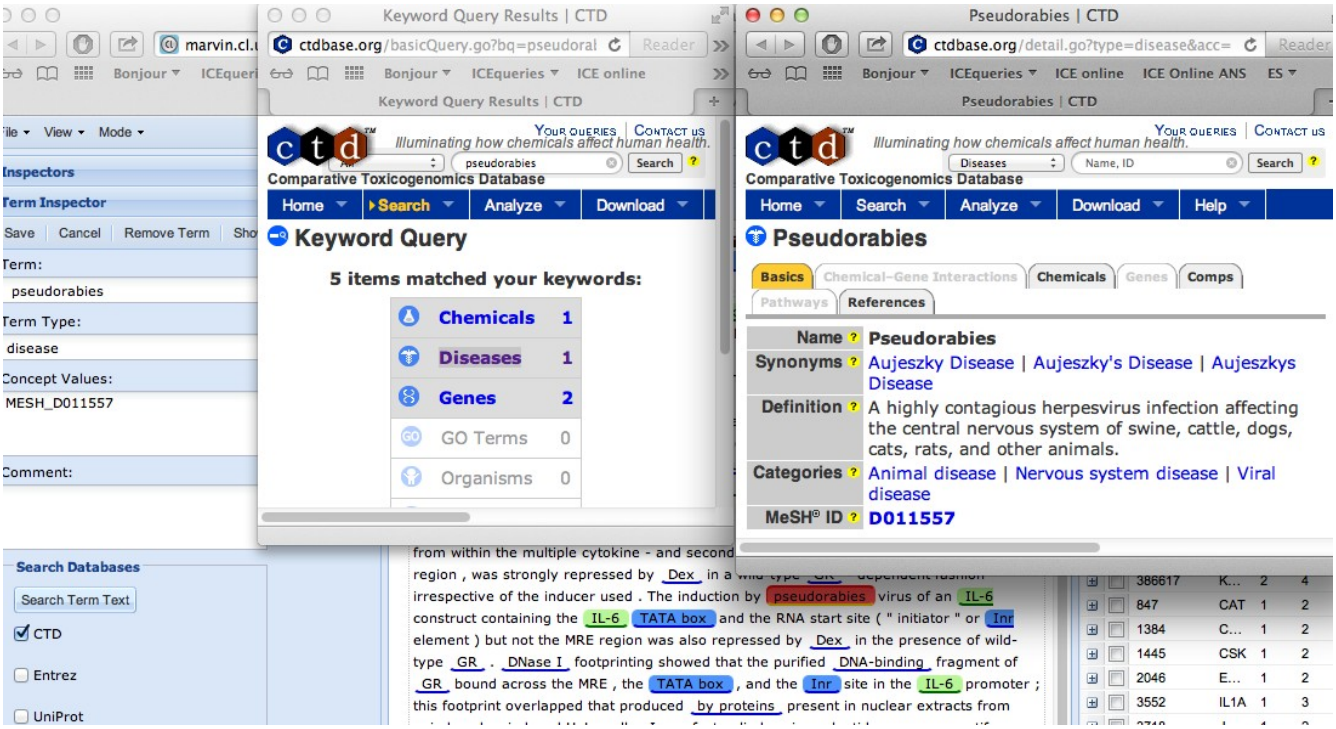


Then click again, the term inspector opens.

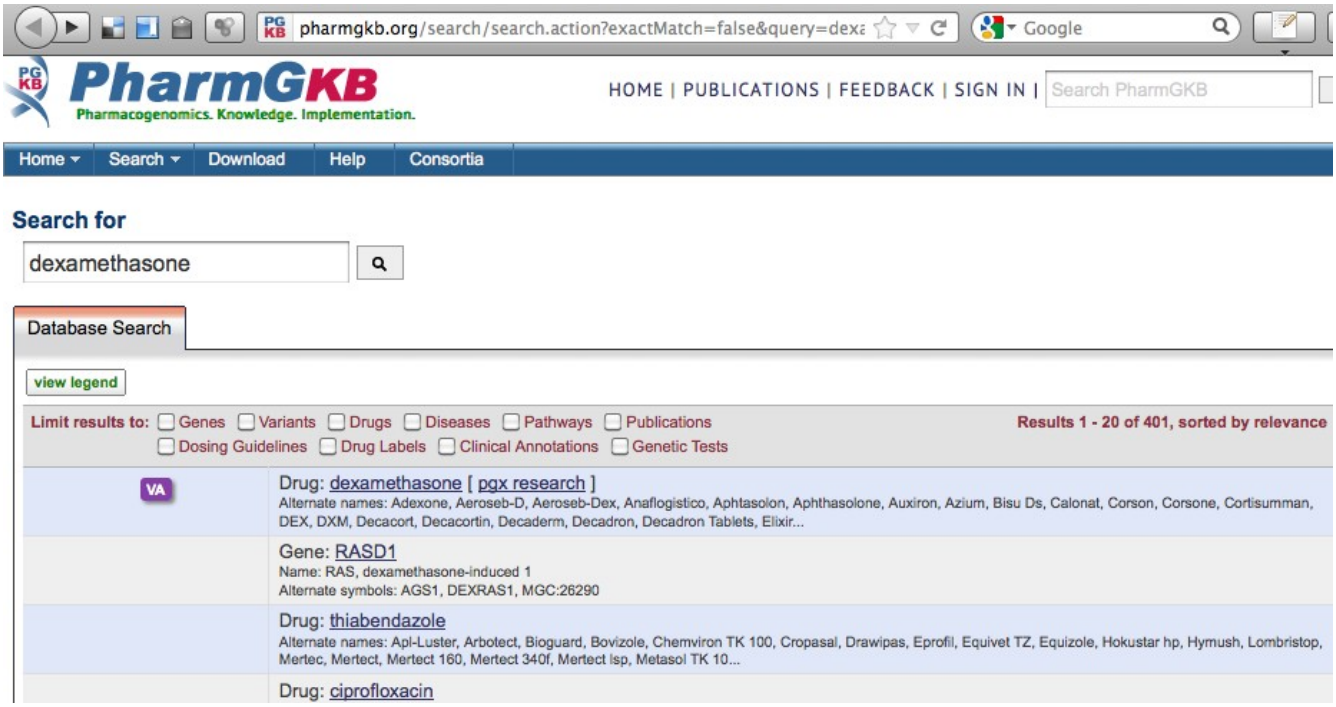


If you have made an erroneous selection, click on 'Remove Term'. You can also remove terms by clicking them in the document panel while pressing the SHIFT key.

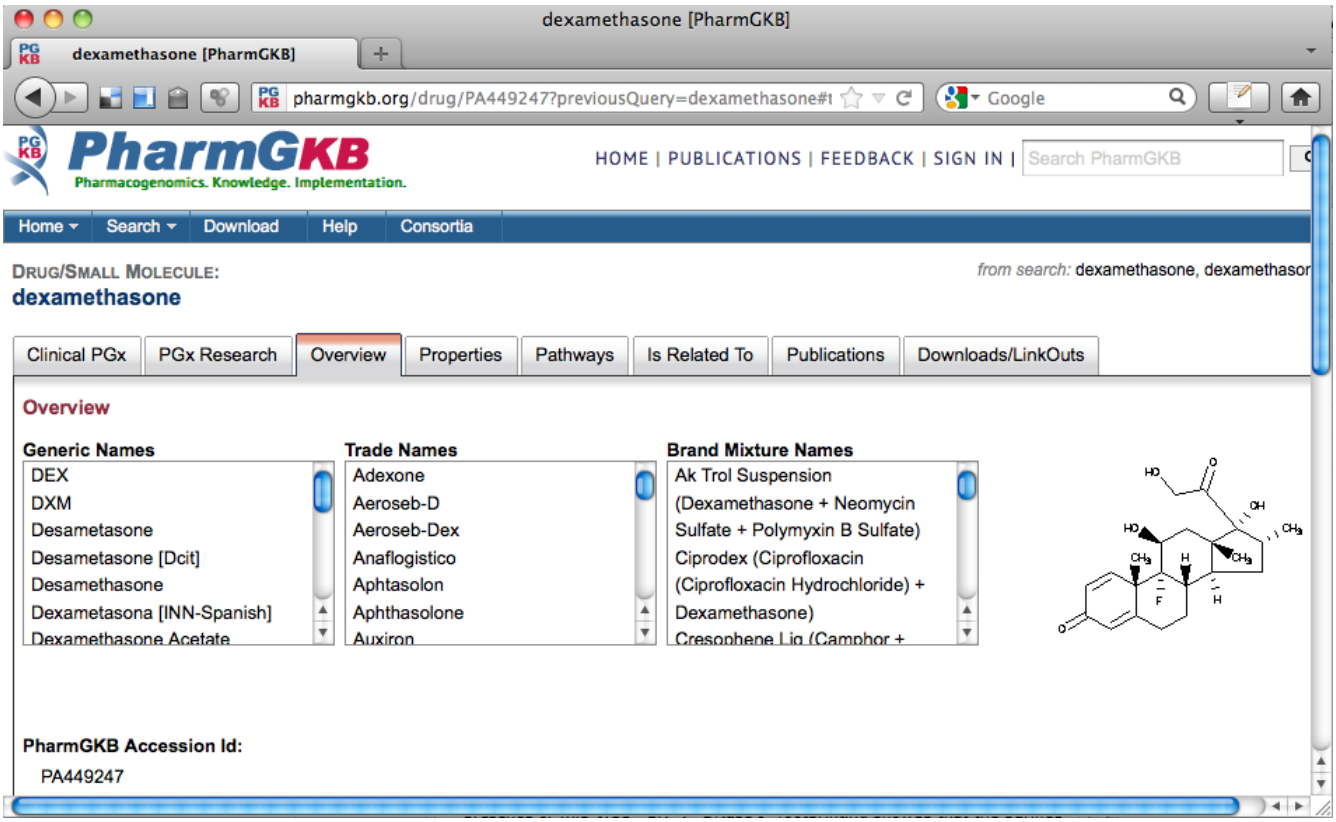
In the Term Inspector, you can manually edit the concept and the type of a term, leave a comment or browse term databases. Currently CTD , Entrez, UniProt and PharmGKB are linked (additional DBs can be added upon request). The following screenshots give a browsing example.
First, an example from CTD. Click on a term in the document panel ('pseudorabies', in red in the examle below). Tick 'CTD' in the inspector panel (left), then click 'Search Terms'. As this term is ambiguous, we are given a selection. We choose 'Diseases'.



Second, an example from 'PharmGKB' on 'dexamethasone'.



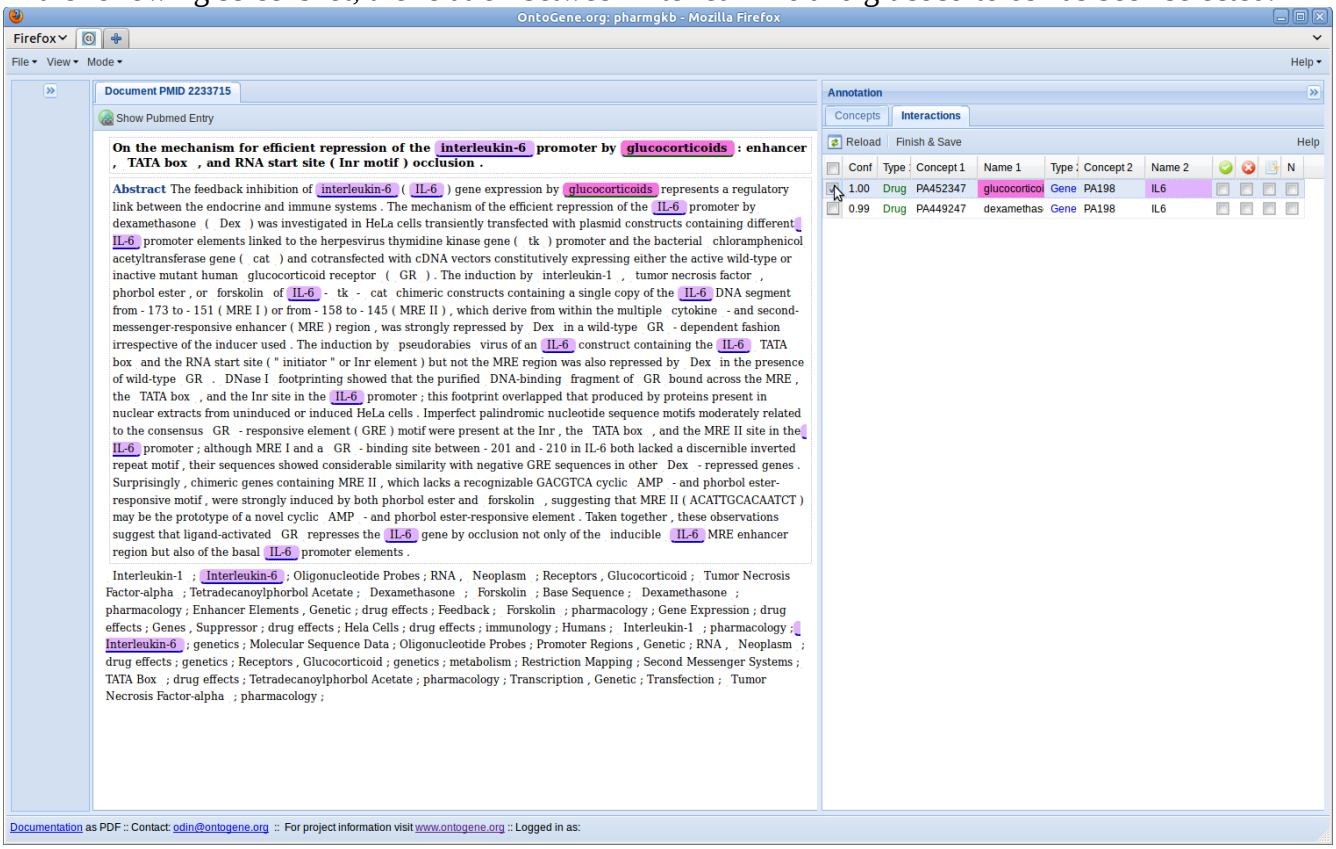
Within the PharmGKB database, with two additional clicks you might get to the screen shown below, depending on what you are looking for.



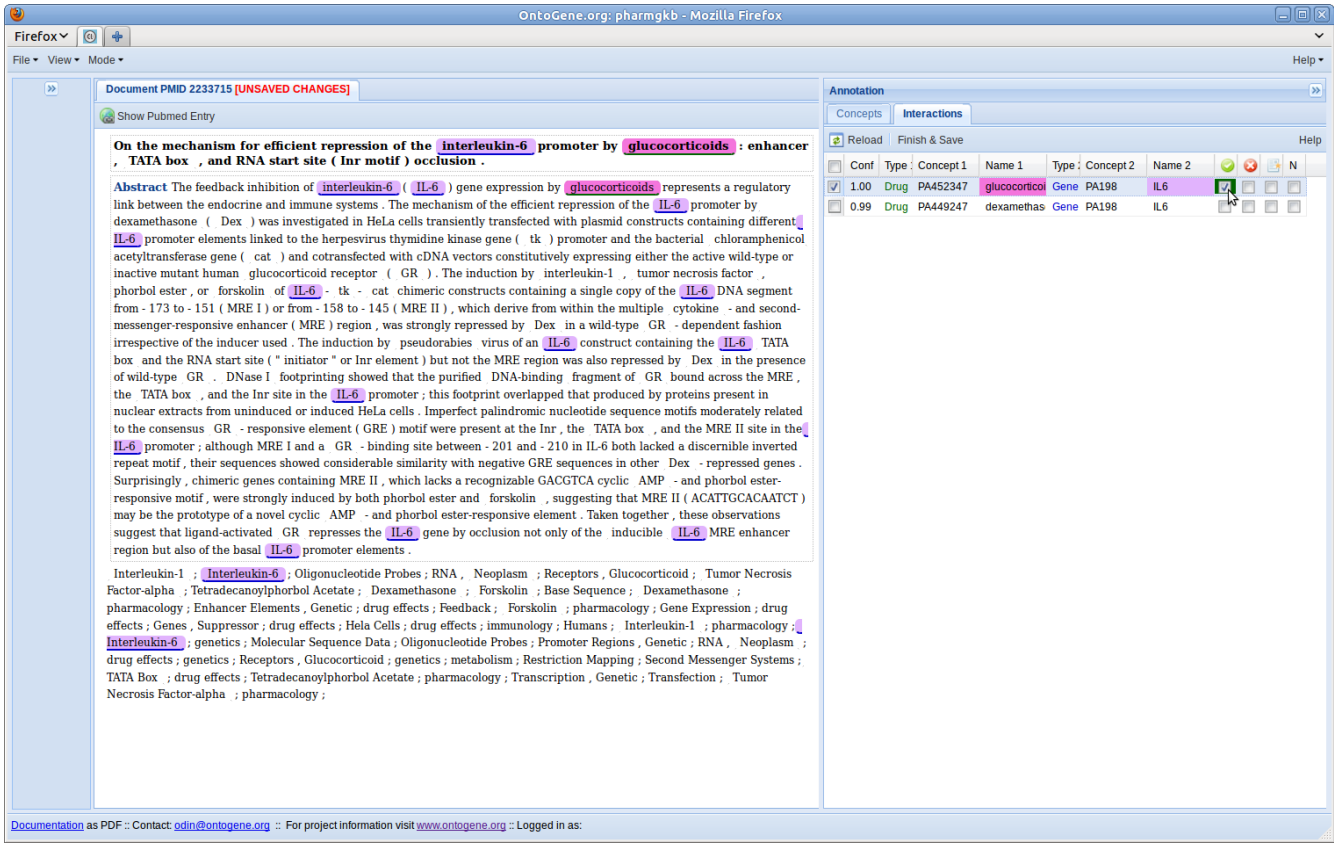
While the core of ODIN is similar in all versions, it is a flexible tool and the version that is adapted to your task may look different. We will look at two typical tasks in the following chapters: working with interactions in section 5, and with organisms in section 6.

5. Working with Interactions

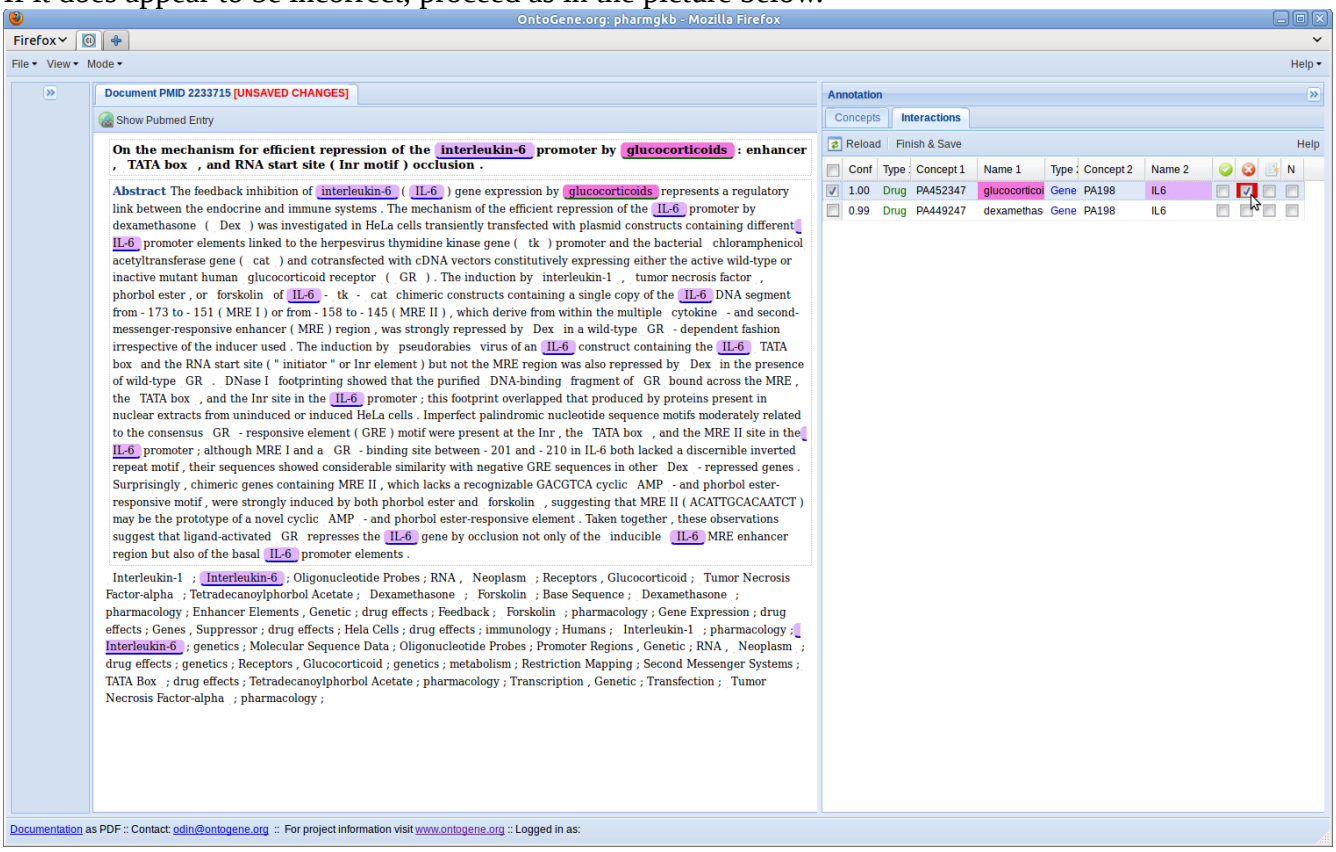
We are now going to look at the **interactions** that were suggested by the system. Select one of the interactions: the terms in the document which participate in this interaction will be highlighted (and all other highlightings will disappear).
In the following screenshot, the relation between interleukin-6 and glucocortoids has been selected.



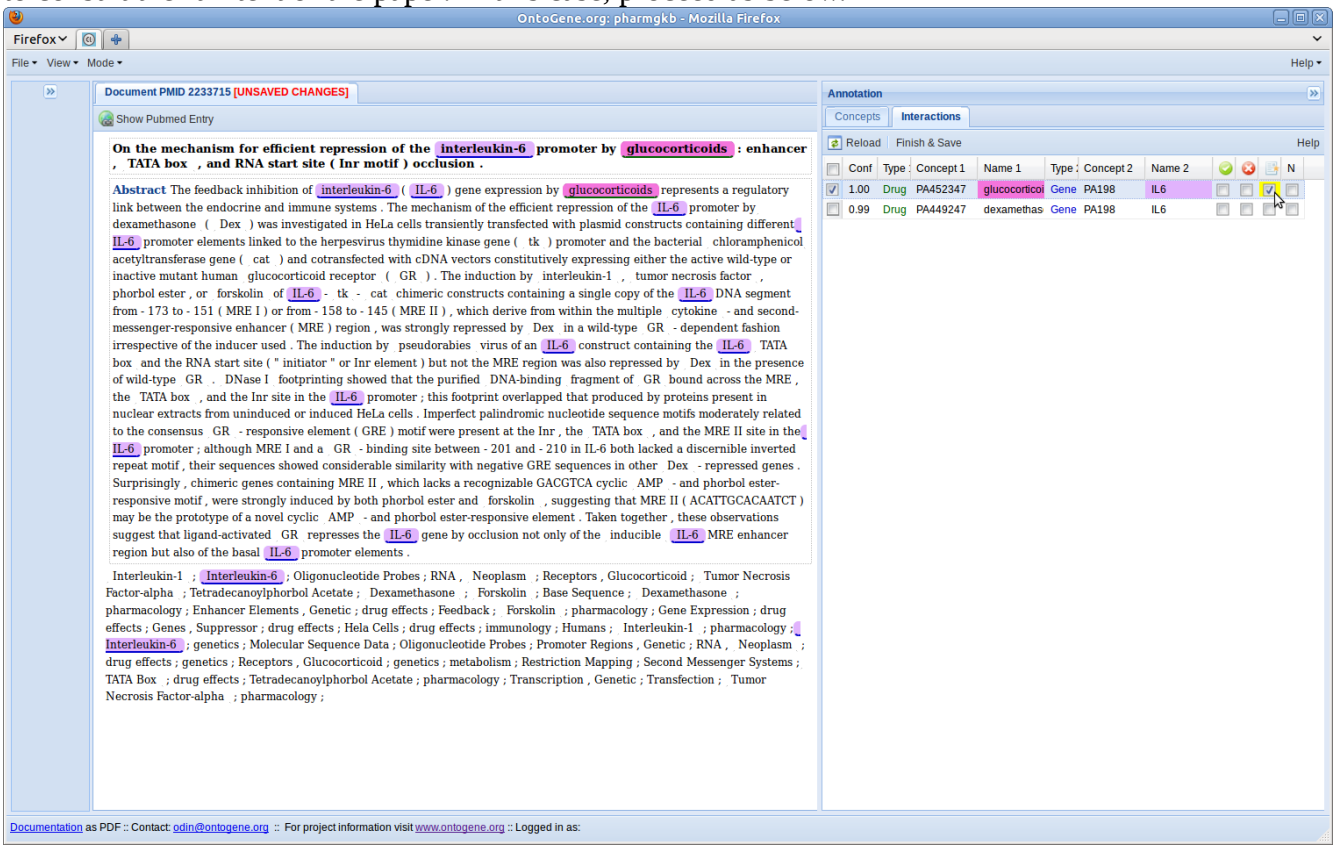
Confirm the interaction if you believe that it is correct.



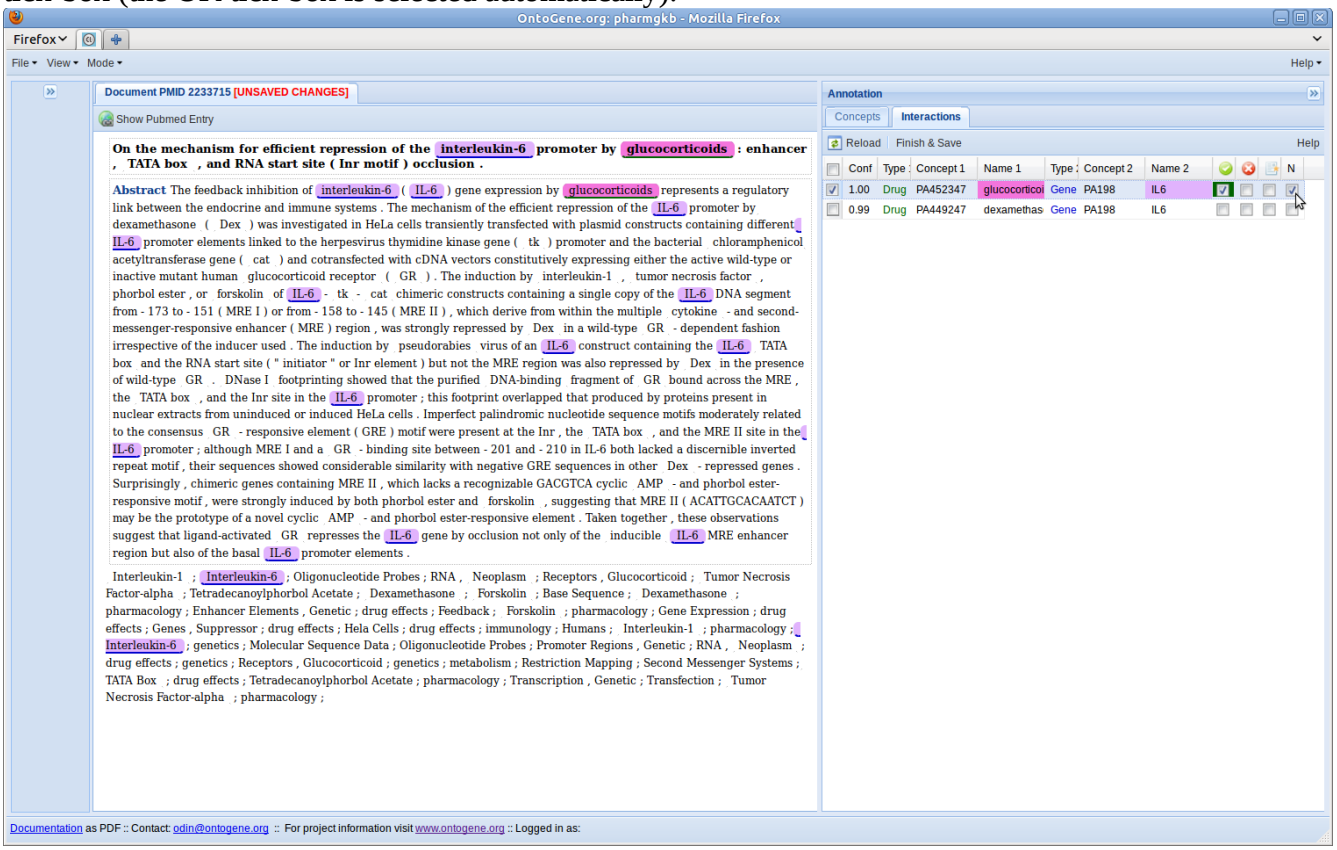
If it does appear to be incorrect, proceed as in the picture below.



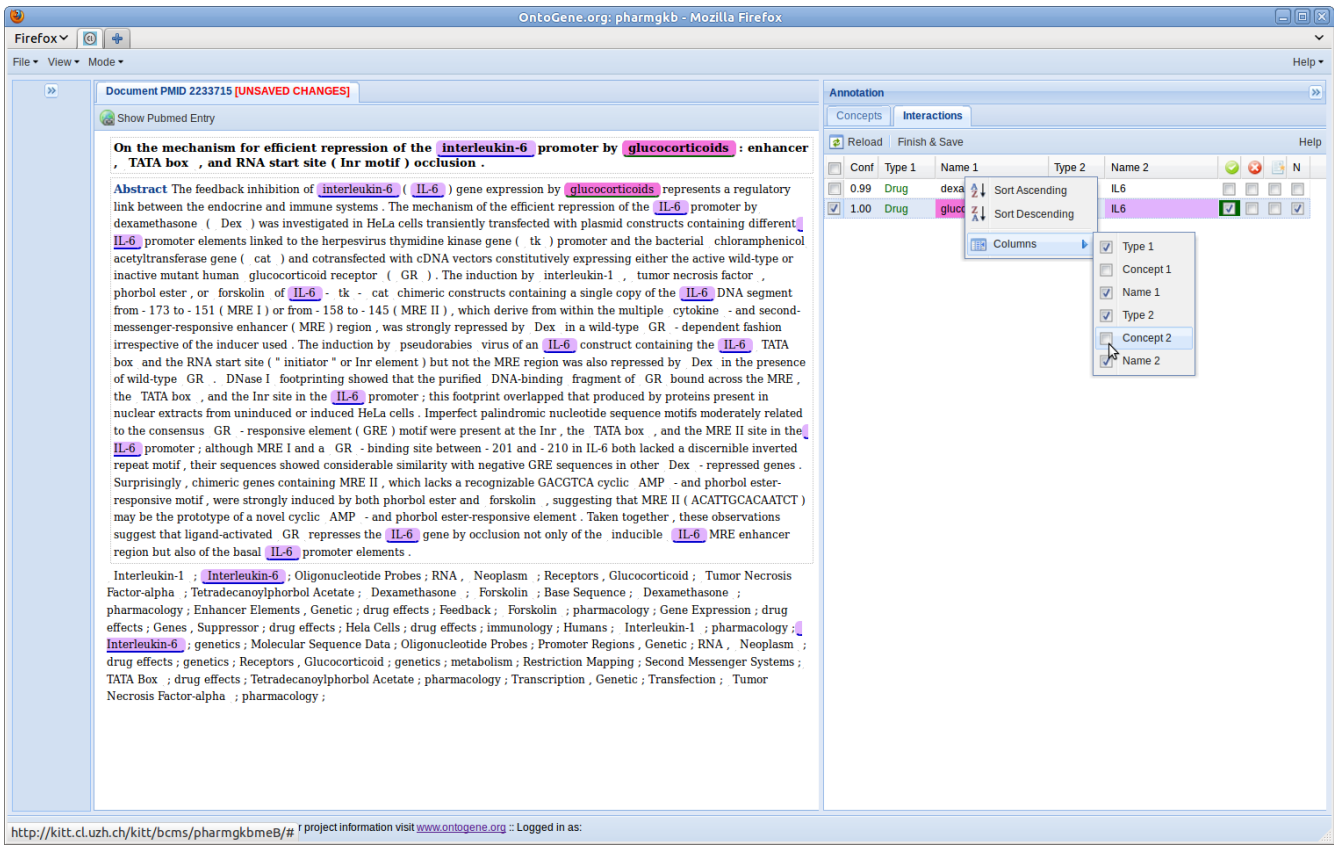
If you cannot decide, because the abstract does not provide sufficient information, and you would need to consult the full text of the paper. In this case, proceed as below.



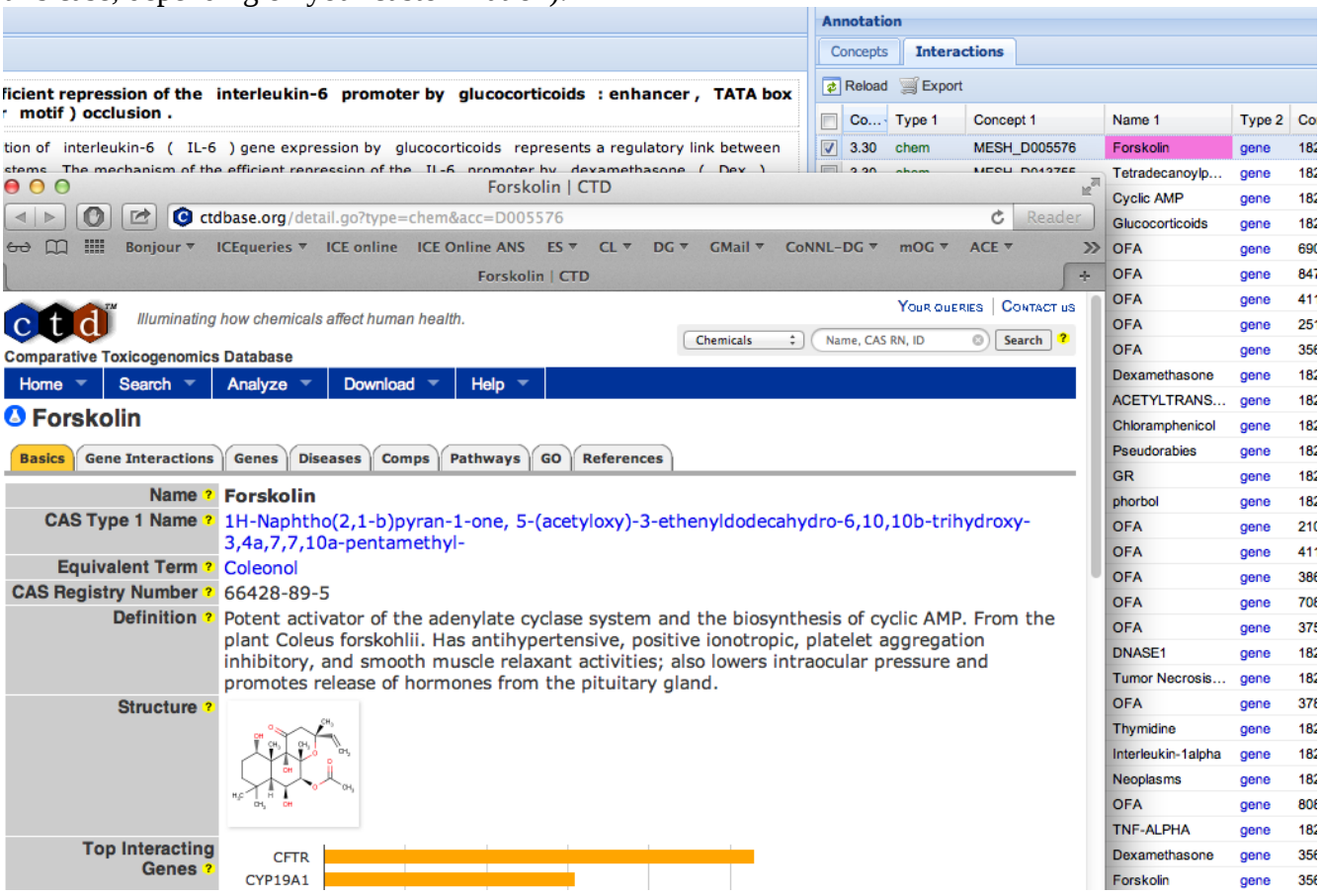
If the document actually expresses that there is NO interaction between the two entities, select the 'N' tick-box (the OK tick-box is selected automatically).



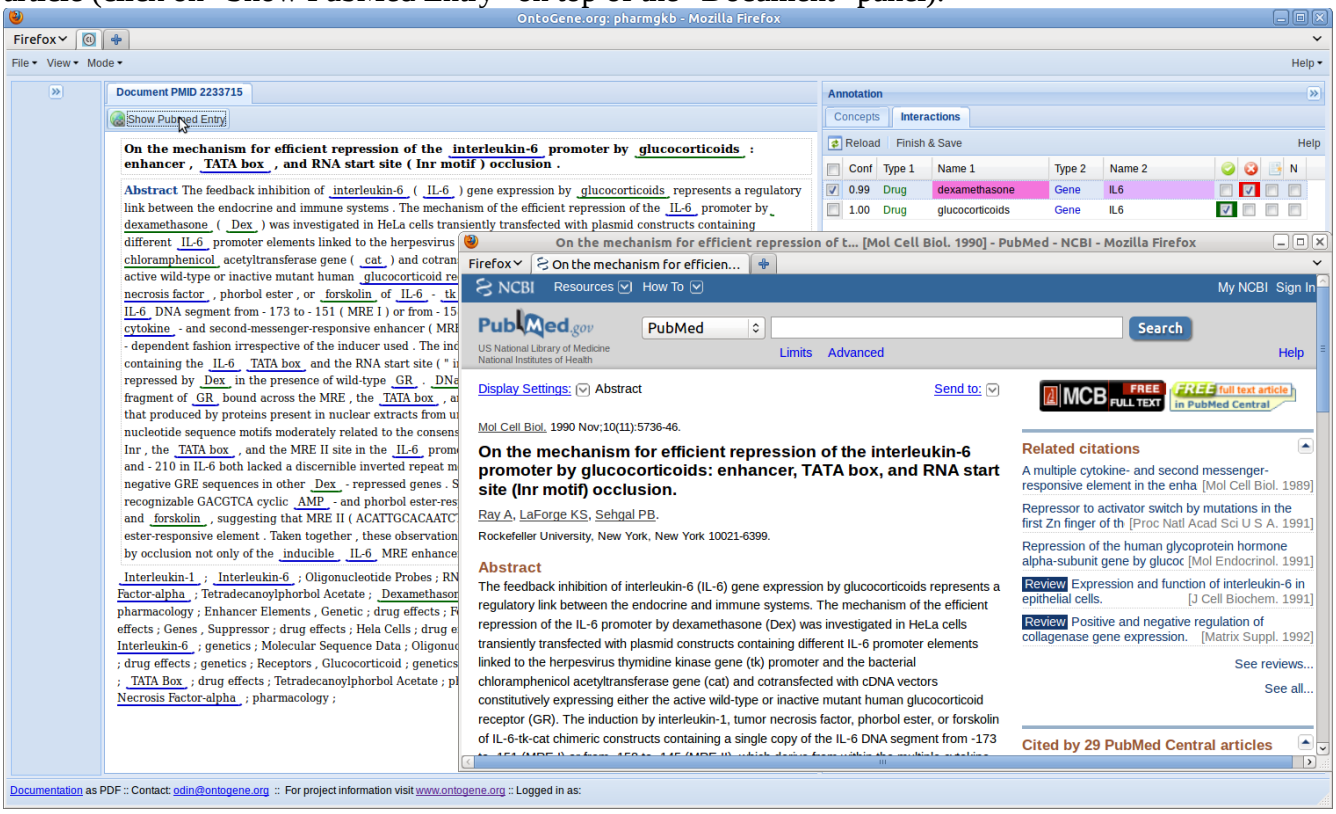
You can optionally resize the columns of the interaction table, and remove some of them. If you hover over the column titles, a down-arrow between the columns will appear: use it in order to open a menu. For example, the columns “Concept1” and “Concept2” can be removed. The same information can be obtained by moving the mouse over the column “Name”.



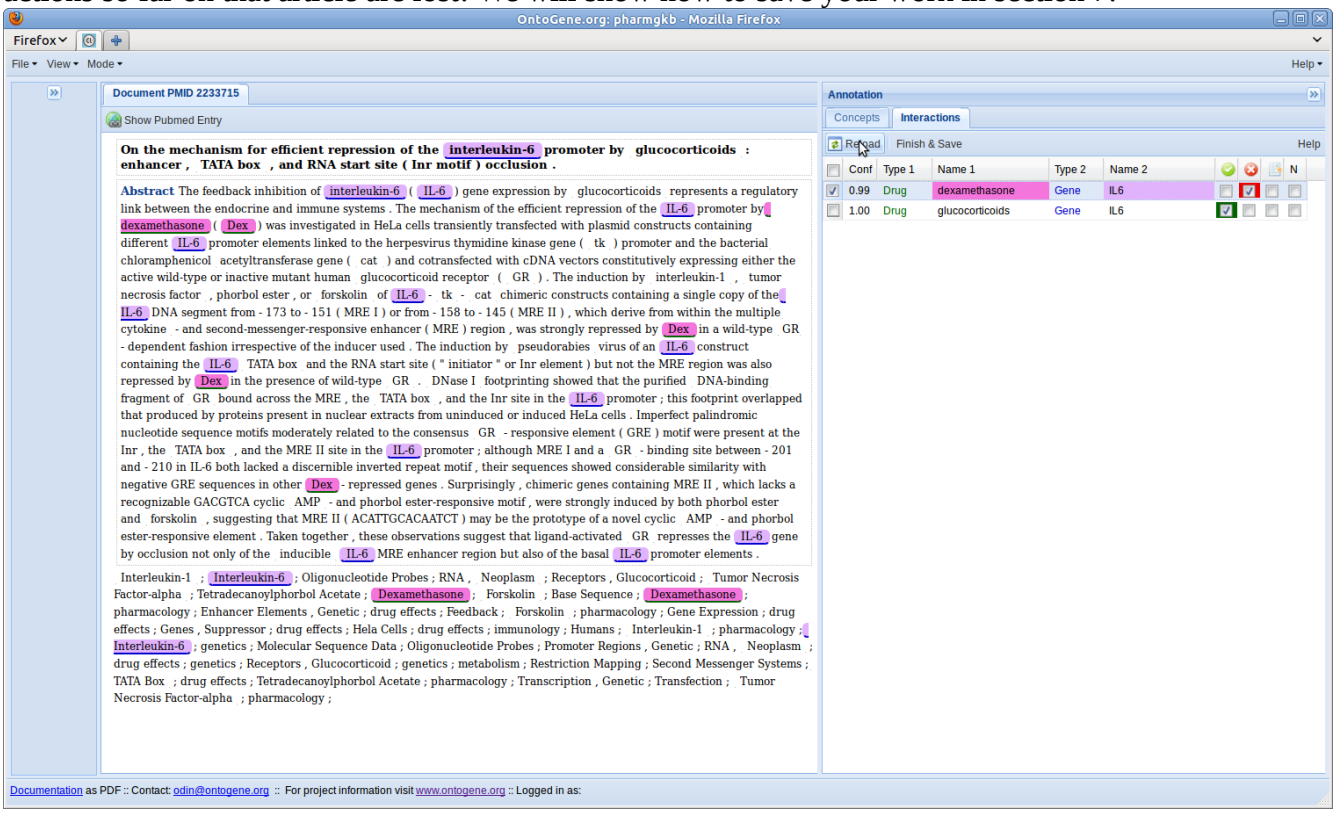
A double click on “Type”, “Name” or “Concept” in the Concepts or Interaction tab opens a separate browser window where you can inspect the corresponding concept from the source database (CTD in this case, depending on your customization).



It is also possible to visualize in a separate browser window the original PubMed entry for the current article (click on “Show PubMed Entry” on top of the “Document” panel).



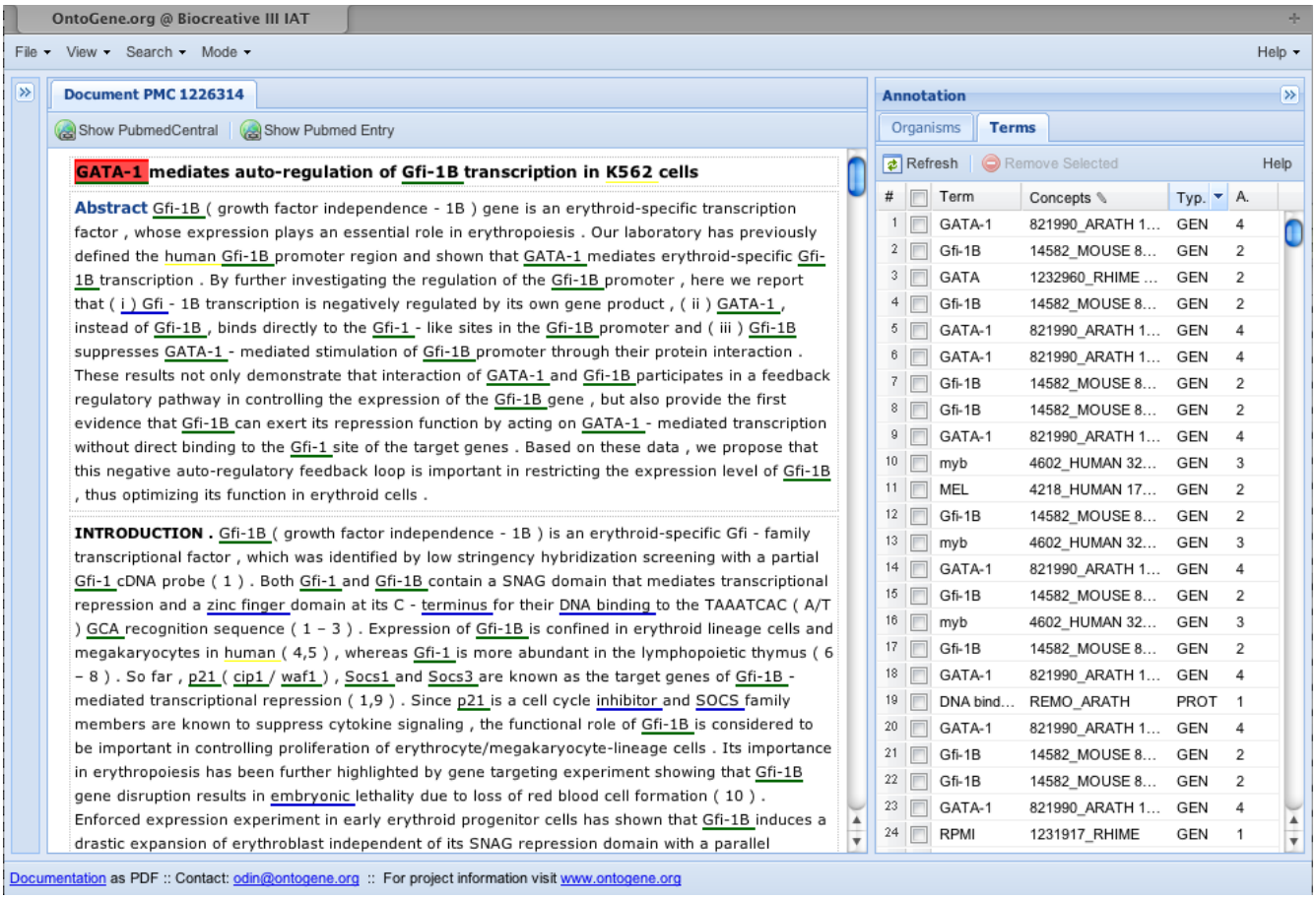
If you are unhappy about what you have done so far on an article, you can reload it. Beware: all your actions so far on that article are lost! We will show how to save your work in section 7.



6. Constraining Organisms

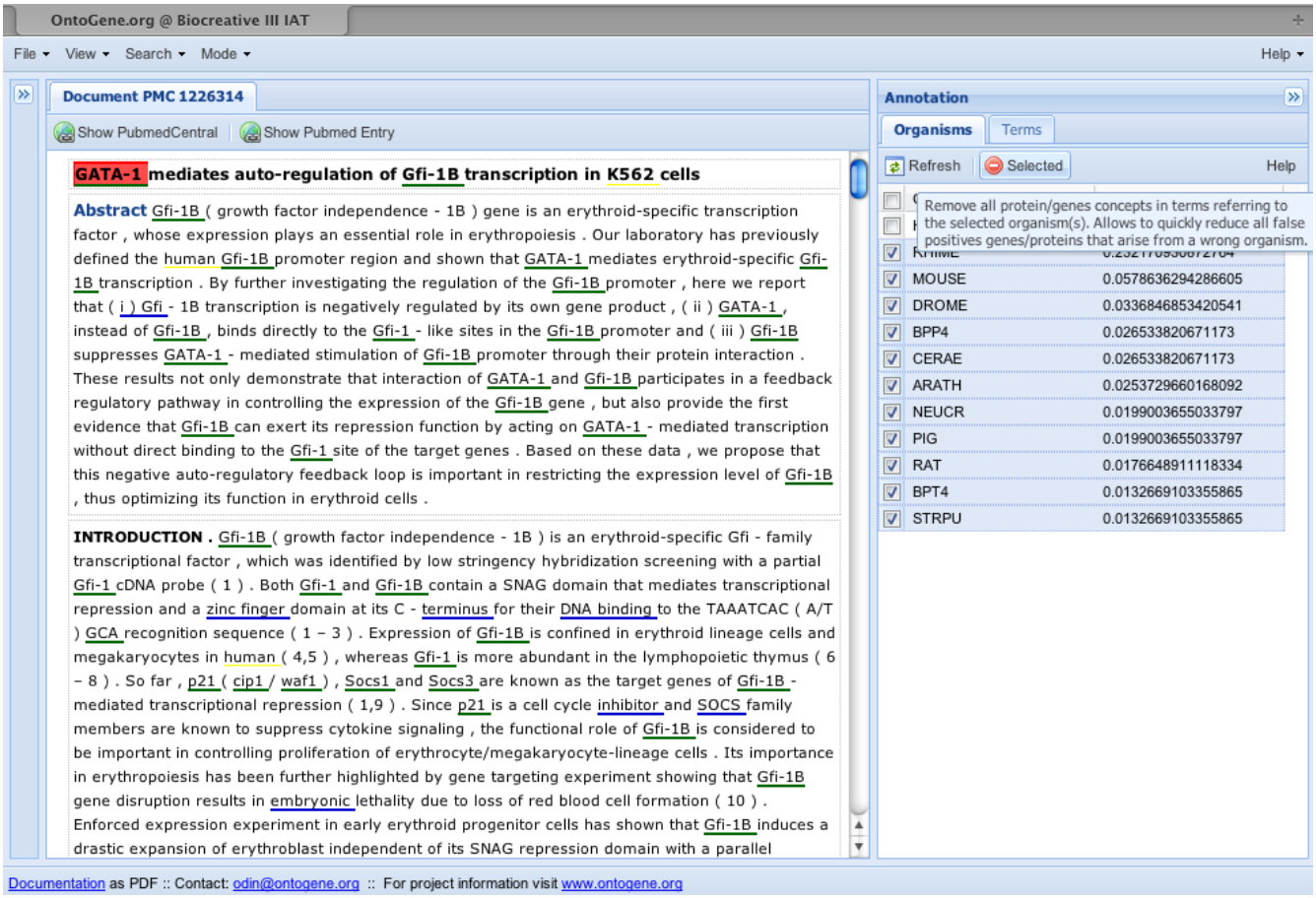
In the following example, we show a version of ODIN that works with information on organisms. Depending on your customization and field of application, this may not be available.

We open the sample PubMed file 1226314, and select organism and term tables from the 'view' menu, if your version of ODIN offers them. Your screen may now look as follows.



The article deals with human genes and proteins. If we click the organism tab of the annotation panel we see that indeed the system assign the highest probability (51.3%) to human.

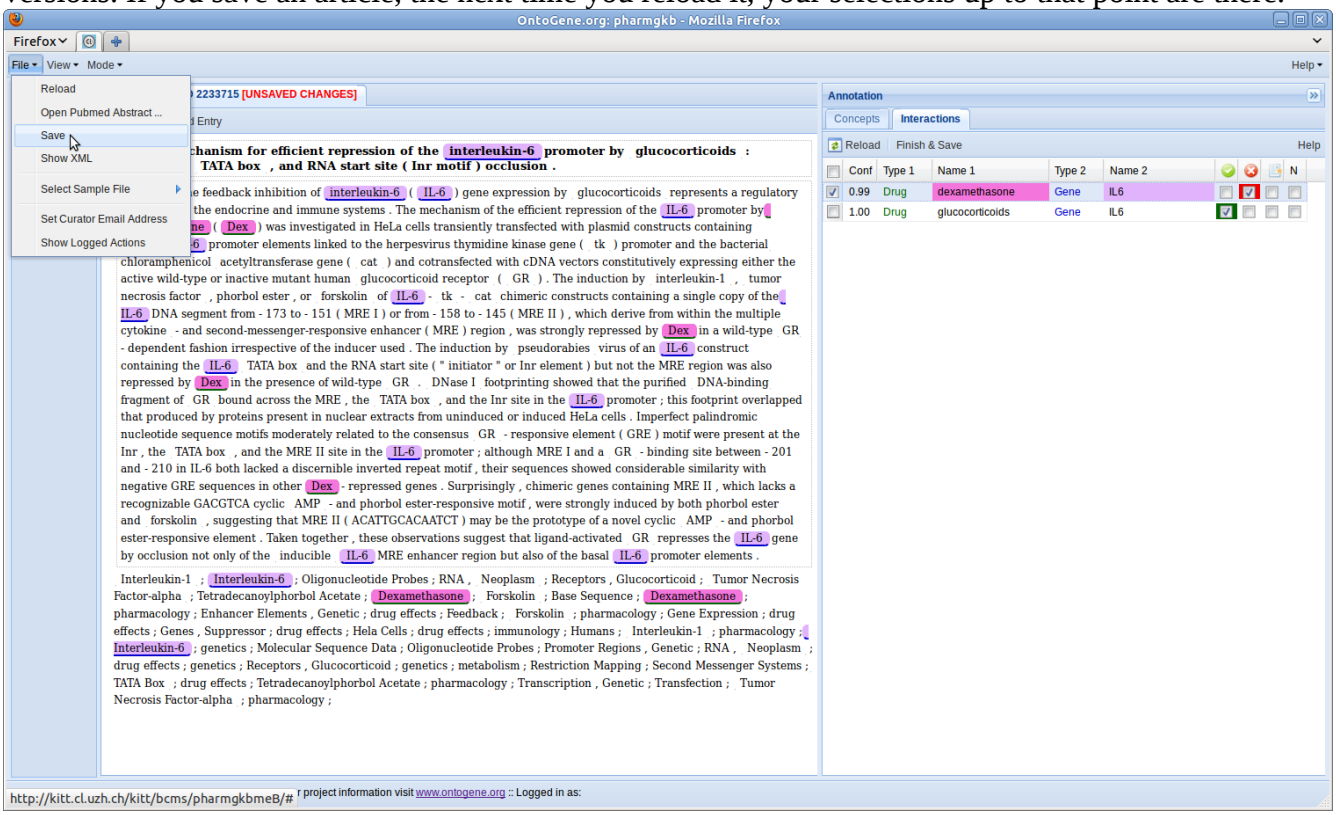
We can discard all non-human concepts (e.g. interpretations terms as non-human proteins) as follows: tick all organisms except human, then click on the '– selected' symbol, as shown below.



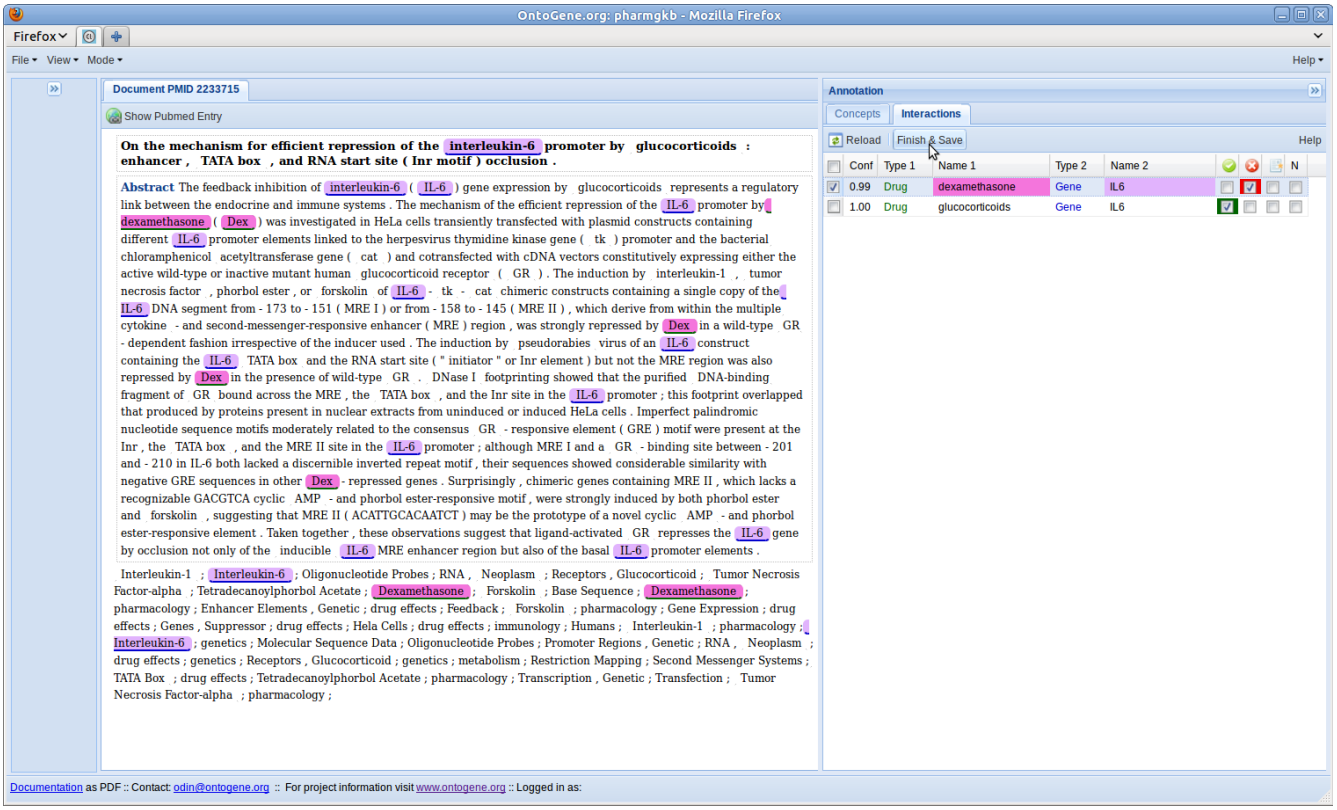
All organisms except for human disappear. Also in the text, fewer terms are highlighted. If we click the terms tab no change is immediately apparent, we first need to press 'refresh' button to see only human terms. If we click on a term in the text, the term inspector only gives human concept values, which considerably reduces ambiguity.

7. Saving your work

In the 'file' menu, you can save your annotation. Note that the save option is not available in demo versions. If you save an article, the next time you reload it, your selections up to that point are there.



When you are done with an article, click on “Finish & Save”.



For any problem, comment or suggestion please contact us at

odin@ontogene.org

Best regards,
The OntoGene Team
http://www.ontogene.org/