



The NCBO Annotator: OntologyBased Annotation as a Web Service

Patricia L. Whetzel, Clement Jonquet, Cherie H. Youn, Michael Dorf, Ray Fergerson, Mark A. Musen, Nigam H. Shah

► To cite this version:

Patricia L. Whetzel, Clement Jonquet, Cherie H. Youn, Michael Dorf, Ray Fergerson, et al.. The NCBO Annotator: OntologyBased Annotation as a Web Service. 2nd International Conference on Biomedical Ontology (ICBO 2011), Demo session, O. Bodenreider, M. E. Martone, A. Ruttenberg, Jul 2011, Buffalo, NY, United States. pp.302-303. hal-04271625

HAL Id: hal-04271625

<https://hal.science/hal-04271625>

Submitted on 15 Nov 2023

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

The NCBO Annotator: Ontology-Based Annotation as a Web Service

Patricia L. Whetzel, Clement Jonquet, Cherie Youn,
Michael Dorf, Ray Ferguson, Mark Musen, Nigam Shah

Stanford Center for Biomedical Informatics Research, Stanford University, CA, USA

The NCBO Annotator Web Service (http://www.bioontology.org/wiki/index.php/Annotator_Web_service) provides a mechanism to generate ontology-based annotations by tagging textual metadata submitted to the Web service (e.g. text of interest to the user) with ontology terms from BioPortal (<http://bioportal.bioontology.org/>). The Web service can be customized for various use cases through selection of parameters such as the choice of ontologies, stop words, and UMLS Semantic Types (Figure 1). The annotation process generates direct annotations and can also generate expanded annotations based on the *is-a* hierarchy of the ontology and/or mappings

between ontologies (Figures 2, 3). The Annotator Web service is a RESTful Web service and a number of sample clients have been developed (http://www.bioontology.org/wiki/index.php/Annotator_Client_Examples), including an Excel Addin. The ease of access to this annotation functionality makes the task of creating ontology-based annotations accessible for any biomedical researcher. Use cases of the NCBO Annotator include triaging literature to prioritize curation of publications and annotating free text data descriptions from life science databases and clinical records to enhance information retrieval.

Figure 1. The NCBO Annotator Web interface on BioPortal.

Users can select which ontologies to use for annotation (a) and results can be filtered to terms within UMLS Semantic Types (b).

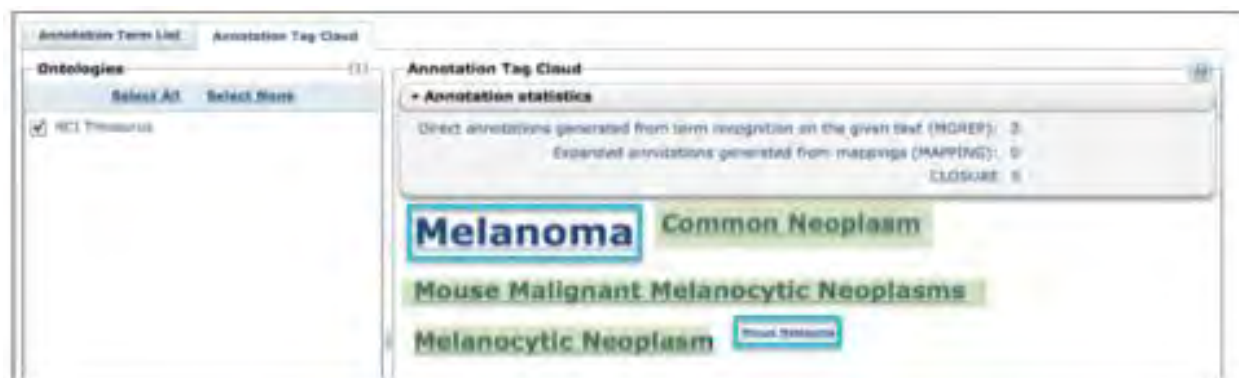


Figure 2. Results from the NCBO Annotator including expanded annotations based on the *is-a* hierarchy of the ontology. The direct annotations are highlighted in blue and the expanded annotations are highlighted in green.

