The Gene Ontology Newsletter

Issue No. 6

GO Transporter Terms Improved



The GO terms representing transporter activity in the Molecular Function ontology are being overhauled to better represent current scientific knowledge. A new highlevel term called 'transmembrane transporter activity' was introduced. In addition, child terms have been organized under GO terms that describe the activity of the transporters, such as channel activity, active transporter activity, and symporter, antiporter and uniporter activity. Further work is still being carried out on the more specific terms in the graph. Any comments on the ongoing work will be gratefully received, and full documentation on the new structure is available at

http://wiki.geneontology.org/index.php/Docs

hydrogen ion

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We would like to thank the transporter activity working group for their help in this area: Val Wood, Michelle Gwinn Giglio, Ian Paulsen, and Jennifer Deegan.

Gene of the Quarter: CLN3

Mutations in *CLN3* cause a fatal neurodegenerative disorder in children known as juvenile neuronal ceroid lipofuscinosis (JNCL) or Batten disease. JNCL is characterized by an accumulation of lipopigments and an altered pH in lysosomes. The gene is conserved across eukaryotes including fungi (but not plants) suggesting that it performs a basic biological role (for a review see: Phillips SA. et al. (2006) BBA. 1762(10): 906).

CLN3 and its orthologs have recently been annotated as part of the GO Consortium's Reference Genome Annotation Project. 141 GO annotations in six organisms (*H. sapiens, M. musculus, R. norvegicus, C. elegans, S. pombe*, and *S. cerevisiae*) have been made



to basic biological processes such as regulation of cellular pH and arginine transport, and diverse cellular components such as the Golgi membrane, the endoplasmic reticulum, and the lysosome. Both the process and component annotations are notably conserved across these organisms and consistent with the lysosomal phenotypes associated with JNCL. All *CLN3* annotations and the full version of the graphic shown above can be viewed at

http://www.geneontology.org/images/RefGenomeGraphs/607042.html or downloaded with other annotations from the GO website

(http://www.geneontology.org/GO.current.annotations.shtml).

About "Gene of the Quarter": Gene of the quarter highlights a gene that has been recently annotated by MODs participating in the reference genome initiative, which aims to comprehensively annotate human disease genes in a set of model organisms.

Please contact <u>gohelp@geneontology.org</u> with comments, additional annotations, or suggestions for disease-related genes that should be annotated.

Immunology Wiki

In order to promote our work annotating genes of immunological interest using the Gene Ontology, the Gene Ontology Consortium has set up a wiki to allow the scientific community to review GO annotation for their genes of interest and provide us with additional information to guide our annotation efforts for these genes.

Comments on current annotations and suggestions for new ones can be added to the genes listed through editing of the wiki pages. Information regarding genes in any species is welcome. Also suggestions for new GO terms related to immunology may be proposed. We will review information provided through the wiki on a timely basis, and notify users of how their contributions have resulted in GO annotations. http://wiki.geneontology.org/index.php/Immunology

A new email list has been set up for discussion of immunology in the context of the Gene Ontology. All contributions are appreciated. immunology@geneontology.org

New AmiGO SQL web interface

The GO database can be searched on the web using AmiGO or via SQL. The GO Online SQL Environment is now available to search the GO database using a web form (GOOSE: http://www.berkeleybop.org/goose).

- Features include:
- * A list of commonly asked queries
- * Choice of multiple database mirrors
- * Results viewable via web or tab-delimited file.

More information can be found here: http://www.geneontology.org/GO.database.shtml#querying

Upcoming Meetings

29 Aug – 1 Sept 2007: Interactome Networks Cold Spring Harbor, New York http://meetings.cshl.edu/meetings/interuk07.shtml

13-14 Sept 2007: Irish Society of Immunology Dublin, Ireland

http://www.irishimmunology.ie/

28 Oct – 1 Nov 2007: 21st International Mammalian Genome Conference Kyoto, Japan http://www.imgc2007.com/

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