

## RSC Publishing is GO!

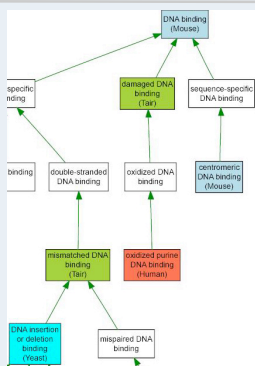
Beginning in February 2007, all Royal Society of Chemistry (RSC) Publishing electronic journal articles will be enhanced to highlight compounds and scientific concepts. These highlighted words are hyperlinks to allow readers to download structures of chemical compounds, link to topic-specific online databases, and find related articles. Terms from the Gene Ontology and the Sequence Ontology, as well as several other classification systems, will be used to highlight the scientific concepts in the articles. Compounds and ontology terms will be published as RSS feeds, enabling automated discovery of relevant research. More information is available from the Project Prospect website:

<http://www.rsc.org/Publishing/Journals/ProjectProspect/index.asp>

## Gene of the Quarter: *MSH2*

*MSH2* is a member of a highly conserved family of proteins involved in DNA mismatch repair that includes *E. coli* MutS and *S. cerevisiae* Msh2p. Mutations in human *MSH2* result in hereditary nonpolyposis colorectal cancer (HNPCC) and several sporadic cancers. Linking the human *MSH2* gene to HNPCC was facilitated by prior characterization of *E. coli* MutS and *S. cerevisiae* *MSH2* (Fishel R, et al. (1993) Cell 75:1027).

In order to summarize the knowledge in the published literature for *MSH2*, 125 GO annotations based on experimental evidence, were made for human *MSH2* and its predicted orthologs. The annotations are consistent with the known role of *MSH2* in DNA repair but the variety of terms used in the annotations illustrates the level of experimental knowledge in each species and may point to subtle functional differences. *MSH2* annotations (including a full version of the graphic shown above) can be viewed at <http://www.geneontology.org/images/RefGenomeGraphs/609309.html> or downloaded with other annotations for an organism from the GO website (<http://www.geneontology.org/GO.current.annotations.shtml>).



About "Gene of the Quarter": In 2006, the GO consortium initiated the reference genome project to provide complete GO annotations for orthologs of human disease genes in a set of 12 model organisms. Please contact [go-help@geneontology.org](mailto:go-help@geneontology.org) with comments, additional annotations, or suggestions for disease-related genes to annotate.

## Upcoming Meetings

PAMGO workshop  
August 8-10, 2007  
Virginia Bioinformatics Institute  
<http://pamgo.vbi.vt.edu/activities.php>  
2<sup>nd</sup> International Biocurator Meeting  
October 25-28, 2007  
Dolce Hayes Mansion, San Jose, CA  
<http://biocurator.org/Mtg2007>

## New Evidence Code: Inferred from Genomic Context (IGC)

A new evidence code, "Inferred from Genomic Context" (IGC), has been added to the GO set for use when an annotation attached to a gene product is derived using information about other gene products in a genome. These additional genes can be neighbors, as in operons and syntenic regions, or spread throughout the genome. An example of an IGC-based annotation is metabolic pathway reconstruction, where the presence of an entire set of required genes is evidence that each gene in the set can be annotated to the biological process in question. See <http://www.geneontology.org/GO.evidence.shtml> for additional documentation on IGC.

## GO Now *is\_a* Complete

In January, Biological Process became the final ontology to be made "is\_a complete", meaning each term in the hierarchy has at least one is\_a relationship path to the top node (see Newsletter Issue 1). This change also resulted in various improvements to the ontology such as the introduction of new top-level terms to distinguish single cell, multi-cellular and multi-organism processes.

## New Genomes GO Annotated

TIGR has released GO annotations for three genomes from tick-borne bacteria: *Neorickettsia sennetsu*, *Ehrlichia chaffeensis* and *Anaplasma phagocytophilum*. These and other annotations may be downloaded from <http://www.geneontology.org/GO.current.annotations.shtml>.

## TIGR GO Annotation Courses

Prokaryotic Annotation Training and Analysis Courses in 2007: March 27-29, June 12-14, August 21-23, October 16-18

New Eukaryotic Annotation Training and Analysis Courses in 2007: March 6-8, June 26-28, September 18-20

<http://www.tigr.org/edutaining/training/>

There will not be a GOC annotation camp this year.

**View Expanded Newsletter Online:** <http://www.geneontology.org/newsletter/archive/200702.shtml>

**To Receive Future Newsletters:** Subscribe to the GO Friends mailing list ([gofriends@geneontology.org](mailto:gofriends@geneontology.org))

**Contact the Gene Ontology Consortium:** Please send comments or questions to [gohelp@geneontology.org](mailto:gohelp@geneontology.org)