



Renal Gene Ontology Annotation

Renal GO Annotation Initiative

Providing full GO annotation to genes associated with renal development and disease processes

Newsletter January 2010

Welcome to the 3rd quarterly Newsletter highlighting the progress of the Renal GOA Initiative.

Renal target list

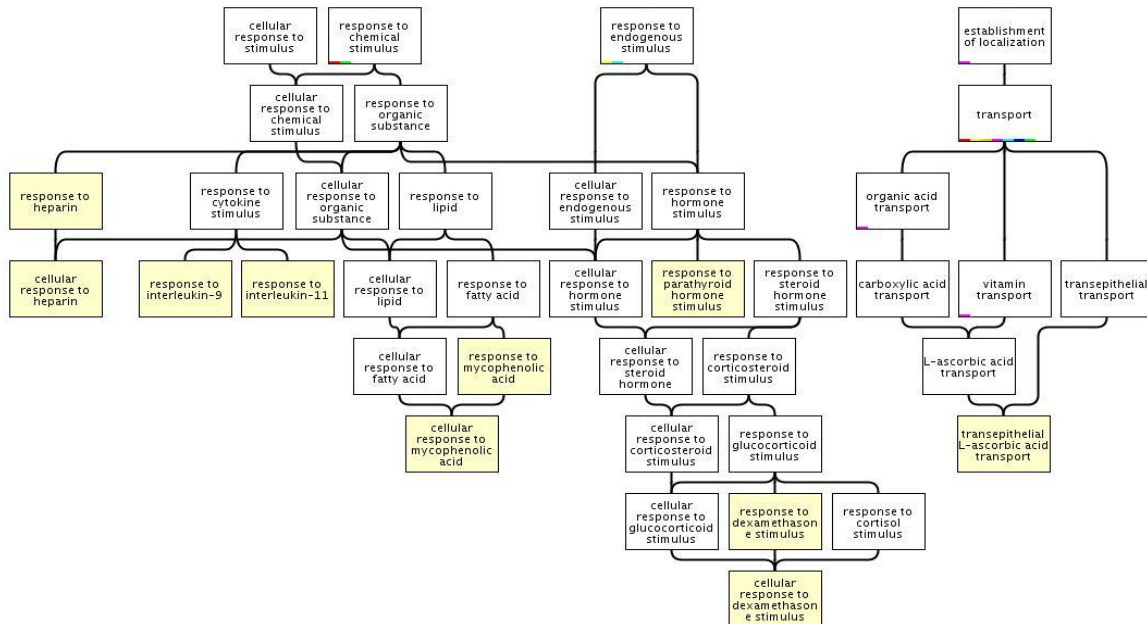
The list of renal curation targets now comprises nearly 1000 distinct renal-related proteins which includes murine orthologues and additional proteins involved in the developing genitourinary system. The current GO annotations for this dataset can easily be viewed using the GOA group's QuickGO browser (<http://www.ebi.ac.uk/QuickGO/GAnnotation?protein=KRUK>).

Protein Annotation and Gene Ontology Development

To date, since 1st April 2009, this initiative has associated over 4254 GO terms to 671 distinct UniProtKB proteins from the prioritized renal-related list. Of these, 133 prioritized proteins have been comprehensively annotated using GO terms.

Annotation is ongoing for the list of over 160 gene products, provided by the GUDMAP Consortium Edinburgh team, which are found to be expressed in the developing mouse genitourinary system, but currently have no associated GO terms.

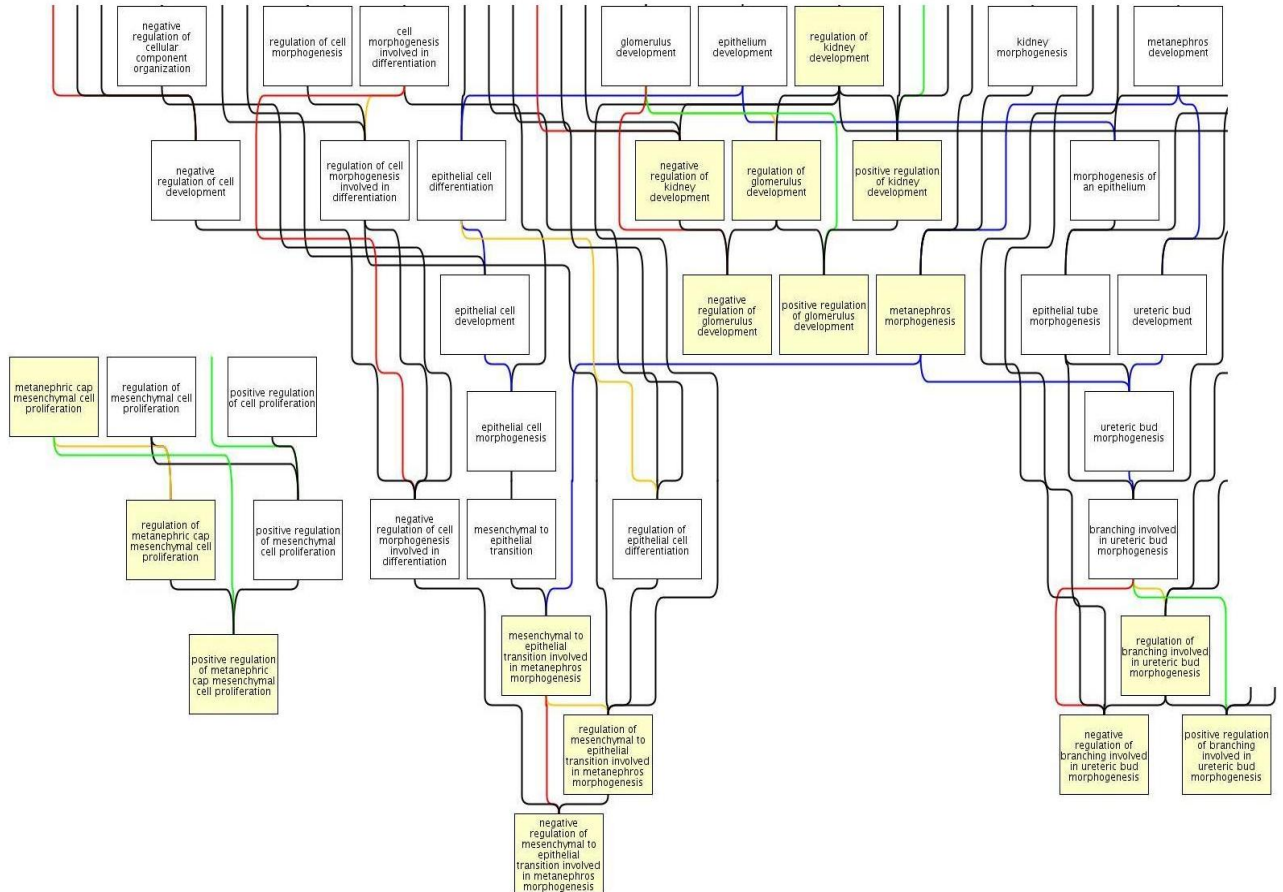
Since September 2009, 28 new GO terms have been created. Of these, 12 new terms relate to describing renal function and their relationships within the existing GO are represented in the chart below (new terms are in the yellow boxes):





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and 16 new terms relate to regulation of various aspects of kidney development. Again, the new terms (yellow boxes) and their relationships within the existing GO are represented in the chart below:



A further set of new terms relating to kidney development as a direct result of the Kidney Development Ontology Content Meeting (described below) are currently being processed and will be added shortly.



Meetings

I organized a Kidney Development Ontology Content Meeting which was held on the 25th January 2010 at the EBI, Wellcome Trust Genome Campus. This workshop was attended by members of the GO editorial team, GOA curators and international renal development experts. It provided a great opportunity to meet some of the renal experts with a main research interest associated with kidney development, and to work together with them to create new terms that correctly represented the different processes during kidney development. Nearly 80 new terms were created on the day, that detailed the parts of nephron, collecting duct, stroma, renal capsule, and kidney vasculature development, morphogenesis and pattern specification, as well as ureteric bud branching and malpighian tubule development in Insecta. This number is likely to increase as now that there is a foundation set in place to describe the different stages of kidney development allowing further terms to be easily accommodated as and when required. The next newsletter will be able to detail the final set of terms generated as a result of this meeting, once they have been fully defined and released into the public version of the GO.

The meeting will be publicized in the February 2010 issue of EMBL&cetera Newsletter and the GO Consortiums' News website. The outcomes of this content meeting will be published as a brief report in a relevant journal in order that the renal research community is kept informed with the progress of this initiative.



Attendees of the Kidney Development Ontology Content Meeting (from l-r): Dr Duncan Davidson (GUDMAP Consortium, Edinburgh); Professor Randall Thomas (Renal Physiome, CNRS, France); Dr Midori Harris (GO Editor, EBI); Dr Jane Lomax (GO Editor, EBI); Dr Rachael Huntley (GO Annotator, EBI); Dr Bernard de Bono (Coordinator of the Virtual Physiological Human Initiative, EBI), Dr Yasmin Alam-Faruque (Renal GOA Annotator, EBI); Dr Emily Dimmer (GOA Coordinator, EBI); Dr David Hill (GO Editor, Jax, USA); Dr Susan Tweedie (FlyBase, Cambridge University/EBI), Dr Jennifer Deegan (GO Editor, EBI); Dr Rebecca Foulger (UniProtKB, EBI); Professor Adrian Woolf (ICH-UCL, London). Via Skype (not visible in photo): Dr Doug Howe (ZFIN, USA).



Publications

In press: "The Renal Gene Ontology Annotation Initiative" Yasmin Alam Faruque, Emily Dimmer, Rachael Huntley, Claire O'Donovan, Peter Scambler, Rolf Apweiler – Organogenesis, Volume 6, Issue 2; April/May/June 2010.

Call for contributions from the renal biomedical research community

If you are interested in providing suggestions/ advice/ discussions on renal gene/ protein-related issues in this initiative then please subscribe to the Renal Interest mailing list at <http://www.geneontology.org/GO.list.renal.shtml?all>. If you have a specific renal related gene/ protein of interest that is not on the current curation target list, or would like a particular one to be prioritized for GO annotation then please do let me know. Similarly, let me know if you are aware of any large dataset or are interested in a particular set of proteins that are involved in a particular kidney function/ development/ disease pathway requiring annotation. If you know of anyone in the biomedical scientific research community working on any aspect involving the genitourinary tract who you feel would be interested in this effort, please could you forward this newsletter onto them - your assistance with this would be greatly appreciated.

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