Reviewer's report

Title: Systematic analysis, comparison, and integration of disease based human genetic association data and mouse genetic phenotypic information.

Version: 3  Date: 6 November 2009

Reviewer: Bing Zhang

Reviewer's report:

The manuscript has been improved in the revision. However, there are still a few issues.

First, I am still not convinced that the manuscript has provided enough evidence to support the human-mouse comparison highlighted in the abstract, i.e. “Human and mouse disease and phenotype based gene sets are identified and compared between human disease groups and between species, using systems approaches”, and “…on the genetics of common human disease as compared to itself and in the context of mouse genetic models of disease”. I feel these are somewhat misleading as the systematic human mouse comparison is performed in another manuscript as mentioned by the authors. It is completely appropriate to discuss potential applications in the discussion section, but potential applications should not go to major conclusions in the current manuscript.

Second, the manuscript still requires careful editing, some of which is specified below:

1. In Abstract, “phenoypically” should be “phenotypically”;
2. Page 14, “perlscript” should be “perl script”.
3. For the description of the Fitch and Margoliash method, it is better to replace “species” with “gene sets” to fit the context better.
4. The headings are very confusing, e.g. “Summaries of genes and phenotypes in human and mouse” is bold while “Summaries of phenotypes and genes in human and mouse” is italic. “Group analysis of GAD disease gene sets between major classes of disease/phenotypes” and “Dendrogram analysis of human disease gene sets” are two levels and should be formatted differently.

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests