Reviewer's report

Title: Cancer Based Pharmacogenomics Network Supported with Scientific Evidence: from the View of Drug Repurposing

Version: 1 Date: 24 September 2014

Reviewer: Richard Boyce

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Major Compulsory Revisions

1. Table 2, appears to be cut off.

Major Compulsory Revisions

1. It is unclear to me why the case studies were chosen to demonstrate the application of CPN to drug repurposing discovery. That is to say: were the indirect inferences identified by the CPN, and then confirmed in a literature search? Or, were the authors already aware of possible new indications that were supported by an indirect inference made by the CPN, and thus chose to search those two to demonstrate the feasibility? Has CPN identified any others possible new indications besides these two? How many? How many of those possible new indications are supported by literature? This information will help better assess the potential usefulness of the approach. What if the supposed novel drug indications have already been ruled out by other evidence? Would the network reveal that?

2. Please discuss how this will be maintained in the future. Are there plans for making it automatic, as new evidence is deposited in the various data resources?

3. I think that the paper would be improved if it was emphasized that this work was intended to demonstrate the feasibility of constructing such a network and use it to identify possible drug repurposing indications, as the future plans for improvement are rather substantial. Once it is more complete, a more complete evaluation of the network will be necessary. Two case studies are insufficient unless the work is just a feasibility study.

4. Please justify why Bioportal was used rather than other tools such as Metamap? Also, were the manual mappings done in duplicate? What were the qualifications of the persons ("we") who did the mappings?

5. How were the SemRep predicates chosen and what tradeoffs (if any) were involved in excluding other predicates? Could negative modality predicates be helpful?

Minor Essential Revisions

1. Table 2, appears to be cut off.
2. Figures 2 and 3 might be more interesting if the relationships between each node were included.

3. There are a couple of paragraphs that are very long and complicated. For example, the first paragraph in the background. Please fix these so that the paper is more readable

4. In Case Study 1, the sentence "Paclitaxil potentiated..." - the phrase "of specific antisense" seems incomplete. Is something missing from the sentence?

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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