Reviewer’s report

Title: ‘Health space’ visualization and identification of personalized molecular phenotype and treatment responses according to the underlying relevant biological processes

Version: 2 Date: 28 August 2011

Reviewer: Jianguo Xia

Reviewer’s report:

Major Compulsory Revisions
- None

Minor Essential Revisions

The authors did not recognize the potential issue associated with introducing an artificial separation between the two groups that are intended to be compared. Based on the authors’ approach, the overall group effects after treatment (i.e. average distance between the centers of the two groups) will always be the same, though individual subjects can vary – i.e. significant overlap if they are more spread out, or good separation if they are tightly clustered. This effect can be seen clearly from Figures 1-3. Discussing about average treatment effect will be invalid due to this approach.

Neither the reviewer nor the authors intend to compare PLS-DA scores BETWEEN different PLS models. As the authors put, the goal is “to allow comparison of the scores per process”, and since “PLS-DA model was built for each of the three processes”, therefore the comparison of the scores per process is just to compare the scores WITHIN each PLS-DA model.

It is not necessary to introduce arbitrary separation which effectively eliminates the average group treatment effect. In the reviewer’s opinion, if a scale is to be performed, it should be performed for all scores (including both control and treated) simultaneously for each PLS-DA model. After the treatment, the centers of each group can be translocated to 0/1 for other purposes.

Discretionary Revisions
- None

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

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