Reviewer’s report

Title: Unsupervised gene expression analyses identify IPF-severity correlated signatures, associated genes and biomarkers

Version: 0 Date: 26 Aug 2017

Reviewer: David Habiel

Reviewer’s report:

In this report, Wang, Y and colleagues utilized unsupervised clustering analysis on publicly available transcriptomic datasets of non-diseased and IPF lung tissue to identify different subgroups of IPF based on clinical markers of severity. Indeed, the authors presented exemplary results towards this endeavor and successfully validated their resulting signatures to differentiate normal from IPF lung tissues and severe from mild IPF. This is indeed very important results and will be of great interest to the scientific and clinical community. Below are a few minor suggestions for the authors to further enhance this report:

Minor suggestions:

* While the identified gene signatures did an exemplary job at identifying IPF from normal and severe from mild IPF, it will be very helpful both diagnostically and experimentally if these gene signatures can differentiate IPF from other ILDs. If possible, it will be great if such results can be added to the manuscript or at least discussed in the discussion section.

* Page 16, line 25: MMP7 is listed twice.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

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