Reviewer’s report

Title: PD-L1, FGFR1, PIK3CA, PTEN, and p16 expression in pulmonary emphysema and chronic obstructive pulmonary disease with resected lung squamous cell carcinoma

Version: 0 Date: 05 Dec 2018

Reviewer: Alyssa Gregory

Reviewer’s report:

Major:

1. Methods: Was antigen retrieval performed on the formalin-fixed tissues? If so describe this process in the methods section. Were any isotype or secondary-only control sections prepared to validate that the antibodies were specific?

2. Figures: It would be helpful to add a representative figure showing the IHC staining for PD-L1. This will help the reader understand how the tumor cell and immune cell expression values were obtained.

3. Results: Were immune cells scored for FGFR1, PIK3CA, PTEN, and p16 expression and just showed no expression, or were immune cells not analyzed for these markers? Explain why this portion of Table 3 is empty in the text.

4. Statistics: I am assuming that Welch’s t-test was used on Figure 1 and Chi-squared test were used on data tables, although this could be more clearly stated in the Methods or Figure legend to help the reader. Recommend statistics review particularly for Figure 1, to determine if this is the best test to use to measure Goddard score in relation to PD-L1 expression levels.

Minor:

1. It would be more descriptive to say that PD-L1 expression "inversely" correlated with emphysema severity. (pg 10, line 54) (page 4, line 3)

2. Change "each expression" to "expression levels" or "expression category" (pg 3, line 45) (pg3, line 51)

3. Change "...SCC are potential targets for therapy..." to "...potential targets for therapy for SSC include..." (page 5, line 13)

4. Change "COPD was based..." to "Diagnosis of COPD..." or "COPD score" (pg 7, line 16)

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.
No

**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:

Needs some language corrections before being published

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