Reviewer’s report

Title: Prospective Multicenter Randomized Patient Recruitment and Sample Collection to Enable Future Measurements of Sputum Biomarkers of Inflammation in an Observational Study of Cystic Fibrosis

Version: 0 Date: 13 Nov 2018

Reviewer: Ralf Schubert

Reviewer’s report:

Identifying relevant diagnostic and prognostic markers for inflammatory diseases such as Cystic fibrosis (CF) is an important step to examine pathogenic processes, disease progression and effects of therapeutic intervention.

Liou et al. describe the design of a prospective multicenter observational study to enroll a representative patient cohort of CF patients in order to search for believable, generalizable, reproducible and accurate biomarker in sputum. They enrolled 114 well characterized CF patients from the Mountain West CF Consortium (MWCFC) which are comparable with other patients in the US CF Foundation Patient Registry (CFFPR). This is a necessary approach and important basis for the evaluation of biomarkers, especially in the specific field of sputum, which is often limited by single center studies.

However, the title of the manuscript is misleading because the authors do not show and interpret biomarkers and the method to ship and analyze sputum samples seems to be not ready to use. In addition, the method displays fundamental flaws in its performance eg. samples should be processed within 1-2 hours after collection, and at least 400 cells should be counted for cell Differentiation.

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.

No
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 am able to assess the statistics

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

Acceptable

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal