Reviewer’s report

Title: Role of the microRNA-183 family in the diagnosis and prognosis of human lung cancer

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Reviewer: Carmen Marsit

Reviewer’s report:

This paper provides an examination of expression of microRNA-183 family members in primary lung cancer and analogous normal epithelia, sera from lung cancer patients and normal volunteers, as well as lung cancer and normal lung cell lines. The authors found that miR-183 family members were generally overexpressed in lung cancer tissue, sera, and cell lines compared with their non-diseased counterparts. Additionally, and perhaps most interestingly, of the three miRNA examined, only expression of miR-96 correlated between tissue and sera. The following review lists major compulsory revisions, minor essential revisions and discretionary revisions for this work.

Major Compulsory Revisions

1) The authors indicate that the miRNAs selected for examination were chosen based on “magnitude of fold changes and probability values”. This statement is vague and not supported by any data presented in the paper. The authors should provide more background on the results of the microarray and elaborate on the method of selecting the miRNAs to be studied. While the authors mention that they used SAM to determine differentially expressed miRNAs at a cut-off of P<0.05, there is no mention of correction for multiple comparisons or FDR adjustment, a requisite for microarray analysis. Additionally, the authors could consider providing a heatmap of the microarray results as supplementary data.

2) While the Mann-Whitney U-test is an appropriate non-parametric test to look for associations between miRNA expression and covariates of interest, the authors should follow these analyses up with linear or logistic regression models to assess these associations while controlling for confounders. Survival analyses should also control for confounders such as age and tumor stage, etc.

Minor Essential Revisions

3) The manuscript contains typographical errors, fragments, awkward phrasing and improper use of punctuation and should be thoroughly reviewed for English grammar.

Discretionary Revisions

4) The conclusion that miR-183 is involved in tumor metastasis due to its overexpression in SCLC compared to NSCLC is an overstatement, as these are distinct diseases and the former does not represent a progression of the latter.
Lacking additional experiments to support the validity of the statement, the authors should rephrase.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

**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.