Reviewer's report

Title: Altered miRNA expression in pulmonary sarcoidosis

Version: 2 Date: 25 September 2015

Reviewer: Isaac K Sundar

Reviewer's report:

Major Revision:

This study by Kiszalkiewicz J et al. describes on the altered microRNA expression in pulmonary sarcoidosis. The authors have used selective miRNA signatures to identify potential diagnostic markers using BALF cells and peripheral blood lymphocytes by qPCR approach. The study was conducted using samples from pulmonary sarcoidosis subjects and control subjects n=94 and n=50 respectively. Results revealed altered miRNA signature from both BALF cells and peripheral blood lymphocytes obtained from pulmonary sarcoidosis patients compared to control group. They were also able to correlate the expression of specific miRNA signatures with severity of disease. Overall, the observations and results are interesting. But the authors need to present all the miRNA expression data in the figures including the miRNA signatures which were not statistically significant in BALF cells and PB lymphocytes.

Major comments:

Include the graphs for total number of macrophages, lymphocytes, neutrophils and eosinophils including total cell counts for all the subjects analyzed in this study.

The results section should include all the graphs for both miRNA expression data from BALF and PB lymphocytes whether they are statistically significant or not in the Figures in an order as per the list of miRNA signatures tested in this study.

It would be important if the authors can conduct additional experiments to confirm if the mRNA expression correlates with protein expression of the significantly altered miRNAs from BALF cells and peripheral blood lymphocytes.

Provide additional data on the expression levels of specific miRNA expression in control and pulmonary sarcoidosis primary cells or lung tissues by immunoblotting and or immunohistochemistry/IF along with quantification data to support the observed findings.

Include the figure 4 with statistics and SD or SE along with symbols for significance between different samples tested.

Explain in detail the heterogeneity of altered miRNA expression observed in BALF cells vs. PB lymphocytes.
Why certain miRNAs co-relates well in both BALF cells and PB lymphocytes (miR-192, miR-221) but not the others (miR-15b, miR-let7f, etc.....).

Include these references and discuss some of the important findings from prior studies including other recent report in the context of the present study.

Some references to consider for discussion:


**Level of interest:** An article of importance in its field

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

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

**Declaration of competing interests:**

I declare that I have no competing interests.