Reviewer's report

Title: IL-13 expression by blood T cells and not eosinophils is increased in asthma compared with non-asthmatic eosinophilic bronchitis

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Reviewer: Osamu Kaminuma

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In this manuscript, Siddiqui et al. comparatively analyzed the expression of IL-13 in peripheral blood T cells and eosinophils in asthma, eosinophilic bronchitis and healthy control. Furthermore, they tried to identify serum factors involved in the up-regulation of IL-13 in asthma, especially in regard to the role of IL-17E. Even though the increase in IL-13 in asthma but not EB has already been reported, they confirmed it in CD3+ cell population. In contrast to the previous reports that eosinophils in asthmatic lung express elevated IL-13, this manuscript shows that IL-13 expression in peripheral eosinophils is unchanged. These findings are useful for understanding the pathophysiology of bronchial asthma, though there are several critical issues to be addressed.

Major Compulsory Revisions:

1) The existence of an activator of the IL-13 pathway in asthmatic serum is not indicated by the current data shown in Fig. 2. This experiment should be performed by comparing sera from asthmatics and healthy donors. In addition, for accurate assessment of the potential of asthmatic serum to augment IL-13 production, the data of unstimulated cells with and without serum should also been included.

Minor Essential Revisions:

2) Line 174-176. As the result that the expression of IL-13 was not different in eosinophils among three groups is one of the precious novel findings in this study, these data should be shown as figures like Fig. 1b and 1c.

3) Line 186-187. The experimental procedure is not clear. Was IL-17E added in the presence or absence of serum and/or PMA? Why did authors not show the data of anti-IL-17E antibody? A graphical display of these data as Fig. 2 is desirable.

4) In Table 1, the meaning of the number followed by the number with parenthesis in the row of Age, FEV1%, FEV1/FVC and Neutrophils and a term “N/A” should be clarified. The description in line 334 “***p<0.05 vs. control & EB” is not correct in the case of Disease Duration in which the data of control subjects is N/A. Also in this line, the symbol “^” is not appeared in the Table 1.

5) In Methods section, the procedure of the mesoscale system should be described.

6) Line 166. The meaning of “p=0.007, p<0.05” is not clear.
7) The meaning of vertical scale of Fig. 1c is not clear. Fold increase in % expression of IL-13?
8) In Fig. 3, labels of open and filled bars are missing.
9) Line 337. Is there any dot plot in Fig. 1a?
10) Line 93. Probably NIOX is a nitric oxide test system, though it is not clear what this term mean in the current form.
11) Line 32. The meaning of the abbreviation, IQR, should be clarified in its first time appearance.
12) Line 156. Dunns # Dunn’s
13) Line 114. CD3-RPE # anti-CD3-RPE antibody
14) Line 117 and 339. IL-13-FITC # anti-IL-13-FITC anbitody

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

**Quality of written English:** Acceptable

**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.