Reviewer’s report

Title: Modulation of the oscillatory mechanics of lung tissue and the oxidative stress response induced by arginase inhibition in a chronic allergic inflammation model

Version: 3 Date: 22 January 2013

Reviewer: Muhammad Towhid Salam

Reviewer’s report:

General comments:
This is an interesting paper showing that both arginase 2 and iNOS expressions are involved in chronic allergic inflammation in distal airway in guinea pigs. The paper is well-written and the authors have acknowledged some of the study limitations. There are few additional concerns that need to be addressed, as described below.

Major Compulsory Revisions:

1. The authors need to evaluate whether the data were normally distributed or not. It appears that some data are not normally distributed. As such, appropriate non-parametric tests or transformations are needed before comparisons are made for statistical significance.

2. For several test parameters (i.e., morphometric analysis, measurement of iNOS positive cells), multiple measurements were made. The authors need to provide information on variability of these measurements (i.e., coefficient of variation) to assess these effects were homogenous across such measurements.

3. It is not clear whether the investigator who conducted the measurements for NF-kB, PGF2-alpha, arginase expression/activity, etc. were blinded to the treatment protocol.

Minor Essential Revision:

1. Include a brief paragraph about how the animals were sacrificed in the methods section.

2. Clearly describe in figure legends and in the figure which pair-wise comparisons are statistically significant.

3. If data are not normally distributed, please use Spearman correlation. Also, a correlation coefficient of 0.5 or 0.6 is strong, since these could only explain 25% to 30% of the variability. Suggest that the authors describe these as modest correlations.

Level of interest: An article of outstanding merit and interest in its field
Quality of written English: Acceptable

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

Declaration of competing interests:
I declare that I have no competing interests