Reviewer’s report

Title: A functional polymorphism in the SPINK5 gene is associated with asthma in a Chinese Han Population

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Reviewer: Emiko Noguchi

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This paper describes an association study between SPINK5 gene polymorphisms and asthma in a Chinese population. They found that one promoter SNP was associated with asthma and the construct with -206A showed greater transcriptional activity than that of G allele. I have following comments.

Major Compulsory Revisions

It is stated that -206A/G polymorphism is significantly associated with asthma, but the correction for the multiple test was not performed. The method for the multiple test correction should be described and discussed further in the discussion section. After the correction of multiple testing, the results would be no more significant.

The authors showed that nonsynonymous SNPs were not associated with asthma. They should describe the power of the study to detect the differences and discuss the limitation of the study. It would be interesting to perform the meta-analysis to combine the results of several studies.

The authors performed the reporter assay to see the difference of the transcriptional activity. However, transcriptional activity in the 5’ flanking region of SPINK5 was not examined in details (i.e., transfection using constructs with various length of 5’-flanking region, transcription initiation analysis etc). How did the authors determine the region of promoter of SPINK5? If the authors refer the results of previous study, they should cite the appropriate references.

In EMSA, why did the author show only the results of -206A allele? The binding activity of -206G allele should also be shown in the Figure 2. In order to determine whether or not GATA3 binds to the -206A/G polymorphic site, supershift assay or the competition assay using GATA specific oligonucleotide can be performed.

Minor Essential Revisions

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

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.