Reviewer’s report

Title: Association of BAK1 single nucleotide polymorphism with a risk for dengue hemorrhagic fever

Version: 0 Date: 28 Mar 2016

Reviewer: Kalichamy Alagarasu

Reviewer's report:

This is an interesting and novel study which explores the association of host genetic factors, previously associated with low platelet count, with dengue disease severity. The study reports the association of G allele of rs5745568 in BAK1 gene with DHF.

My comments are as follows

1. Since the SNPs studied are previously associated with thrombocytopenia, are these SNPs associated with thrombocytopenia in dengue also???? The authors can compare cases with and without thrombocytopenia. Moreover, since the paper suggests the low-level constitutive production of platelets caused by the G allele of rs5745568 may increase the risk of bleeding in dengue infection, the authors should also compare whether it is true that G allele is associated with low platelet counts in dengue cases. They should compare the median platelet counts between patients with different genotypes of rs5745568. The platelet count data will be available for all the patient and lowest platelet count available for each patient during the disease time can be considered for such comparisons.

2. Secondary dengue infections have been shown to be associated with dengue disease severity. Whether the association reported is influenced by immune status.

3. Please provide 95% confidence intervals for odds ratio

4. To control possible confounding factors, such as age, sex, hospital (i.e., geographic region), and virus serotype, the authors have performed logistic regression analysis with the number of risk alleles (i.e., 0, 1, and 2) being used as an independent variable. Since
the number of alleles actually represent genotypes, the results should also be represented in terms of genotypic association. The association of G/G genotype with DHF is more evident than other genotypes. The association seems to be under a recessive model of association.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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Please indicate the quality of language in the manuscript:

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