Reviewer's report

Title: Linkage and association analysis of GRP78 in chronic hepatitis B carriers

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Reviewer: Fredrik O Vannberg

Reviewer's report:

This is a well written report by Zhu, et al., entitled "Linkage and association analysis of GRP78 in chronic hepatitis B carriers". The report investigates genetic variants at the GRP78 loci and association with hepatitis B carriage in a Chinese population, with a combined study of approximately 1000 cases and controls. The statistical analysis reported in the manuscript were appropriate and the study had reasonable power to detect an association.

Major Comments
I have no major comments regarding this manuscript.

Minor Essential Revisions
The title should be amended since no linkage analysis was reported within the article. Linkage disequilibrium analysis was reported.
A previous paper studying a genetic variant in this gene was published a few months ago by the same group and should be referenced in this paper. Therefore, the word "rst" as a priority claim should be removed from the Discussion.
Although this previous article does not diminish the importance of the present work, it is important to discuss whether these two studies constitute the same cases and controls. The mean age of the controls differ by approximately 10 years between the previous paper and the present one which suggests that they are different studies, but both mention that they use the data from the hospitals. It would be good for the authors to clarify the nature of these controls and the relationship between the cases between these studies for future publications from this well phenotyped cohort.
It is useful for studies to show the locations of the SNPs genotyped with respect to the genomic loci. Many of these studies include a gene diagram showing the open reading frames of the gene, and help to put into context the genotyped SNPs within the gene. If possible, I would suggest adding this type
of gene overview to Figure 1. Also, some clarification as to the reasoning of the SNP selection would be appropriate. Were there any other promoter or amino acid variants which were not genotyped?

**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 have no competing interests.