Reviewer's report

Title: Influence of KIR genes and their HLA ligands in the pathogenesis of leprosy in a hyperendemic population of Rondonopolis, Southern Brazil

Version: 3  Date: 13 May 2014

Reviewer: William Berrington

Reviewer's report:

Major compulsory Revisions

1) Please address multiple comparisons (at least in table 2). How to adjust for the additional studies may be more statistically difficult (for example looking at gene-gene interactions). By my count there are at least 15 KIR gene analyzed and P values should be adjusted to determine if significance still remains. This should be added to the discussion or results section. This has nothing to do with multiple logistic regression, which was performed in later analyses.

2) Since HLA is on different genome than KIR genes, Hardy-weinberg equilibrium cannot be conferred between the two gene groups. Not sure what the authors are referring to on page 7 line 5 with "homogeneous distribution of the haplotypes of the KIR gene". If data on the heterogeneity of the KIR gene was not obtained, then HW equilibrium cannot be done. Since there is no data on the heterozygosity of the KIR domain, the HW distribution q^2+2qr+r^2 cannot be done, it is a simple limitation of the technique and should be stated in the discussion.

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

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I have no competing interests