Reviewer's report

Title: Lack of associations between two previously identified susceptible single nucleotide polymorphisms of Interleukin-23 receptor gene and ankylosing spondylitis: a replication study in a Chinese Han population

Version: 4 Date: 21 February 2013

Reviewer: Glinda Cooper

Reviewer's report:

This paper is generally well written and clearly presents the rationale and details of the analysis. One major point, though, is that I couldn't replicate all of the Chi-square values: in the rs1004819 analysis of allele frequency, the Chi-square value I got was 0.69 (p=0.79), compared to your value of Chi-square = 1.9 (p=0.17). The interpretation of the data doesn't differ, but please check all of your calculations.

Minor Essential Revisions:

In addition, information on these additional points would strengthen the paper:

1) What was the source of the patients (i.e., what type of clinic were they being seen in? - university hospital, general medicine????) How and from where were the controls recruited?

2) Background section - last sentence of first paragraph and first sentence of 2nd paragraph seem to be saying the same thing; these could be combined by adding reference 6 to the first paragraph, and then begin the 2nd paragraph with "The etiology of AS...."

3) The first paragraph of the Discussion section repeats information that is in the Background section. One of these pieces could be shortened.

4) It would be interesting to note how the frequency of the alleles in your population compares to those seen in the European populations (references 12-14)? - is the frequency similar in the controls in Europe and China, but in Europe the AS patients differ? Or is the distribution in the controls differ between the two ethnic groups? (or did it differ among the European groups, too?)

5) Tables 1 and 2 can be combined; Tables 3 and 4 can be combined

6) Some minor editing is needed (for example, "a lot" is generally not used in this type of writing, and it would be preferable to say "There is substantial evidence..." rather than "There are substantial evidences..."

Level of interest: An article whose findings are important to those with closely related research interests
Quality of written English: Needs some language corrections before being published

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

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