Reviewer's report

Title: Allelic variants of IL1R1 gene associate with severe hand osteoarthritis

Version: 2 Date: 21 August 2009

Reviewer: danielle posthuma

Reviewer's report:

In the revision of this ms the authors have satisfactorily addressed the points raised on the previous version. With respect to the replication samples I would have preferred to see that in this paper, but also can agree with the explanation given by the authors. I only have one further comment:

I now noted that the current association analyses have been carried out on the sample in which the original linkage signal was found. This would allow to conduct a test in which both linkage and association are modeled simultaneously, and provides information on whether the SNPs in the IL1R1 gene explain all or most of the linkage signal (see e.g. Combined linkage and association sib-pair analysis for quantitative traits.Fulker DW, Cherny SS, Sham PC, Hewitt JK. Am J Hum Genet. 1999 Jan;64(1):259-67.). For example, if the linkage signal is no longer present after the effects of the IL1R1 gene have been taken into account, the IL1R1 gene explains all of the linkage signal. Alternatively, the outcome may point in the direction of the need to look for additional genes in the 2q area.

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

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests