Reviewer’s report

**Title:** Large effects on body mass index and insulin resistance of fat mass and obesity associated gene (FTO) variants in patients with polycystic ovary syndrome (PCOS): a case control study

**Version:** 1  **Date:** 5 August 2009

**Reviewer:** Margrit Urbanek

**Reviewer’s report:**

Major Compulsory Revisions:

1) Since all the genes studied here are candidates based on previous genetic studies and the PCOS cohort sample size is quite small it is essential that the authors provide the appropriate power calculations which in this case would be the power to detect effect sizes comparable to what has been observed in the literature for either PCOS or if that is not available for T2D.

2) Only one finding remains statistically significant after correction for multiple test (24 for tests; arguably the correction should be more stringent since there were as many as 14 phenotypes). This needs to be made clear to readers or the results need to be replicated in an independent cohort.

**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 declare that I have no competing interests