Reviewer's report

**Title:** Regulation of Gene Expression in Human Tendinopathy

**Version:** 1  **Date:** 23 March 2011

**Reviewer:** Kui Zhang

**Reviewer's report:**

Review for BMC Musculoskeletal Disorders

**Title:** Regulation of Gene Expression in Human Tendinopathy

**Authors:** Jelinsky et al.

**Comments**

As a statistical reviewer, I only comment the statistical analysis presented in this manuscript. The authors generated the expression levels of 20555 transcripts from 23 pairs of normal and diseased tendons using Affymatrix genome-wide U133 2.0 Plus array. The expression values were obtained by the default GeneChip Operating System (GCOS), then loess normalized, and finally analyzed based on a paired Wilcoxon test. In the analysis, some transcripts were removed due to the low present call or expression level. The authors identified 1783 differentially expressed transcripts which had the p-value less than and the fold change greater than 1.5. The authors also performed the pathway analysis based on these 1783 genes. The authors followed the standard procedure and used appropriate methods for the analysis. I only have a few minor comments on the analysis.

**Minor Comments**

Page 6, “GeneChip Operating System” should be “GeneChip Operating Software”.

Page 6, “Wilcoxin analysis” should be “Wilcoxon analysis”. The author used the paired Wilcoxon test which is a non-parametric test. Comparing with the paired t-test, Wilcoxon test does not require the normality assumption but is generally less powerful. Can the authors justify why the more powerful paired t-test was not used here to identify more significantly expressed genes?

Page 7, for the database MSigDB, please provide the corresponding web site and cite the appropriate reference as indicated on that web site: Subramanian et al., 2005, PNAS 102, 15545-15550. Please also clarify which gene set (C1 to C5) was used in the analysis.

Page 16, references 16 and 21 are identical. Please remove one of them and change the citation in the manuscript accordingly.

Other than the p-value and fold change, it would be very helpful if the authors can provide the corresponding q-value (or FDR – false discovery rate) in Tables 3, 5, 6, 7, and 8.
**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