Reviewer's report

**Title:** Candidate pathways and genes for prostate cancer: a meta-analysis of gene expression data

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**Reviewer:** Alvin Liu

**Reviewer's report:**

I think Gorlov et al. did a nice job in analyzing a large number of datasets in prostate cancer. With regard to integrin expression in prostate cancer, for example, ITGB4 is expressed by basal cells and not by luminal cells. In tumor, there are no basal cells, hence no ITGB4 expression. Luminal cells are the normal counterpart of cancer epithelial cells, so technically ITGB4 is not downregulated in the transition to cancer when one is looking at the cell level. At the tissue level, that’s true. Same for the basal ITGA2, ITGA3, and ITGA6. Similarly, stromal genes (ITGA1/PELO, CNTN1, CNN1, etc.) may be differentially expressed between tumor-associated stromal cells and their normal counterpart. A study of the available laser-captured datasets was attempted. And the authors mentioned that they will analyze the stromal and epithelial compartments separately (how? Newer or to-be-generated datasets). Also, many of the earlier datasets were based on in-house cDNA arrays, which were sub-optimal compared to those of Affymetrix (probeset identities). I think these points need to be discussed since the correlation between different datasets is rather poor, and certain genes were not represented in certain datasets. With regard to quantitative over qualitative changes in localized-to-extraprostatic transition there are data that showed gene expression (qualitative) differences between the different types of prostate cancer. So I would avoid stating that claim (p.14, second paragraph). I wonder if the authors found a luminal vs. basal signature as in breast cancer.

**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.