Reviewer's report

Title: Comparing gene expression data from formalin-fixed, paraffin embedded tissues and qPCR with that from snap-frozen tissue and microarrays for modeling outcomes of patients with ovarian carcinoma

Version: 2
Date: 7 July 2015
Reviewer: Dwight Oliver

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Minor Essential Revisions

1. The authors do not address the differences in "warm ischemia" time between obtaining a fresh specimen and placing in formalin, which could be hours, versus the typically brief time between obtaining a specimen and snap freezing the tumor tissue. Delay in fixation can variably alter expression patterns and mRNA levels of housekeeping versus target genes.

2. Although FFPE RNA integrity is measured by RQI, this does not appear to be integrated into expression outcome other than by delta Ct considerations. All cases used the same 40 ng of RNA regardless of the RNA quality. Are the individual RT-PCR assays for each of the 91 genes designed to be similar in robustness to the housekeeping genes for one specimen type?

3. Can the authors address the reproducibility of their findings. Were similar results found across the 18 specimens when run several days after the initial experiment?

4. The authors state that an assay testing only "highly differentially expressed genes may more easily translate from microarray to qPCR" (line 94) but is there evidence that ovarian carcinoma response to chemotherapy is best predicted by highly differentially expressed genes?

5. The work was done to demonstrate that expression results obtained from a technique using frozen specimens are similar to expression results obtained from a technique using FFPE specimens. This particular study did not prove the PSRP 91 gene TaqMan assay can predict ovarian tumor response to chemotherapy, as proclaimed in the first sentence of the Discussion, and that statement should be reconsidered.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.
Declaration of competing interests:

I declare that I have no competing interests