Reviewer's report

Title: Translating a gene expression signature for Multiple Myeloma prognosis into a robust high-throughput assay for clinical use.

Version: 2 Date: 7 April 2014

Reviewer: Zhengdeng Lei

Reviewer's report:

The authors focused on the potential applicability of the 70-gene signature GEP70 for prognosis of multiple myeloma in a commercial lab setting.

I have the following concerns.

I. Major Compulsory Revisions:
(1) Because this study was based on the 17 peer-reviewed publications described in Table 1, the authors should point out which studies (especially large cohort) clearly validate GEP70.

(2) In Figure 4a and 4b, please show us the plot and R\(^2\) without using log10 transformation of x-axis, as did in 4c and 4d.

(3) Page 7, "For each MyPRS® specimen analyzed, the 70 gene expression values used to compute the patients risk score are combined with a matrix of 70-gene data from 559 patients used to originally train and validate the prognostic algorithm", please show us how to combine the value and how to deal with batch effect.

II. Minor Essential Revisions:
(1) Page 2: "Over a 12 month period, the 70-gene prognosis score (range 0-100) has a standard deviation of 2.72 and a variance of 0.03", please highlight that this is based on cell line (positive control), and it is "coefficient of variance", not "variance".

III. Minor Essential Revisions:
(1) Page 3: "In this paper we describe the use of a high-throughput process, combining cell isolation, flow cytometry and gene expression profiling to provide physicians with personalized prognostic assessments multiple myeloma", missing "of" after "assessments".

(2) Page 6: "Figure 4a and 3b" => "Figure 4a and 4b".

(3) Page 6: missing a period in the last sentence.

Level of interest: An article of outstanding merit and interest in its field
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