Reviewer's report

Title: Microarray Analysis in Clinical Oncology: Pre-clinical Optimization Using Needle Core Biopsies From Xenograft Tumors

Version: 1 Date: 9 March 2004

Reviewer: Christos Sotiriou

Reviewer's report:

General

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Discretionary Revisions (which the author can choose to ignore)

The manuscript by Goley et al., entitled “Microarray analysis in Clinical Oncology: preclinical optimization using needle core biopsies from xenograft tumors” describes the used of biopsy cores, the typical source of human tumor tissues, as reliable tissue samples for tumor microarray analysis after optimization of the RNA amplification and labeling steps. The manuscript is relevant, clear and well written. The figures and tables present the data clearly and are of good quality.

Concerning the paragraph on RNA detection limits, the authors determined the amount of RNA needed to amplify and maintain a high concordance with the original specimen based on the resulting Pearson Coefficients. These coefficients indicate a decreasing similarity to the original specimen as the amount of starting material is reduced. When examined the outlier concordance as reported in figure 2 (D, E, F) we observed that the overlap in outliers between original and amplified RNA decreased with decreasing amount of starting RNA but we also observed an increased of “new” outliers for 0.5 and 5 µg starting RNA when compared to 0.05µg (303 and 363 genes versus 145 genes). The authors should discuss this point and the impact of these “new” outliers on future analyses. Northern and RNA protection assay could be used as alternative methods to analyze the relevant outliers and measure the impact of outliers determined either by RNA amplification or original specimens on future analyses.

Which journal?: Appropriate or potentially appropriate for BMC Medicine: an article of importance in its field

What next?: Accept for publication in BMC Medicine after discretionary revisions

Quality of written English: Acceptable
Statistical review: No

Declaration of competing interests:
None