Reviewer's report

Title: Suppression subtractive hybridization profiles of radial growth phase and metastatic melanoma cell lines reveal novel potential targets

Version: 2 Date: 29 August 2007

Reviewer: Mohammed Kashani-Sabet

Reviewer's report:

General
In this manuscript the authors have used suppression subtractive hybridization in order to identify genes involved in melanoma progression. They selected for their ultimate analysis one RGP cell lines and three metastatic cell lines based on expression of three melanoma progression genes, integrin beta 3, KISS1, and RHOC. They found 288 annotated genes in the RGP library and 217 in the Met library. Differential expression of several of the genes identified by this analysis was demonstrated using Northern and RT-PCR analysis. The authors then tested the gene set identified here against a publicly-available cDNA microarray study of melanoma progression, and demonstrate that a subset of the genes identified by this analysis are differentially expressed in normal versus malignant melanocytic neoplasms or metastatic versus primary melanoma. While one could take issue with the selection criteria for the cell lines (as the three markers chosen by the authors may not represent the most important progression markers in melanoma), the further analyses clearly demonstrate the potential utility of the gene sets identified by this analysis to melanoma progression.

-----------------------------------------------

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

Major Comments
1. The rationale for leaving out the VGP cell lines is not as well described. This should be explained better in the results section dealing with the selection of the cell lines used for the ultimate analysis.
2. In Figure 3, what do the missing lanes represent in the Northern blots shown?

-----------------------------------------------

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

1. Neoplastic is spelled as neoplasic in several places (starting with abstract, background section), and this should be corrected.
2. Page 5, 4th line, should read: “Another example of a gene …”
3. Page 8, 2nd paragraph, line 10; and page 34, and figure 4 legend- “them” should be changed to “then”.

4. Page 14, last paragraph, line 8, mielinization should be changed to myelinization.
5. Page 22, last paragraph, line 2, leiomiomas should be changed to leiomyomas.
6. Page 24, last paragraph, line 17, strength should be changed to strenghen.
7. Page 33, figure 1 legend, agorose should be changed to agarose.

What next?: Accept after minor essential revisions

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.