Reviewer's report

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

Version: 2 Date: 6 August 2007

Reviewer: Keiran Smalley

Reviewer's report:

General

In their study, Sousa and Esoreafico have looked for a subset of genes that are upregulated in the transition from RGP stage melanoma to metastasis. They use a subtractive-hybridization approach to generate a list of genes that they suggest can be used to determine novel therapeutic targets.

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

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

1. I am not sure if I necessarily agree that establishment of metastases occurs through the stepwise acquisition of oncogenic mutations. Bernards and Weinberg put forth a persuasive argument (Nature: 418, 823) that the same genes that are responsible for metastasis are also those required for initial oncogenic transformation. It may be worth commenting briefly on this.

2. While I understand the reasons that the authors compared the metastatic lines to one RGP line (WM1552C), I am a little concerned that their analysis hasn’t identified genes responsible for metastatic spread and has rather identified genes that are not expressed in the WM1552c line.

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

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. There are some slightly strange spellings used throughout the MS such as “mienlinization” (which I assume is myelinization), “neoplasic” (rather than neoplastic) and dinactin (which I assume is dynactin).

2. The discussion is way too long and needs substantial shortening.

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

Discretionary Revisions (which the author can choose to ignore)

1. It would be really nice if the authors could confirm the upregulated expression of some of the identified genes in samples of RGP and metastatic melanoma using immunohistochemistry. I do however, understand that this is difficult to do and samples are not easy to obtain.
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: Needs some language corrections before being published

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.