Reviewer's report

Title: Antimetastatic gene expression profiles mediated by retinoic acid receptor beta 2 in MDA-MB-435 breast cancer cells

Version: 3 Date: 29 June 2005

Reviewer: Janet Price

Reviewer's report:

General
The article is a careful and thorough analysis of genes potentially regulated by retinoic acid receptor beta2 (RARB2) signaling, in a breast cancer model in which cells expressing RARB2 have reduced metastatic ability in immunodeficient mice. The information from the analyses is of interest for further investigations into gene expression regulated by RARB2 and the metastatic phenotype.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
My one concern regards the cell model used. If read correctly, single clones of the MDA-MB-435 cell line transduced with either the LXSN vector or the RARB2 vector were used, in the previous published study of the metastatic ability, and this study. The authors need to address the issue of metastatic heterogeneity of the original MDA-MB-435 cell line a paper by Montel et al showing this is referenced. How can the possibility of differences in gene expression being a function of clonal heterogeneity be ruled out? Can the authors demonstrate the regulation of some of the genes discovered in the expression arrays, for example the CT antigen family, when MDA-MB-435 transiently express RARB2?

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)

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:
I declare that I have no competing interests