Reviewer's report

Title: Phenotypic alterations in breast cancer cells overexpressing the nuclear receptor co-activator AIB1.

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Reviewer: Tapio Visakorpi

Level of interest: A paper whose findings are important to those with closely related research interests

Advice on publication: Accept after discretionary revisions

In this paper, Anzick and co-authors have studied the consequences of AIB1 overexpression in breast cancer cell line MDA-MB-436. They found that the cell line transfected with the AIB1 expression vector showed increased expression of CBP. In addition, the estrogen-dependent transactivation was about 20-fold higher in the AIB1 transfected than the parental cell line. Finally, a number of differentially expressed genes in the transfected cell line were identified by cDNA microarray hybridization. This is an interesting and very well conducted study. The significance of the study is somewhat restricted by the fact that only one cell line was used in the analyses. It would have been very interesting to compare the findings obtained from the ER negative MDA-MB-436 with findings from some ER positive breast cancer cell line forced to overexpress AIB1. For example, the fact that the estrogen dose-responsive curve was repositioned to the right due to overexpression of AIB1 could be very cell type specific phenomenon. Similar effect might have not (or may have) been found in ER positive cell line. Since, MDA-MB-436 is ER negative it is possible that the whole ER-signalling pathway is very aberrant in this cell line that does not utilize ER-signalling. Also the cDNA microarray experiments would have been more informative if ER-positive (AIB1-transfected and non-transfected) cells had also been analyzed. The possible limitations, due to the fact that only ER-negative cells were used in the analyses, should be discussed. I have only one minor detailed comment:

1. It would be useful to mention, also in the Abstract, that the MDA-MB-436 is an ER negative cell line.

Competing interests:

None declared.