Reviewer’s report

Title: RNA-binding protein RNPC1: acting as a tumor suppressor in breast cancer

Version: 3
Date: 6 February 2014

Reviewer: Xinbin Chen

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In this manuscript, the authors mainly used the in vitro and in vivo experiments to address the role of RNPC1 in breast cancer. They found that 1) the level of RNPC1 was decreased in breast cancer cell lines and tumors, 2) overexpression of RNPC1 inhibits the proliferation of breast tumor cells in vivo and in vitro, and 3) a low level of RNPC1 was associated with higher clinical stages and metastasis in patients with breast cancer. These findings are interesting. However, many deficiencies exist in the manuscript.

1. The authors should reorganize the text and figures.
2. In Fig 1A-B, the authors should use several normal mammary cell lines as control to rule out the cell line-specific expression of RNPC1.
3. There are two bands in Western blot of RNPC1. It is unclear which band is RNPC1 and used to quantify the expression of RNPC1.
4. In Fig 1E, due to the significant difference of loadings, it is no way to compare the expression of RNPC1 between tumors and normal tissues even with quantitation of bands.
5. Since RNPC1 is one of targets of p53, the level of RNPC1 in breast tumors may just depend on the p53 status. This possibility is demonstrated in Fig 1B. Breast cancer cell lines with a wild-type p53 (MCF7 and ZR75) or a temperature-sensitive mutant p53 (BT474) express higher level of RNPC1 compared to mutant p53 cell lines (MDA-MB231 and SUM1315). In this study, at least, 52/121 of breast tumors have a mutant p53. Thus, it is also possible that the correlation between RNPC1 expression and clinical stages actually represents the correlation between the p53 status and clinical stages. RNPC1 is just an accompanying factor of p53 status-dependent clinical stages in patients with breast cancer.

Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.