Reviewer’s report

Title: Survivin gene silencing sensitizes prostate cancer cells to selenium growth inhibition

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Reviewer: Nadia Zaffaroni

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The paper by Liu et al. evaluates the effect induced by shRNA-mediated silencing of survivin gene on the anti-proliferative and anti-tumor activity of selenium in the human androgen-independent prostate cancer cell line PC-3M. Specifically, results of the study show that survivin knock-down was able to increase the anti-proliferative and pro-apoptotic effect of selenium in vitro as well as to enhance its ability to inhibit the growth of established tumors in nude mice.

Major compulsory revisions:
The study, that is of potential interest, has been properly executed. However, since the experiments have been carried out in a single prostate cancer cell line, the results have a limited value and should be confirmed at least in an additional tumor cell line.

Minor essential revisions:
Fig. 3C. In order to better quantify the chemosensitizing effect of survivin silencing, dose effect curves should have been generated following PC-3M cell exposure to different concentrations of MSA, in the presence or absence of the shRNA targeting survivin.

Fig. 4A. The presence of sub-G1 subpopulations is only suggestive of the occurrence of apoptosis. For this reason, TUNEL and/or Annexin V analysis should have been performed in PC-3M cells to reinforce flow cytometric results.

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'