Reviewer's report

Title: Functional p53 is required for rapid restoration of daunorubicin-induced lesions of the spleen

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Reviewer: Pankaj Trivedi

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The paradigmatic approach to p53 related cancer therapy suggests that wt p53 activity is desirable for optimal cancer therapy. In contrast, it has been reported that tumors with wt p53 presence might have worse prognosis.

The use of DNA damaging chemotherapy has deleterious effect on normal cells also. Inasmuch as the normal cells would have wt p53, it is pertinent to ask what will be the effect of DNA damaging agents on normal cells.

The data presented in this MS reassure us that the initial cell death, apoptosis and the structure of the spleen in wt p53 bearing mice is recuperated after the withdrawal of the drug, while p53 null spleen suffered massive death. The data show that the presence of p53 is protective and restores DNA damage after withdrawal of the drug.

The paper is straightforward and clearly written, however I think there’s room for improvement.

Major Compulsory revisions:
A: The MS will improve if authors could show what happens to the p53 downstream (p21, mdm2 etc) genes in the two settings during the presence and the absence of the drug at various time points. It will clarify whether the protective effect of p53 presence is dependent/independent of these downstream genes in normal cells.
B: It would be interesting to silence p53 with siRNA in wt p53 spleen derived cells and see whether the findings in p53 null mice can be recapitulated here.

Minor revisions: There are spelling and grammar errors in the MS which need to be taken care of.

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 have no competing interests.