Reviewer’s report

Title: Development of a transgenic mouse model of hepatocellular carcinoma with a liver fibrosis background

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Reviewer: Eleonora Patsenker

Reviewer's report:

The present work describes the development of a new transgenic mouse model of HCC with a liver fibrosis background. Hydrodynamic transfection coupled with Sleeping Beauty transposon system expressing cMyc and short hairpin RNA downregulating p53 was used to prime the liver towards mutagenesis and in addition, chronic administration of CCL4 was applied in transgenic mice to induce chronic hepatic injury and fibrosis. As a result, hepatocarcinogenesis was significantly accelerated in fibrotic livers compared to non-fibrotic tumor controls. The conclusion is: the simplicity and the efficiency of the model has the potential to be used effectively in testing of HCC therapy and studies of hepatocarcinogenesis in fibrotic livers.

The study is well designed and nicely performed, and the manuscript is clearly written. There is only one minor addition would be nice to see as a confirmation of technique performance: figure showing cMyc and p53 expression in the livers of control and transgenic mice. The exact concentration of CCL4 used should be indicated in M&M (or it was 1ml/kg of 100% solution?). Also, the images for the publication could be of better quality.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

No
I am able to assess the statistics

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

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