Reviewer’s report

Title: A new mouse model to study the role of ectopic Nanos3 expression in cancer

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Reviewer: Qing Zhu

Reviewer’s report:

The authors generated a mouse model in which a human NANOS3 gene can be conditionally activated. Combining with the established non-small cell lung cancer (NSCLC) model, the authors found that ectopic expression of Nanos3 significantly shortened the animal survival and enhanced bronchiolar dysplasia. Interestingly, these effects of Nanos3 ectopic expression appeared to be female specific. Furthermore, using a mouse allograft assay, the authors revealed Nanos3 ectopic expression might promote lymph node metastases of NSCLC cells. Overall, the experiments are carefully executed and the phenotypes are potential interesting. This study provides a new mouse model to study Nanos3 associated NSCLC and even other cancers.

Limitations:

1. In this manuscript, the author mentioned Grelet et al demonstrated that Nanos3 enhances the invasion rate of cultured NSCLC cells and is involved in EMT regulation. Then the author detected whether Nanos3 over expression affects tumor progression in vivo. However, the author only detected the E-cadherin expression by IHC. The expression of EMT markers such as Vimentin, snail should also be detected.

2. Figure 3: the authors showed that the ectopic expression of Nanos3 had no significant influences on male NSCLC animal survival, but significantly shortened female animal's survival. Is the sex difference due to NSCLC cell metastases? Or do lymph node metastases occur in male Nanos3 NSCLC mice?

3. The image resolution of figure 5 and figure 7 are not enough.

4. In this manuscript, most part of references were published five years ago.

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.

No
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.

Not relevant to this manuscript

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

Needs some language corrections before being published

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