Reviewer's report

Title: STK33 overexpression in hypopharyngeal squamous cell carcinoma: Possible role in tumorigenesis

Version: 2  Date: 2 October 2014

Reviewer: Chia Jui Yen

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Comments to the Author
The study “STK33 overexpression in hypopharyngeal squamous cell carcinoma: Possible role in tumorigenesis” is an interesting study. There are several points that require further investigation.

Major comments
1. The authors compared the expression of STK33 in keratinization and non-keratinizing tumor tissue and claimed that have different STK33 expression level.

There were only 30 patients but how did the author select the area (888 vs 552) to stain the STK33. Different tumor stage was also showed in the table 1 and had different expression STK33. They need to mention how many keratinization or non-keratinizing tumor tissues choice in different stage of tumor sample otherwise it was difficult to compare the STK33. Did they have selection bias??

2. For strengthening the relationship between STK33 expressions in HSCC patients, the authors used the H score to examination the STK33 in IHC staining. Category A and Category B mean different expression area and intensity. They need to explore detail information of the area and intensity in the table (for example distribution of sample have category A and category B expression) so we could compare the STK33 meaning in this tissue sample.

3. For the cell line study, the authors used the Fadu cell to explore that the STK33 could influent the cell apotosis and proliferation even the migration and invasion ability. The experiment design is relative well however it is quite difficult to understand just STK33 change could induce cell so many function change. The author need one more cell line (other HSCC cell lines) except Fadu cell to prove their claim and finding.

4. What was the meaning of different expression level of STK33 in keratinization and non-keratizing tumor tissue?? Did the STK33 have impact on the squamous epithelial cell differentiation and tumorigenesis.

Overall, this study is interesting; however authors should re-writing and re-doing some critical experiment such as expanding the test patients number to make their finding more consistent.

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: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
'I declare that I have no competing interests'