Reviewer's report

Title: S100A16 Promotes Differentiation and Contributes to a Less Aggressive Tumor Phenotype in Oral Squamous Cell Carcinoma

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Reviewer: Simon A Whawell

Reviewer's report:

This is an interesting and well written paper which is strengthened by the inclusion of external data sets and a combination of extensive in vivo and in vitro work. It would however benefit from a few modifications.

Major compulsory revisions
1. The authors need to comment on the lack of correlation of differentiation, T-stage and clinical stage to survival as this is somewhat surprising
2. There is a tendency to over interpret the data in places especially the mechanistic experiments. For example figure 4B shows a modest difference in CK13 expression with no reference to mean fluorescence or number of repeated experiments. Figure 4A has 4 panels which are completely blank and figure 5I shows no difference in MMP-1 for the CalH3 cell line.
3. The term 'technical replicates' needs to make it clear whether this relates to number of repeated experiments or repeats within the same experiment. The latter being n=1 and the use of statistics is therefore not appropriate.

Minor essential revisions
1. There is a very recent publication on S100A16 in breast cancer which would be good to include (Tanaka M et al BMC Cancer 2015). The authors report that S100A16 promoted tumourigenesis in these tumours which is in contrast to the data presented here. I realise this may have been published after submission of this manuscript.
2. Line 284 'performed' spelled incorrectly
3. Line 348 and Figure 4C. P as far as I understand cannot = 0, p<0.001 would be better
4. Table 1 legend, line 665 'patients' spelled incorrectly
5. Line 838 remove the word 'only', the difference between 5 and 6 mice is not a significant reduction

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the
statistics.

Declaration of competing interests: 

I declare that I have no competing interests