Reviewer's report

Title: A biomarker based detection and characterization of carcinomas exploiting two fundamental biophysical mechanisms in mammalian cells

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Reviewer: Tsung-Lin Yang

Reviewer's report:

Many changes had been made in the current version of manuscript. However, there are still some concerns:

1. The age is not suggested to be divided by median age (62 in this study). It should be treated as a continuous data and analyzed by appropriate statistical methods

2. The authors classify the OSCC into four grades. However, neither relevant description nor references related to the tumor grading could be found. The way to group the cases into different pathological grades needs to be shown

3. Since UICC stage is statistically significant in the univariate analysis, why is it missed in the multivariate analysis?

4. In the multivariate analysis, LN turns out to be insignificant, is it reasonable? Particularly for the markers somewhat relevant to lymph node metastasis

5. Regarding co-localization of these two markers in a single cell, what is the biological meaning? Although these two markers belong to fundamental biophysical processes, is it necessary for these markers to co-express in one single cell?

6. The paragraph describing the treatment is too vague. It is not clear whether these patients receive standard treatments for OSCC, which is pertinent to the survival. For example, concurrent chemoradiation has been regarded as a standard adjuvant therapy for OSCC, especially for the patients with advanced stage. In this series, near half of the cases belongs to stage III and IV. However, 61% cases receive surgery only. What is the reason? It is definitely worsen the survival analysis. Besides, it is not convincing to make a conclusion “The results show that adjuvant therapies did not influence the outcomes of patients compared with surgery alone”. The data should be shown, at least in the supplementary data. Furthermore, after showing the treatment details, they should be included in the analysis of clinicopathological characteristics and prognostic factors for Apo10 and TKTL1.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable
Statistical review: Yes, and I have assessed the statistics in my report.

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