Reviewer’s report

Title: Oct4 upregulates osteopontin via Egr1 and is associated with poor outcome in human lung cancer

Version: 0 Date: 30 Apr 2019

Reviewer: Reviewer 2

Reviewer's report:

PEER REVIEWER ASSESSMENTS:

OBJECTIVE - Full research articles: is there a clear objective that addresses a testable research question(s) (brief or other article types: is there a clear objective)?

Yes - there is a clear objective

DESIGN - Is the current approach (including controls and analysis protocols) appropriate for the objective?

Yes - the approach is appropriate

EXECUTION - Are the experiments and analyses performed with technical rigor to allow confidence in the results?

No - there are minor issues

STATISTICS - Is the use of statistics in the manuscript appropriate?

No - there are issues with the statistics in the study

INTERPRETATION - Is the current interpretation/discussion of the results reasonable and not overstated?

No - there are minor issues
OVERALL MANUSCRIPT POTENTIAL - Is the current version of this work technically sound? If not, can revisions be made to make the work technically sound?

Yes - current version is technically sound

PEER REVIEWER COMMENTS:

GENERAL COMMENTS: The role of osteopontin as a potential biomarker has been recognized for many years and the current report supports therapeutic strategies targeting Oct4 and Egr1 along with OPN.

REQUESTED REVISIONS:

The following questions arise reading the manuscript.

1) It is not clear what statistical analysis were done in detail. As it is described that it was just Student's t-test, but more detailed information is necessary. Otherwise, there is a question on the reasonable value of the results obtained. The calculations using different groups are performed and examination of the assumptions of variance such as e.g., checking the normality of the variables as well as their homogeneity in variance (the variance of the data should be the same) are should be proved as done. All experimental variables have to be characterized by normal distribution and homogeneity of variances, which can be confirmed using the parametric Shapiro-Wilk test, and the Kolmogorov-Smirnov test for normality. Homogeneity of variance is, on the other hand, calculated by the Levene'a test and the Brown-Forsyth test, at the significance level (p) of 0.05. Since the criteria of normality of the tested variables are proved, it is possible to use parametric tests to search for differences between the groups of subjects described by the analyzed variables with e.g., t-test or ANOVA. What was done and in what extent within the shown study it not defined correctly in the text?

2) It is stated on page 17 and in Figure 1D that "tumors with higher expression of Oct4, Egr1, and OPN were not associated with higher recurrence rates compared with those with lower expression of Oct4, Egr1, and OPN, respectively (Figure 1D)". Is this contrary to the whole concept? Why such a phenomenon could be observed?

3) Figure caption for Figure 1C should have rather "Egr1"instead of "Ocr4".

4) It is written that levels of OPN were quantified by ELISA. This is is not a very accurate and precise technique in my opinion. Was the quantitative method applied in the study appropriately validated?

5) No basic statistics were performed for data in Supplementary Figure S2.
ADDITIONAL REQUESTS/SUGGESTIONS:

N/A

Note: This reviewer report can be downloaded - see attached pdf file.

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

No

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.

No

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.

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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