Reviewer’s report

Title: CD133+ Liver Cancer Stem Cells Resist Interferon-gamma-induced Autophagy

Version: 1 Date: 24 Sep 2015

Reviewer: Alessandro Lugli

Reviewer’s report:

The revised manuscript by Li and colleagues addresses several concerns the reviewers have raised, albeit incompletely.

Unfortunately, the following points have not been addressed satisfactorily.

Major points that need to be discussed:

1. PCR data: additional quantitative evidence was requested to substantiate the claim of differing CD133 expression between the cell lines used. Additional PCR data has been provided but is given as relative expression levels only (Figures 2A, 4A). In both figures, the base level is cell line QGY7701 which contains only 0.06% positive cells as per FACS analysis. Please provide the absolute expression levels (“quantitative data”) of CD133 between the cell lines used as requested. In the form the data is provided it is impossible to see the “significant differences” in expression for BEL7402 and QGY7701 (4A). Further, as per the PCR data in Figure 2A and 4A, PLC8024 cells show a 3 fold higher relative CD133mRNA level than Huh7 which contradicts the FACS data. Please comment on this unexpected result.

2. Figure 1: High quality images of serial sections were requested. The authors claim to provide serial sections, yet the isotype control in Figure 1 is clearly from a different area. Further, the serial sections show that the AFP+ and CD133+ cells are actually not identical. This contradicts the claim made by the authors that the CD133+ cells are actually AFP+ "liver cancer stem cells". The requested FACS data (to prove that there is a CD133/AFP-positive population in the transplanted tumors) was not provided.
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.

Yes

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.

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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