Reviewer's report

Title: Stomatin-like protein 2 was overexpressed in epithelial ovarian cancer and predicted patient poor survival

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Reviewer: Zsófia Pénzváltó

Reviewer's report:

In their work Fei Sun and colleagues studied the overexpression of SLP2 in cancerous ovarian tissue compared to normal ovarian tissue. They showed that the overexpression of SLP-2 correlates with worse clinical outcome. Their work is limited to the observation of these correlations. They did not investigate the background molecular mechanism of the correlation, and the potential role of SLP-2 in ovarian carcinogenesis. Nonetheless, within these limitations I found the work is thorough, the manuscript is well written, and includes a very detailed methods section. However, I have a few questions which in my opinion has to be answered before accepting the manuscript for publication. Also, I have some minor suggestions, which I believe would improve their manuscript.

Major Compulsory Revisions

1. Is there any available information of the histological subtype of the evaluated EOC samples? Recent studies show that the different subtypes (e.g. endometroid, mucinosus, serosus) are originated from different tissue types, and even low-grade and high-grade serous tumors are genetically highly different. (Vaughan, S., et al., Rethinking ovarian cancer: recommendations for improving outcomes. Nat Rev Cancer, 2011).

2. Connected to the previous question, epithelial ovarian carcinoma is known to originate from different tissues, for example high grade serous ovarian tumors originate from the fallopian tube tissue (Lee, Y., et al., A candidate precursor to serous carcinoma that originates in the distal fallopian tube. J Pathol, 2007.). This suggests that normal ovarian epithelial tissue is probably not the sufficient control material. How do the authors explain this? If they have available fallopian tissue samples I would recommend measuring the SLP2 expression in these too.

2. Can the authors explain that no previous studies (including some genome wide expression array based studies) has found correlation between SLP2 expression and ovarian cancer tissue compared to normal, or SLP2 expression and patient survival? Did the authors evaluate the TCGA ovarian cancer data related to their results about SLP2 expression?

Minor Essential Revisions

1. Please upload a high resolution image of figure 6, since the axis labels are unreadable.
2. In the methods sections the authors list the providers of the used reagents, however, in some cases they give full details (company, country, city or state), sometimes just the providers, and sometimes none. Please provide that information systematically through the methods section.

For example:
row 124: TRIzol reagent (Invitrogen, Carlsbad, CA, USA)
row 126: iScript™ cDNA Synthesis Kit
row 148: Western blotting detection reagent (Amersham)

3. In legend of figure 2 the authors mention “cancer tissues (T) and adjacent noncancerous tissues (N)” notations, meanwhile they use T and ANT in the figure. Please clarify this.

Discretionary Revisions
1. I recommend mentioning the investigated gene’s HUGO approved conventional name (STOML2) in the introduction and the abstract, to make it easier for the readers to look it up in online databases.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

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