Reviewer's report

Title: The role of RhoC in epithelial-to-mesenchymal transition of ovarian carcinoma cells

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Reviewer: Yan Xu

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In this manuscript entitled "The role of RhoC in epithelial-to-mesenchymal transition of ovarian carcinoma cells", Gou et al described their work investigating the role of RhoC in EMT process of ovarian carcinoma cells, stimulated by TGF-β1 and VEGF.

The major concerns of this work include lack of novelty and logical experimental design, approach, presentation, and interpretation. The involvement of RhoC in ovarian cancer and EMT in other cancer cells has been shown in previous publications. Although the data are supportive for the overall conclusion, they do not provide new concepts or sufficient new information. In addition, while the major goal of the manuscript is to clarify the role of RhoC in EMT process of ovarian carcinoma, stimulated by TGF-β1 and VEGF, the experimental design and data interpretations have major flaws.

Major points:

1. The data as presented did not provide any clear concluding whether RhoC is required and/or involved in VEGF and TGF-beta signaling. In fact, the major part of the manuscript suggested that there is a minimal connection among them.
2. Figure 1F: changes in E-cad, N-cad and a-SMA should be shown at the protein and cellular location levels.
3. The text and the contents of Fig.2 did not match. For example, Figure 2B did not show the effect of VEGF and TGF-beta on proliferation as described in Text. The current Figure 2B may be Fig. 2C and 2D, but the data are not quantitative to support the descriptions in text. Other panels do not match as well.
4. More importantly, data presented in Figures 2 and 3 basically show that there was a minimal connection among RhoC and VEGF or TGF-beta.
5. Yet the authors conclude that "These suggested that VEGF and TGF-β1 might promote the migration and invasion of ovarian carcinoma cells via RhoC, which is closely linked to EMT." (in Discussion).
6. In Introduction, the concepts need to be more accurately presented.
7. The English needs to be significantly improved.