Reviewer's report

Title: Protein markers of cancer-associated fibroblasts and tumor-initiating cells reveal subpopulations in freshly isolated ovarian cancer ascites

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Reviewer: Marie Fridberg

Reviewer's report:

This is a novel and interesting study examining the tumor cell subpopulations in ovarian cancer ascites, freshly isolated from patients. The markers analysed, representing epithelial-mesenchymal-transition, cancer associated fibroblasts and tumour initiating cells, are selected on good basis and I recommend the paper to be published after minor corrections:

1. p4, line 2 from the top: “In EOC, immunohistochemical analysis showed absence of the CAF marker smooth muscle actin in normal ovarian tissue, whereas…” is a bit unclear. Is the finding in EOC or in normal tissue?

2. p4, bottom line: The words “were used” should be removed.

3. The authors should comment on the finding that only 4/27 samples expressed the stem cell marker CD117. This could be discussed in relation to previous studies (see e.g. ref 10 in the manuscript), where a very high percentage of ovarian cancer cells co-expressing CD44 and CD117 have been found and proposed to be more tumorigenic.

4. p10, line 3 from the top: 100 K is not exemplified in Fig.1A as stated, a figure showing this potentially cleaved E-cadherin is missing.

5. It would be interesting to correlate the M and S subpopulations, and the CD44high/Oct-4Ahigh subtype, to the clinical parameters in Table 1.

Discretionary revision

1. The authors state that the role of CD133 is under question as a TIC marker in EOC. However, it would be interesting to learn about the expression of CD133 in the M and S populations, in light of the recent publication by Zhang et al. “CD133 expression associated with poor prognosis in ovarian cancer”. Mod Pathol 2012, 25: 456-464.

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

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the
statistics.

Declaration of competing interests:

I declare that I have no competing interests