Reviewer's report

Title: Role of malignant ascites on human mesothelial cells and their gene expression profiles

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Reviewer: Chen Wang

Reviewer's report:

It's a nicely written manuscript with good logic. The authors test the hypothesis of malignant ascites can stimulate growth of mesothelial cells comparing to benign peritoneal fluids. From multiple experimental verifications they did, it seems this hypothesis is valid. The gene expression analysis is a little bit exploratory to me, but it's still along the line of central hypothesis, so I'm overall convinced and recommend to accept it.

A few minor comments:

Please look carefully into table 1 and 2. Sometimes comma is used instead of period for the fold changes. Like "VENTXP 29,12"

I'd also suggest authors removing any genes without description (gene full name?) in table 1 and 2, since they are not informative. Are they just pseudo-genes?

Discretionary Revisions:

Here are some my personal comments for authors' reference (you can ignore if doesn't make sense to you). Given the prognostic importance of ascites, also, authors pointed out in the discussion that it might "... contribute the attenuate drug-induced apoptosis", do you think pathway analysis from this expression study can give some hints for any therapeutic options? I'll be very curious if cell growth will still be successfully inhibited after targeting tgf-beta or NFkb pathways, even the growth is mediated/protected by ascites.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.