Reviewer's report

Title: Evaluating human cancer cell metastasis in zebrafish

Version: 1 Date: 22 July 2013

Reviewer: Adam Hurlstone

Reviewer's report:

A number of recent articles suggest that the zebrafish embryo xenograft assay has the potential to accelerate drug discovery and increase mechanistic understanding of the metastatic process. The report by Teng et al. is significant in correlating the performance of the zebrafish assay with competing in vitro and mouse assays. They thereby validate the predictive value of the zebrafish assay.

Major Compulsory revisions:

Overall the report is well done, but further work is required to fully support their inferences:

1) The authors need to distinguish between invasion and metastasis by removing the vasculature (cloche mutant or RUNX1 knockdown or SU5416 treatment) and analysing the impact on tumour cell dissemination

2) The readout at present is dissemination rather than metastasis. The authors should address whether proliferation occurs at distal sites.

3) A western blot should be provided demonstrating knock-down of WASF3 in Fig.3

4) JAK1 and JAK2 expression should be analysed by western blotting for U4C and y2A respectively in Fig 6

Minor essential revisions:

5) State explicitly in the text of the results how metastasis was evaluated (how many cells and in which body parts)

6) In my opinion the analysis of primary tumours is too superficial/preliminary as it stands for inclusion in the current manuscript, the authors should either remove this data or increase sample number and test correlation with tumour stage/histology

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