Reviewer's report

Title: The role of MMP-1 in breast cancer growth and metastasis to the brain in a xenograft model

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Reviewer: Rakesh Singh

Reviewer's report:

In this manuscript, authors have investigated the role of MMP-1 in breast cancer brain metastasis using a xenograft model. Their data demonstrate that brain metastatic variants express higher levels of MMP-1 and knock-down of MMP-1 expression inhibits primary tumor growth and experimental brain and lung metastasis. More important, authors describe the possible mechanism through release of TGFα and regulation of EGFR phosphorylation. This is very well-written manuscript and conclusions are well-supported through strong evidence. There are some minor concerns:

1. Data shown in Figure 3A is convincing, but needs clarification. It is important to include what the values are (mean) and inclusion of deviation or standard error of mean will be useful. There is * included in figure, it is not clear what it represents.
2. Similarly, Figure 4 should include significance information so that each figure is complete.
3. Figure 5 has similar concerns as the values are mean or median. If it is mean, inclusion of SD and SEM is recommended. IF it median, it will be useful to include range.
4. Data suggesting TGFα release and EGFR phosphorylation is interesting. If it can be demonstrated in in vivo xenografts, it will enhance the impact of overall study.

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.

Declaration of competing interests:

I declare that I have no competing interests.