

## Reviewer Report

**Title:** A MAP of tumor-host interactions in glioma at single cell resolution

**Version:** Original Submission    **Date:** 6/3/2020

**Reviewer name:** Geng Chen

### Reviewer Comments to Author:

Caruso et al. developed a novel method named scTHI to identify the cell-to-cell interactions. They applied scTHI to detect the ligand-receptor interactions in six glioma datasets and found some interesting cell-cell communications.

Major:

1. A number of approaches are available for identifying the ligand-receptor interactions, such as CellPhoneDB, PyMINer, and iTALK. It is intriguing to know the advantages of scTHI compared to other similar methods. Does scTHI have higher sensitivity and/or specificity?
2. The authors detected unexpected cross-talk partners that were highly conserved across different datasets. This could be interesting. Can the author add a figure to show the similarities and differences of cell-cell interactions among distinct datasets?
3. Table 1 showed six glioma datasets used in this study. Some single-cell RNA-seq (scRNA-seq) technologies can sequence the full-length of transcripts (e.g. Smart-seq2), while some others can only capture the 3'/5'-end of the transcripts (e.g. 10X Genomics). These two different types of protocols may influence the data analysis. It would be helpful to add one more column in table 1 to indicate the type of scRNA-seq strategy used in the original studies.

Minor:

1. Figure 2 showed the cell-type classification in glioma, but the six datasets used in this study were not mentioned. Can the authors explain more about this figure?
2. It is recommended to use the white background for Figure 2 and Figure 3.

## Methods

Are the methods appropriate to the aims of the study, are they well described, and are necessary controls included? Choose an item.

## Conclusions

Are the conclusions adequately supported by the data shown? Choose an item.

## Reporting Standards

Does the manuscript adhere to the journal's guidelines on [minimum standards of reporting?](#) Choose an item.

Choose an item.

### **Statistics**

Are you able to assess all statistics in the manuscript, including the appropriateness of statistical tests used? Choose an item.

### **Quality of Written English**

Please indicate the quality of language in the manuscript: Choose an item.

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