Reviewer Report

Title: Improved integration of single cell transcriptome data demonstrates common and unique signatures of heart failure in mice and humans

Version: Revision 1   **Date:** 1/26/2024

Reviewer name: Yinqi Bai

Reviewer Comments to Author:

The author's additional analysis is commendable. With the inclusion of new evaluation metrics, the benchmark section now appears relatively comprehensive, and the explanations provided for the reduced NMI score are reasonable. In the results section, the supplementary information on functional enrichment further elucidates the biological functions of fibroblast cluster 25 and endothelial cell cluster 28. There are still some minor suggestions for improvement:
1. The presentation of the biological findings in the discussion section could be more succinct to improve clarity.
2. There is a lack of discussion on the impact of the numerous lncRNAs generated by OrthoIntegrate. This topic requires further exploration and elaboration.
3. Reorganize the paragraphs for "Single cell pre-processing" and "Study samples" to clarify the source of the data used in the article. Emphasize the data generated by authors (E-MTAB-13264) and provide details on the single-cell sequencing process (not only the raw data pre-processing).

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.

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