

Dear editor, we would like to express our sincere thanks to the Associate Editor and both of two reviewers for the constructive and positive comments.

**Reviewer #1:**

1. This is a comprehensive review on programmed cell death in stem cell-based therapy. Apoptosis, autophagy, necroptosis and other programmed cell death such as ferroptosis and pyroptosis are described with regards to the molecular pathways. Table 1 may be revised to have a different column name for "PCDs in SCs" since some of the studies include necrosis.

**Reply:** We are grateful to receive your comments. We have fixed this concern in Table 1 (highlighted in red in Table 1) to differ this necrosis pathway from necroptosis pathway as one of the types of RCDs.

**Review #2:**

This review manuscript has good points and bad points (1) Good points Data in table are rich Comprehensive topics are selected References are rich. (2) Bad points This is story less fact assembly. Figures are too comprehensive and each topic was not visually explained. Comprehensive discussions are less. The current manuscript can be regarded as huge fact assembly rather than review article with logical flow. In order to fix these points, the following revisions are suggested.

(i) Please provide more figures to explain each topic.

**Reply:** We are grateful to receive your comments. We have provided more figures for a better explanation, including **Figure 1** to explain intrinsic apoptotic pathway, **Figure 2** to explain extrinsic apoptotic pathway, **Figure 5** to explain the pre-strategies of stem cell transplantation therapy, also **Figure 6** to summarize the whole route of this review. Meanwhile, the figure legend has also been enriched in each figure (highlighted in red in figure legend from Figure 1 to Figure 6.).

(ii) Figure 1 and graphical abstract are confused. Please fix this point.

**Reply:** We are grateful to receive your comments. We have fixed this figure and move this figure to the last paragraph as a summary diagram- **Figure 6**. Also, figure legend is added for a clear explanation (highlighted in red in figure legend of Figure 6.).

(iii) Please provide one section for comprehensive discussions on comparisons of each topic.

**Reply:** We are grateful to receive your comments. We have provided one section for comprehensive discussions on comparisons of each topic both in '2. PCD AND ITS KEY MOLECULES IN STEM CELL FOR TRANSPLANTATION THERAPY' and '3. STRATEGIES TO PROMOTE STEM CELL SURVIVAL FOR TRANSPLANTATION THERAPY'. (highlighted in red in the last paragraph of these two sections- '2. PCD AND ITS KEY MOLECULES IN STEM CELL FOR TRANSPLANTATION THERAPY' and '3. STRATEGIES TO PROMOTE STEM CELL SURVIVAL FOR TRANSPLANTATION THERAPY')

(iv) Descriptions of Conclusion sections have to be much strengthened including perspective discussions.

**Reply:** We are grateful to receive your comments. We have enriched the content of conclusion to make a summary of this review and provide some prospects. (highlighted in red in CONCLUSION.)