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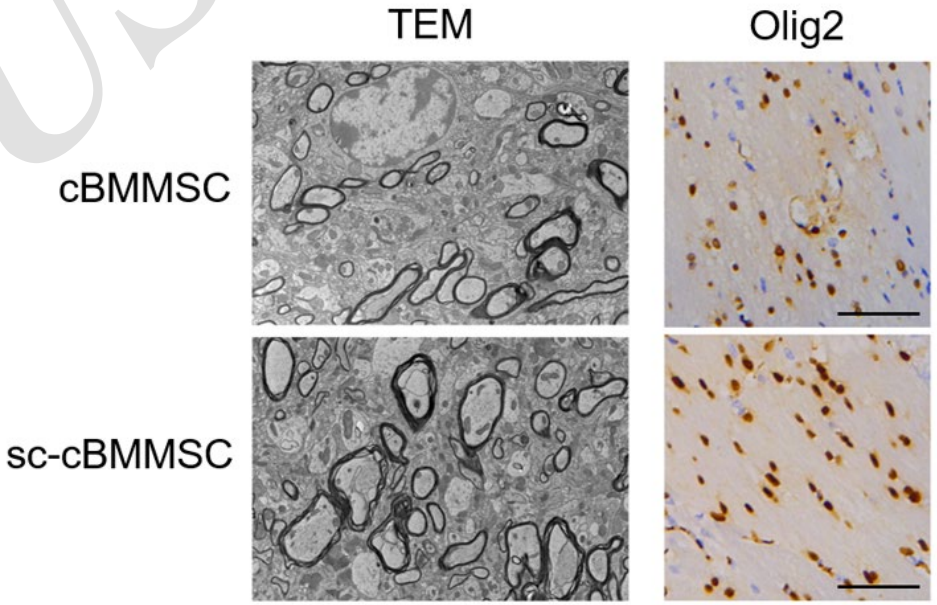
Olig2$^+$ single-colony-derived cranial bone-marrow mesenchymal stem cells achieve improved regeneration in a cuprizone-induced demyelination mouse model

Key words: Cranial bone marrow; single colony; mesenchymal stem cells; oligodendrocytes; demyelination

Research Summary

This correspondence mainly focused on the effects of cranial bone-marrow mesenchymal stem cells (cBMMSC) and Olig2^{+} single colony-derived cBMMSC (sc-cBMMSC) in a central nervous system demyelination mouse model :

It was found that cBMMSC and Olig2^{+} sc-cBMMSC transplantation could achieved improved promotion of behavioral improvement, myelin repair, and nerve-cell regeneration in CPZ animals.



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Innovation points

1. Transplantation of cBMMSC and Olig2^{+} sc-cBMMSC promote the repair and formation of myelin sheaths.

2. Olig2^{+} sc-cBMMSC achieved improved promotion of behavioral improvement, myelin repair, and nerve-cell regeneration in CPZ animals compared to cBMMSC.

3. The effect of cranial bone-marrow-derived stem cells in demyelination may be ascribed to the excellent immune regulation and protection of oligodendrocytes.

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