Nasal Olfactory Mucosa Mesenchymal Stem Cells

For the first time, Hong et al. alleviated symptoms of AD in APPswe/PS1dE9 mice (hereafter referred to as AD mice) by transplantation of olfactory mucosa mesenchymal stem cells (OM-MSCs). Our study demonstrated that OM-MSC transplantation promotes amyloid-β (Aβ) clearance, downregulates the inflammatory response, and increases the M2/M1 ratio; OM-MSCs promote the conversion of BV2 (microglia) from M1 to M2 and also Aβ clearance in SH-SY5YAPPswe (AD cell model). OM-MSC-transplanted AD mice show improved cognitive learning and locomotive behavior. Our study suggests that OM-MSC transplantation could alleviate the symptoms of AD and promote Aβ clearance through immunomodulation, thus demonstrating the great potential and social value of OM-MSC treatment for AD patients [1)]

1)
Hong CG, Chen ML, Duan R, Wang X, Pang ZL, Ge LT, Lu M, Xie H, Liu ZZ. Transplantation of Nasal Olfactory Mucosa Mesenchymal Stem Cells Benefits Alzheimer's Disease. Mol Neurobiol. 2022 Sep 29. doi: 10.1007/s12035-022-03044-6. Epub ahead of print. PMID: 36173534.