Electronic Supplementary Material (ESI) for Nanoscale.
This journal is © The Royal Society of Chemistry 2018

Dextran-coated iron oxide nanoparticle-improved therapeutic effects of human mesenchymal stem cells in a mouse model of Parkinson's disease

Tsai-Hua Chung, Szu-Chun Hsu, Shu-Hui Wu, Jong-Kai Hsiao, Chih-Peng Lin, Ming Yao and Dong-Ming Huang

The Receptors for guiding hMSCs migration. Besides the expression profiles of IL-15R, EGFR and CXCR4 in hMSCs and *hMSCs, we examined the protein expression of other receptors that are supposed to be associated with guiding MSCs to damaged brain tissues (Fig. S1). hMSCs or *hMSCs were rinsed with ice-cold 1 × PBS and were lysed by the addition of lysis buffer (25 mM HEPES, pH 7.5, 150 mM NaCl, 1% Igepal CA-630, 10 mM $MgCl_2$, 1 mM EDTA and 2% glycerol, 1μM phenylmethylsulfonyl fluoride, 1 μg mL^{-1} leupeptin, and 10 μg mL^{-1} aprotinin) for 1 h at 4°C. The suspensions were centrifuged at 15,700 g for 20 min at 4°C. The protein concentration of the supernatant was assessed by the Bio-Rad protein assay kit.

Proteins were separated by electrophoresis in a 10% polyacrylamide gel and transferred to a polyvinylidene difluoride membrane. After incubation at room temperature in 0.1% Tween 20 with TBS plus 5% bovine serum albumin (BSA) for 1 h. Antibodies for IL-6R (dilution 1:800, Santa Cruz) , IL-7R (dilution 1:800, Santa Cruz) , IL-17R (dilution 1:800, Santa Cruz), IP-10R (CXCR3) (dilution 1:800, Santa Cruz) , FGFR1 (dilution 1:1000, Cell signaling) , TNF-R1 (dilution 1:800, Santa Cruz), TNF-R2 (dilution 1:800,Santa Cruz), β-actin (dilution 1:2000, Santa Cruz) were added to TBST containing 1% BSA and incubated with the membranes at 4°C. Membranes were then washed three times in TBST, for 10 min each time. After washing, horseradish peroxidase (HRP)-conjugated anti-rabbit (dilution 1:5000, Cell signaling), anti- goat (dilution 1:5000, Santa Cruz) or anti-mouse (dilution 1:5000, Cell signaling) antibodies were incubated with membranes for 60 min at room temperature. After washing, the membranes were developed using the Luminata Cresendo Western HRP Substrate kit (Millipore). No differences in the expressions of IL-6R, IL-7R, IL-17R, IP-10R, FGFR1, TNF-R1, and TNF-R2 were observed.

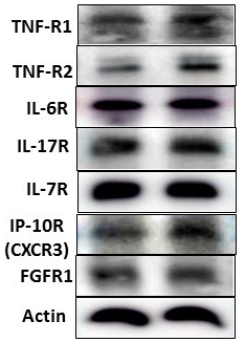

Fig. S1 The expression profiles of IL-6R, IL-7R, IL-8R, IL-17R, IP-10R, FGFR1, TNF-R1, and TNF-R2 in hMSCs and *hMSCs. Actin was the internal control. Results of Western blot shown are representative of three separate experiments.