OMTM, Volume *32*

Supplemental information

Human iPSC-derived neural stem cells engraft and improve pathophysiology of MPS I mice

Caitlin C. Calhoun, Shih-Hsin Kan, Alexander E. Stover, Jerry F. Harb, Edwin S. Monuki, Raymond Y. Wang, and Philip H. Schwartz

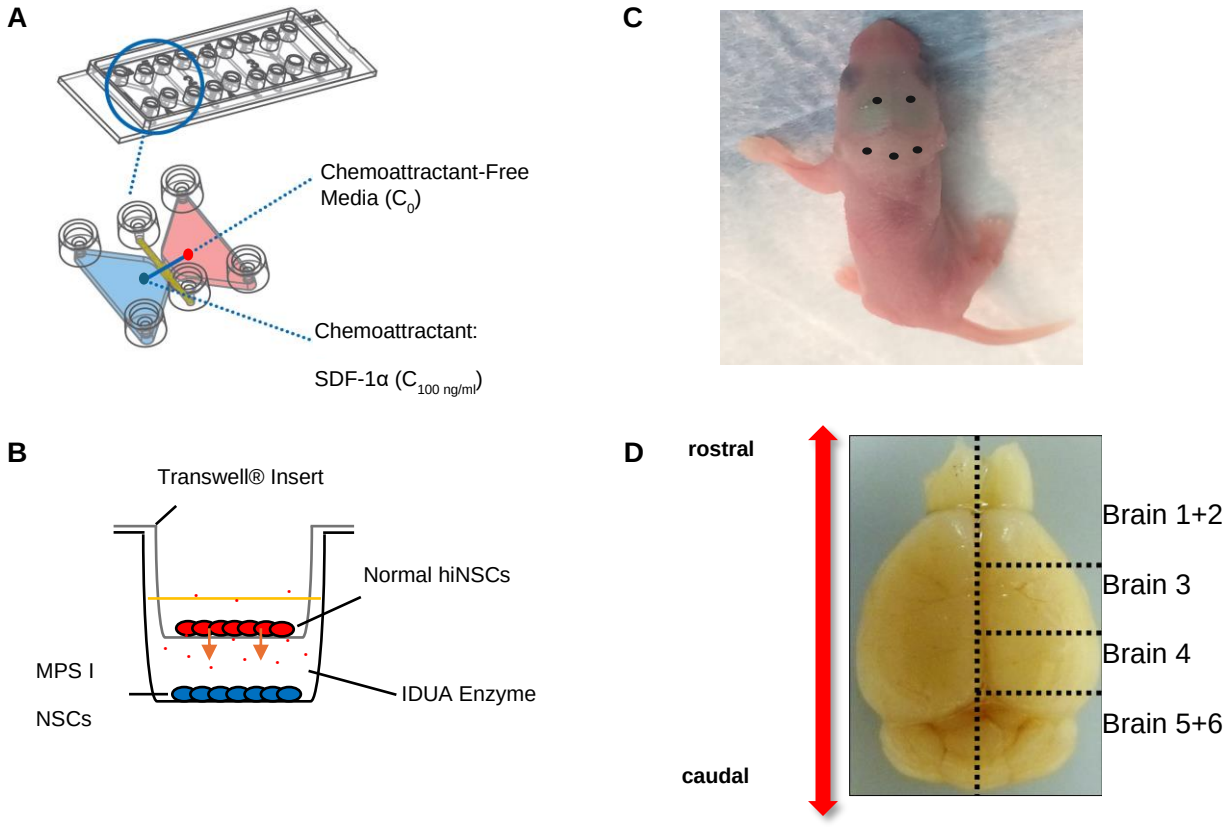

Figure S1:

A. ibidi µ-Slide Chemotaxis assay set-up used to measure qualitative migration. HiNSCs were seeded in the center observation chamber (yellow); chemoattractant SDF-1α on the left side of reservoir chamber (blue); chemoattractant-free media on the right side of the reservoir chamber (pink). Image was authorized for use with minor modifications from ibidi GmbH.

B. Transwell® co-culture setup used to measure cross-correction efficacy. MPS I-NSCs (GM00415) at the bottom of the well (blue); hiNSCs in the Transwell® insert on top (red).

C. Immunodeficient MPS I knockout (*Idua*$^{-/-}$) mice aged 1-2 days received hiNSCs via bilateral injections into both lateral ventricles and intraparenchymally at three sites in the cerebellum ($1x10^5$ hiNSCs per site).

D. Top view of an adult mouse brain from an engrafted animal at 8 months post-transplantation. Mouse brain was dissected sagittally along the midline. The right hemispheres were coronally sectioned at 2 mm thickness and fractionated for biochemical analysis. Left hemispheres were fixed in 4% PFA for histological examination.

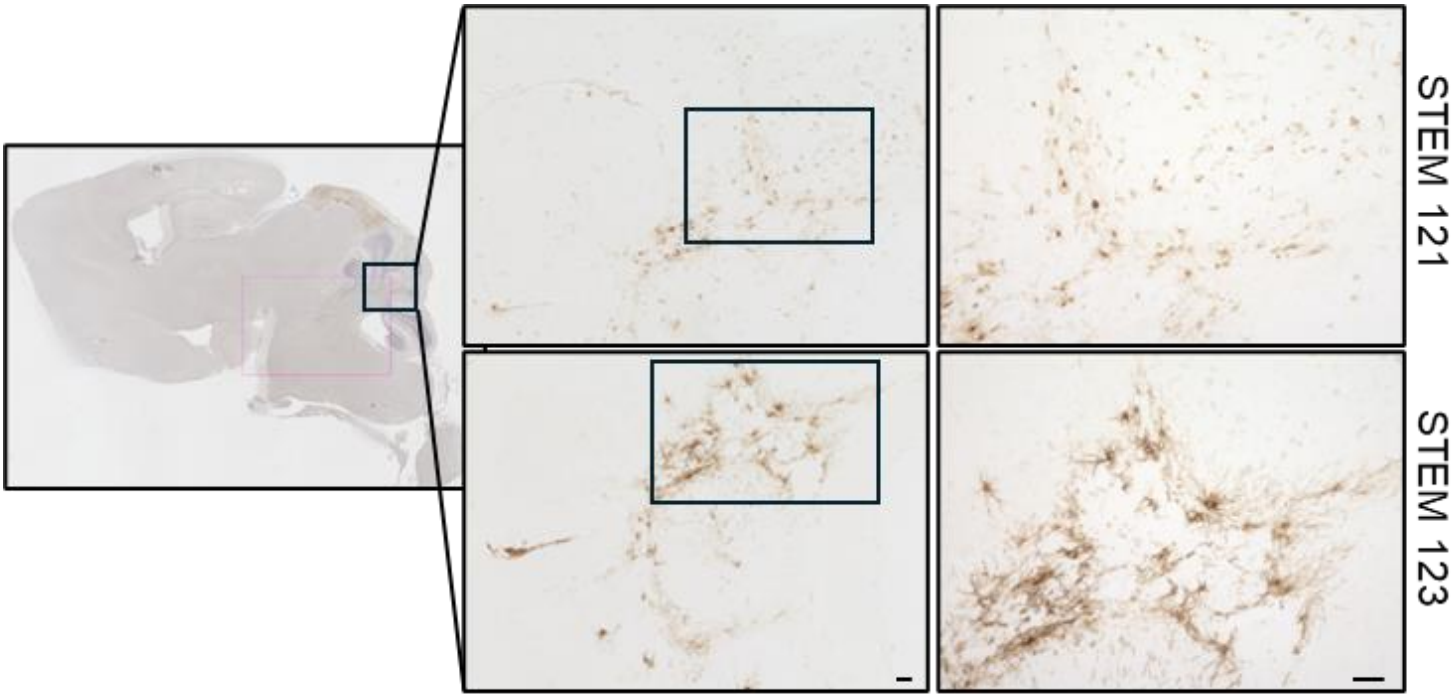

Figure S2:

Representative images show immunohistochemical staining for STEM121 and STEM 123 in the cerebellum area. To determine the differentiation status of hiNSCs after 8 months engraftment in the *Idua*$^{-/-}$ mouse brain, sections were stained with STEM123, a marker specific to human glial fibrillary acidic protein (GFAP). Scale bars, 50 µm

Video S1:

Description: Time-lapse video of hiNSCs (center) migrating towards the chemoattractant SDF-1α (left) in an ibidi µ-slide chemotaxis assay, with no chemoattractant present in the right reservoir.