



**Supplementary Figure S1.** Histological evaluation at 4 weeks after immature C-MSCs transplantation.

(A-E) Animals were sacrificed at 4 weeks after surgery and the cranial bones were isolated. Semi-serial sections (8  $\mu$ m) were obtained and stained with HE and immunostained with anti-human vimentin antibody, as indicated. Nuclei were counterstained with DAPI for immunostaining. Bar = 250  $\mu$ m. (A) No implant. (B) 15-days GM: transplantation of C-MSCs cultured in XF-GM for 15 days. (C) 5-days GM: transplantation of C-MSCs cultured in XF-GM for 5 days. (D) 10-days GM: transplantation of C-MSCs cultured in XF-GM for 10 days. (E) 5-days CIM: transplantation of C-MSCs cultured in XF-CIM for 5 days. All images are representative of six samples.