

**SUPPLEMENTARY FIG. S5.** Reduction of fiber necrosis by SkM-differentiated hDE-MSCs in an in vivo model of SkM injury. Hematoxylin and eosin and Masson Trichrome staining of SkM tissue paraffin sections from (**A**) sham, normal saline-injured (sham), and (**B**) bupivicaine hydrochloride-injured (injury) mice (three per group) after local injection of phosphate-buffered saline only (C, control), undifferentiated PMSCs (Undif), or MM2-cultured PMSCs (MM2). Magnification,  $200 \times$ . (**C**) Quantification of area of fiber necrotic damage (*black arrows*) in bupivacaine-injured mice after injection of hDE-MSCs. Quantification was performed by analysis of 12 sections per mouse, with 600–1,000 nuclei counted per section. \**P* < 0.05, undifferentiated hDE-MSCs compared to MM2-cultured hDE-MSCs injection.