

**SUPPLEMENTARY FIG. S2.** Histological analysis of the newly formed muscle tissues. After myogenic *in vivo* differentiation, tissues formed by unlabeled (control) and 400  $\mu$ g/mL SPIO-labeled hMPCs were harvested and evaluated by immunostaining for muscle markers desmin, MyHC, and  $\alpha$ -actinin 4 weeks after MPC injection. Prior injection, cells were labeled with PKH67. Scale bar is 100  $\mu$ m.