

Supplementary figures

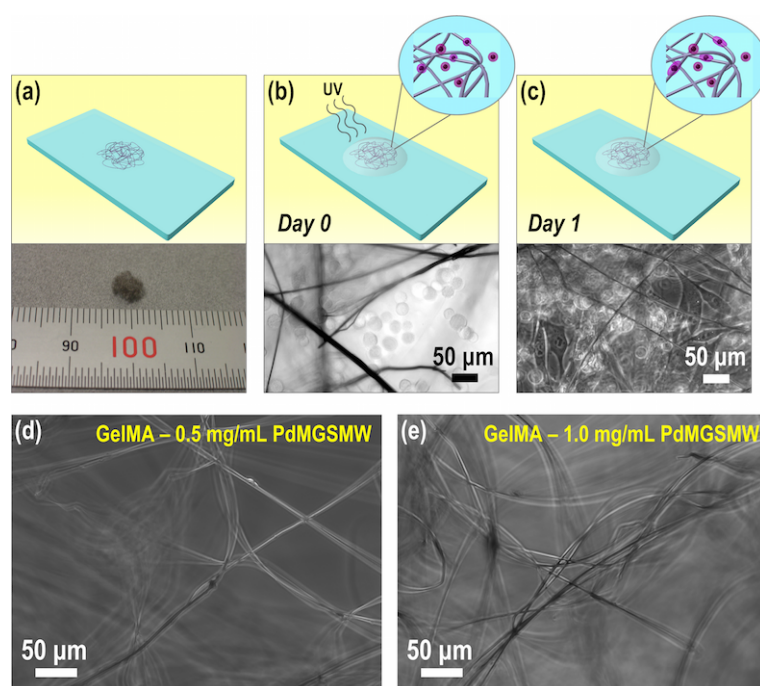


Figure S1. Schematic illustration and images of the process to prepare cell-laden hydrogels on a glass slide and GelMA-PdMGSMW gels. (a) First, entangled wires were deposited on the center of the slide. (b) Next, a solution of 5% (w/v) GelMA prepolymer containing C2C12 myoblasts was carefully spread on the wires, and finally the ensemble was irradiated with the UV light for 60 s. (c) After one day of encapsulation, a fraction of cells attached to the wires were elongated. Phase contrast images of GelMA-0.5 mg/mL PdMGSMW (d) and GelMA-1.0 mg/mL PdMGSMW gels (e).

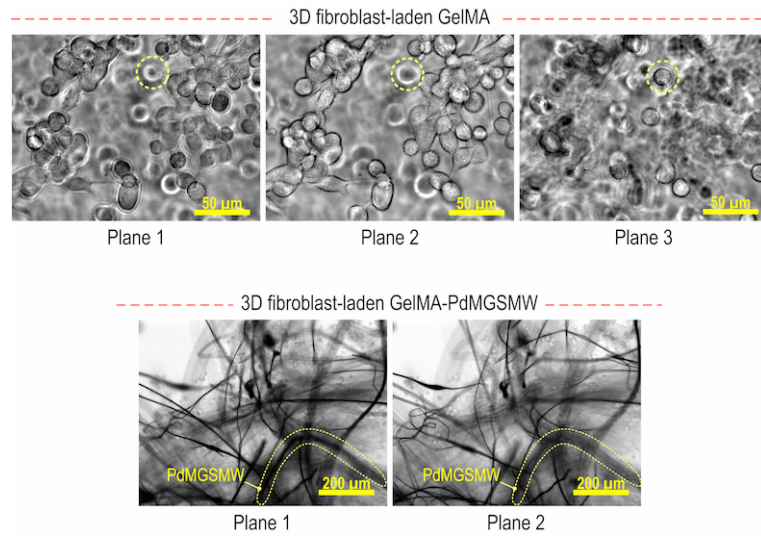


Figure S2. Demonstration of 3D encapsulation of fibroblasts in 5% GelMA, with (bottom row) and without PdMGSMWs (top row). Phase contrast images were focused and taken at different planes along the z-axis after 2h of culture. In order to illustrate 3D orientation of the fibroblasts, a single cell is encircled at the top row.

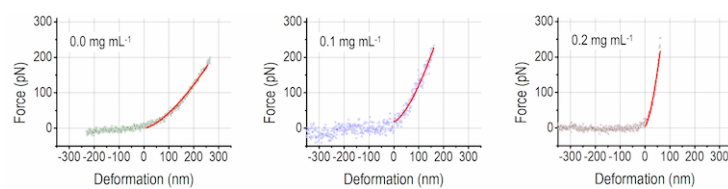


Figure S3. Force-deformation curves obtained from pristine GelMA, GelMA-0.1 mg/mL PdMGSMW, and GelMA-0.2 mg/mL PdMGSMW hydrogels.

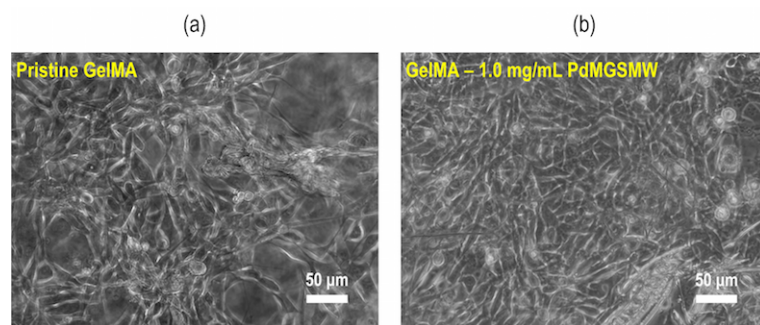


Figure S4. Phase contrast images of pristine GelMA (a) and GelMA-1.0 mg/mL PdMGSMW gels (b) at day 0 of differentiation.

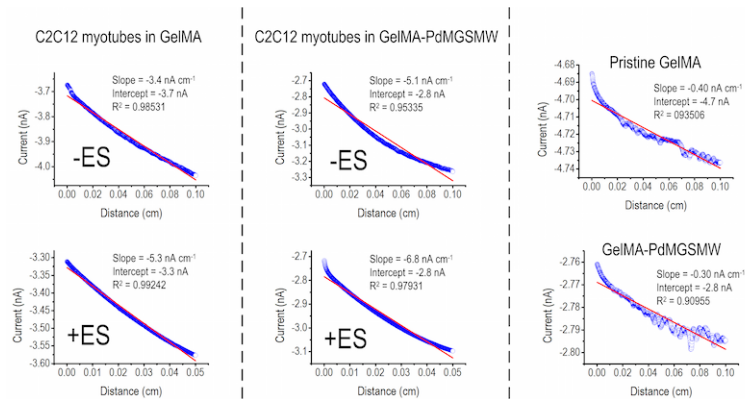


Figure S5. Current versus distance plots for pristine GelMA and GelMA-1.0 mg/mL PdMGSMW hydrogels and C2C12 myotubes in pristine GelMA and GelMA-1.0 mg/mL PdMGSMW hydrogels with and without applying the ES.