MSC-Encapsulating In Situ Cross-linkable Gelatin Hydrogels To Promote Myocardial Repair

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**Figure S1.** Elastic modulus ($G'$) and viscous modulus ($G''$) of GH hydrogels with different concentration of H$_2$O$_2$ in the presence of HRP (0.006 mg/mL). Rheological analysis of (A) GH-compliant (0.07 wt % H$_2$O$_2$, 1300 Pa) and (B) GH-stiff (0.14 wt % H$_2$O$_2$, 5300 Pa) hydrogels, respectively.
**Figure S2 Video.** In vitro 3D live/dead staining of MSCs within GH hydrogels. (A) Extensive proliferation and multicellular 3D structure of encapsulated MSCs within the GH-compliant hydrogel. (B) Rounded and less-spread morphologies of encapsulated MSCs within the GH-stiff hydrogel.
Figure S3 Video. Echocardiography of MI induced mice at day 28 post-transplantation with PBS, MSCs, gel, or MSCs/gel, respectively.
Figure S4. Degradation properties of GH hydrogels for 28 days. (A) In vitro degradation profiles of GH-compliant and GH-stiff hydrogels with or without collagenase (0.5 μg/mL) treatment ($n = 3$). (B) In vivo degradation profiles of the GH-compliant hydrogel labeled with FITC in MI induced mice ($n = 3$).