Supporting Information

3D cell entrapment as a function of the weight percent of peptide-amphiphile hydrogels

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Movies

Movies showing 3D reconstruction of z-stack confocal images from 1.35 x 10^6 NIH3T3/GFP cells/mL entrapped for different time points in a 0.5 wt% or 1.0 wt% of 5 mol% PR_g and 95 mol% E2 peptide-amphiphile hydrogel. Live NIH3T3/GFP cells express green fluorescent protein:

Movie S1 (la5b00196_si_002.avi)**.** NIH3T3/GFP fibroblasts entrapped in a 0.5 wt% peptide-amphiphile hydrogel after 3 h.

Movie S2 (la5b00196_si_003.avi)**.** NIH3T3/GFP fibroblasts entrapped in a 0.5 wt% peptide-amphiphile hydrogel after 24 h.

Movie S3 (la5b00196_si_004.avi)**.** NIH3T3/GFP fibroblasts entrapped in a 0.5 wt% peptide-amphiphile hydrogel after 48 h.

Movie S4 (la5b00196_si_005.avi)**.** NIH3T3/GFP fibroblasts entrapped in a 0.5 wt% peptide-amphiphile hydrogel after 72 h.

Movie S5 (la5b00196_si_006.avi)**.** NIH3T3/GFP fibroblasts entrapped in a 0.5 wt% peptide-amphiphile hydrogel after 5 d.

Movie S6 (la5b00196_si_007.avi)**.** NIH3T3/GFP fibroblasts entrapped in a 1.0 wt% peptide-amphiphile hydrogel after 3 h.

Movie S7 (la5b00196_si_008.avi)**.** NIH3T3/GFP fibroblasts entrapped in a 1.0 wt% peptide-amphiphile hydrogel after 24 h.

Movie S8 (la5b00196_si_009.avi)**.** NIH3T3/GFP fibroblasts entrapped in a 1.0 wt% peptide-amphiphile hydrogel after 48 h.

Movie S9 (la5b00196_si_010.avi)**.** NIH3T3/GFP fibroblasts entrapped in a 1.0 wt% peptide-amphiphile hydrogel after 72 h.

Movie S10 (la5b00196_si_011.avi)**.** NIH3T3/GFP fibroblasts entrapped in a 1.0 wt% peptide-amphiphile hydrogel after 5 d.

Tables

Table S1. P-values from the ANOVA analysis of fluorescence signal from the NIH3T3/GFP fibroblasts entrapped in 0.5 wt% or 1.0 wt% of 5 mol% PR_g and 95 mol% E2 peptide-amphiphile hydrogels over time, shown in Figure 5.

0.5 wt% Gels					
	3 h	**24 h**	**48 h**	**72 h**	**5 days**
3 h		> 0.05	< 0.001	< 0.001	< 0.001
24 h			< 0.001	< 0.001	< 0.001
48 h				< 0.05	< 0.001
72 h					< 0.001
5 days					
1.0 wt% Gels					
	3 h	**24 h**	**48 h**	**72 h**	**5 days**
3 h		> 0.05	< 0.05	< 0.001	< 0.001
24 h			< 0.05	< 0.001	< 0.001
48 h				< 0.01	< 0.001
72 h					< 0.001
5 days					

Table S2. P-values from the ANOVA analysis of fluorescence signal from the NIH3T3/GFP fibroblasts entrapped in 0.5 wt% or 1.0 wt% of 5 mol% PR_g and 95 mol% E2 peptide-amphiphile hydrogels over time, shown in Figure 5.

0.5 wt% *vs.* 1.0 wt% Gels	
3 h	> 0.05
24 h	> 0.05
48 h	< 0.01
72 h	< 0.05
5 days	< 0.01

Figures

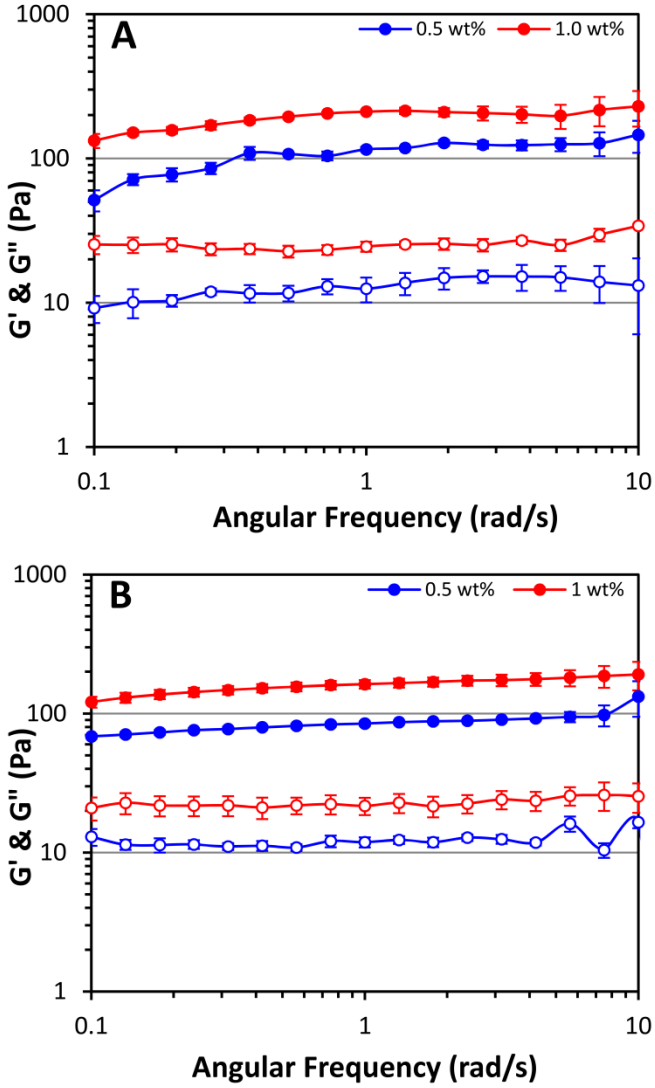

Figure S1. Rheology of 5 mol% PR_g - 95 mol% E2 peptide-amphiphile hydrogels containing (A) $6.75x10^5$ NIH3T3/GFP fibroblasts per mL, and (B) $1.35x10^6$ NIH3T3/GFP fibroblasts per mL. Data are shown as the mean ± standard error from 3 independent experiments (n=3). Filled symbols represent the storage modulus (G') and open symbols represent the loss modulus (G").

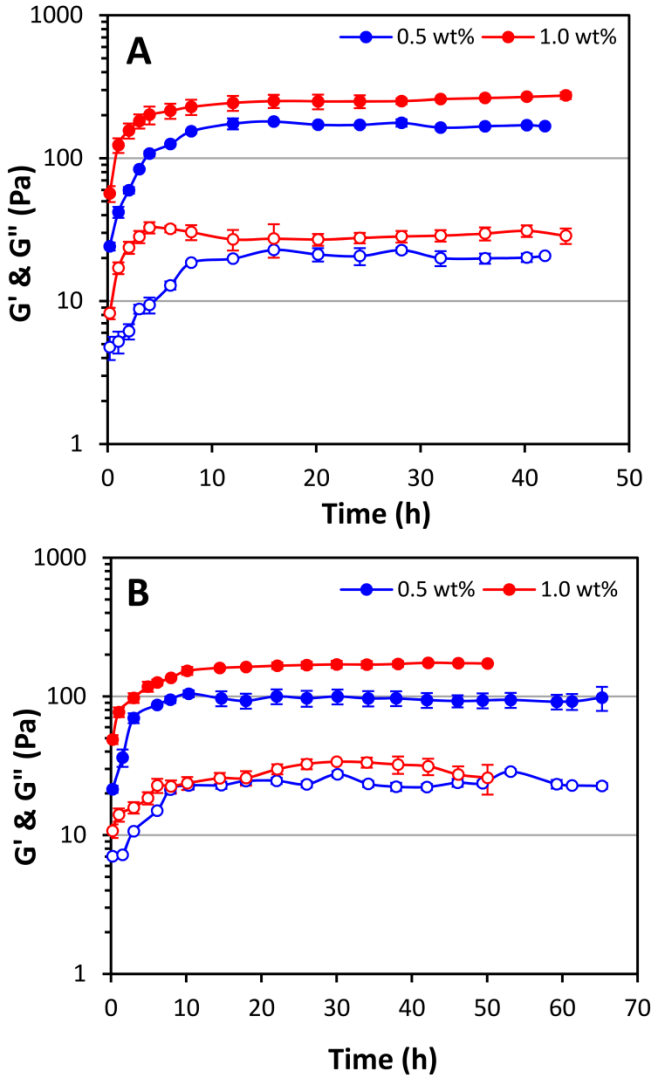

Figure S2. Rheology of 5 mol% PR_g - 95 mol% E2 peptide-amphiphile hydrogels (A) without and (B) with entrapped $1.35x10^6$ NIH3T3/GFP fibroblasts/mL. Data are shown as the mean ± standard deviation from 2 independent experiments (n=2). Filled symbols represent the storage modulus (G') and open symbols represent the loss modulus (G").

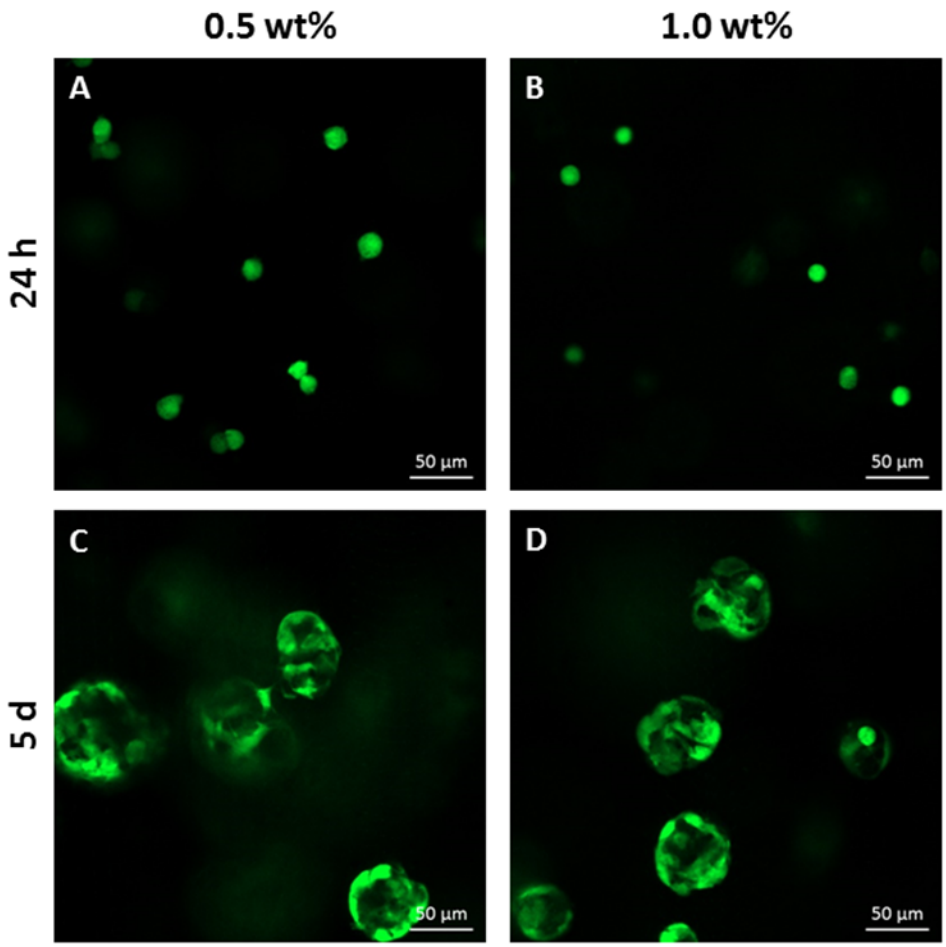

Figure S3. Confocal images of NIH3T3/GFP fibroblasts in 5 mol% PR_g - 95 mol% E2 peptide-amphiphile hydrogels. Images shown are from 0.5 wt% and 1.0 wt% gels after 24 h (A, B) and 5 days (C, D). NIH3T3/GFP cells are shown in green.

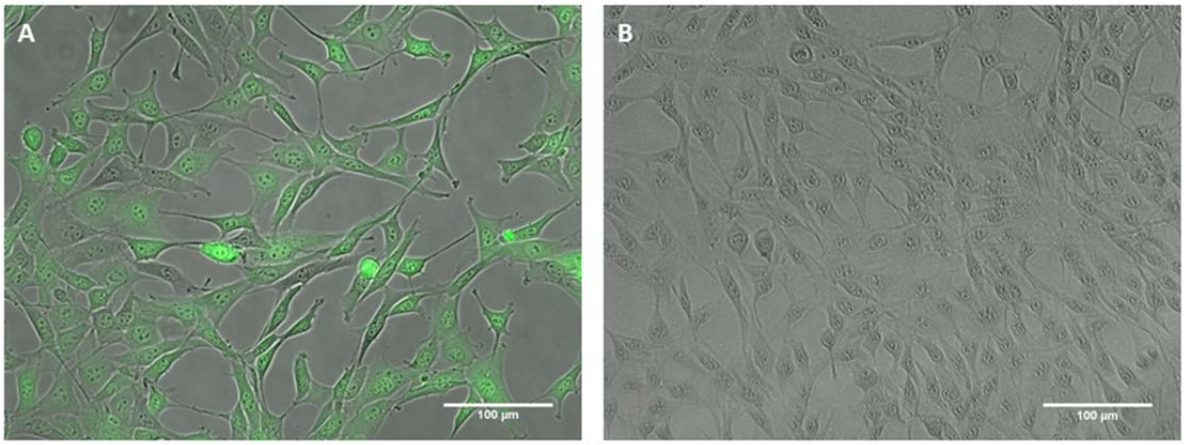

Figure S4. Fluorescence overlay on phase images of NIH3T3/GFP fibroblasts. (A) Live cells and (B) cells killed after exposure to 30% ethanol for 5 min.

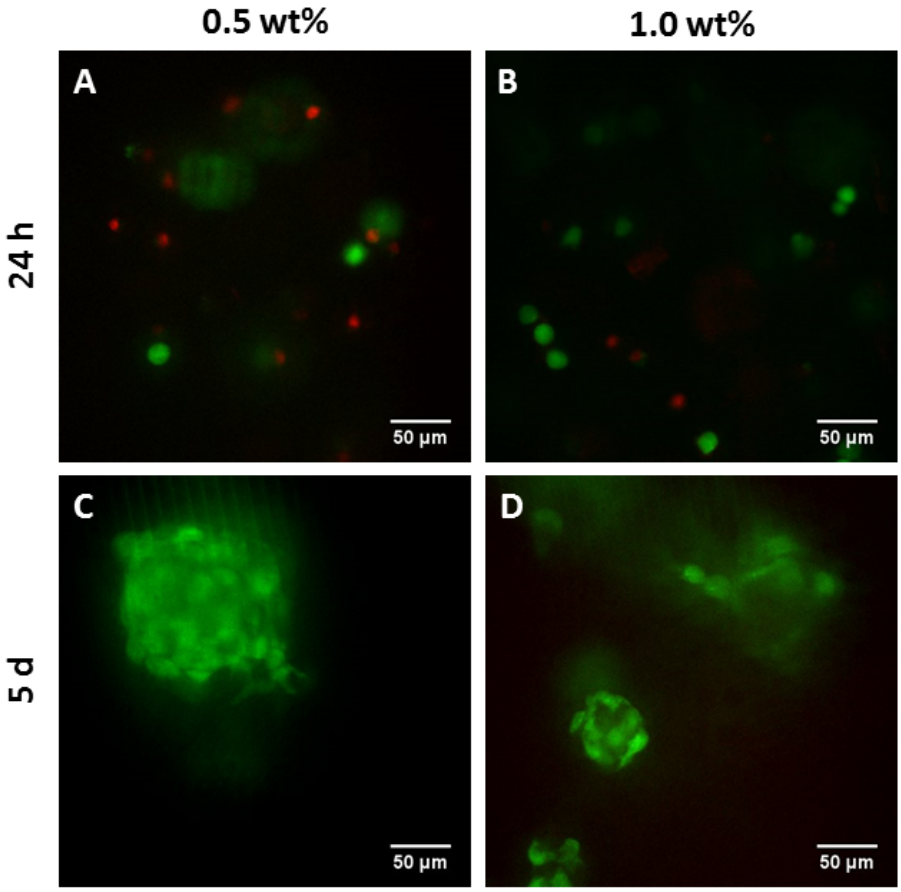

Figure S5. Confocal images of NIH3T3 fibroblasts entrapped in 5 mol% PR_g - 95 mol% E2 peptide-amphiphile hydrogels and evaluated with the Live/Dead cell viability assay. Both the 0.5 wt% and 1.0 wt% gels were examined at 24 h (A, B) and 5 days (C, D). Green cells are alive and red cells are dead.