Supplementary Information

Engineered Extracellular Matrices with Cleavable Crosslinkers for Cell Expansion and Easy Cell Recovery

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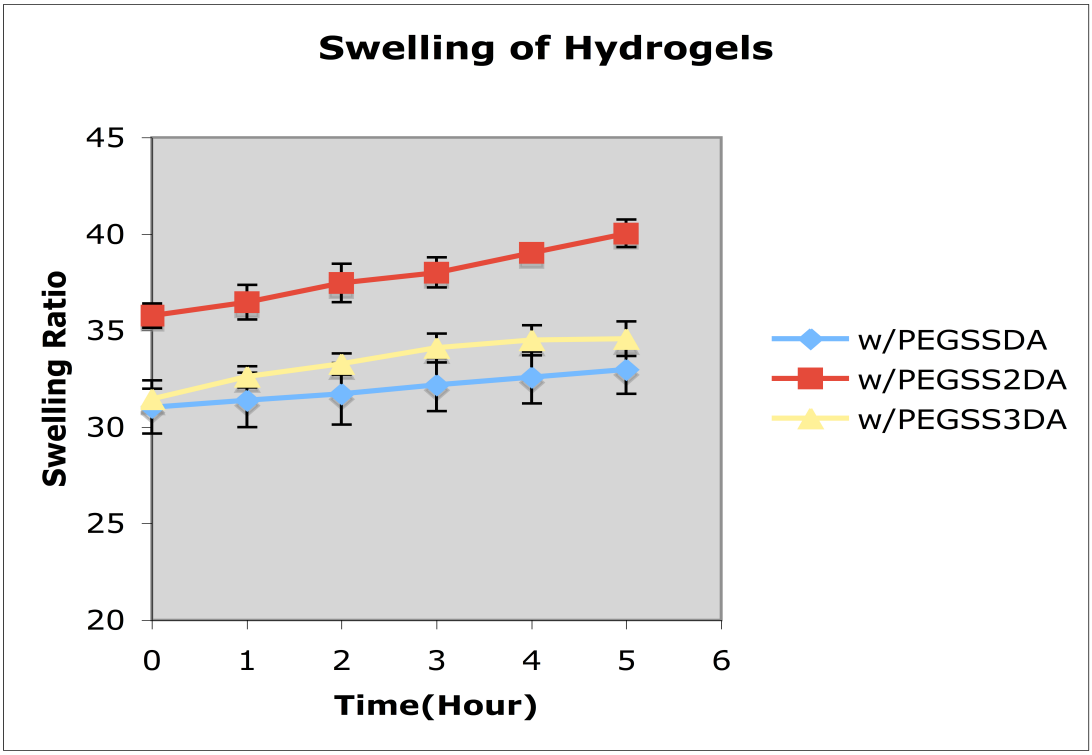
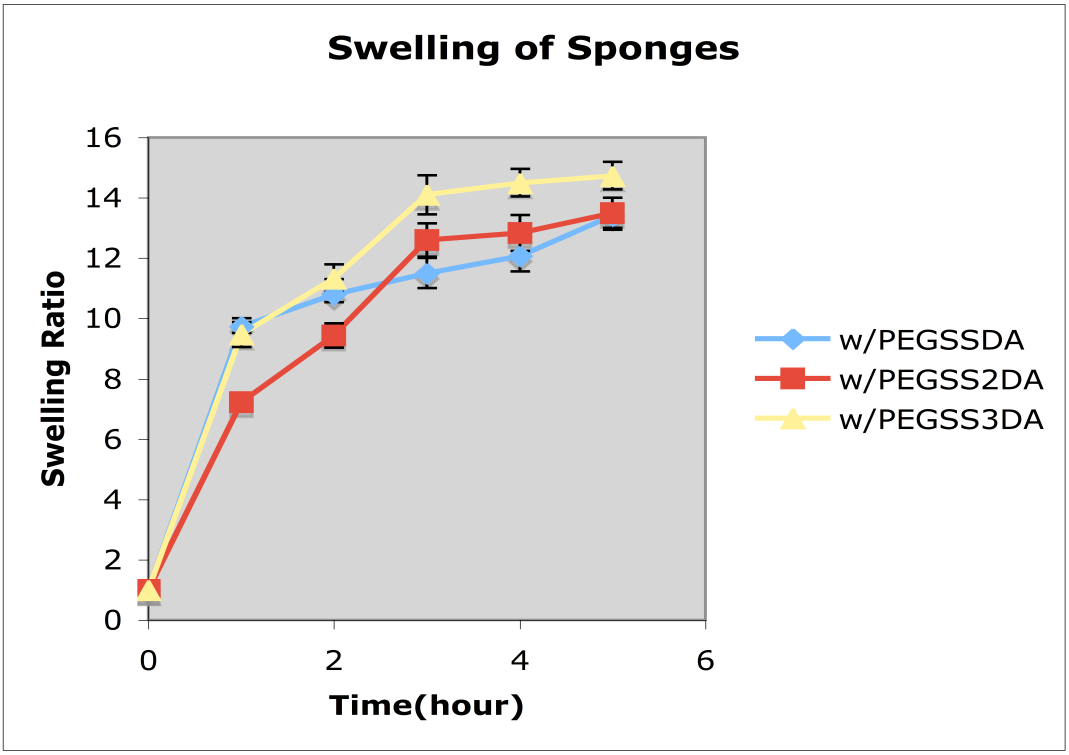
Supplementary Figure 1. Swelling ratios of hydrogels and sponges. sECM hydrogels formed using the triblock, pentablock, and heptablock PEG$(SS)_n$DA crosslinkers were allowed to swell in PBS at pH = 7.4. Swelling ratio is defined as the mass of the swollen hydrogel to the mass of the dried hydrogel.

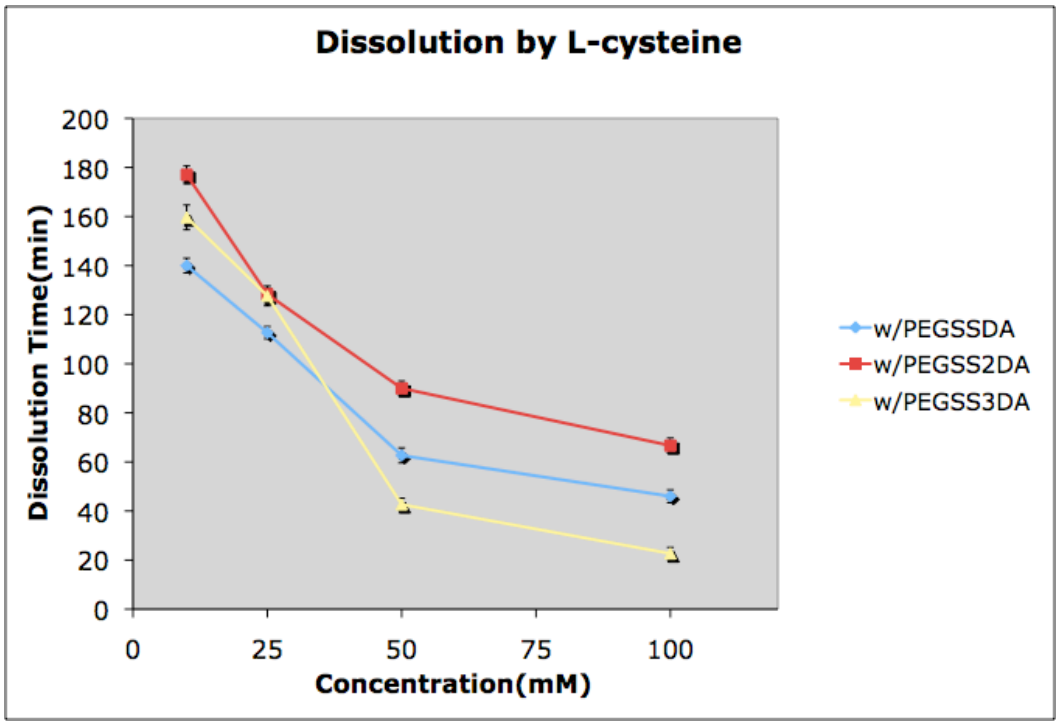
Supplementary Figure 2. Redissolution times of hydrogels with L-cysteine or L-glutathione. Stirred solutions of 1 mL of Cys or 1 mL of GSH at concentrations varying from 10 mM to 100 mM were used to dissolve the sECM hydrogels formed using the triblock, pentablock, and heptablock PEG$(SS)_n$DA crosslinkers. Dissolution time was defined as the time from the addition of Cys or GSH to the time at which there was no remaining hydrogel that could be visually detected.

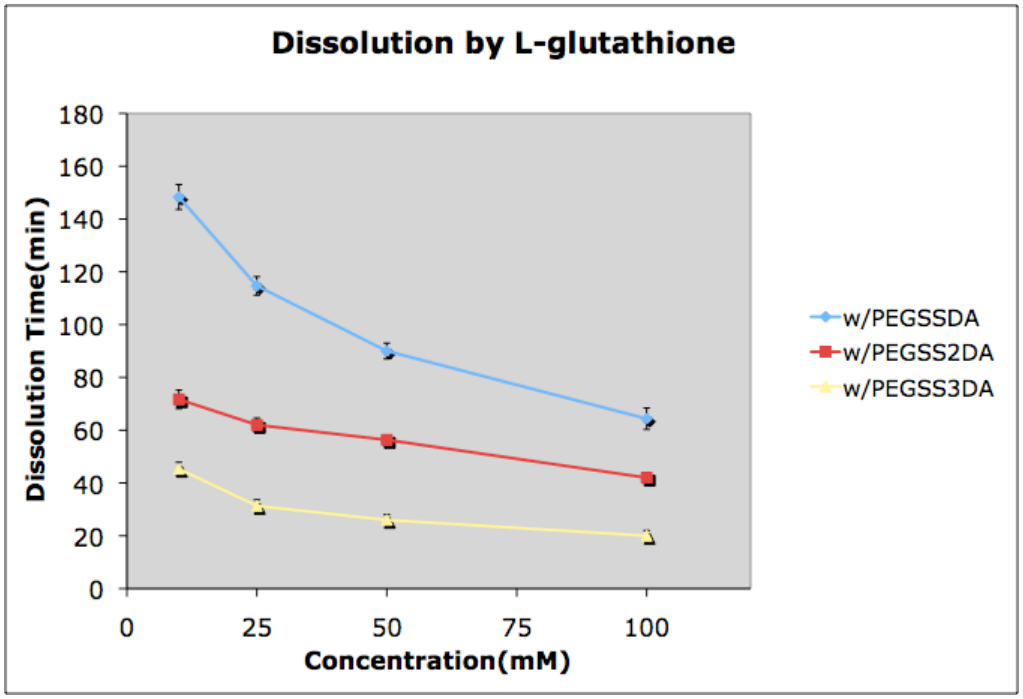
Supplementary Figure 3. Cell viability for "3-D on top" culture for three cell types. MTS absorbance readings at Day 3 and Day 7, proportional to live cell density, are shown. Panel A, NIH3T3 fibroblasts; Panel B, HepG2 C3A cells; Panel C, hMSCs were cultured on the surface of HA hydrogels or sponges (sp) made with differing crosslinker types. One asterisk (*) indicates statistical difference relative to plastic control ($p < 0.01$) and two asterisks (**) indicate statistical difference relative to PEGDA control (gel for gel group, sponge for sponge group).



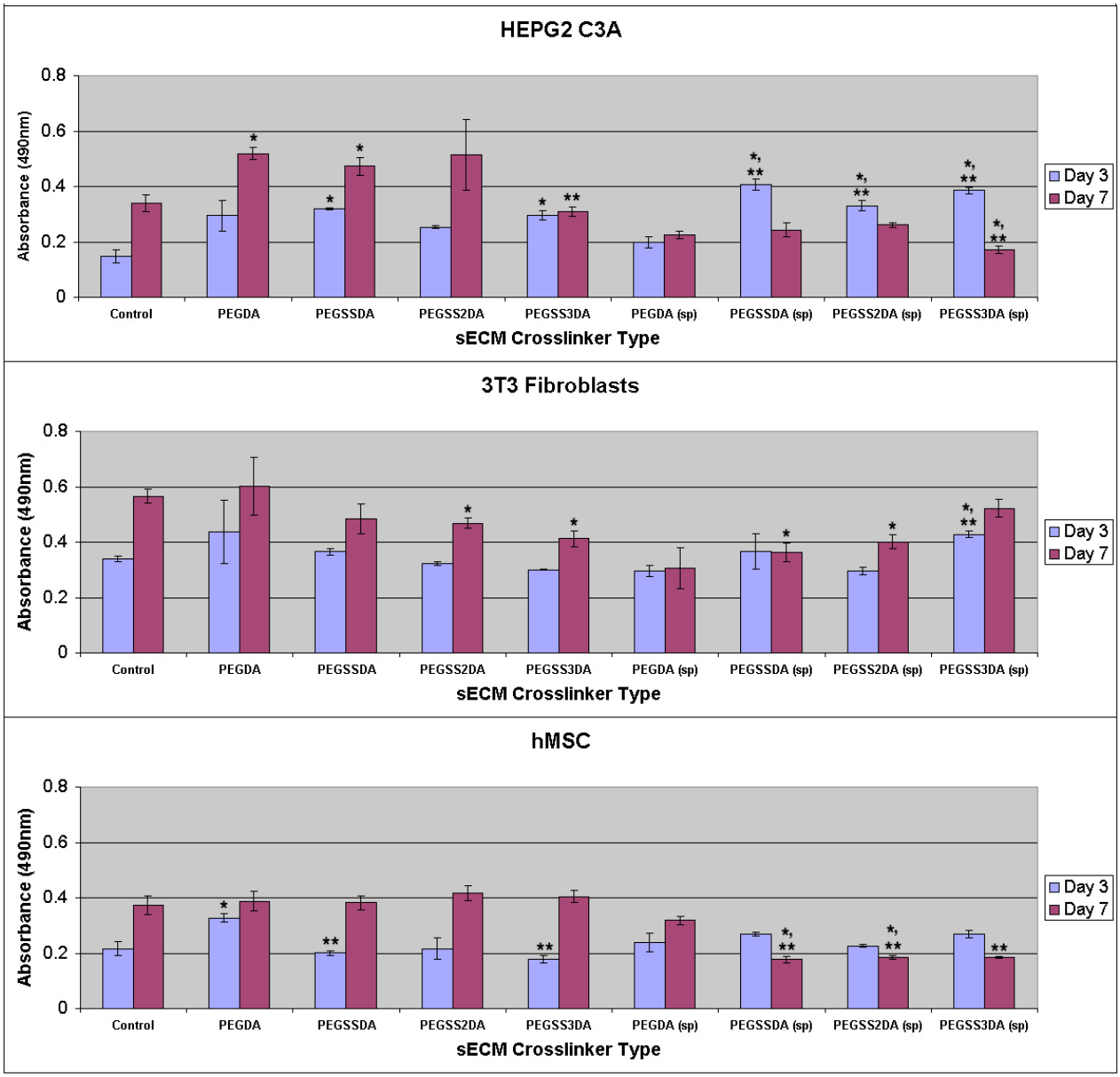


Supplementary Figure 1





Supplementary Figure 2



Supplementary Figure 3