

Supporting Information

Zhao et al. 10.1073/pnas.1007862108

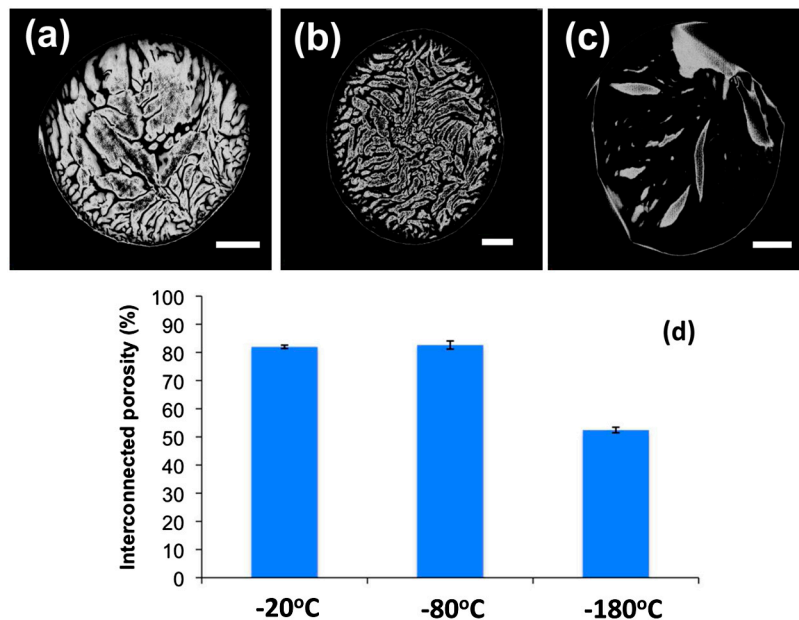


Fig. S1. Microcomputed tomograph images demonstrating the distribution of fluorescent beads (1- μm diameter) in the middle planes of macroporous-gel cylinders (5-mm height) soaked in a solution of the fluorescent beads. Because the diameter of the fluorescent beads is much smaller than the pore sizes of the macroporous gels, the distributions of fluorescent beads indicate pore connectivity in the gels. Highly interconnected pores were observed in gels prepared at -20°C (A) and -80°C (B), whereas poorly interconnected pores were observed in gels prepared at -180°C (C). (Scale bar: 2 mm.) The thickness of each sample image shown above is 40 μm . The conclusion is also supported by the interconnected porosity measured through a water wicking method (D). Values in D represent mean and standard deviation ($n = 3$).

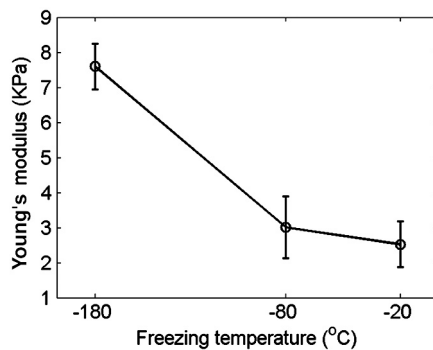


Fig. S2. The initial Young's moduli of macroporous ferrogels prepared at various freezing temperatures. Values represent mean and standard deviation ($n = 3$).

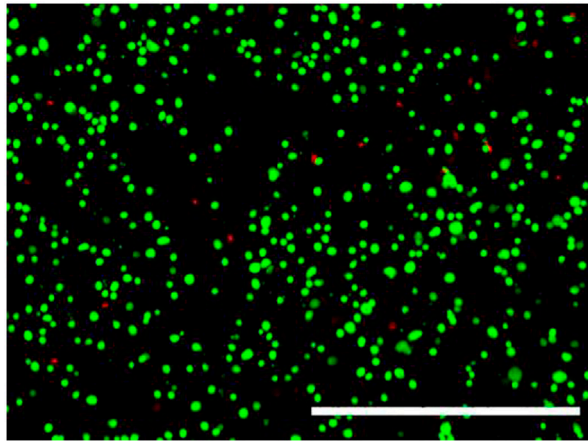
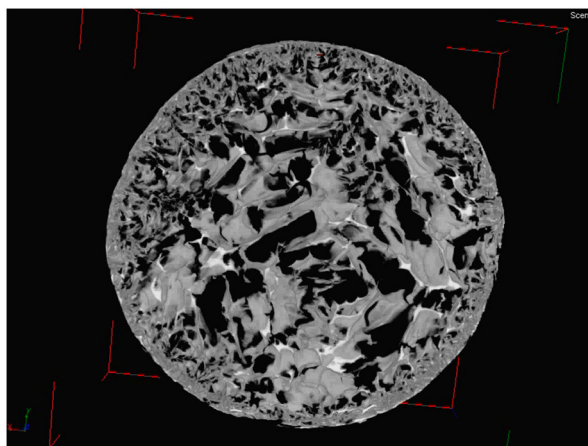
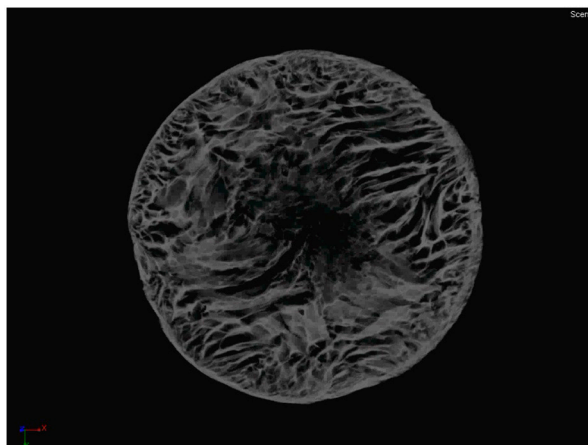


Fig. S3. The released cells from macroporous ferrogels were probed for viability via staining with calcein AM ethidium homodimer-1 (live/dead; Molecular Probes). More than 95% of the released cells were viable. (Scale bar: 500 μm .)



Movie S1. Three-dimensional microstructures of macroporous ferrogels obtained through reconstructions of microcomputed tomograph images. The gels were prepared at $-20\text{ }^{\circ}\text{C}$. The thickness of samples shown is 700 μm .

[Movie S1 \(WMV\)](#)



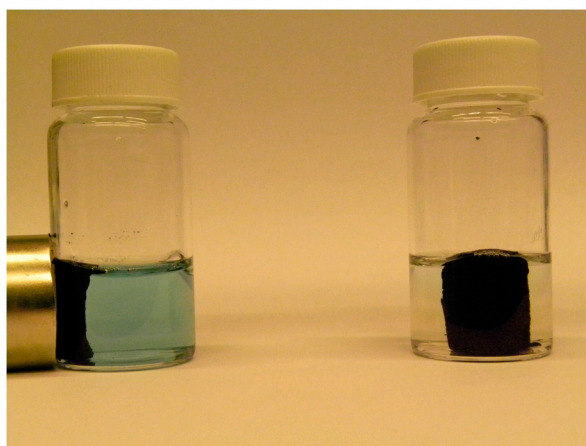
Movie S2. Three-dimensional microstructures of macroporous ferrogels obtained through reconstructions of micro-computed tomograph images. The gels were prepared at $-80\text{ }^{\circ}\text{C}$. The thickness of samples shown is 700 μm .

[Movie S2 \(WMV\)](#)



Movie S3. Three-dimensional microstructures of macroporous ferrogels obtained through reconstructions of micro-computed tomograph images. The gels were prepared at $-180\text{ }^{\circ}\text{C}$. The thickness of samples shown is $700\text{ }\mu\text{m}$.

[Movie S3 \(WMV\)](#)



Movie S4. Demonstration of mitoxantrone being released from macroporous ferrogels with and without the magnetic stimulation. The applied magnetic stimulation greatly accelerated the release of mitoxantrone, as shown by the increasing blue color in the PBS.

[Movie S4 \(WMV\)](#)