# Electronic Supplementary Information (ESI)

## Covalently conjugated transforming growth factor-β1 in modular chitosan hydrogels for the effective treatment of articular cartilage defects†

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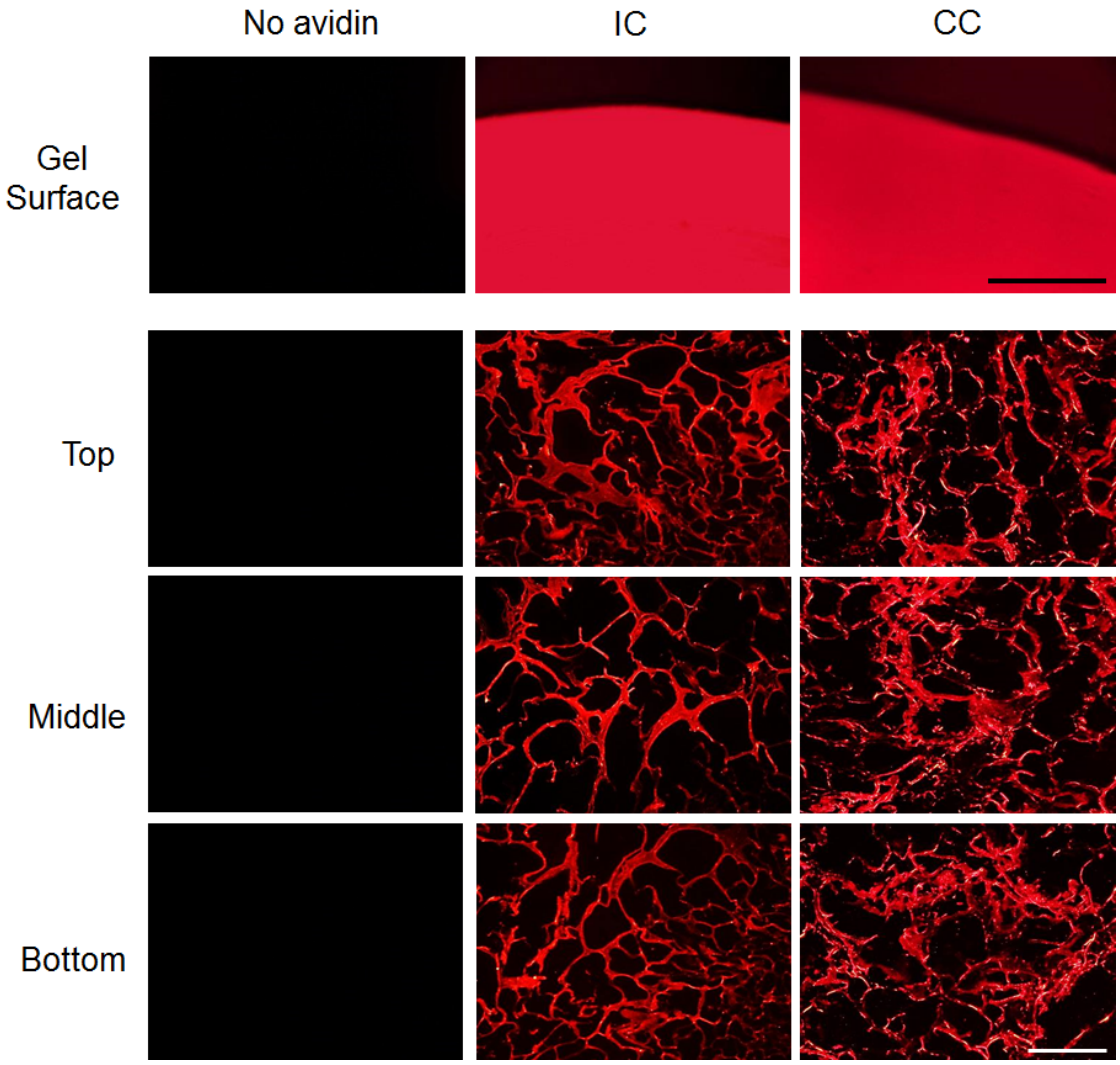


**Fig. S1.** Fluorescent microscopic images of MeGC/Col II hydrogels loaded with Texas Red® conjugated avidin (gel surface). Fluorescent observation was also performed on the thin cryo-sections (20 μm) collected from the top, middle, and bottom of disk-shaped hydrogels (diameter = 5 mm, height = 2 mm). Scale bars are 500 μm.

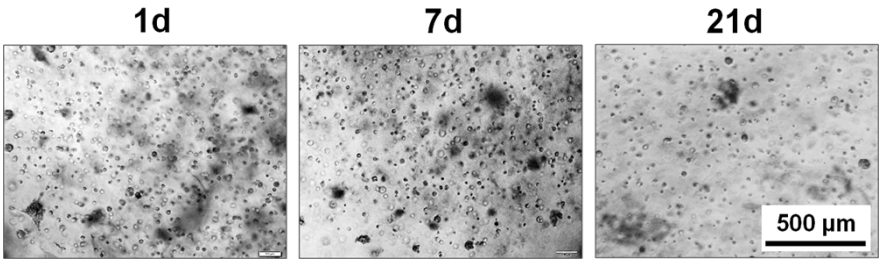


**Fig. S2.** Bright field images of ADSCs encapsulated in MeGC/Col II hydrogels in CM without TGF-β1 during 21 days.

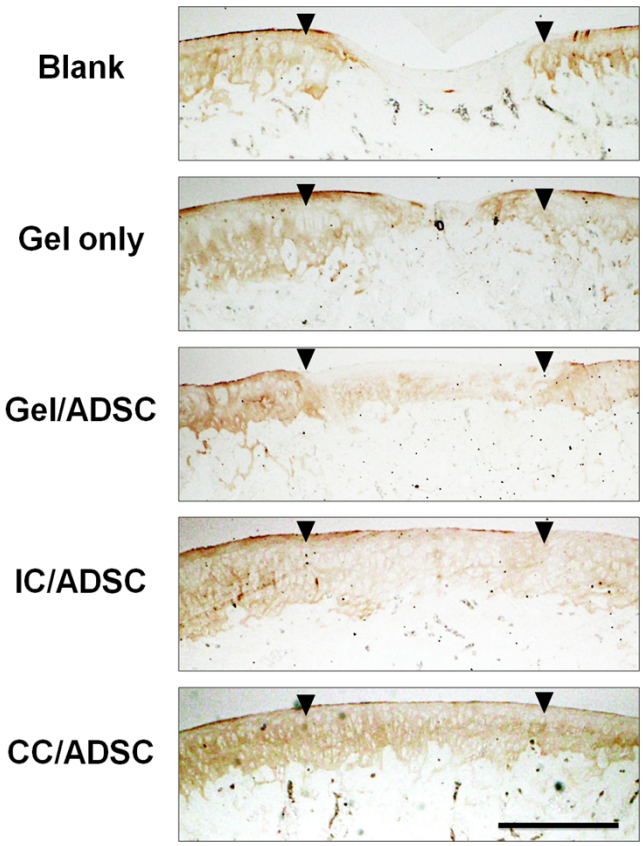


**Fig. S3.** Repair of cartilage defects *in vivo*. Histological analysis of accumulated Col II from ADSCs in hydrogels by immunohistochemistry at 8 weeks. Scale bar is 500 μm.

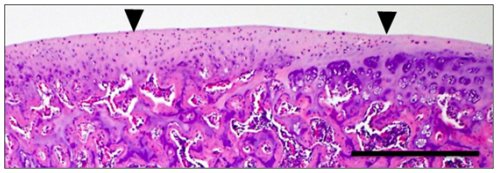

**Fig. S4.** H&E staining for the defect treated with TGF-β1 only without ADSCs. Scale bar is 500 μm.