

Supplementary materials

Dynamic Loading Enhances Chondrogenesis of Human Chondrocytes within a biodegradable Resilient Hydrogel

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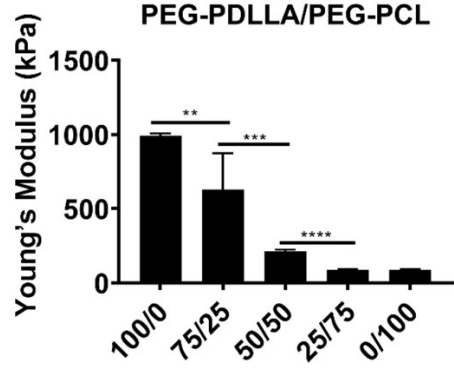


Fig. S1 Young's moduli of scaffolds made from PEG-PDLLA-DA/PEG-PCL-DA mixture with different ratios. 100/0 and 0/100 represented 100% PEG-PDLLA and 100% PEG-PCL hydrogels, respectively. N=4; **, $p < 0.01$; ***, $p < 0.001$; ****, $p < 0.0001$.

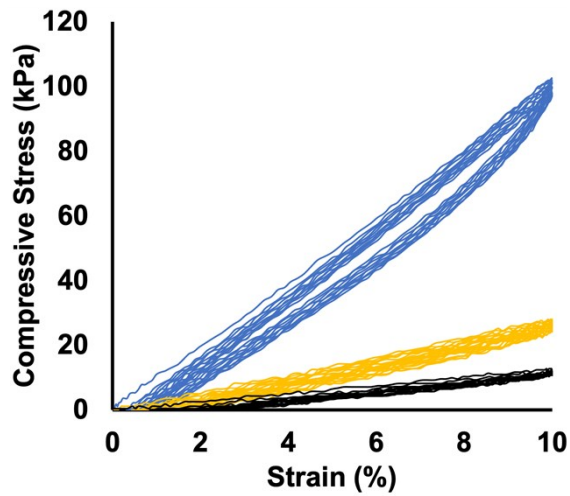


Fig. S2 Cyclic test for three hydrogels: PEG-PDLLA/PEG-PCL (50/50, Yellow lines), PEG-PDLLA (Blue lines), PEG-PCL (Black lines). The test was conducted for 10 cycles with a maximal strain of 10%.

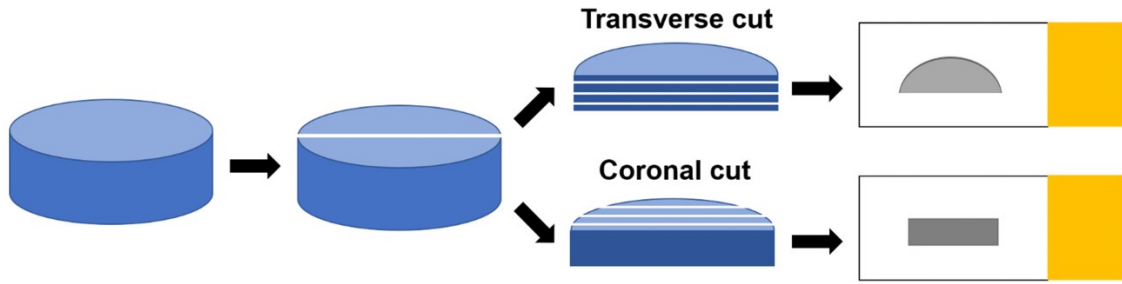


Fig. S3 Two methods to section the samples.

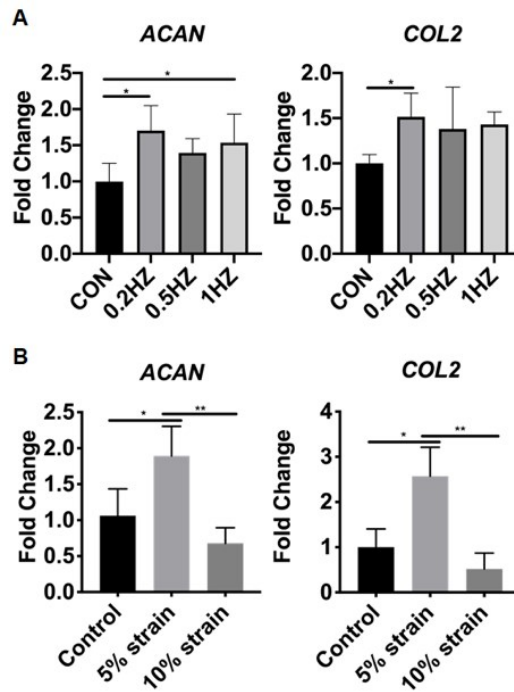


Fig. S4 In this study, we first used the same strain (5%) and compared the influence of different frequencies on chondrogenesis (A), and then used the same frequency (0.2Hz) and examined the influence of different strains (B). Expression levels of *ACAN* and *COL2* in conditions were examined. *, $p < 0.05$; **, $p < 0.01$.

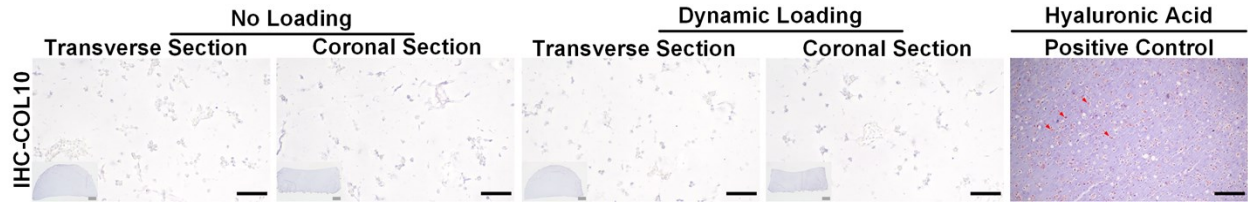


Fig. S5 COL10 IHC. Grey bar= 500 μm , black bar= 100 μm . Chondroinduced human mesenchymal stem cells in hyaluronic acid scaffold were served as the positive control. The positive staining was inducted by red arrows.

Table S1. Gene primer sequences used in qRT-PCR

Gene	Primer Sequence (5' → 3')
<i>COL2</i> Forward	GGATGGCTGCACGAAACATACCGG
<i>COL2</i> Reverse	CAAGAAGCAGACCGGCCCTATG
<i>ACAN</i> Forward	ACTCTGGGTTTTTCGTGACTCT
<i>ACAN</i> Reverse	ACACTCAGCGAGTTGTCATGG
<i>SOX9</i> Forward	GGCGGAGGAAGTCGGTGAAGAA
<i>SOX9</i> Reverse	GCTCATGCCGGAGGAGGAGTGT
<i>COL10</i> Forward	CCCTCTTGTTAGTGCCAACC
<i>COL10</i> Reverse	AGATTCCAGTCCTTGGGTCA
<i>RPL13a</i> Forward	CATAGGAAGCTGGGAGCAAG
<i>RPL13a</i> Reverse	GCCCTCCAATCAGTCTTCTG