

Hierarchical micro/submicrometer-scale structured scaffolds prepared via coaxial electrospinning for bone regeneration

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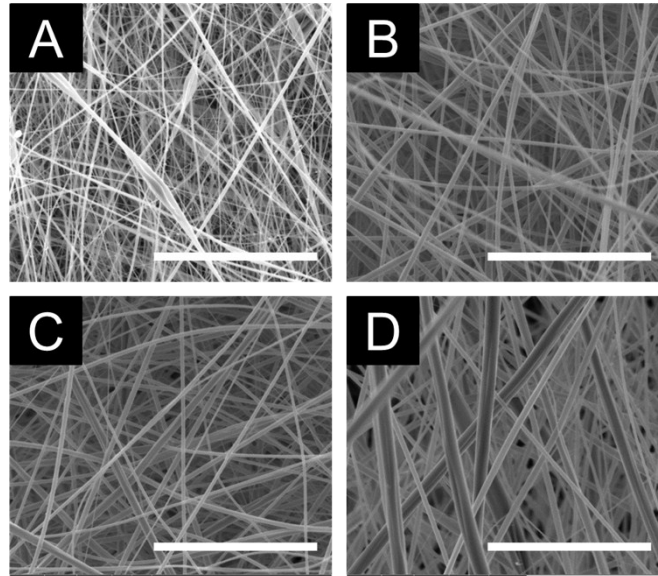


Fig. S1. SEM image of CA fibers produced with the CA concentration at (A) 4%, (B) 5%, (C) 6% and (D) 7%. Scale bar = 30 μm . The polymer concentration at 5% produced most uniform fibers among all the concentrations.

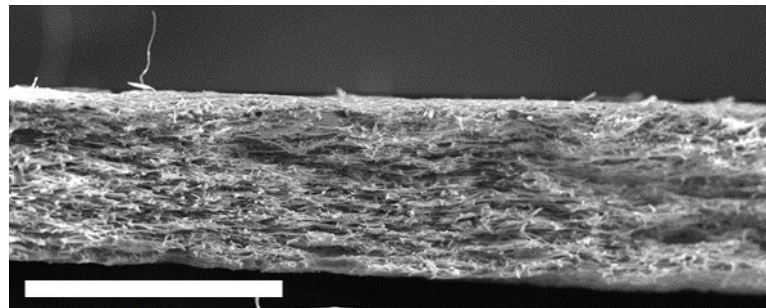


Fig. S2. Cross-section SEM image of scaffold CA-SF/nHAP/BMP-2. Scale bare = 100 μm

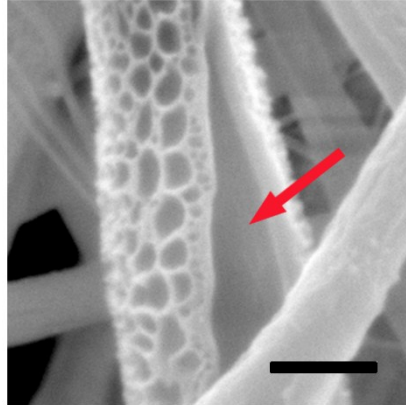


Fig. S3. SEM of core–sheath CA–SF/nHAP/BMP-2 fibers after incubated in PBS for 14 d. Scale bar = 2 μm . SEM observation confirmed that the microscale pattern still exists on the sheath surface after incubated in PBS for 14 d. And the red arrow also confirmed that instead of interconnected pores, only the elliptical pattern formed throughout the whole sheath surface.

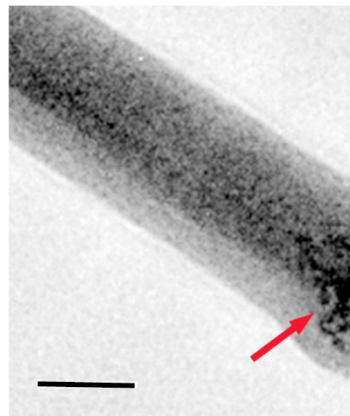


Fig. S4. TEM of CA–SF/nHAP fiber. TEM observation confirmed the existence of nHAP inside the sheath fibers. Scale bar = 100 nm.

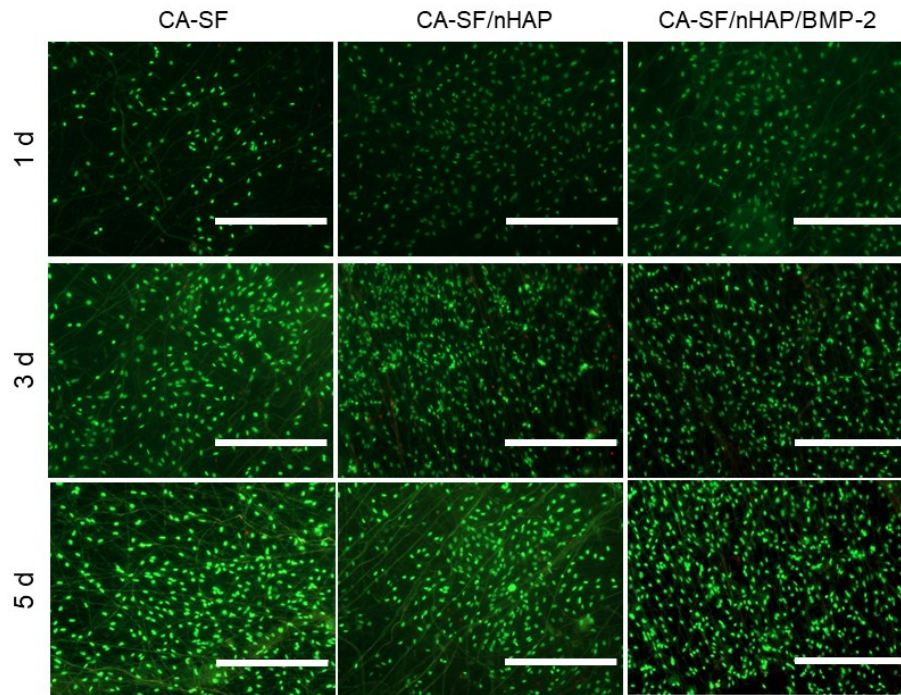


Fig. S5. Results of live/dead staining assay on cells culture on different scaffolds. Scale bar = 400 μm .

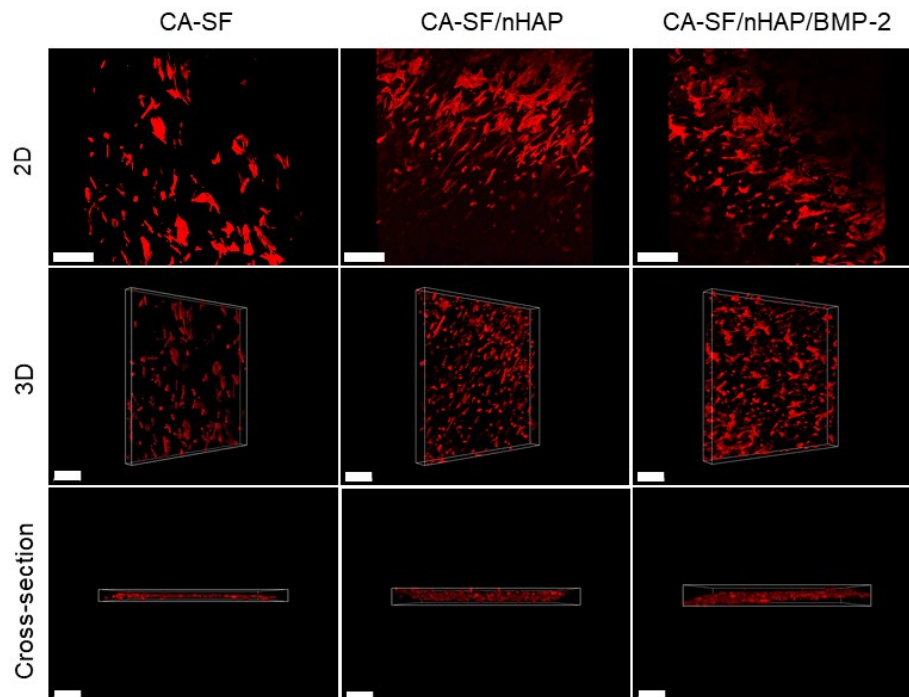


Fig. S6. Cell migration into the electrospun scaffolds. Representative images of cell migration into different scaffolds stained using rhodamine-labeled phalloidin for cell F-actin. Scale bars = 200 μm .

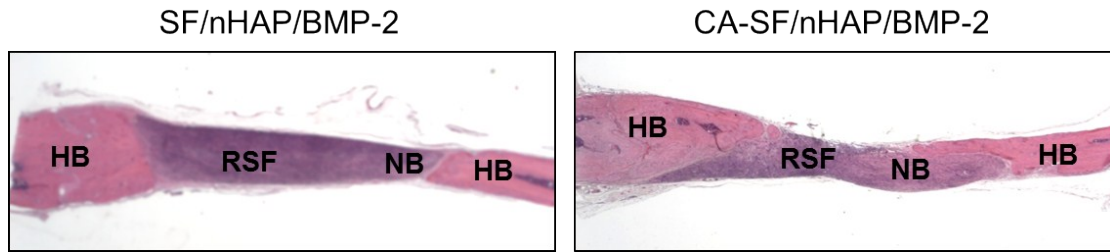


Fig. S7. H&E staining of scaffolds for CA-SF/nHAP/BMP-2 and SF/nHAP/BMP-2 without CA as core explants at 8 w. The images were obtained at low magnification (25 \times). NB represent new bone, and RSF indicate the SF scaffolds remaining after implantation.