Supporting Information

Silver Crosslinked Injectable bFGF-Eluting Supramolecular Hydrogels Speed Up Infected Wound Healing

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Experimental Section

S1. bFGF Release Profile

bFGF@CS-Ag hydrogel was put into transwell chambers and inserted into the wells which contained PBS. The bottoms of transwells were immersed in PBS. The plate was placed into an incubator at 37 ℃. At various time points of 3 h, 6 h, 9 h, 12 h, 24 h, 36 h, 60 h, 72 h, 84 h, 108 h, 5 d, 6 d, 7 d, 8 d and 11 d, leachate solutions in wells (lower compartment of the transwell) were collected and stored at -80 ℃. In the meantime, fresh PBS with the same volume was added into the well. At the endpoint of collection, all samples were taken out from -80 ^{o}C, and the free bFGF in samples were measured using enzyme-linked immunoabsorbent assay (ELISA) method following the manufacturer's instruction. The accumulative bFGF amounts at each time point was plotted against releasing time to exhibit the release kinetic profile of bFGF. The releasing measurement was performed in triplicate.

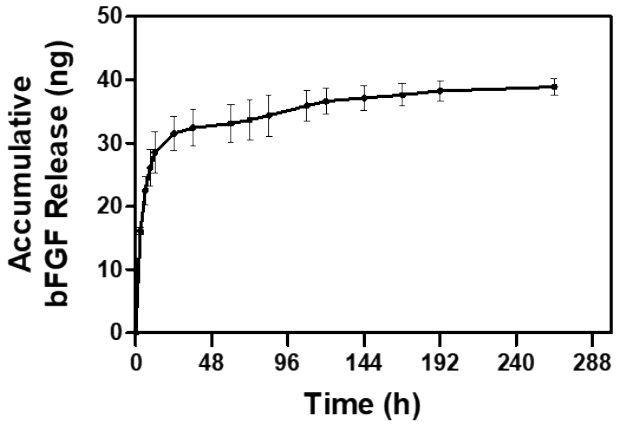

Figure S1. Release profile of bFGF from the bFGF@CS-Ag. A quick release of bFGF in the early phase (around 24 h) could be observed, followed by a sustained release since then, which lasted for more than 11 days.

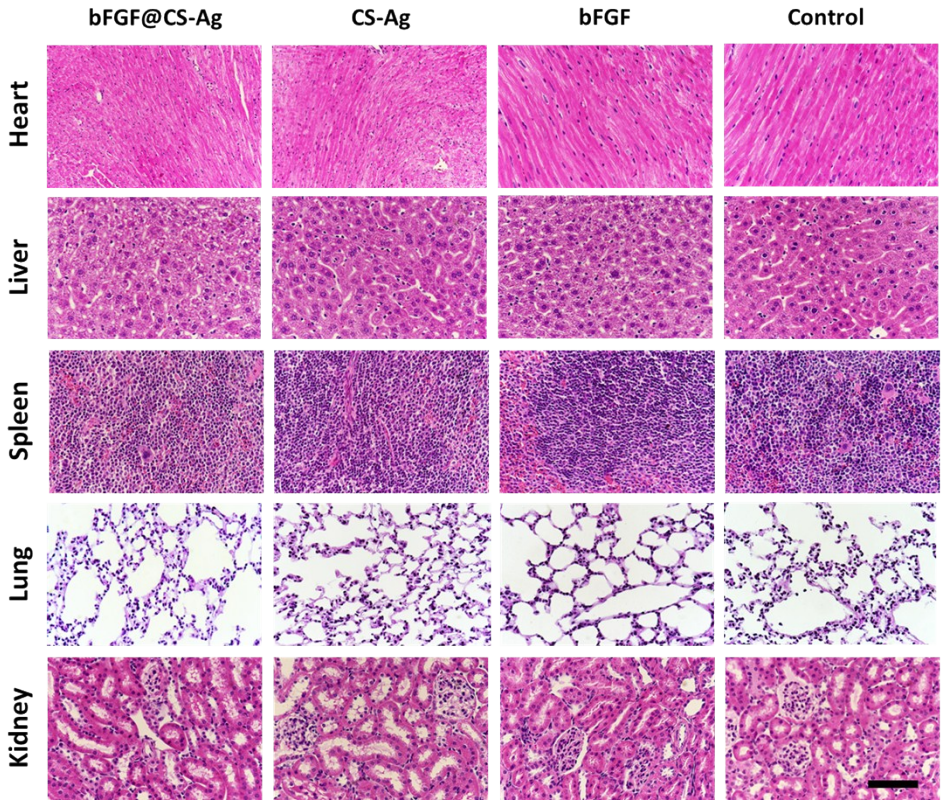

Figure S2. H&E staining of heart, liver, spleen, lung and kidney tissues from mice with infected dermal wounds after different treatments for 17 days. Scale bar: 200 μm. No degenerative and necrotic change was observed compared with the control wounds, indicating a systematic safety of our hydrogels

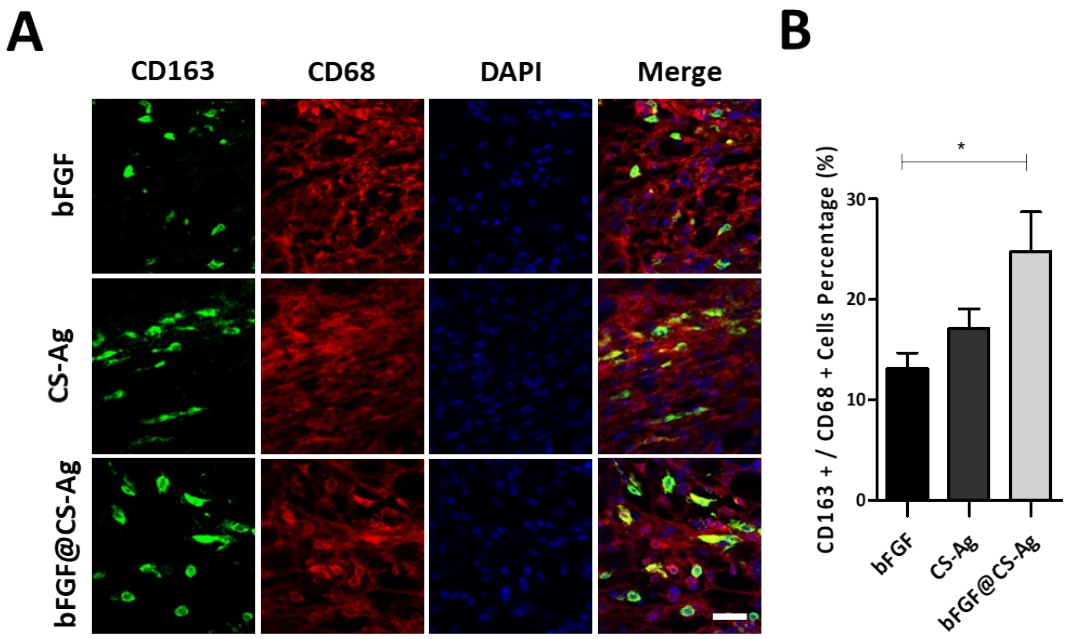

Figure S3. (A) Immunofluorescence staining of CD68 (red) and CD163 (green) at wound site on day 7 post treatment. Scale bar: 50 μm. (B) Statistical data of percentage of CD163 positive cells in CD68 positive cells on day 7. * $p < 0.05$, compared to control group, $n > 3$. As shown in Figure S3A and S3B, compared with the bFGF and CS-Ag treated tissues, which exhibited M2 macrophage percentage of 15.81 ± 2.22% and 17.13 ± 1.94% respectively, bFGF@CS-Ag hydrogel promoted a slightly greater level of M2 polarization of 24.79 ± 3.89%, indicating a more mild inflammatory reaction at the wounds after the treatment of bFGF@CS-Ag.