

Supporting Information

Local mRNA delivery from nanocomposites made of gelatin and hydroxyapatite nanoparticles

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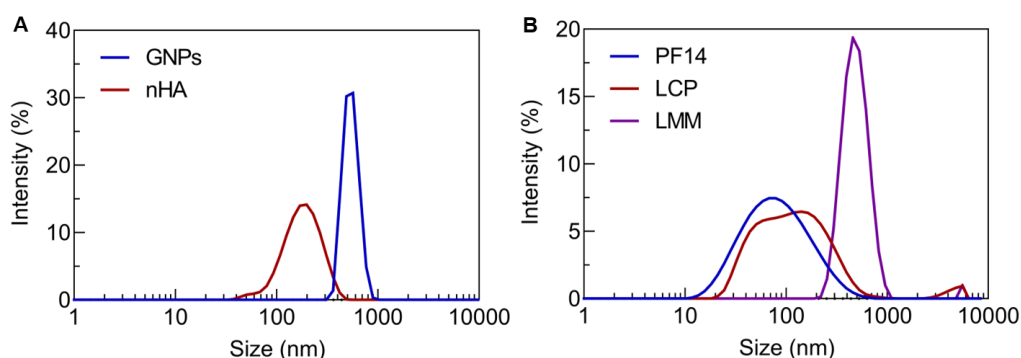


Figure S1. Hydrodynamic size distribution of (A) gelatin and hydroxyapatite nanoparticles and (B) mRNA-nanoparticles as measured by dynamic light scattering. PF14 = PepFect 14, LCP = lipid-coated calcium phosphate and LMM = Lipofectamine Messenger Max.

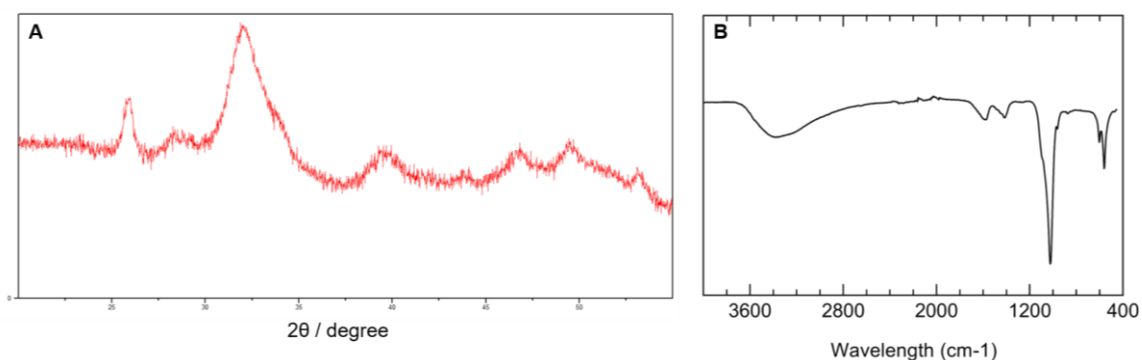


Figure S2. Structural analysis of hydroxyapatite nanoparticles by (A) X-ray diffraction and (B) Fourier-transform infrared spectroscopy.

Table S1. Hydrogel self-healing after consecutive strain-recovery cycles

GNP:nHA ratio	1st recovery (%)	2nd recovery (%)	3rd recovery (%)
1:1	60 ± 5	91 ± 1	95 ± 2
2:1	57 ± 16	93 ± 3	99 ± 5
4:1	67 ± 1	95 ± 5	98 ± 2

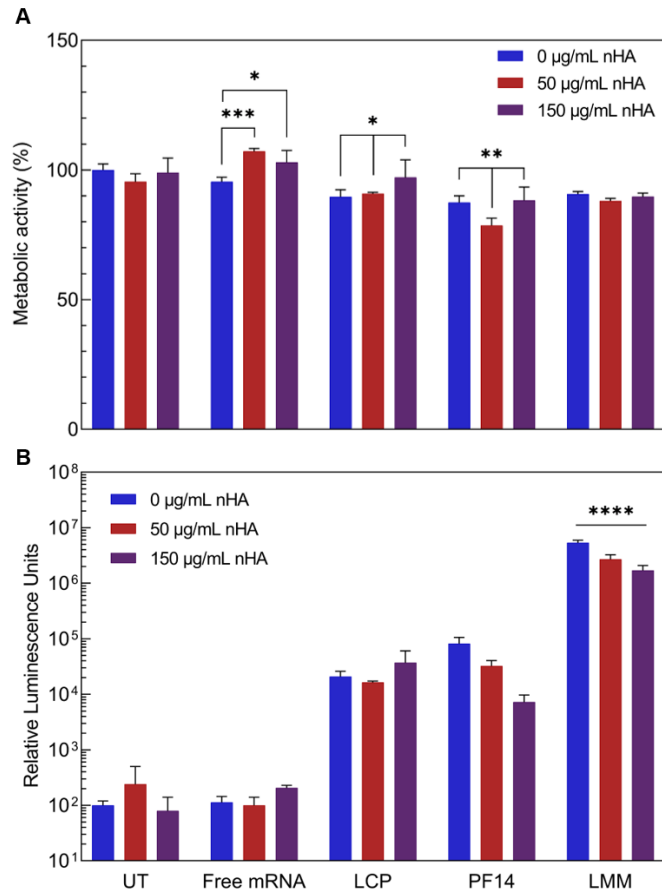


Figure S3. Effect of hydroxyapatite nanoparticles on (A) the cytocompatibility and (B) transfection efficiency of mRNA-nanoparticles in hBMSCs. UT = untreated, LCP = lipid-coated calcium phosphate, PF14 = PepFect 14 and LMM = Lipofectamine Messenger Max.