Supporting information

Table S1.Primer sequences for quantitative PCR (qPCR)

Gene group	Primer sequences
TNF-α	F2: CGG GGT GAT CGG TCC CCA AAG R2: GGA GGG CGT TGG CGC GCT GG
IL-1β	F: CGC AGC AGC ACA TCA ACA AGA GC R: TGT CCT CAT CCT GGA AGG TCC ACG
IL-10	F: GCT CTT ACT GAC TGG CAT GAG R: CGC AGC TCT AGG AGC ATG TG
GAPDH	F: CTT CAC CAC CAT GGA GAA GGC R: GGC ATG GAC TGT GGT CAT GAG.

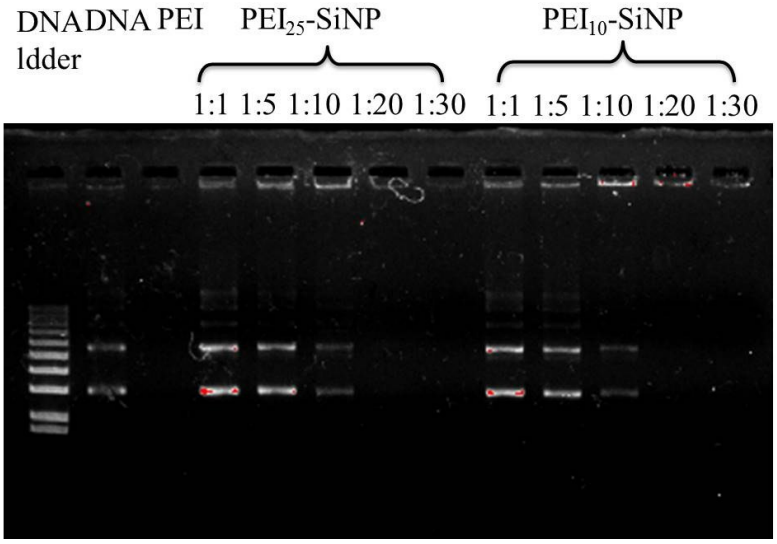

Fig.S1. Agarose gel electrophoresis showing pDNA encoding for hIL-10 complexation by PEI-SiNP. A constant amount of pDNA was complexed with silica particles at different weight ratios 1:1, 1:5, 1:10, 1:20 and 1:30.

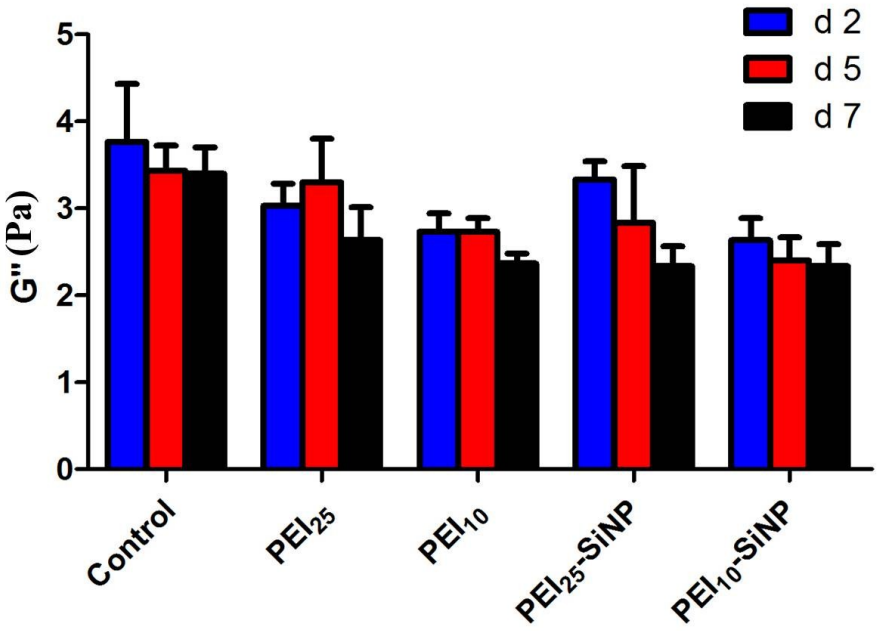

Fig.S2. Modulus of loss G'' of collagen gels over 1 week.

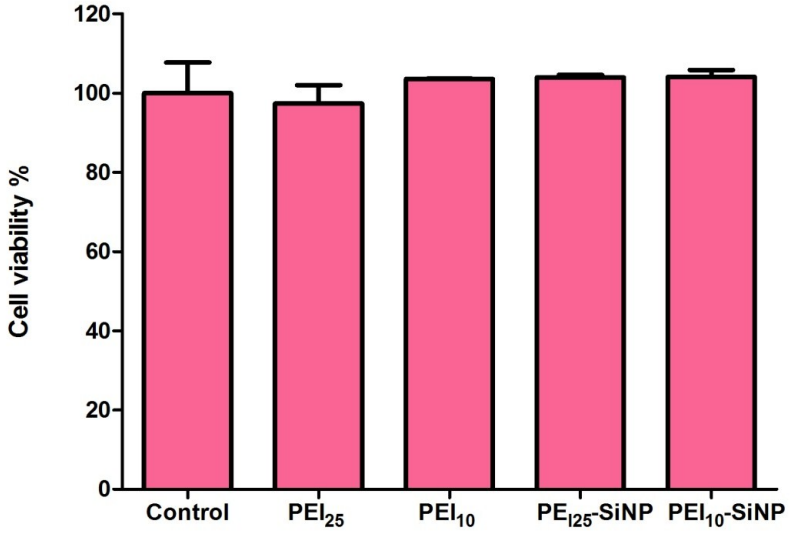

Fig.S3. Cell viability of mouse fibroblasts after 4 hours in incubation with DNA-PEI-SiNP complexes and 44 hours with fresh medium evaluated with Alamar Blue test. Cell viability was calculated as the percentage of the control (n=3).

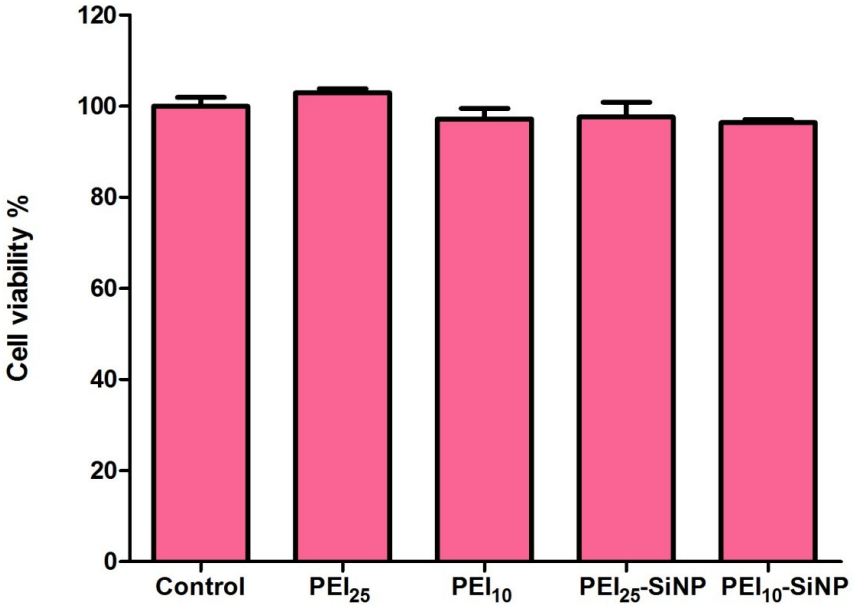

Fig.S4. Cell viability of mouse fibroblasts encapsulated within nanocomposites after one week in incubation evaluated with Alamar Blue test. Cell viability was calculated as the percentage of the control (n=3).

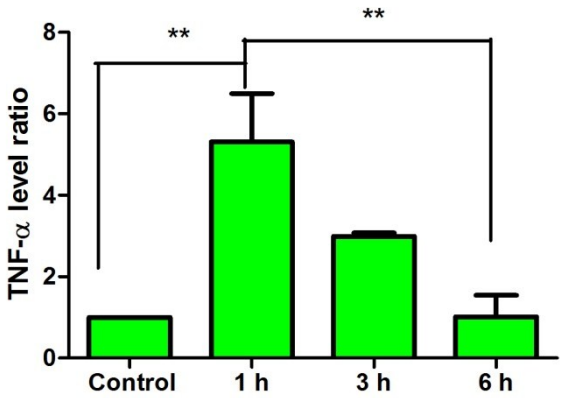

Fig.S5. TNF-α gene expression at different time points, determined by qPCR and expressed by the ratio comparing TNF-α expression in treated samples with that of control group (n=3). GAPDH was used as reference for normalization. Varience among different groups were determined by one-way ANOVA with Tukey posthoc test (**P<0.01)

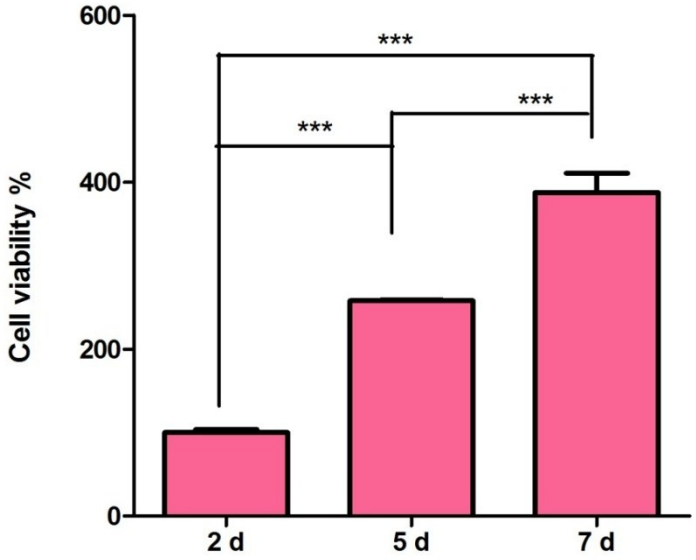

Fig.S6. Cell viability of RAW 264.7 encapsulated within collagen hydrogels. Cell viability measured after one week and evaluated with an Alamar Blue test. Cell viability of macrophages calculated as the percentage of the control (n=3) ***$p<0.001$.