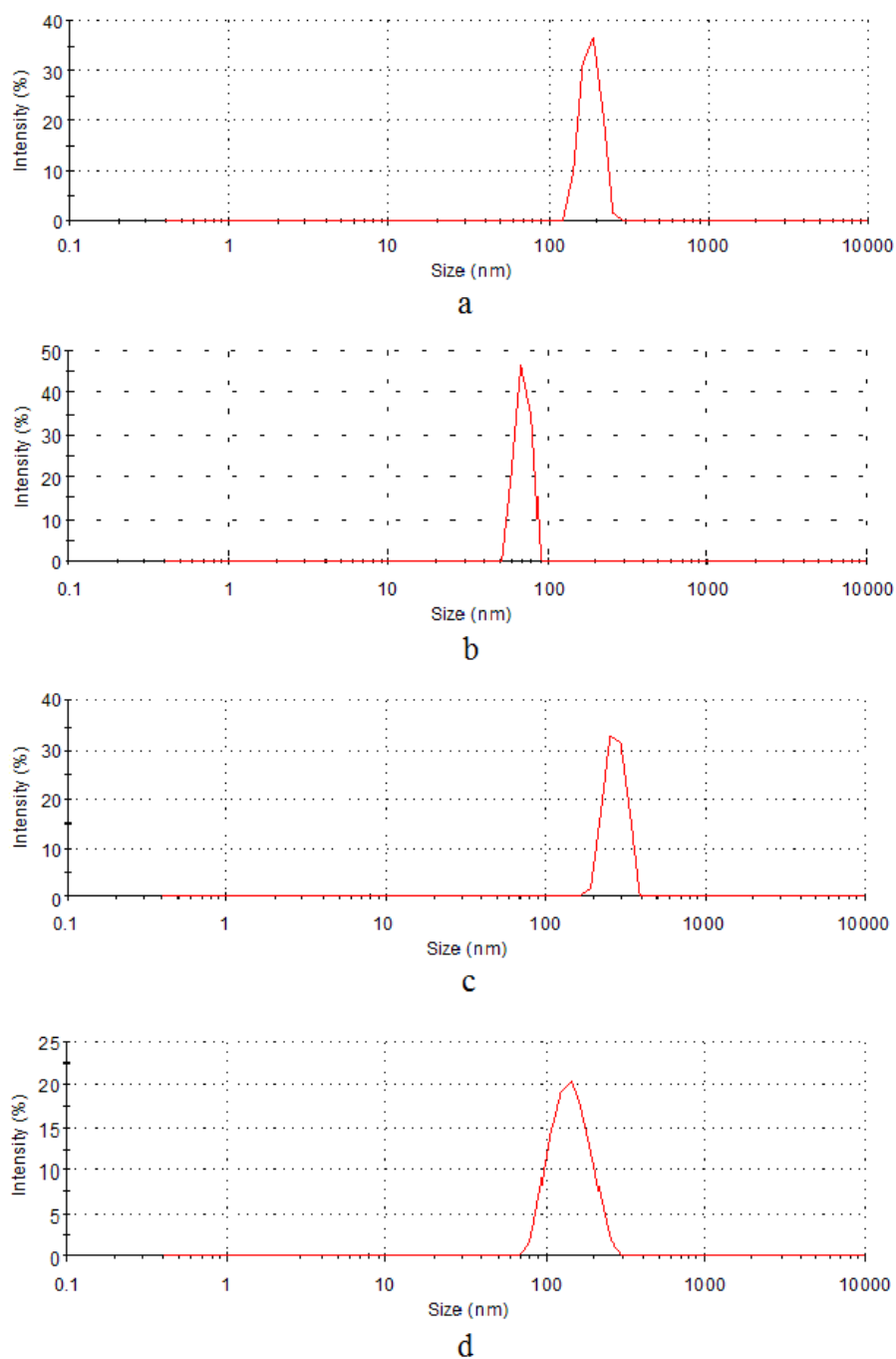


## Supporting Information

### **Alginate modified nanostructured calcium carbonate with enhanced delivery efficiency for gene and drug delivery**

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FigureS1. The particle size distributions of different nanoparticles: (a) freshly prepared  $\text{CaCO}_3/\text{DNA}$  with  $\text{Ca}^{2+}/\text{CO}_3^{2-}$  ratio of 50, (b) freshly prepared alginate/ $\text{CaCO}_3/\text{DNA}$  with  $\text{Ca}^{2+}/\text{CO}_3^{2-}$  ratio of 50 and alginate amount of 1  $\mu\text{g}$ , (c)  $\text{CaCO}_3/\text{DNA}$  with  $\text{Ca}^{2+}/\text{CO}_3^{2-}$  ratio of 50 after storage at 37  $^\circ\text{C}$  for 4 h, and (d) alginate/ $\text{CaCO}_3/\text{DNA}$  with  $\text{Ca}^{2+}/\text{CO}_3^{2-}$  ratio of 50 and alginate amount of 1  $\mu\text{g}$  after storage at 37  $^\circ\text{C}$  for 4 h.

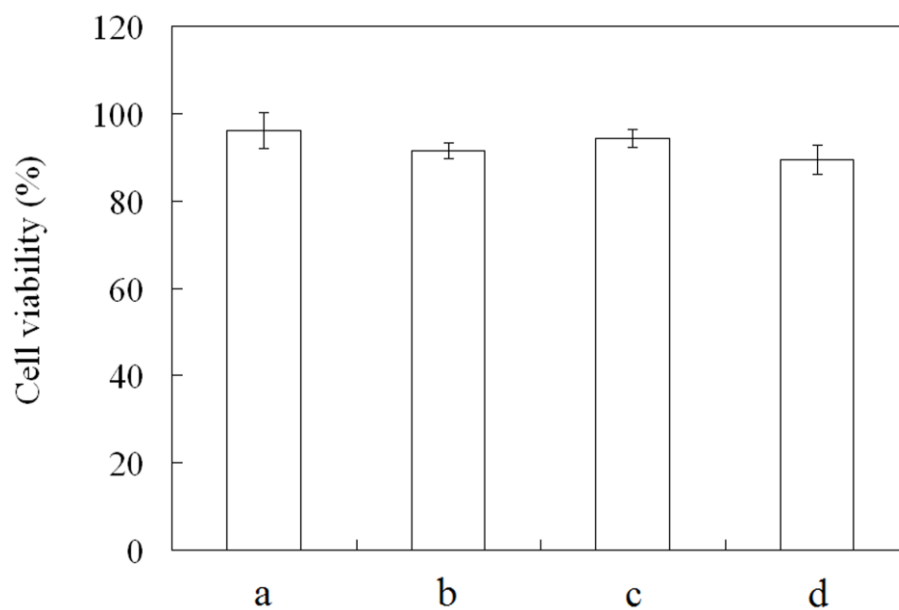


Figure S2. Cell viability of 293T cells after transfection for 48 h mediated by different nanoparticles: (a)  $\text{CaCO}_3/\text{DNA}$  with  $\text{Ca}^{2+}/\text{CO}_3^{2-}$  ratio of 50, (b) alginate/ $\text{CaCO}_3/\text{DNA}$  with  $\text{Ca}^{2+}/\text{CO}_3^{2-}$  ratio of 50 and alginate amount of 1  $\mu\text{g}$ , (c)  $\text{CaCO}_3/\text{DNA}$  with  $\text{Ca}^{2+}/\text{CO}_3^{2-}$  ratio of 100, and (d) alginate/ $\text{CaCO}_3/\text{DNA}$  with  $\text{Ca}^{2+}/\text{CO}_3^{2-}$  ratio of 100 and alginate amount of 1  $\mu\text{g}$ . The nanoparticles used for transfection were freshly prepared.