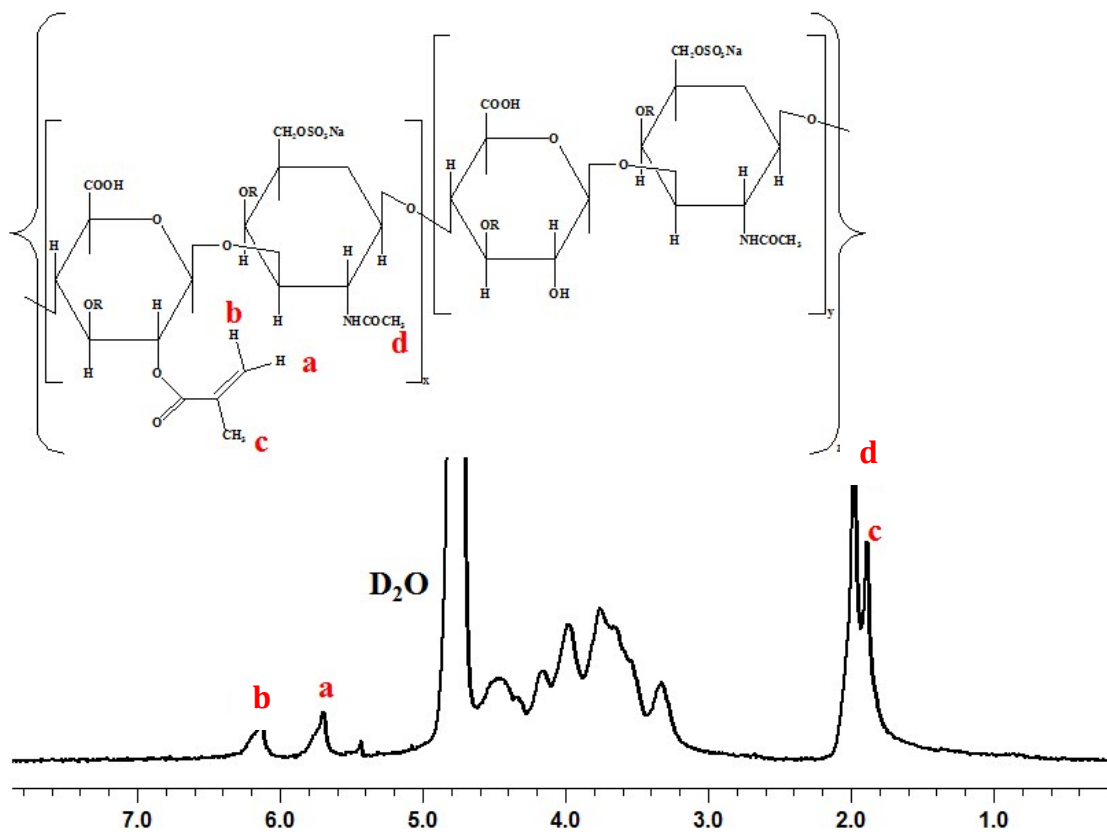
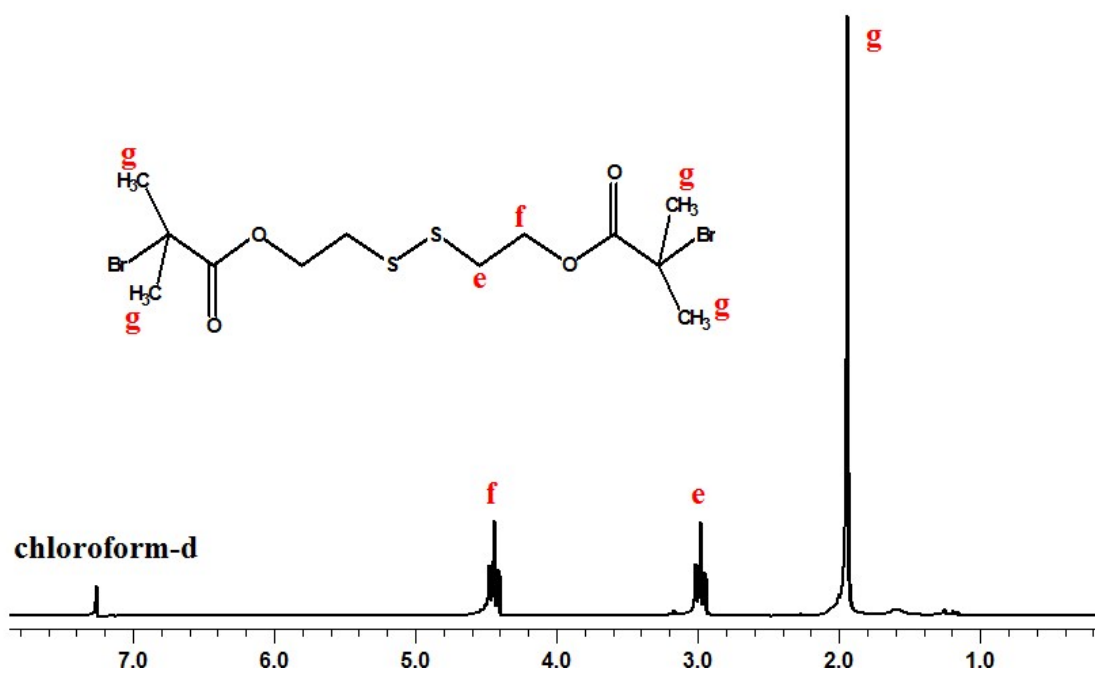


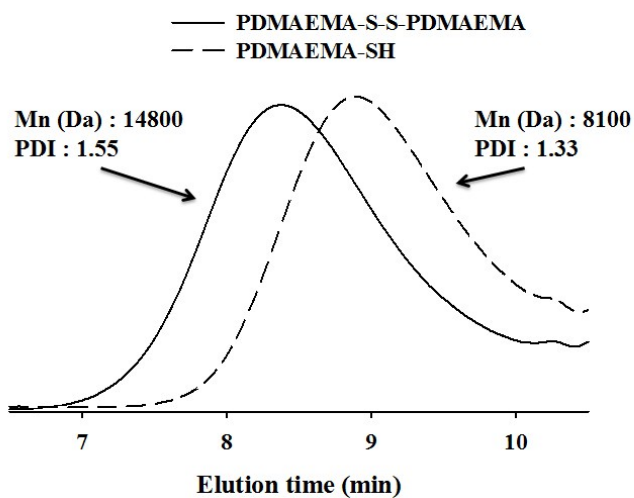
(A)



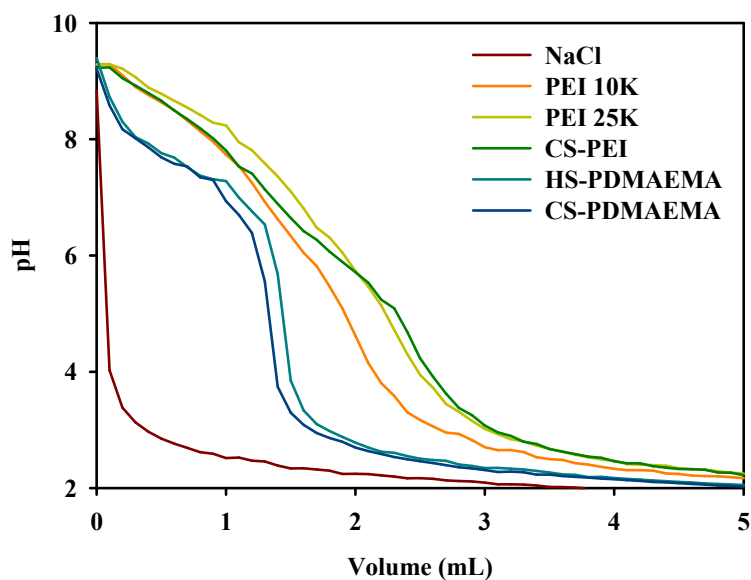
(B)



**Figure S1.** NMR spectra of (A) CSMA in deuterium water, and (B) *i*BuBr-SS-*i*BuBr in chloroform-*d*.



**Figure S2.** GPC profiles of PDMAEMA-SS-PDMAEMA and HS-PDMAEMA using THF as an eluent.



**Figure S3.** Acid/base titration profiles of cationic polymers with 0.1N HCl. Each 20-mg sample was added to 20 mL of 150 mM NaCl, and the pH was adjusted to 9.5 using 0.1N NaOH. The titration was done at  $25.0 \pm 0.1^\circ\text{C}$  by adding 0.1N HCl under an atmosphere of  $\text{CO}_2$ -free  $\text{N}_2$ .

**Polymers/pDN**

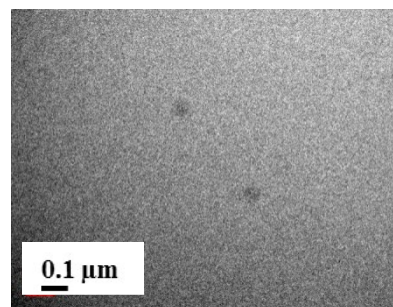
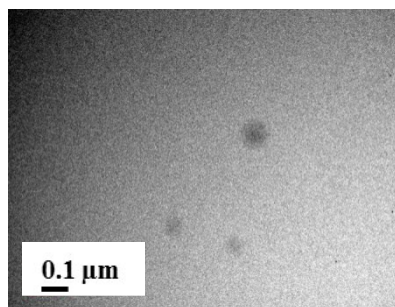
**A**

**Weight ratio**

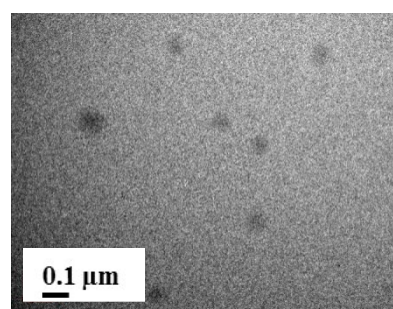
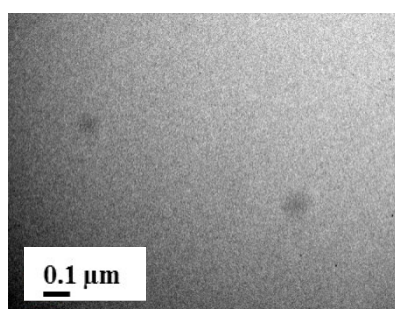
**CS-PDMAEMA**

**CS-PEI**

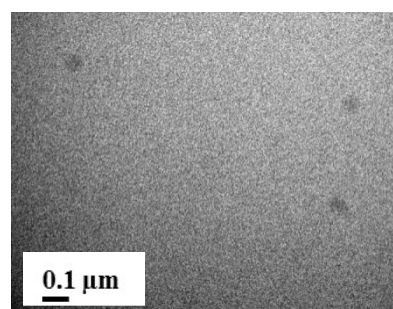
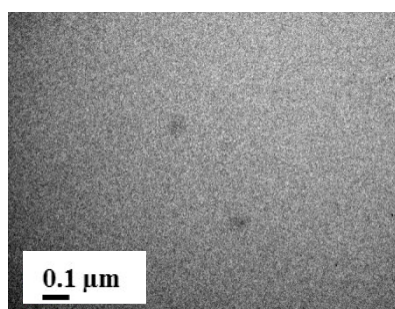
**1**



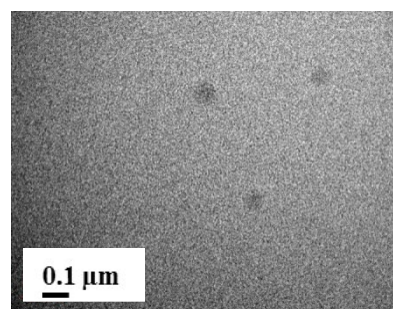
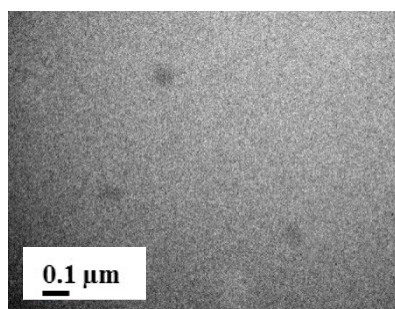
**3**



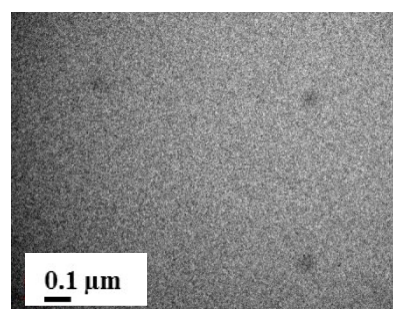
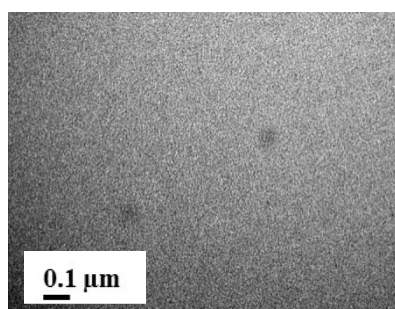
**5**



**7**

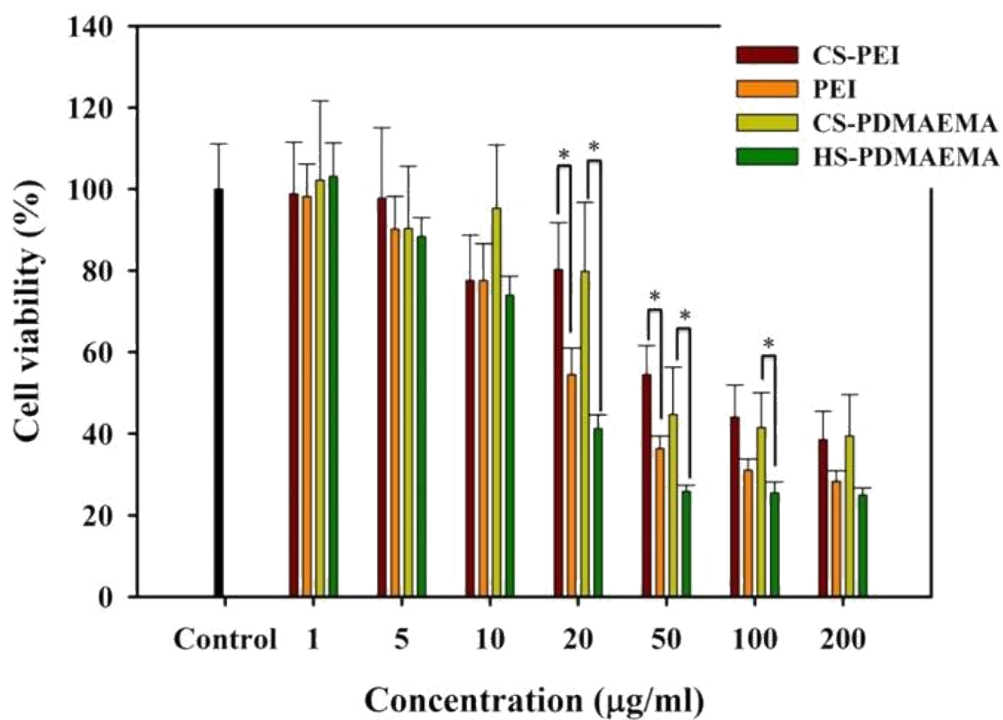


**9**

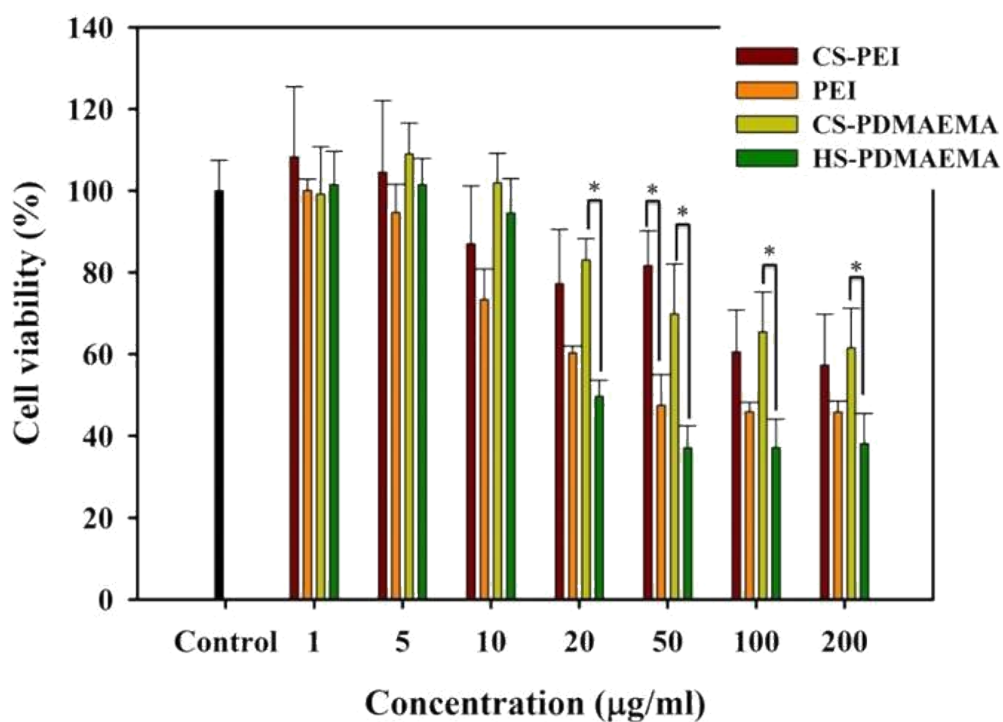


**Figure S4.** Transmission electron microscope (TEM) images of polymers/pDNA polyplexes.

(A)

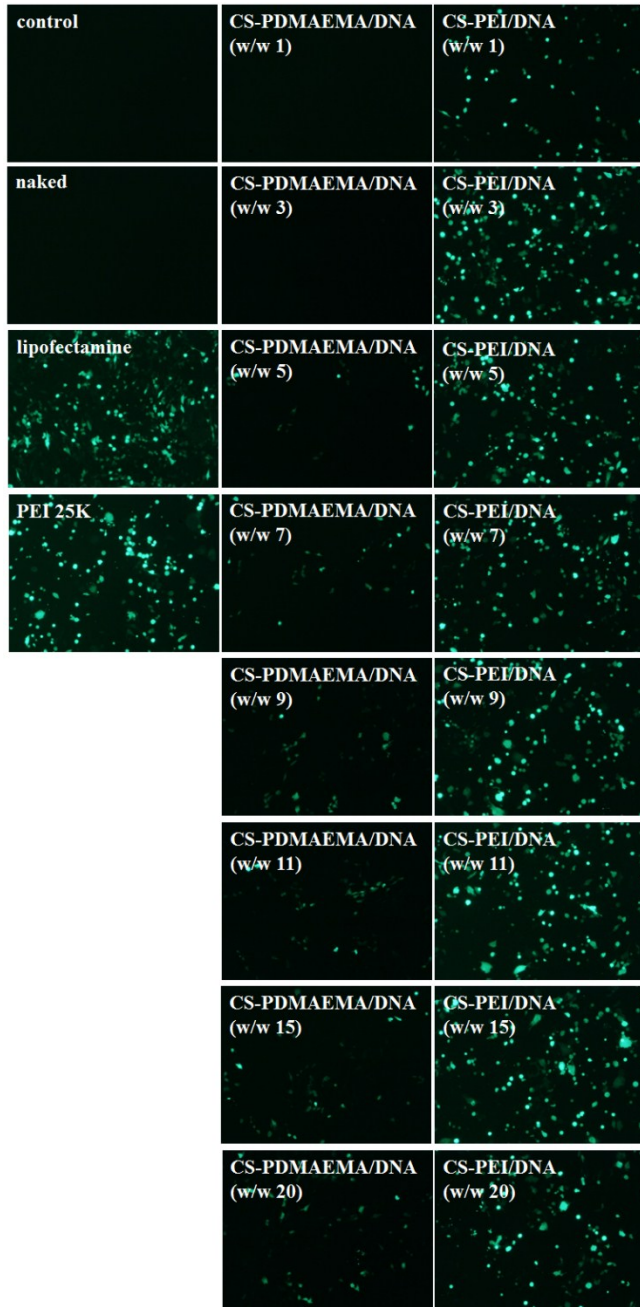


(B)

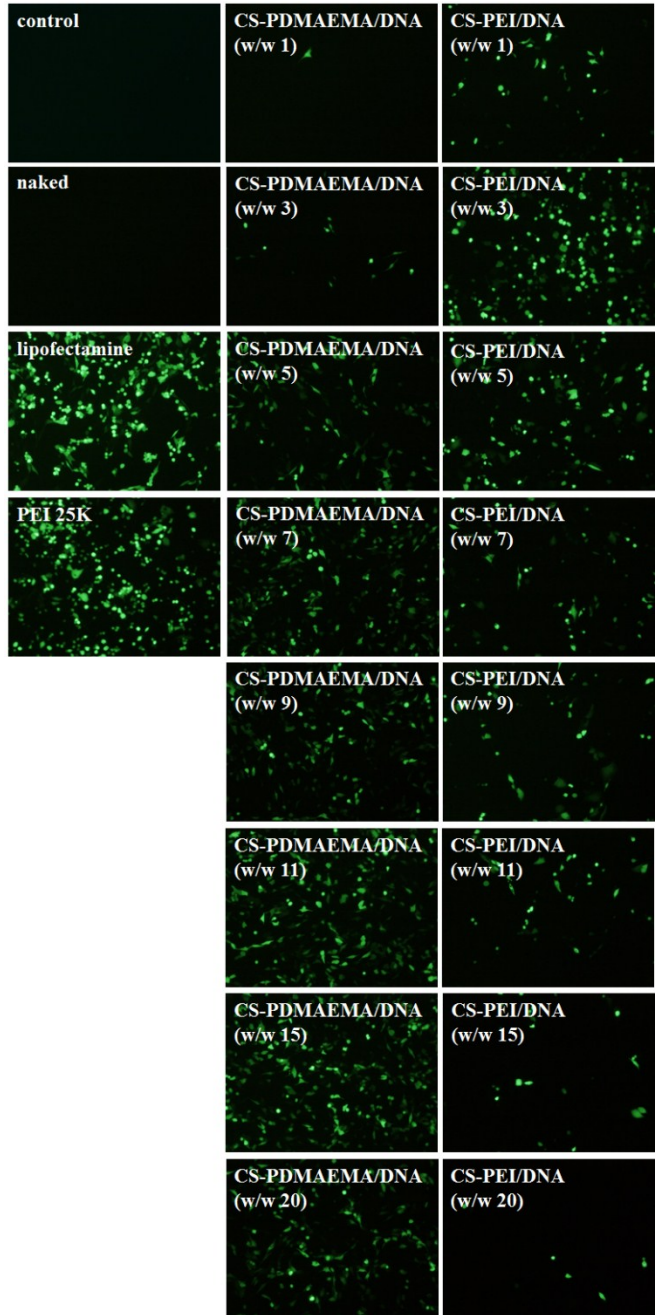


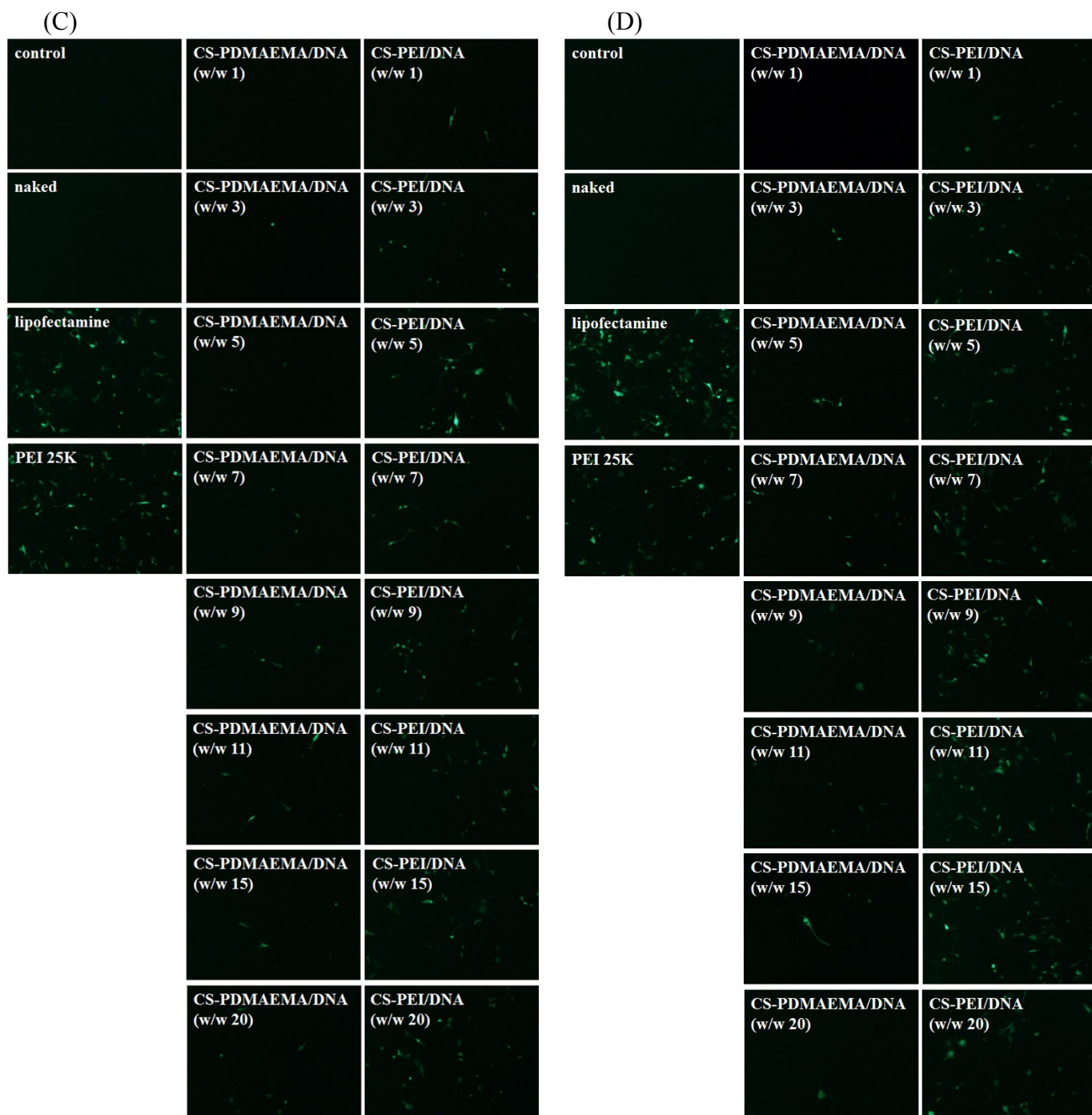
**Figure S5.** MTT assay of the cytotoxicity of polymers against (A) 3T3 cells and (B) U87 cells as a function of polymer concentrations (n=8, \*p < 0.05)

(A)

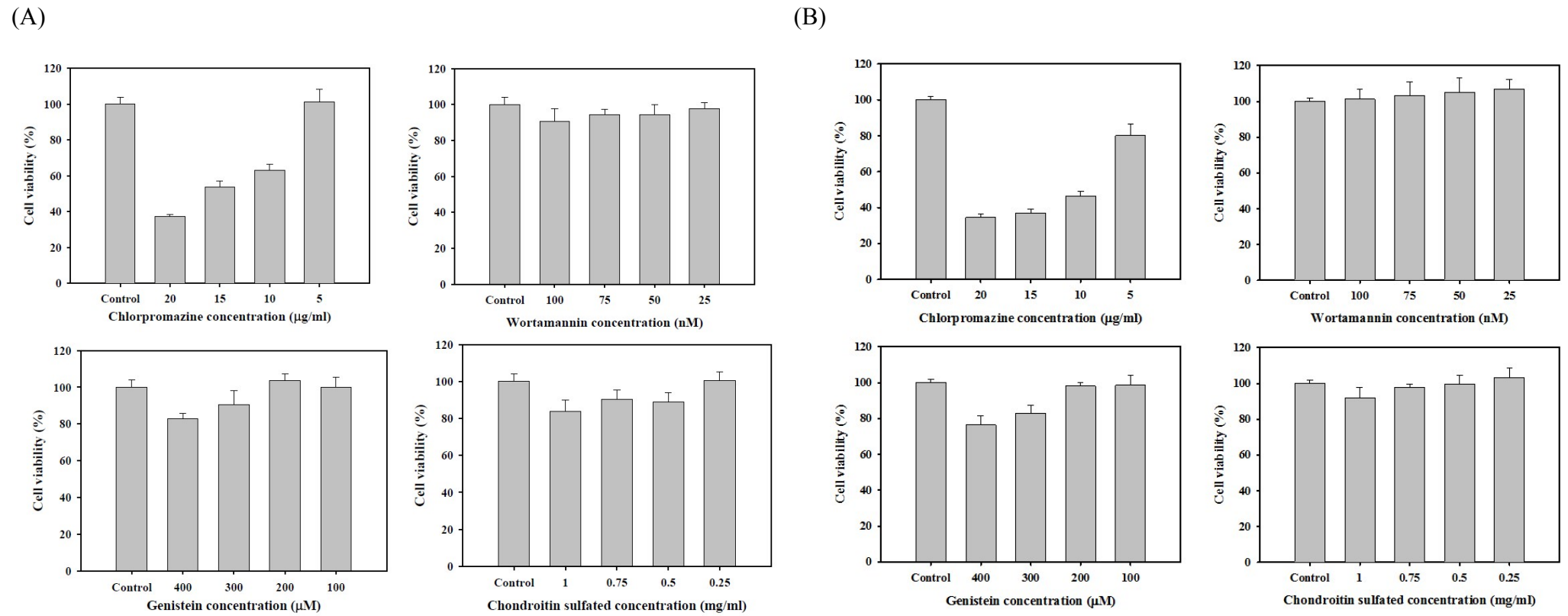


(B)





**Figure S6.** Images of green fluorescence pEGFP-C1 expression containing 10% FBS in (A, B) 3T3 cells and (C, D) U87 cells as a function of polymers/pDNA weight ratios for (A, C) 2 h and (B, D) 4 h of incubation followed by 72 h of post-transfection.



**Figure S7.** Cell viabilities of different inhibitors at different concentrations in (A) 3T3 cells and (B) U87 cells. (n=8)

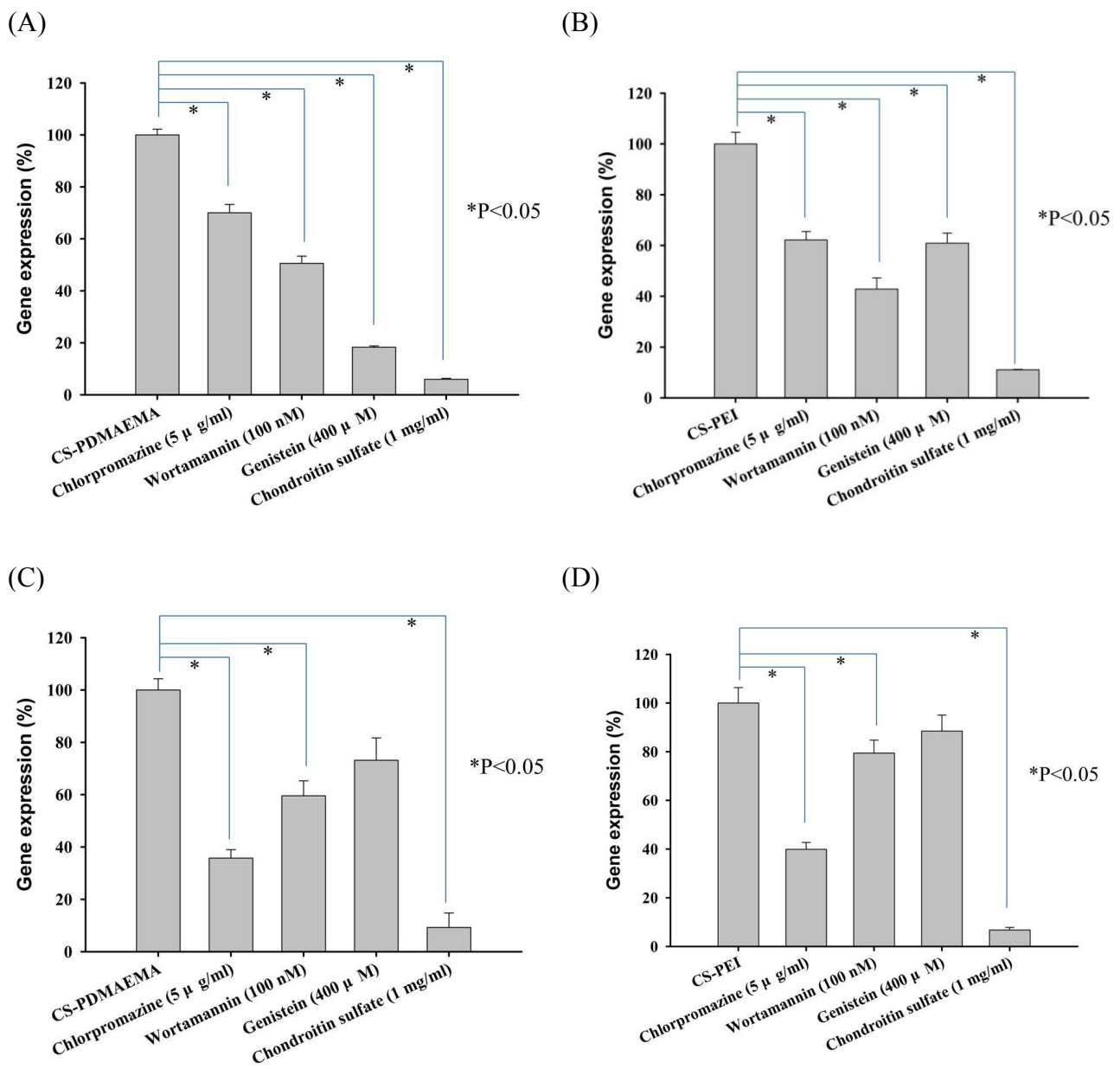
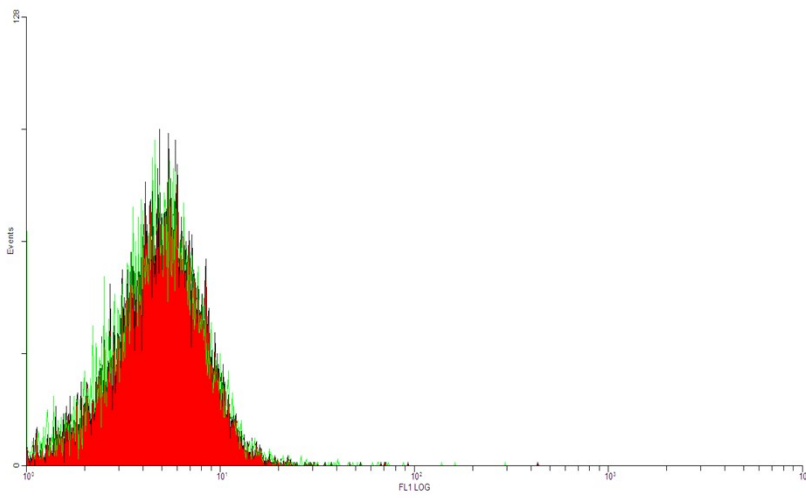


Figure S8. The inhibition effect of pGL3-Control expression at a single concentration of a reagent in (A, B) 3T3 cells and (C, D) U87 cells at the weight ratio of 7 of (A, C) CS-PDMAEMA/pDNA and (B, D) CS-PEI/pDNA (n=3).



(A)



(B)

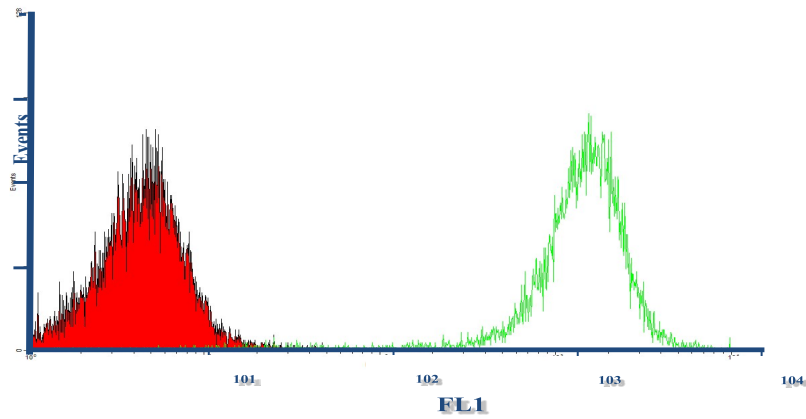


Figure S9. A flow cytometric diagram of (A) 3T3 cells and (B) U87 cells treated with FITC-linked CD44 antibody for 30 min. Red: 3T3 cells or U87 cells as a control; Green: CD44 antibody-treated 3T3 or U87 cells.