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Supporting Information

Poly(ethylene glycol)-Based Peptidomimetic "PEGtide" of Oligo-Arginine Allows for Efficient siRNA Transfection and Gene Inhibition

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- Optimisation of pDNA and RNAiFect transfection conditions (Figure S8)
- Settings for In Cell® 1000 Workstation analysis (Tables S1-S2)

Figure S1. RP-HPLC chromatogram of octa-D-arginine peptide

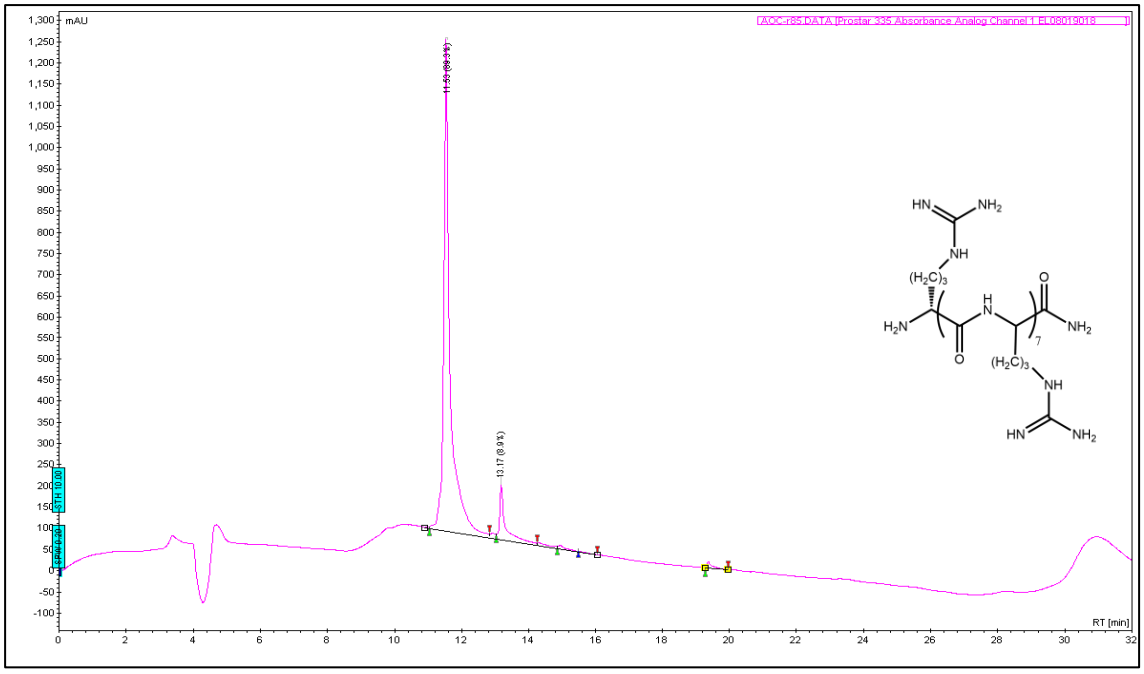


Figure S2. MALDI-TOF MS spectrum of octa-D-arginine peptide

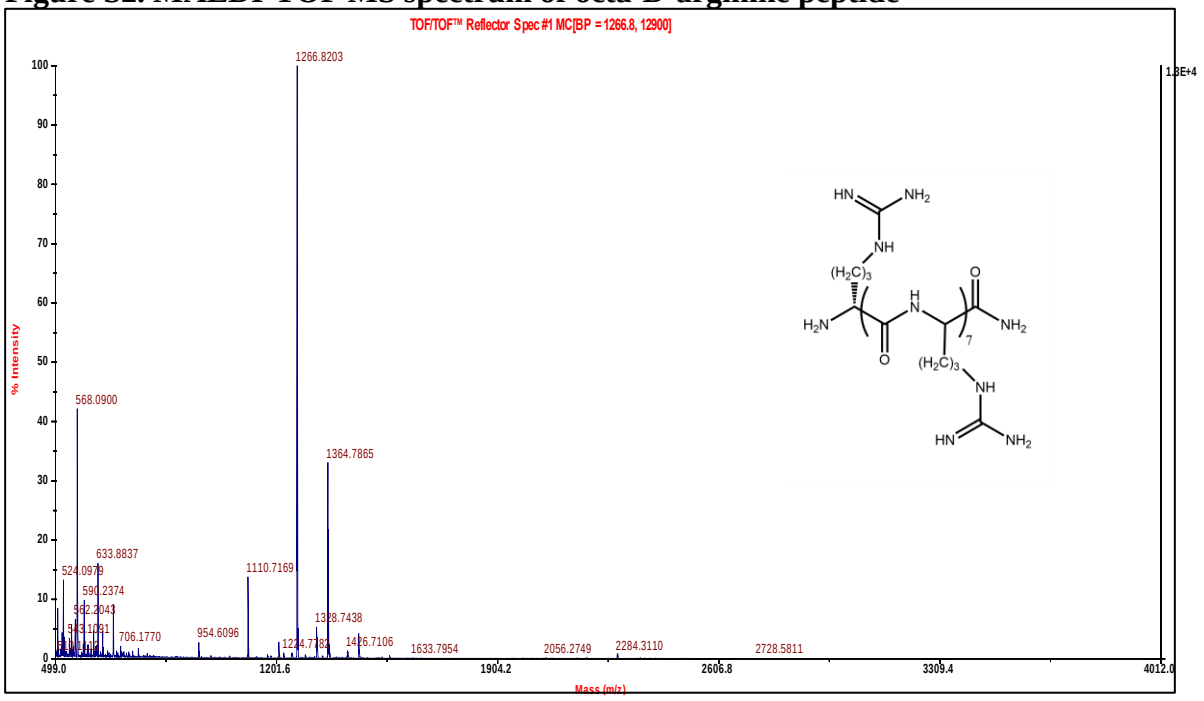
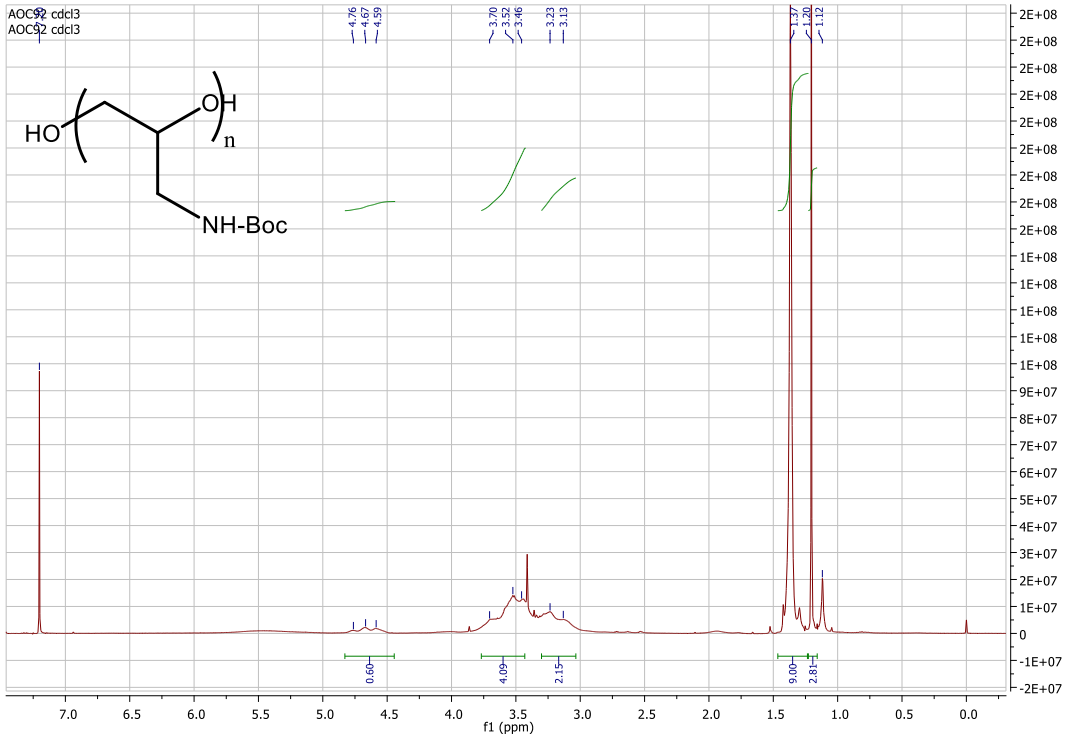


Figure S3. ^{1}H NMR spectrum of poly(glycidyl *tert*-butylcarbamate) (1)



The signal at 3.46 ppm is caused by residual methanol.

Figure S4. ^{1}H NMR spectrum of poly(glycidylamine) (2)

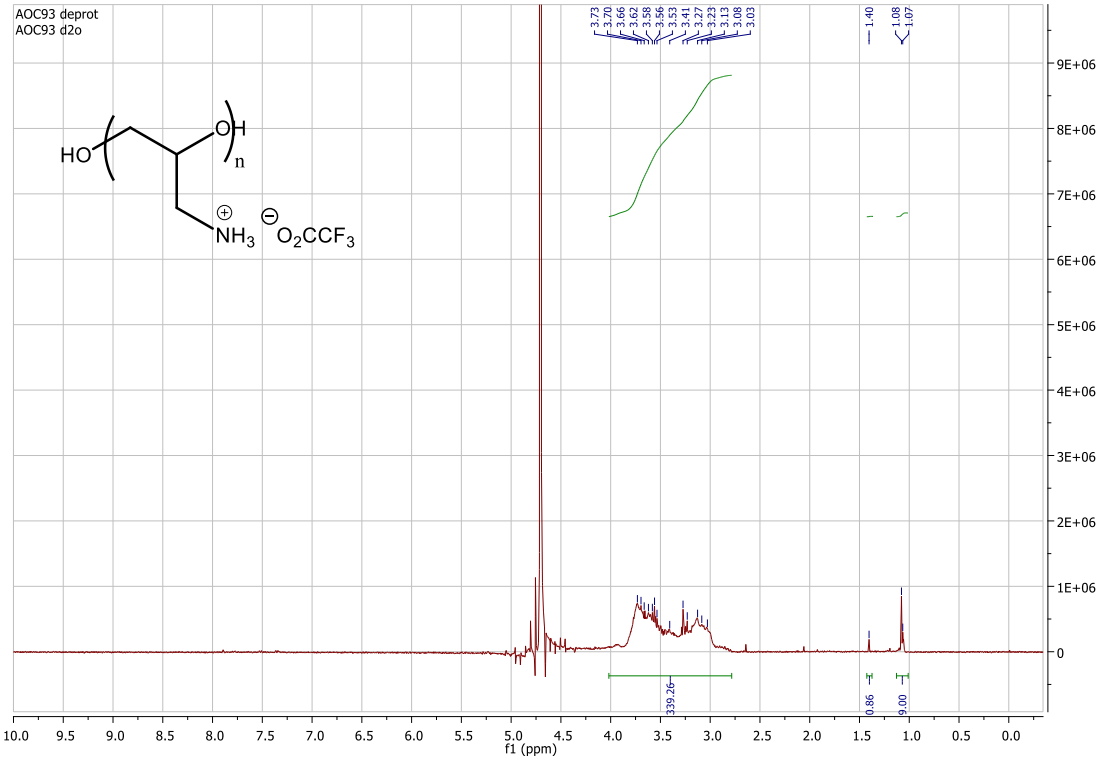
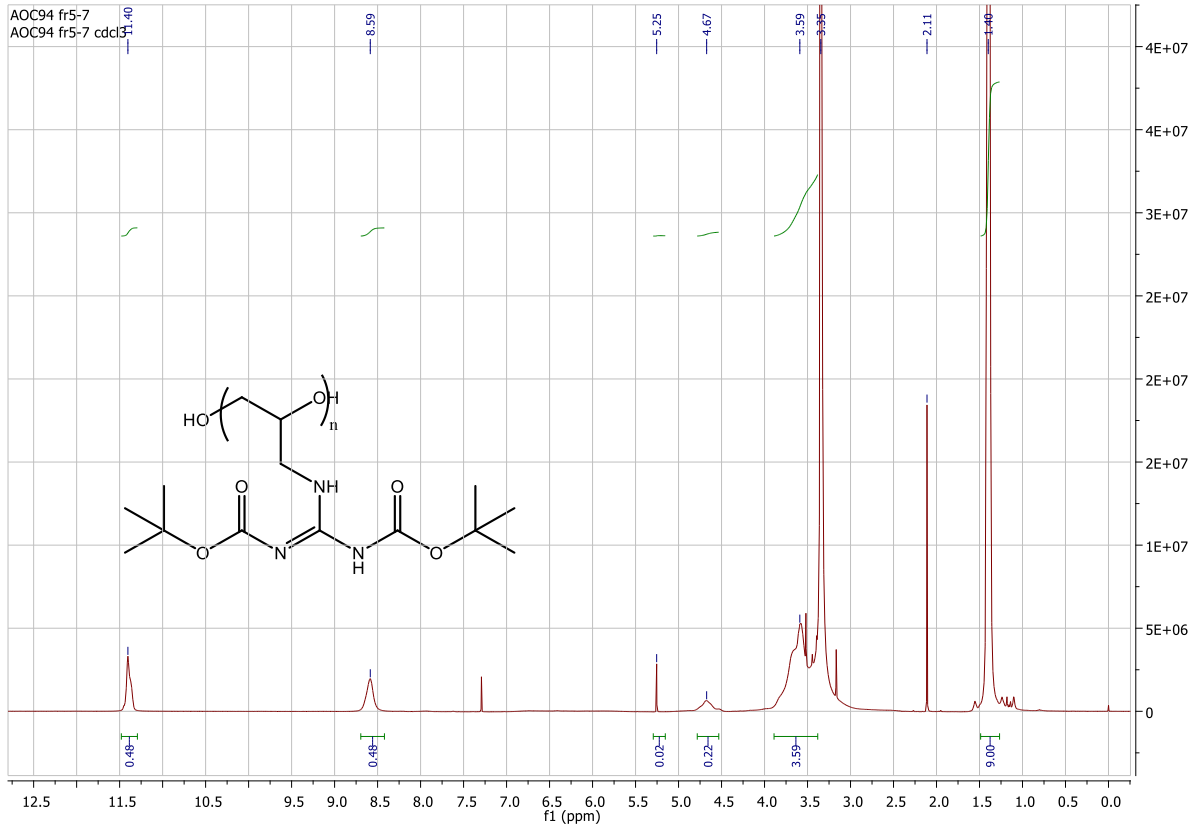


Figure S5. ^{1}H NMR spectrum of poly(glycidyl *N,N'*-di-Boc-guanidine) (3)



Signals at 3.35 ppm and 2.11 ppm correspond to residual methanol and acetone, respectively. Signals at 5.25 and 4.67 ppm are attributed to the secondary and primary alcohols, respectively.

Figure S6. ^{1}H NMR spectrum of poly(glycidylguanidine)

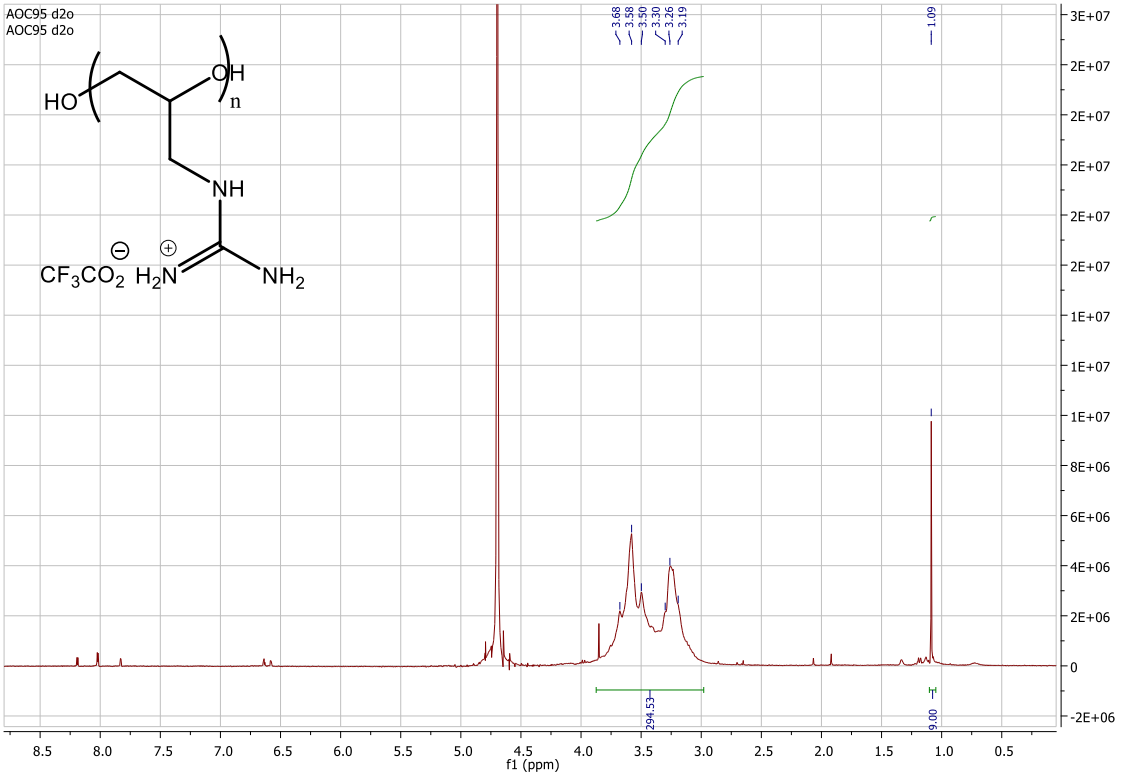


Figure S7. MALDI-TOF MS spectrum of polyglycidylguanidine.

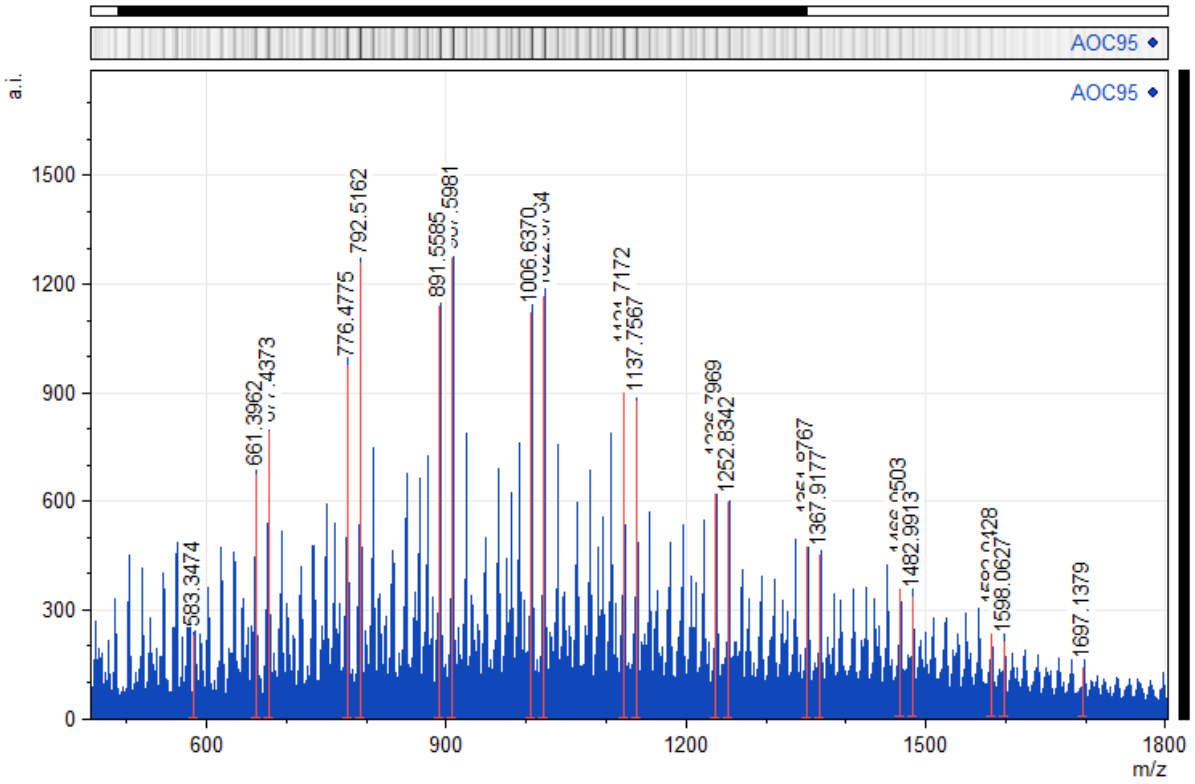


Figure S8. Optimisation of SuperFect pDNA and RNAiFect siRNA transfection conditions. A) pDNA dose, B) SuperFect-pDNA treatment time with cells prior to washing, C) total incubation time prior to lysis and luciferase analysis, D) SuperFect:pDNA transfection ratios and E) RNAiFect:siRNA transfection ratios using optimal pDNA transfection conditions.

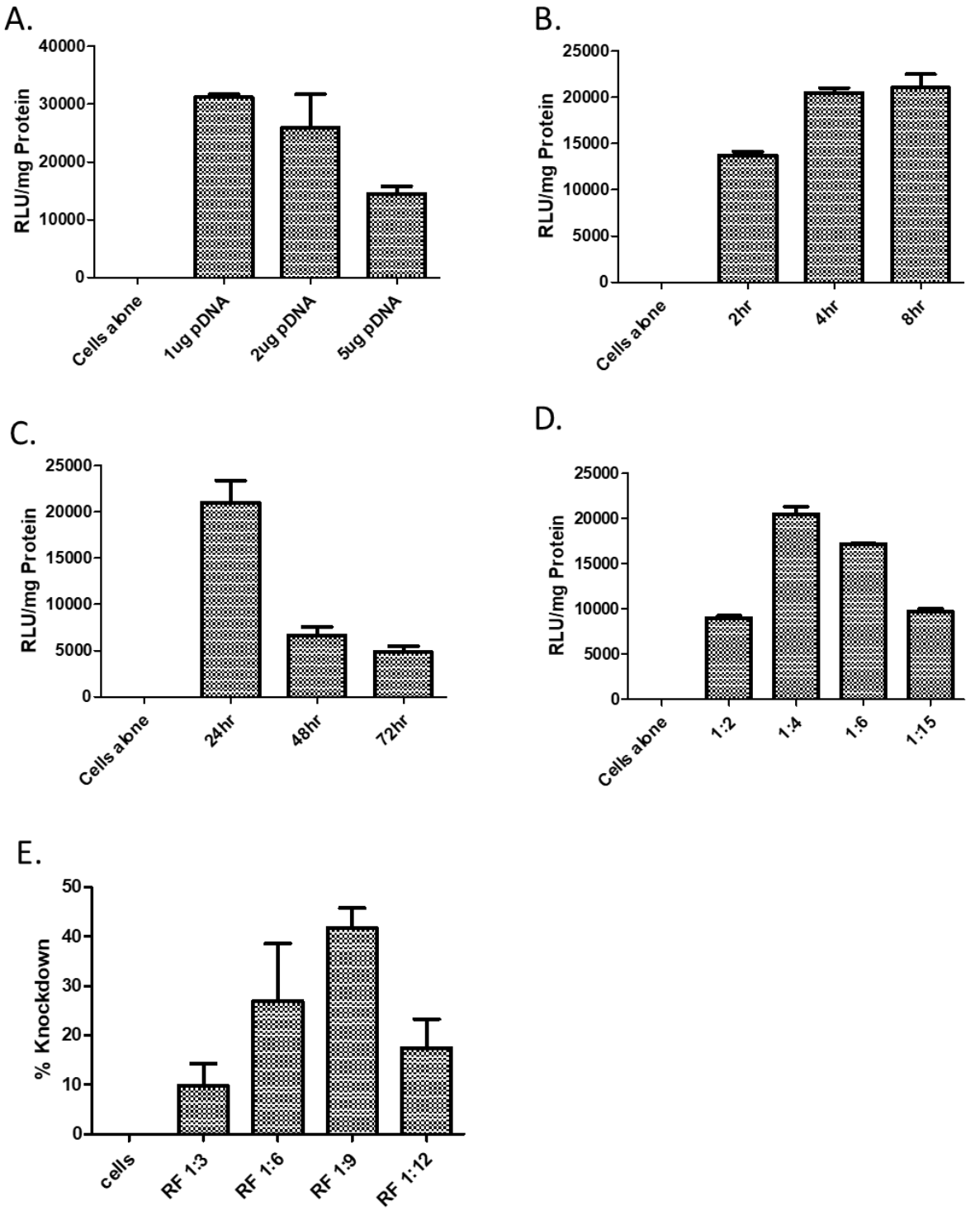


Table S1. Settings for In Cell® 1000 Workstation analysis of Polymer-siRNA nanoparticle uptake into Calu-3 cells

Feature	Source	Segmentation	Min. Area	Sensitivity	Collar
Nuclei	Wave 1 (Hoechst)	Top Hat	50µm^2	100%	
Cell	Wave 2 (TRITC)	Collar	-	-	8µm
Organelles	Wave 3 (FITC)	Cytoplasm only	0.05-0.5µm	50%	-

Table S2. Settings for In Cell® 1000 Workstation analysis of Polymer siRNA nanoparticle induced toxicity in Calu-3 cells

Feature	Source	Segmentation	Min. Area	Sensitivity	Collar
Nuclei	Wave 1 (NA, NI, CN)	Top Hat	50µm^2	100%	-
Cell	Wave 2 (PMP)	Collar	-	-	8µm
Reference 1	Wave 3 (Cyt-C)	Pseudo-Cells	-	-	-
Reference 2	Wave 4 (MMP)	Pseudo-Cells	-	-	-
Reference 3	Wave 2 (PMP)	Pseudo-Nuclei	-	-	-