Electronic Supplementary Material (ESI) for Integrative Biology

Multi-Armed Cationic Cyclodextrin:Poly(ethylene glycol) Polyrotaxanes as Efficient Gene Silencing Vectors

Aditya Kulkarni, Kyle DeFrees, Ryan A. Schuldt, Alexander Vlahu, Ross VerHeul, Seok-Hee Hyun, Wei Deng, and David H. Thompson*

NMR Spectra of Multi-Armed Polyrotaxanes

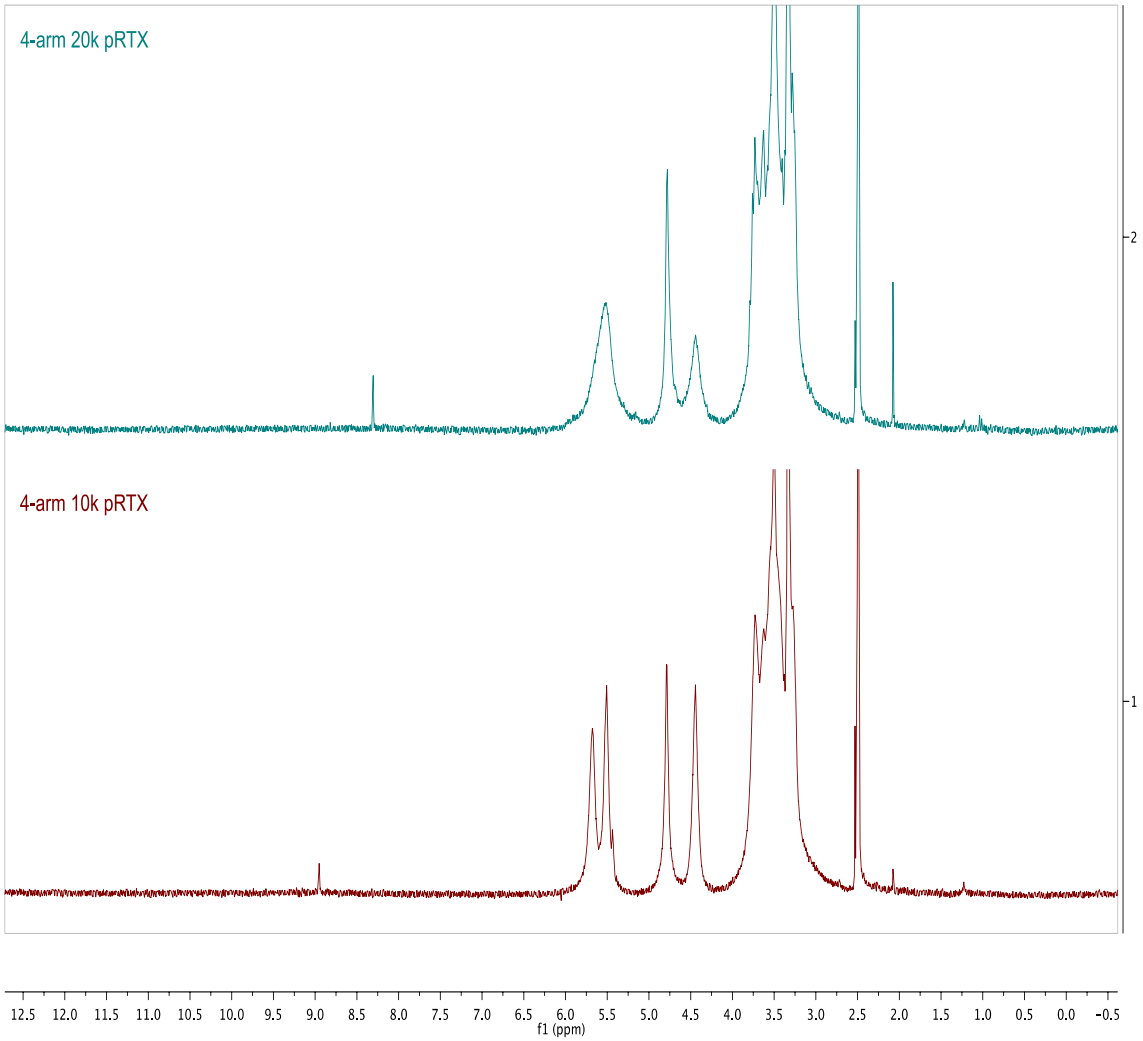

Figure S1: NMR spectra (Varian, 300 MHz) of 10k and 20k 4-arm bPRTx in DMSO-D6.

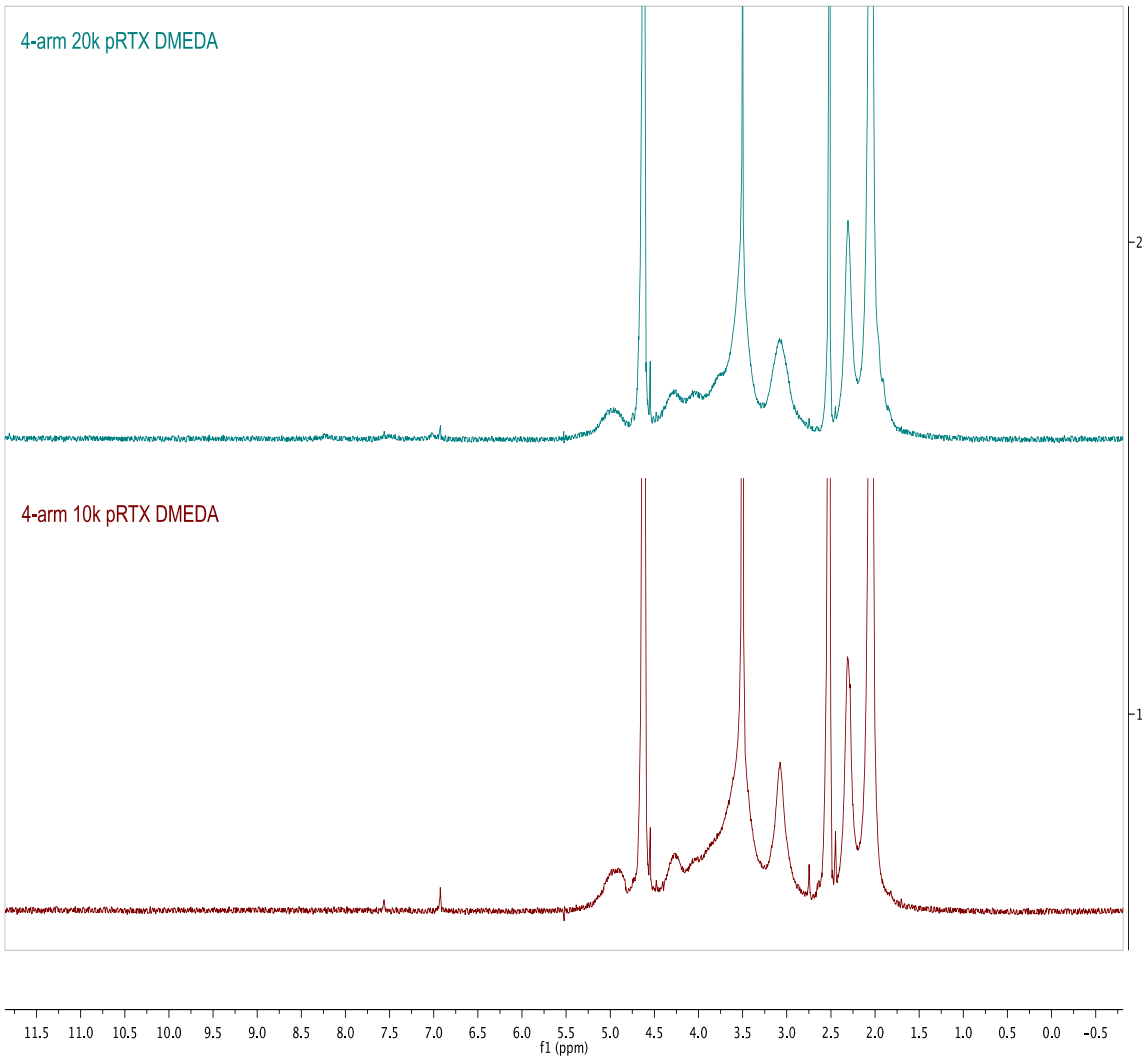

Figure S2: NMR spectra (Varian, 300 MHz) of 10k and 20k 4-arm bPRTx DMEDA in D_2O.

Gel Shift Assay

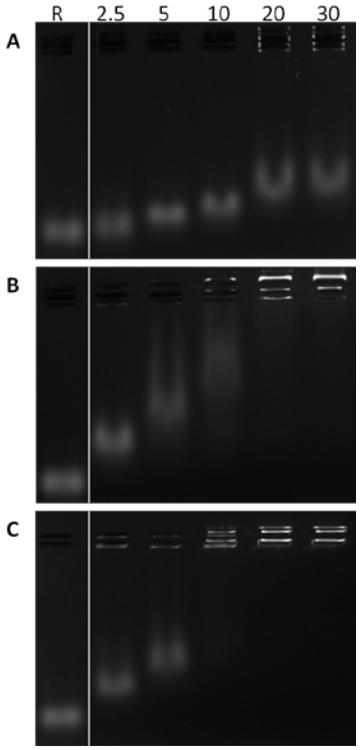

Figure S3: Gel shift assay showing complexation of (A) bPEI:siRNA, (B) 10k and (C) 20k bPRTx^{+}. R represents free siRNA as a control.

MTS Assay with bPEI and bPRTx^{+}

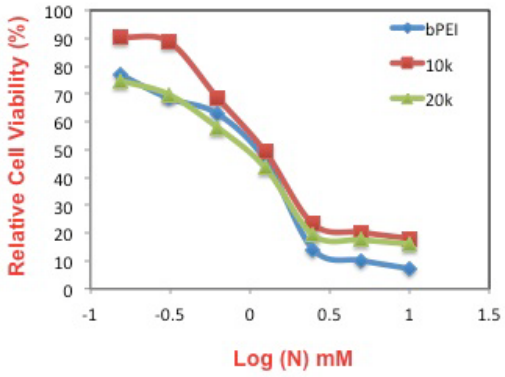

Figure S4: MTS assay of bPEI and bPRTx^{+} performed in NIH3T3-GFP cells.

LDH Release Assay with bPEI and bPRTx^{+} complexes of siRNA

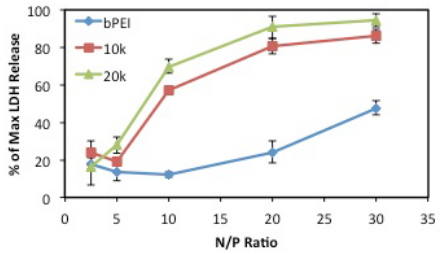

Figure S5: LDH release assay of bPEI:siRNA and bPRTx^{+}:siRNA complexes performed in NIH3T3-GFP cells.

N/P Ratio Screen of Complexes

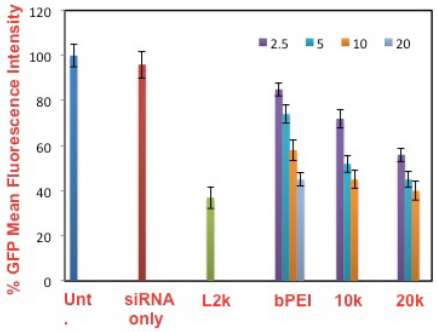

Figure S6: N/P ratio screen of bPRTx^{+}:siRNA, bPEI:siRNA complexes in NIH3T3-GFP cells. 4h incubation, with 90 pmol of siRNA followed by readout after 24h.

Representative FACS Raw Data

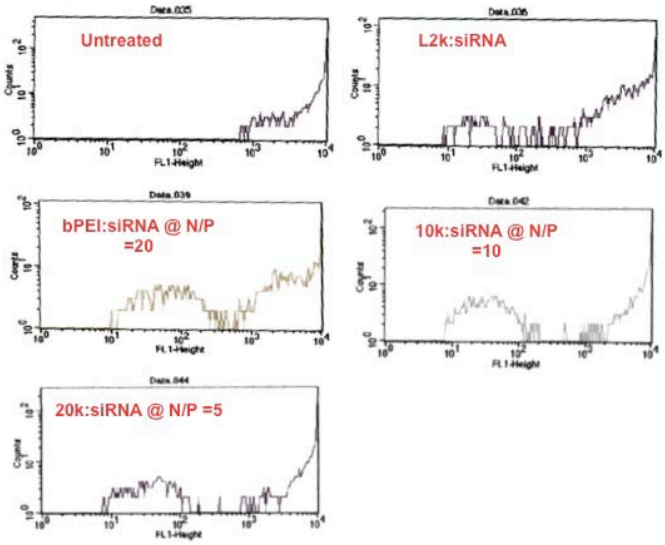

Figure S7: Representative FACS Histogram plots showing shift in GFP fluorescent cells after treatment with 90 pmol of Anti-GFP siRNA with L2k; bPEI; 10k and 20k.