Electronic Supplementary Material (ESI) for Biomaterials Science.

Supplementary Information

Identifying key barriers in cationic polymer gene delivery to human T cells

Brynn R. Olden[a], Emmeline Cheng[a], Yilong Cheng[a,b], Suzie H. Pun*[a]

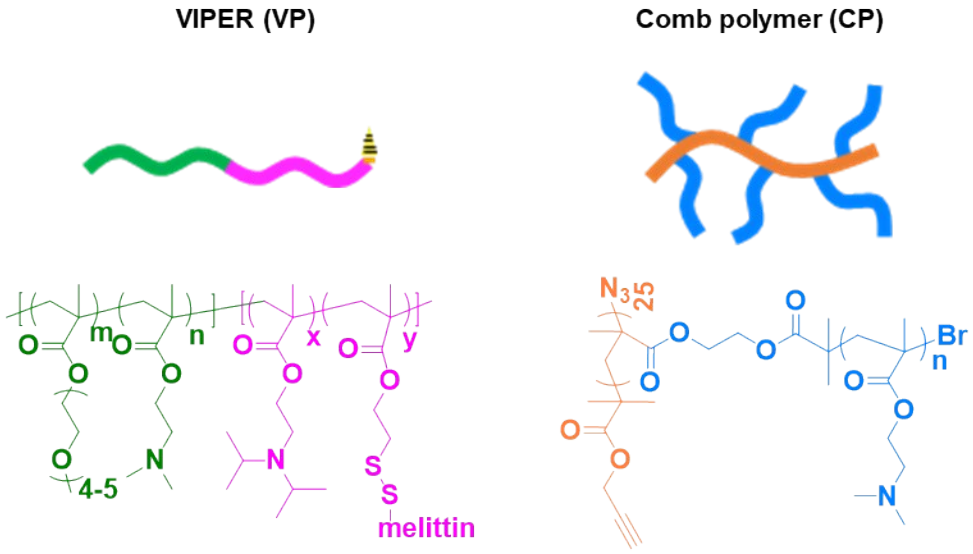

Fig. S1 Schematic and chemical structures of virus-inspired polymer for endosomal release (VIPER) and comb polymer (Comb).

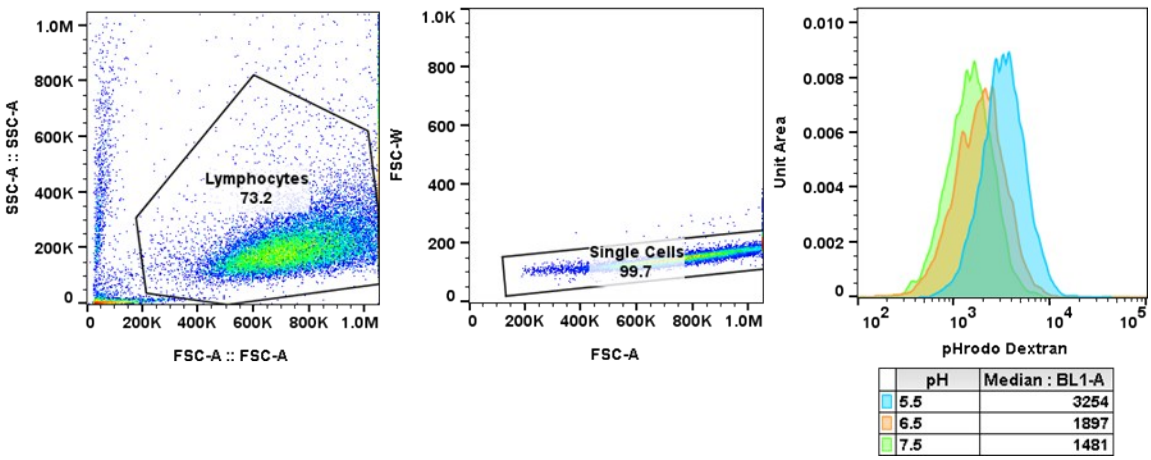

Fig. S2 Gating strategies for pHrodo dextran uptake studies.

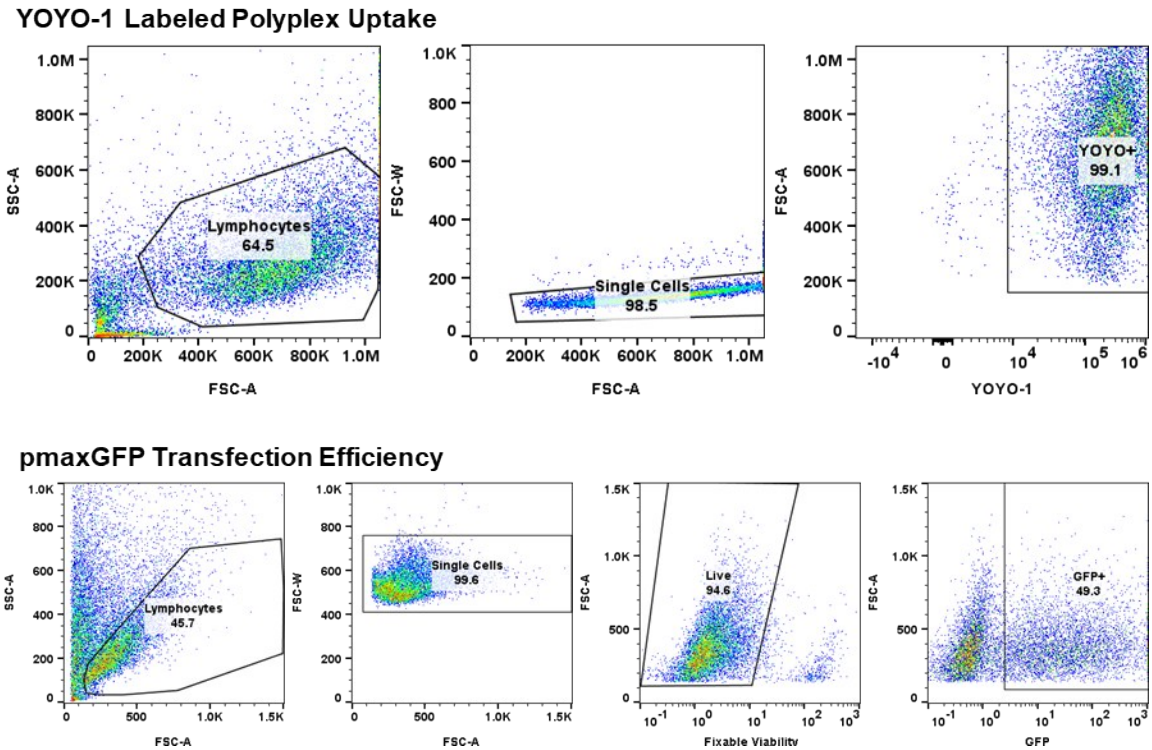

Fig. S3 Gating strategies for uptake and transfection studies.

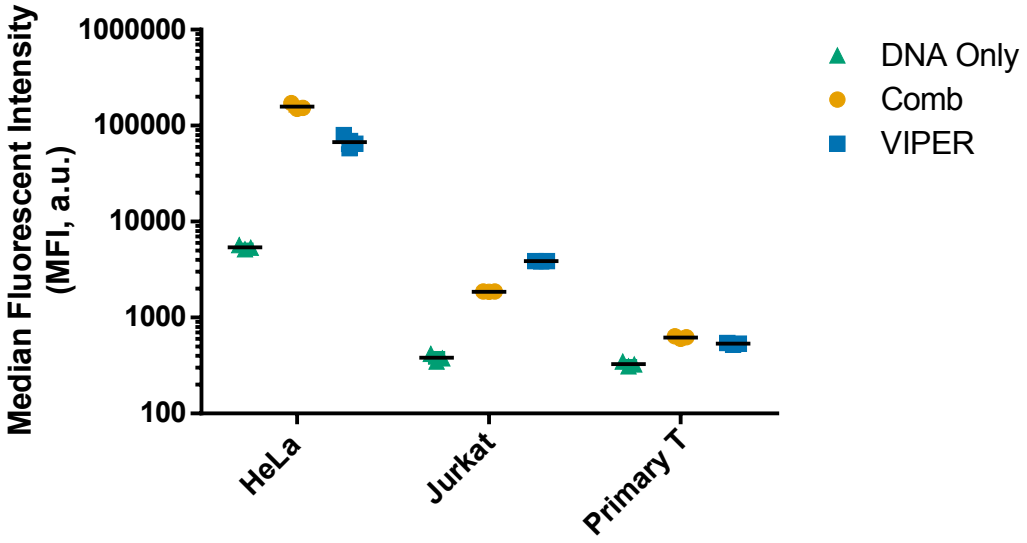

Fig. S4 Uptake of free DNA, Comb, and VIPER polyplexes in HeLa, Jurkat, and primary T cells. Uptake is expressed as median fluorescent intensity (MFI) of all cells treated with YOYO-1 labeled DNA in indicated formulations.

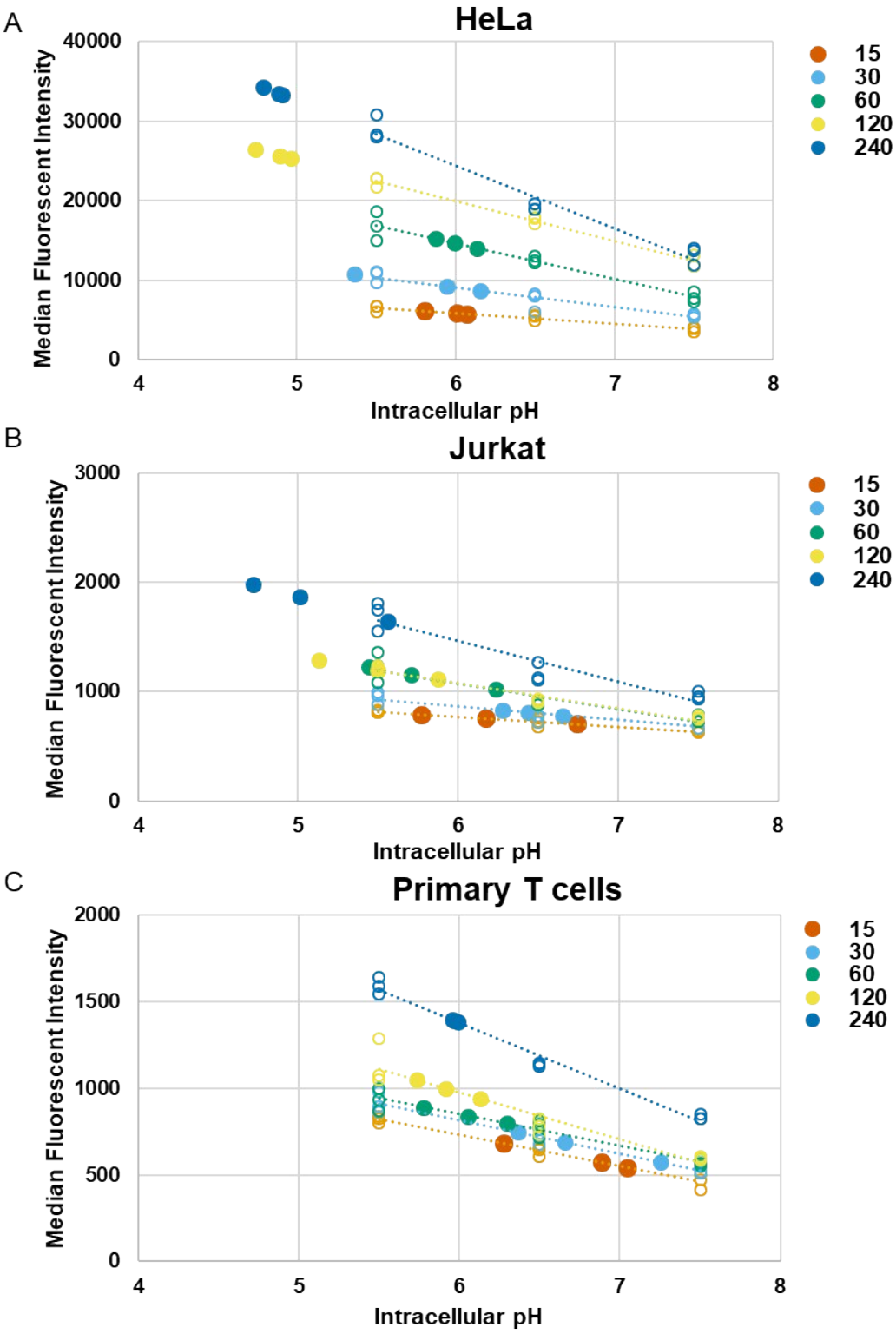

Fig. S5 Calibration curves (open circles with dotted trendline) used for experimental intracellular pH calculations (filled circles) for (A) HeLa, (B) Jurkat, and (C) primary human T cells using pHrodo labeled 10 kDa MW dextran.

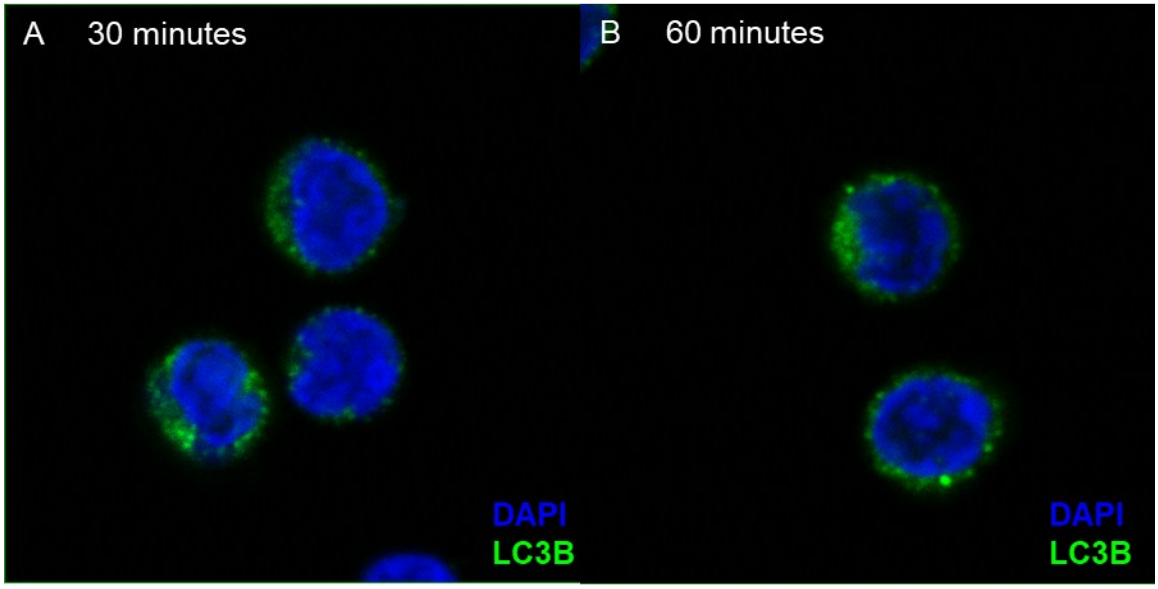

Fig. S6 Confocal microscopy images of autophagy in primary human T cells. T cells transfected with VIPER polyplexes for (A) 30 minutes or (B) 60 minutes stained with LC3B antibody that labels autophagosomes.