

Supplementary Material:

# TPGS-b-PBAE Copolymer-Based Polyplex Nanoparticles for Gene Delivery and Transfection In Vivo and In Vitro

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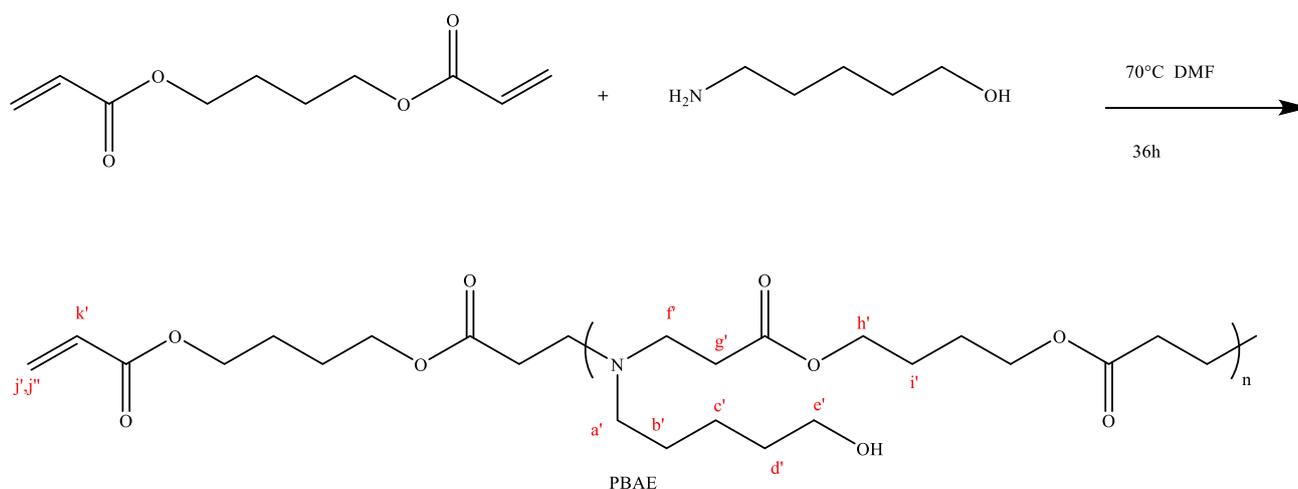


Figure S1. Synthesis of PBAE

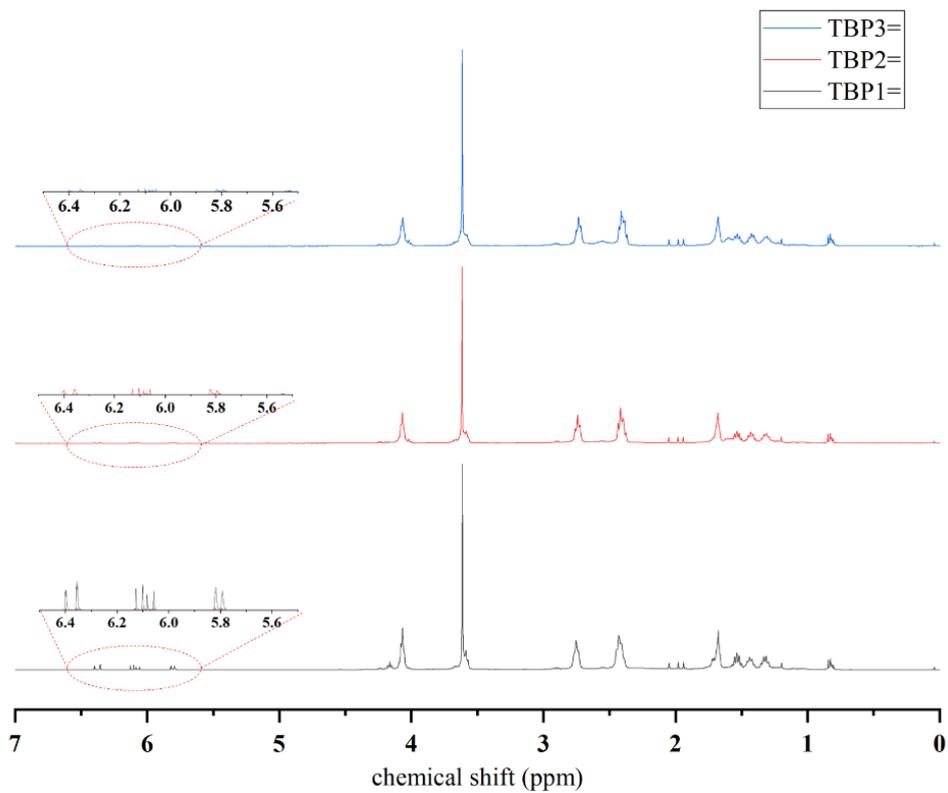


Figure S2. <sup>1</sup>H-NMR spectrum of TBP1=, TBP2=, TBP3=

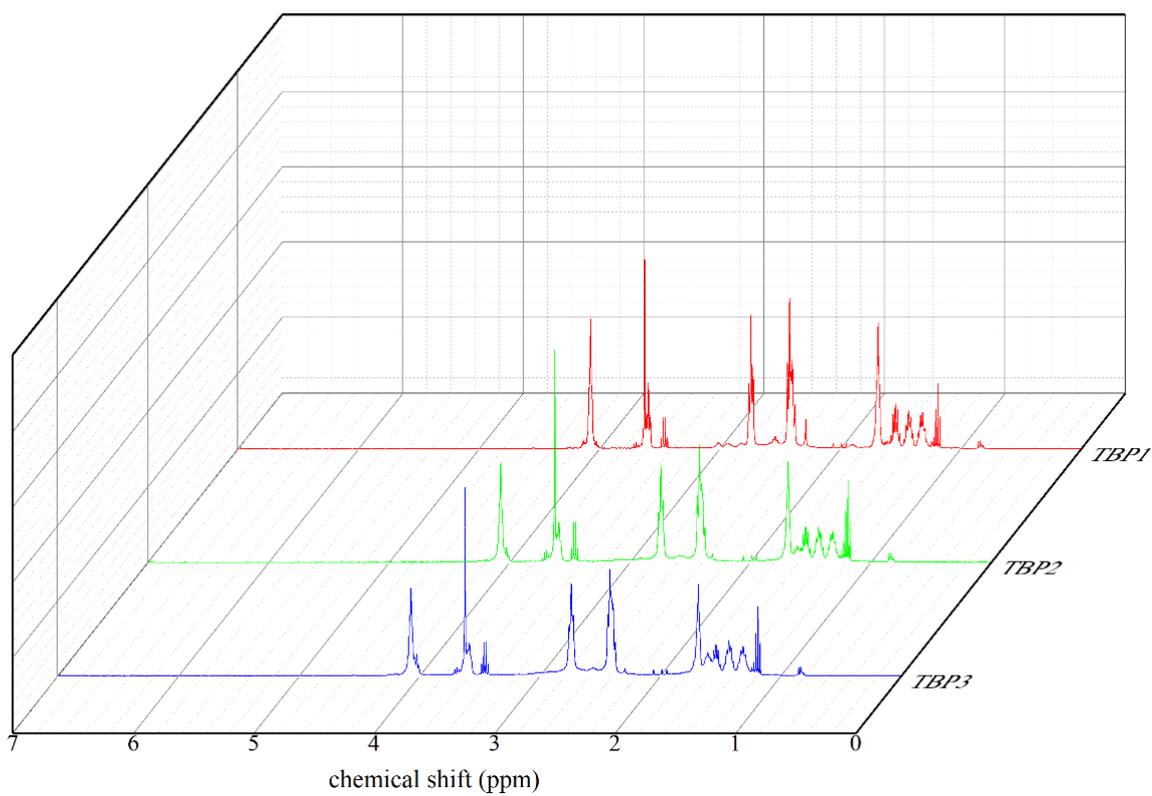


Figure S3. <sup>1</sup>H-NMR spectrum of TBP1, TBP2, TBP3

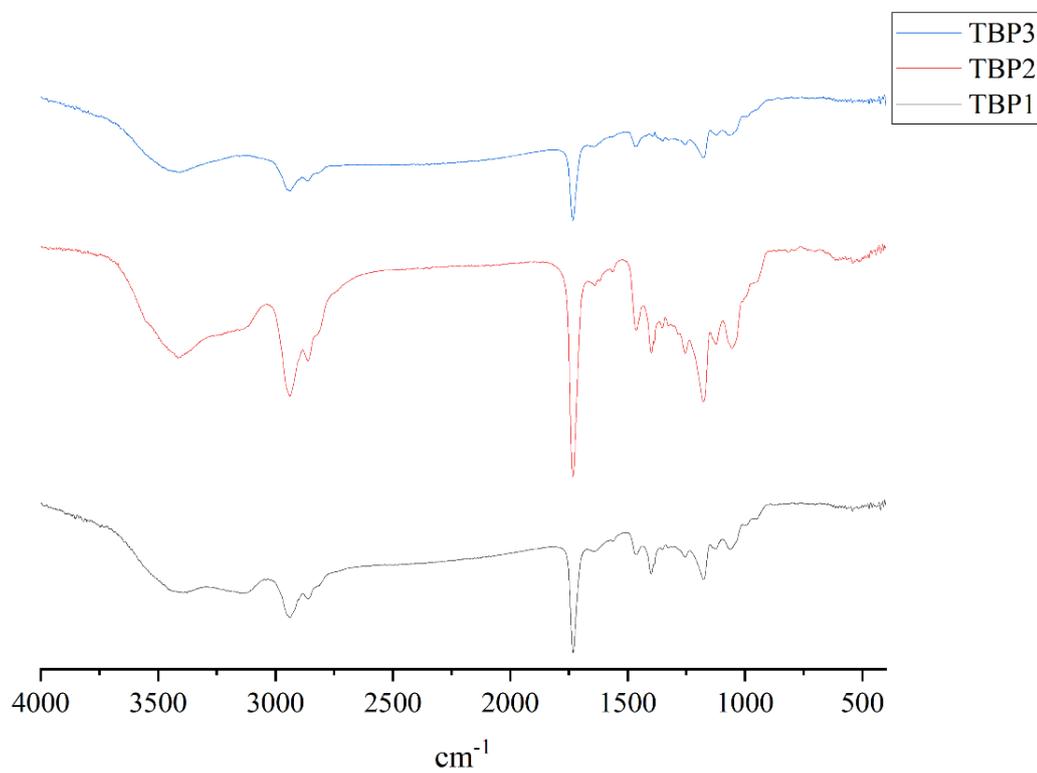


Figure S4. FT-IR spectrum of TBP1, TBP2, TBP3

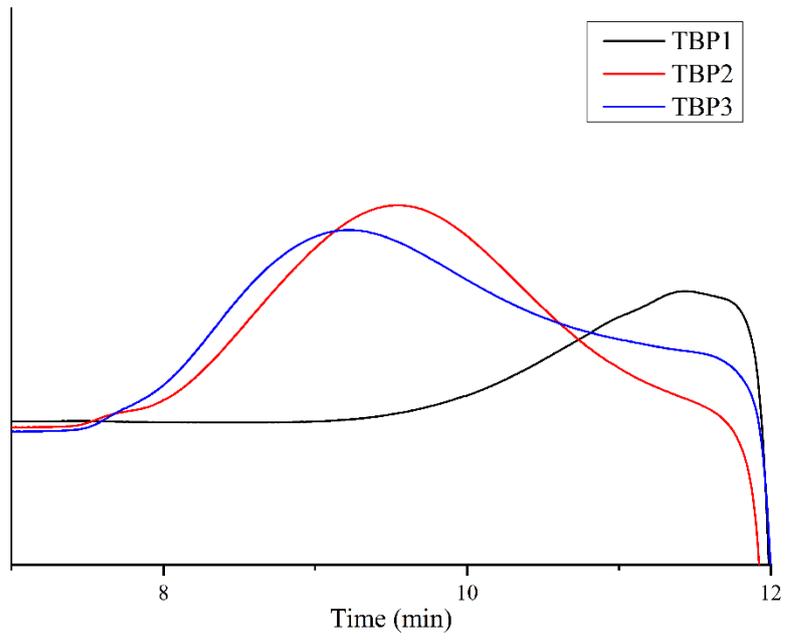


Figure S5. GPC chromatograms of TBP1, TBP2, TBP3

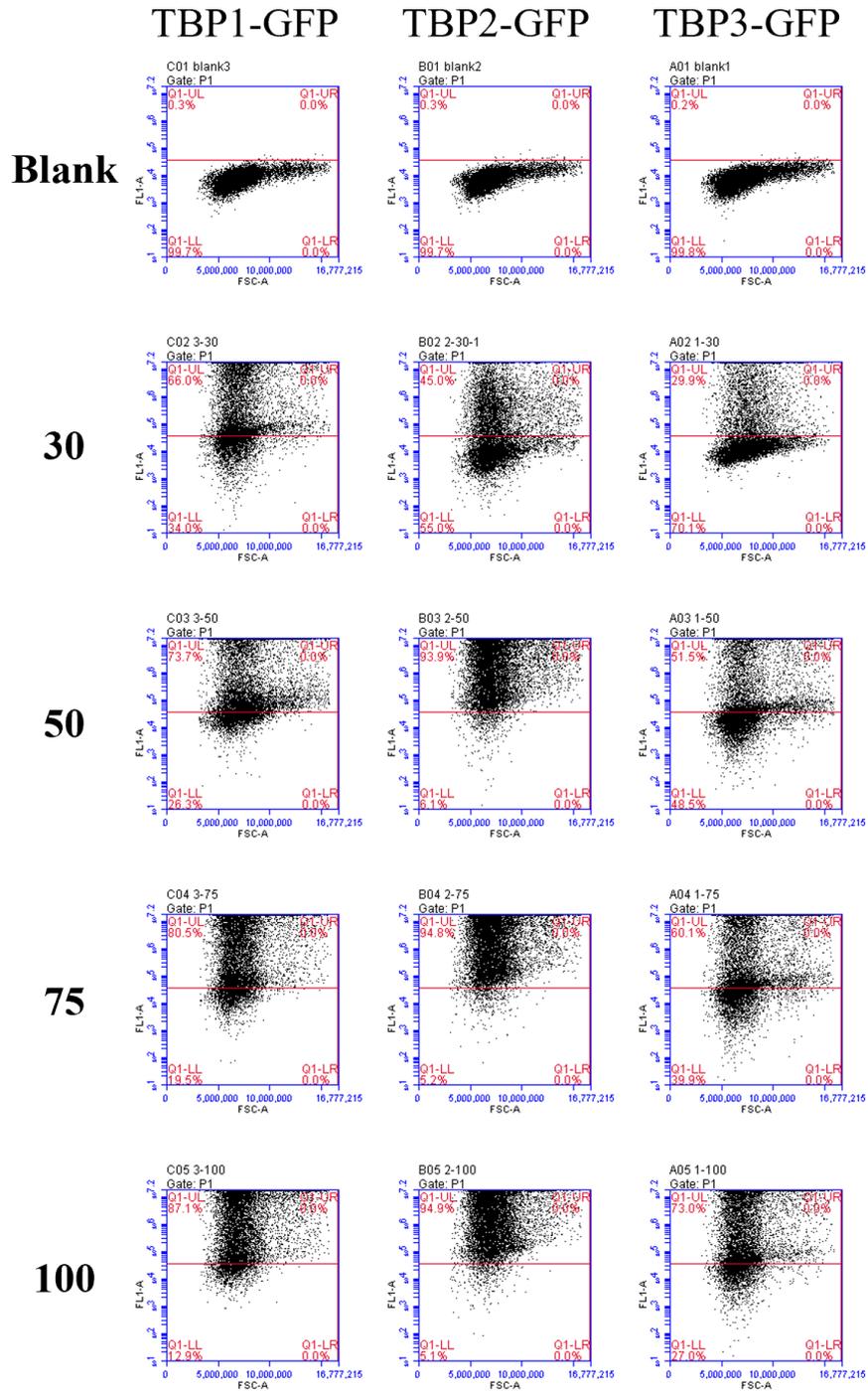


Figure S6. Representative cytometric analysis of transfection efficiency of 293T with TBP1, TBP2, TBP3-GFP polyplex NPs at mass ratio of 30:1, 50:1, 75:1, 100:1. (UL: GFP positive, LL: GFP negative)

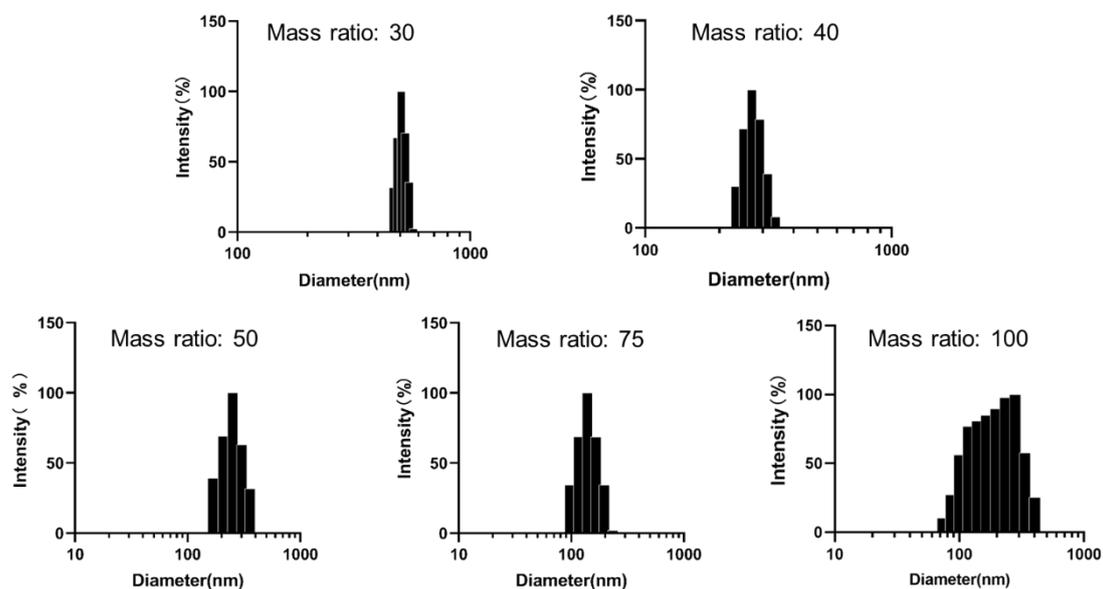


Figure S7. DLS results of TBP2-GFP polyplex NPs at different mass ratios

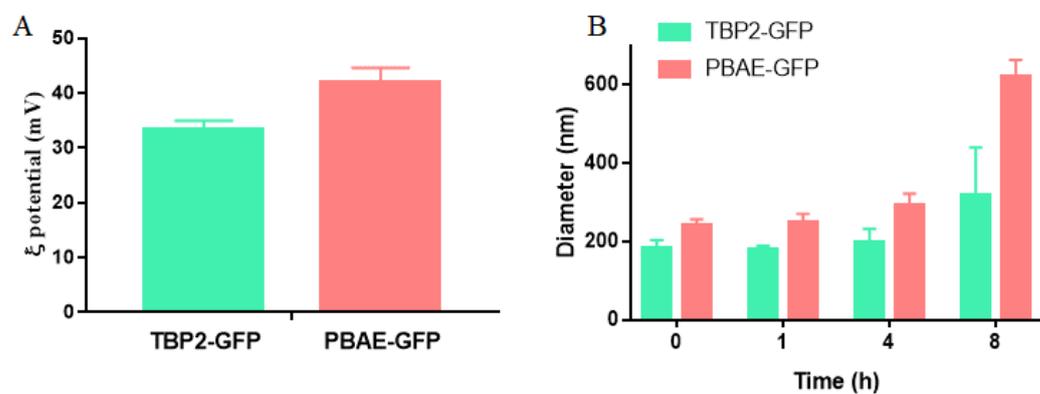


Figure S8.  $\zeta$ -potential (A) and particle size change (B) of TBP2-GFP and PBAE-GFP polyplex

NPs at mass ratio of 75:1 measured by DLS. The data represents the average value of 3 tests.

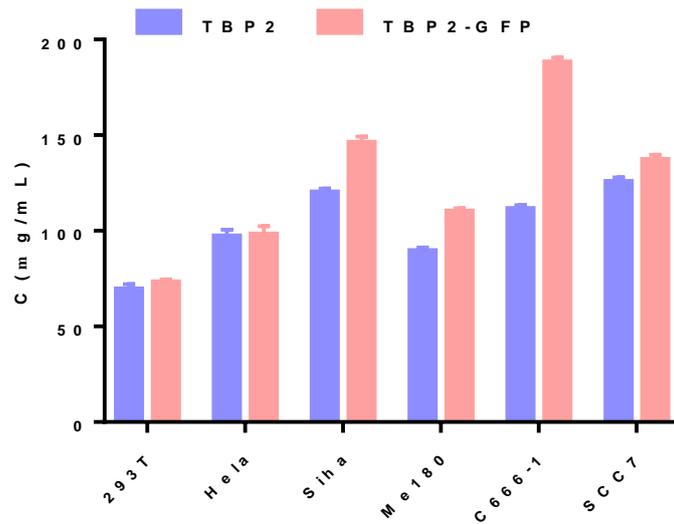


Figure S9. IC50 values of TBP2/TBP2-GFP in different cell lines as calculated by MTT assays.

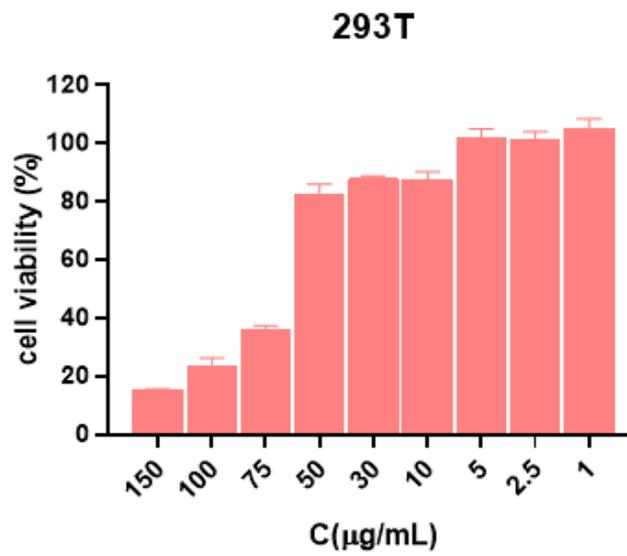
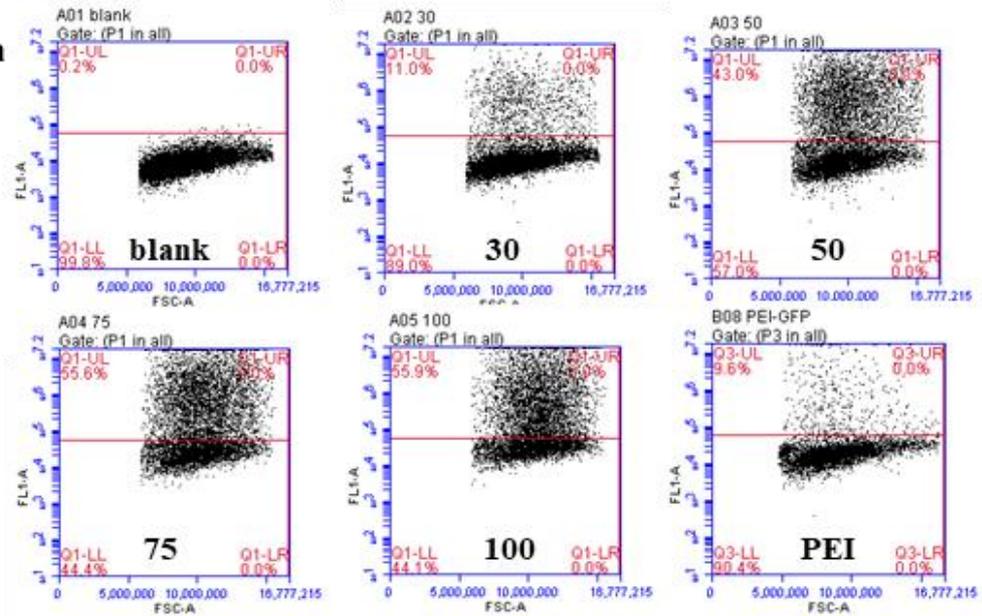
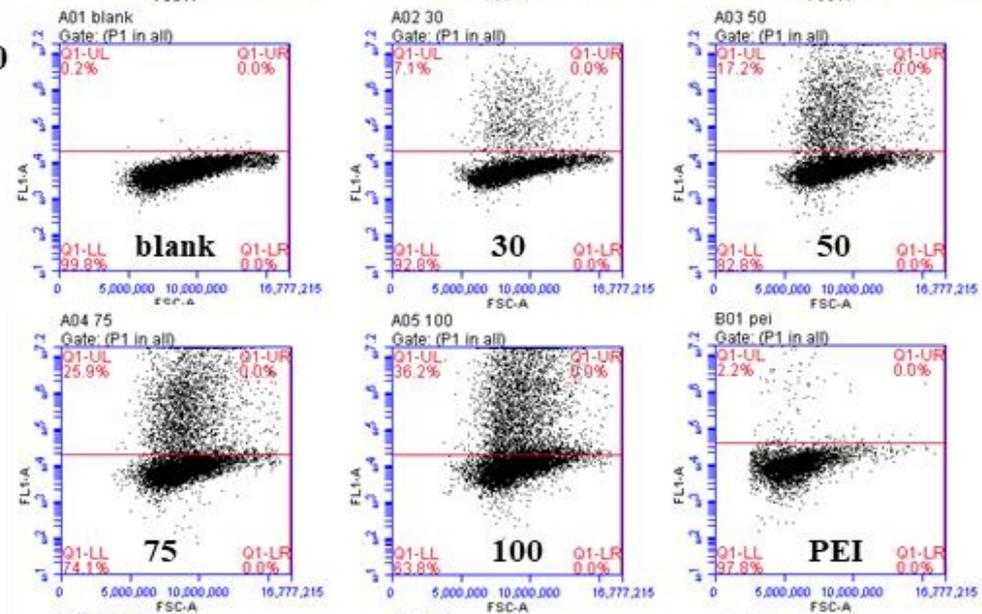


Figure S10. Cell viability testing of PBAE-GFP in 293T

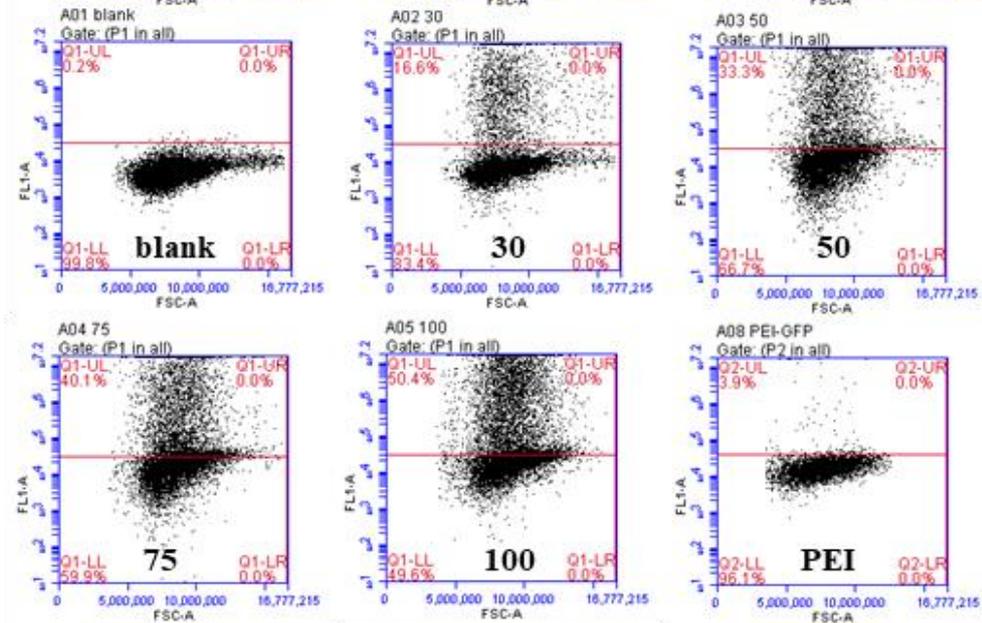
## HeLa



## Me180



## SiHa



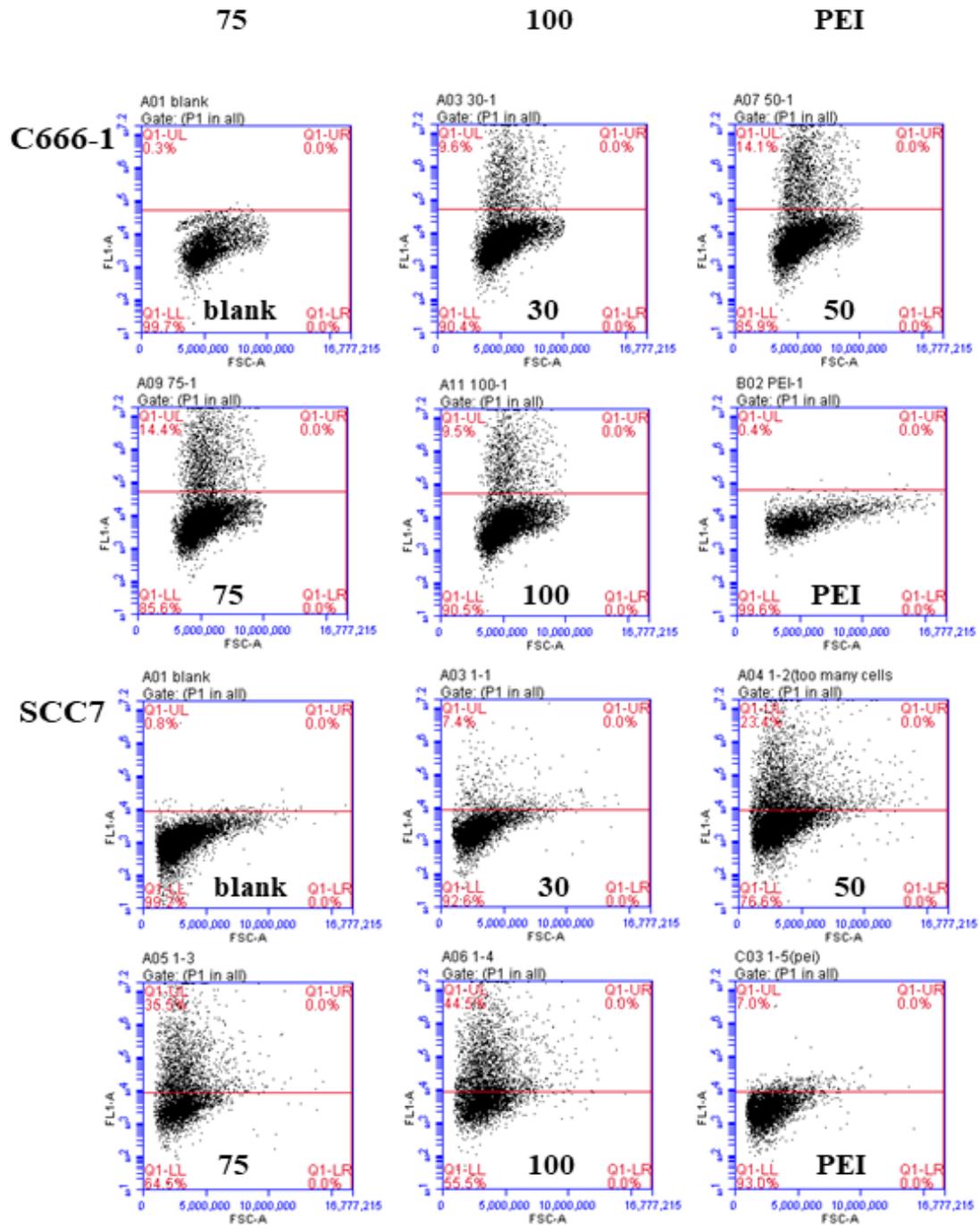


Figure S11. Representative cytometric analysis of transfection efficiency of 293T with TBP1, TBP2, TBP3-GFP polyplex NPs at mass ratio of 30:1, 50:1, 75:1, 100:1. (UL: GFP positive, LL: GFP negative)

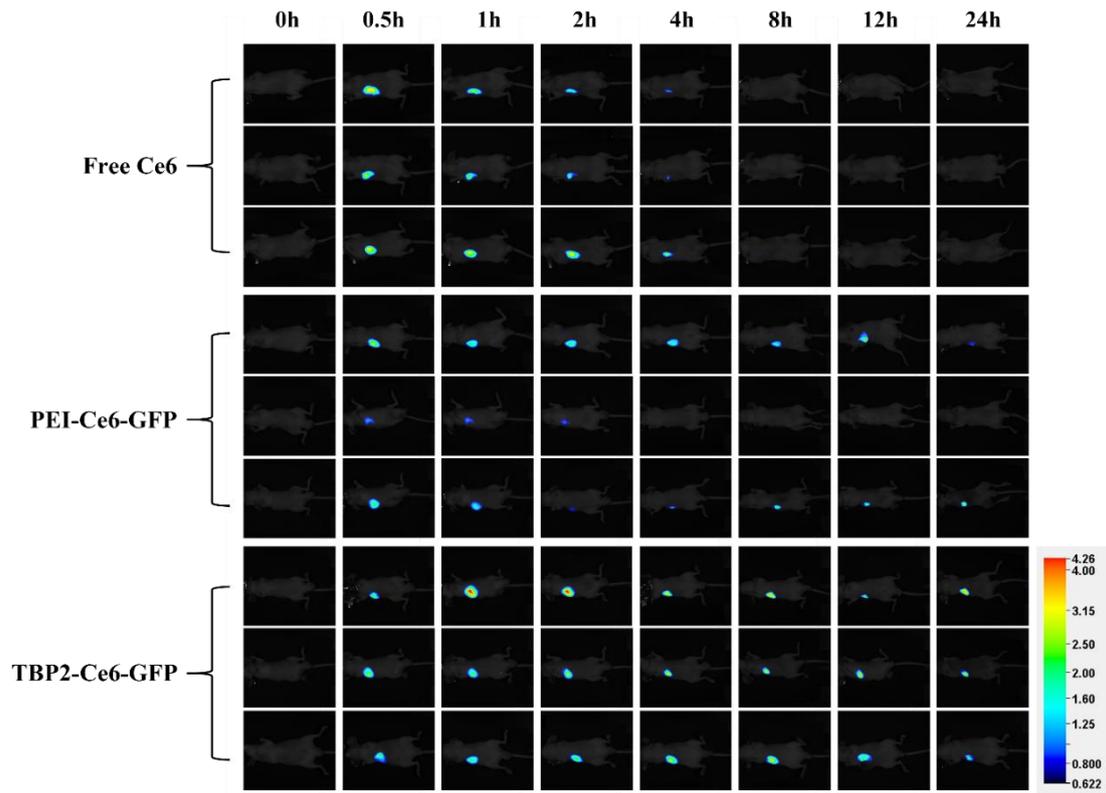


Figure S12. The distribution of drug in each group after injection over time(n=3)

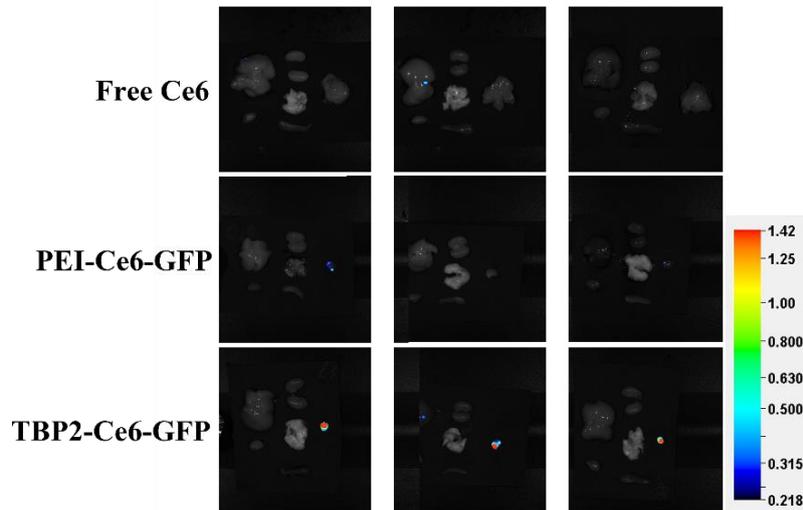


Figure S13. The fluorescence intensity of major organs in each group at 24 hours after injection

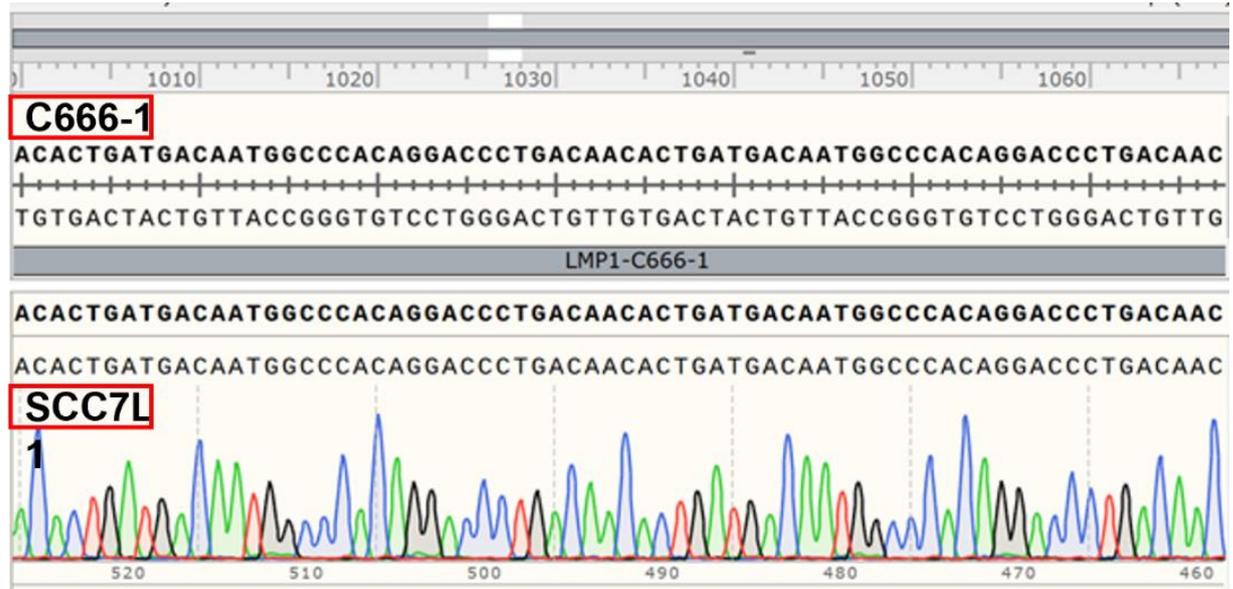


Figure S14. Sanger sequencing results of C666-1 and SCC7L1 (C666-1 above and SCC7L below, showing the same gene fragment sequence).

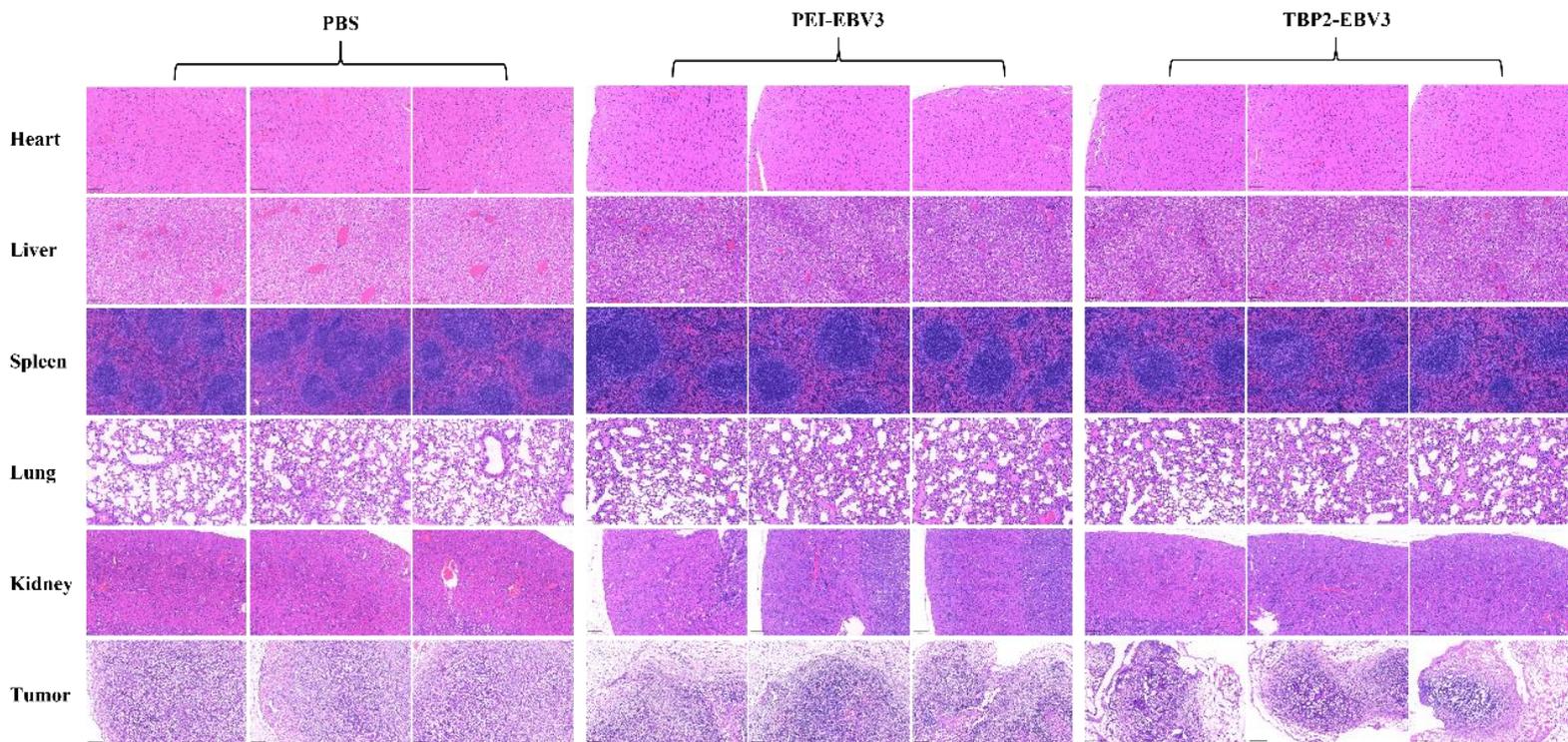


Figure S15. The H&E stained sections of tumors and major organs in each group

Table S1. Former and reverse primers of MUC and ODN

primer	sequence
MUC2-F	CAGCACGTCATCCTGAAGGT
MUC2-R	AAGACACCCTGGAGACACCT
ODN-F	TTGAGTTGTCATATGTTAATAACGGT
ODN-R	ACCGTTATTAACATATGACAACCTCAA

ACTGP-9A5BE2F6-BD82435F-D6B74D98-DB8CC766