

Supplementary Information

Transdermal Delivery of Poly-Hyaluronic Acid-Based Spherical Nucleic Acids for Chemogene Therapy

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	sequence
HPRT1 F	TGAGGATTTGGAAAGGGTGT
HPRT1 R	GAGCACACAGAGGGCTACAA
TIMP-1 F	CATTGCTGGAAAAGTGCAGGA
TIMP-1 R	TCCACAAGCAATGAGTGCCA

Stable 1. DNA sequence used in the present study.

Figures

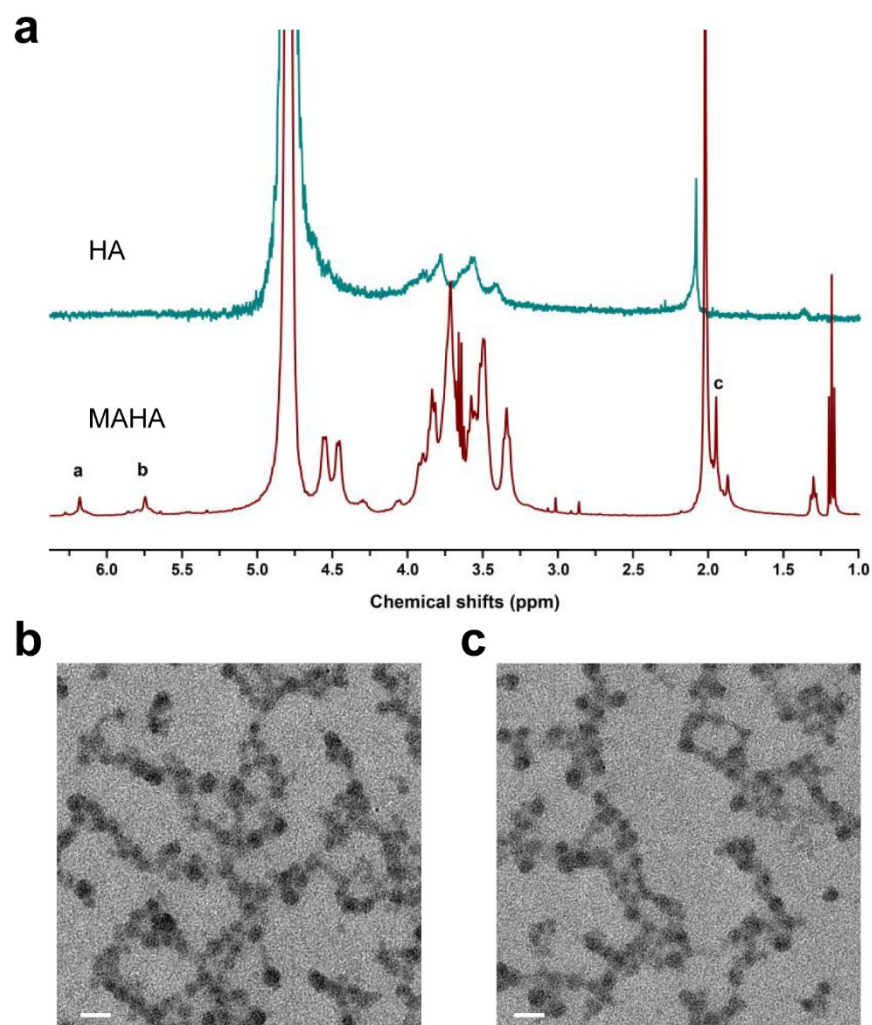


Fig. S1. ^1H NMR spectrum of HA and MAHA (a) and TEM images of PHAAD nanoparticles (b) and PHAAR nanoparticles (c), scale bar: 100 nm.

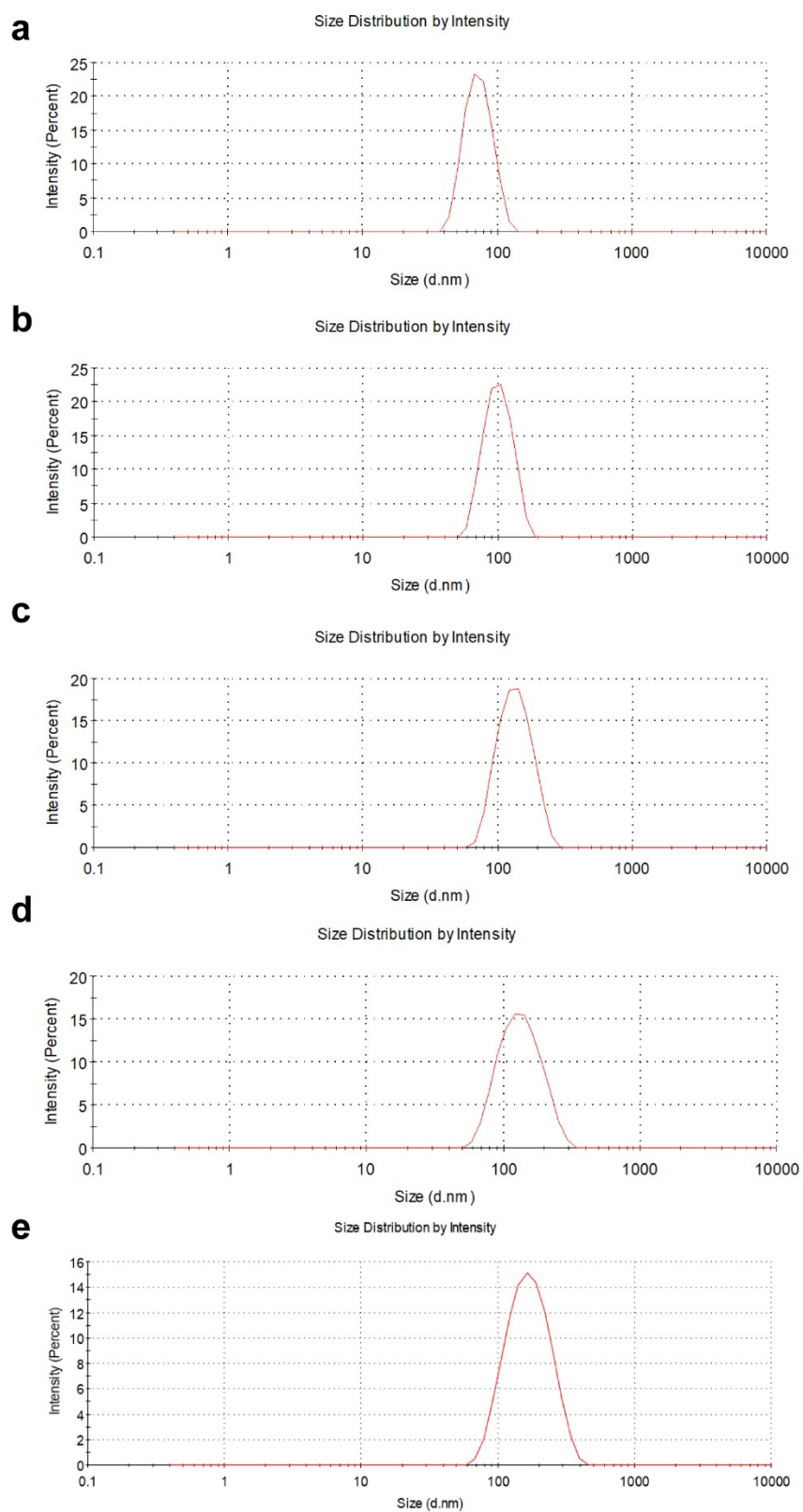


Fig. S2. Size distribution of PHA nanoparticles (a), PHA-N₃ nanoparticles (b), PHAA nanoparticles (c), PHAAD nanoparticles (d) and PHAAR nanoparticles (e).

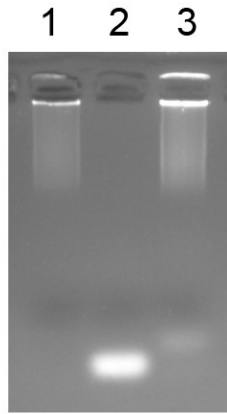


Fig. S3. The 1% agarose gel electrophoresis image. (1:PHA, 2:TIMP-1 ASO, 3:PHAA)

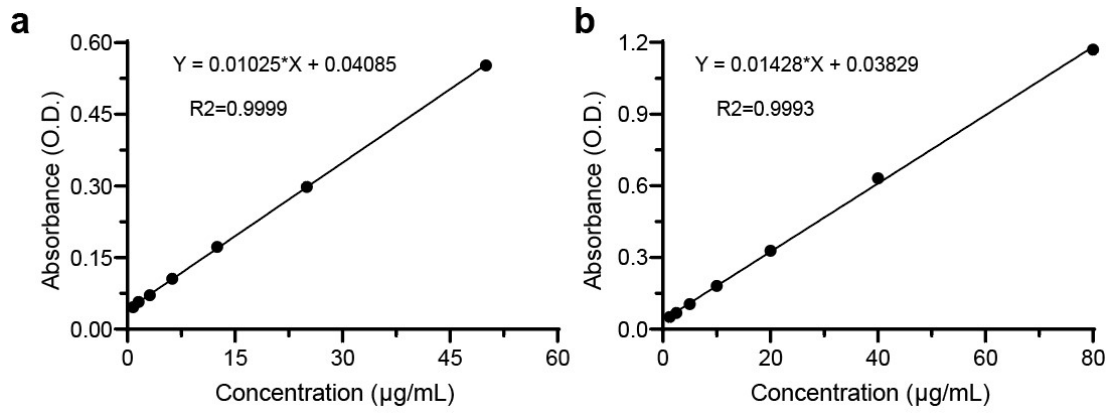


Fig. S4. Standard curve lines of DOX:0~50µg/mL (a) and RB:0~80µg/mL (b).

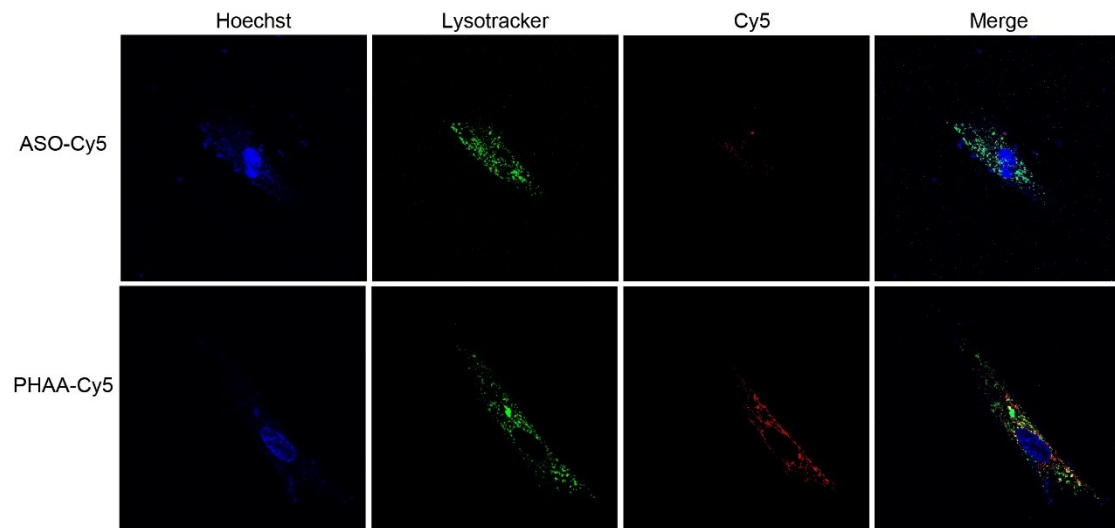


Fig. S5. Fluorescence images of lysosomes and PHAA-Cy5 nanoparticles distribution.

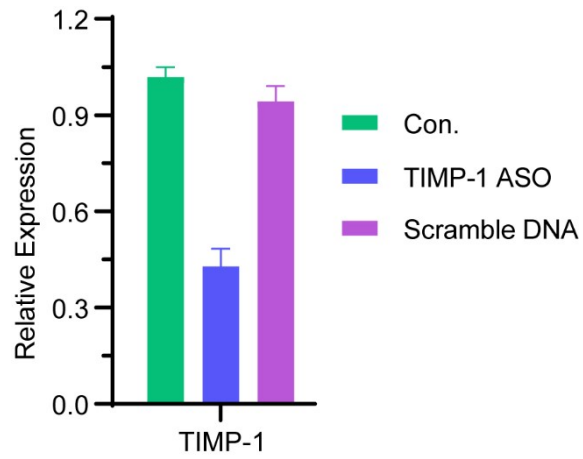


Fig. S6. TIMP-1 levels in HSF cells after treatment with control, TIMP-1 ASO and scramble DNA transferred with liposome 2000 as determined by qRT-PCR.

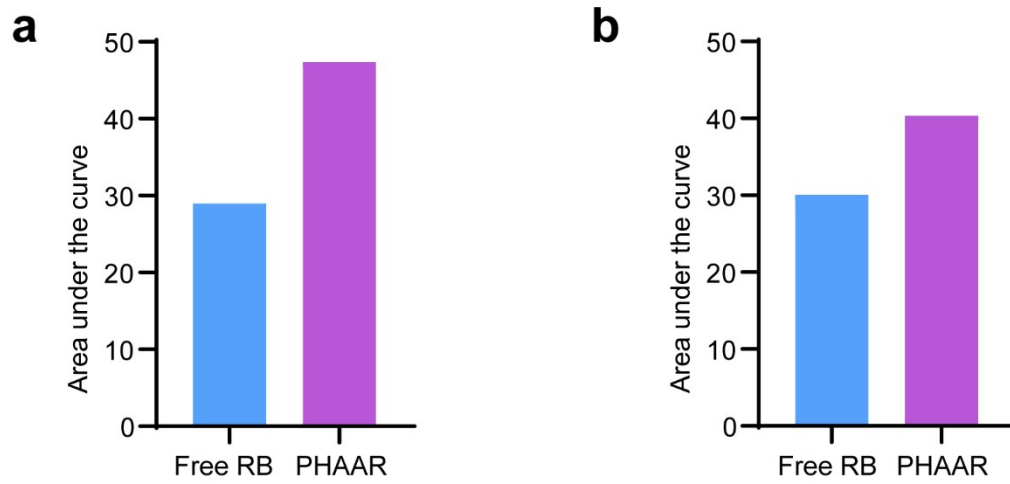


Fig. S7. *In vitro* quantification of fluorescence penetration by Franz penetration cell assay (a) and topical application by smearing (b) below the epidermis through AUC.

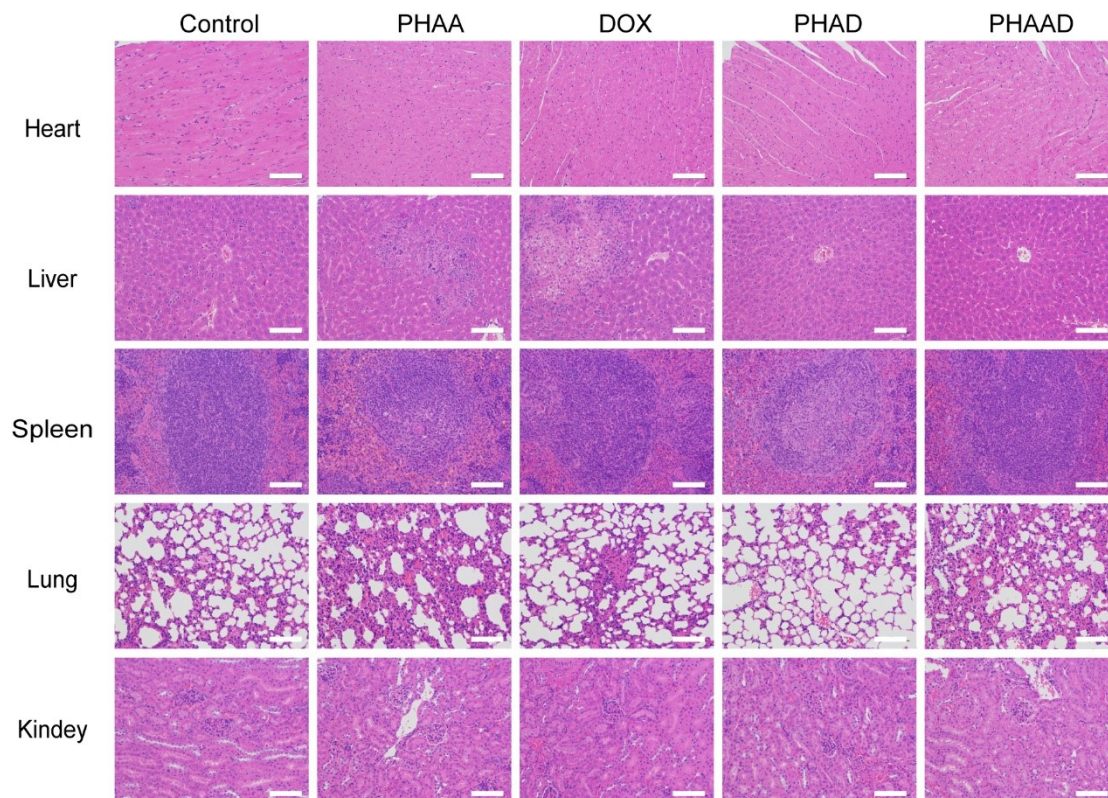


Fig. S8. HE images of the heart, liver, spleen, lung and kidney of mice treated with cream, PHAA nanoparticles cream, free DOX cream, PHAD nanoparticles cream and PHAAD nanoparticles cream, scale bar: 50 µm.