Peptide-grafted dextran vector for efficient and high-loading gene delivery

Yang Hu,[1,2] Huifeng Wang,[2] Haiqing Song,[2] Megan Young,[2] Yaqian Fan,[1] Fu-Jian Xu,[1] Xinjian Qu[2], Xia Lei,[3] Ying Liu,[2] Gang Cheng[2,3,*]

[1]State Key Laboratory of Chemical Resource Engineering, Beijing Laboratory of Biomedical Materials, Beijing University of Chemical Technology, Beijing 100029, China

[2]Department of Chemical Engineering, University of Illinois at Chicago, Chicago, IL 60607, United States

[3]Department of Chemical and Biomolecular Engineering, University of Akron, Akron, OH 44325, United States

* To whom correspondence should be addressed

E-mail addresses: gancheng@uic.edu

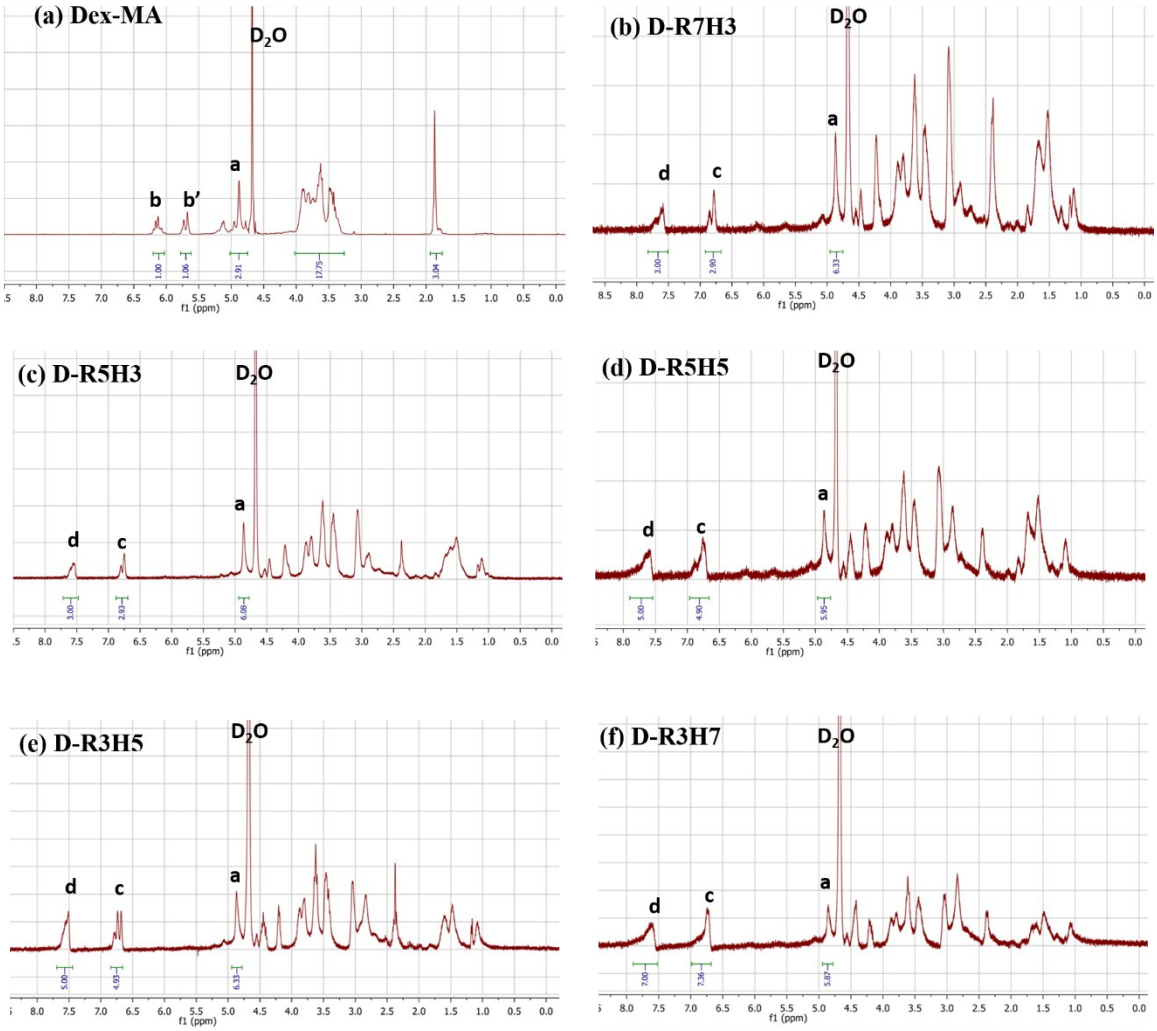

Fig. S1. 400 MHz ^{1}H NMR spectra of (a) Dex-MA, (b) D-R7H3, (c) D-R5H3, (d) D-R5H5, (e) D-R3H5, and (f) D-R3H7 in D_2O.

Analysis.

As shown in Figure S1a, based on the integration of the anomeric protons of dextran (a, 4.9 ppm) and the integration of the protons from the methacryloyl (MA) groups (b, 6.8 and b', 7.6 ppm), the degree of the substitution (DS) of MA was calculated to be 35%. As shown in Figure S1b-d, the DS of RxHy was calculated by the integration of the anomeric protons of dextran (a, 4.9 ppm) and the integration of the protons from the imidazole ring of histidine (c, 6.75 and d, 7.60 ppm).

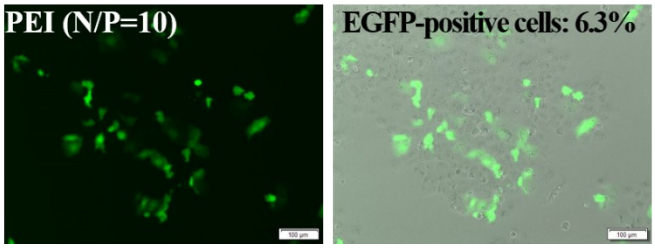

Fig. S2. In vitro EGFP expression of PEI/pEGFP-N1 polyplex at the N/P ratio of 10 in MCF7 cells, where the percentage of EGFP-positive cells was determined by flow cytometry.