Supporting Information

Cancer Theranostic Applications of Albumin-coated Tobacco mosaic virus Nanoparticles

A. S. Pitek,[a] H. Hu,[a,b] S. Shukla,[a,b] N.F. Steinmetz[a,b*]

[a]*Department of Biomedical Engineering, Case Western Reserve University, Cleveland, OH 44106;* [b]*Department of NanoEngineering, Moores Cancer Center, University of California-San Diego, La Jolla, CA 92093*

nsteinmetz@ucsd.edu

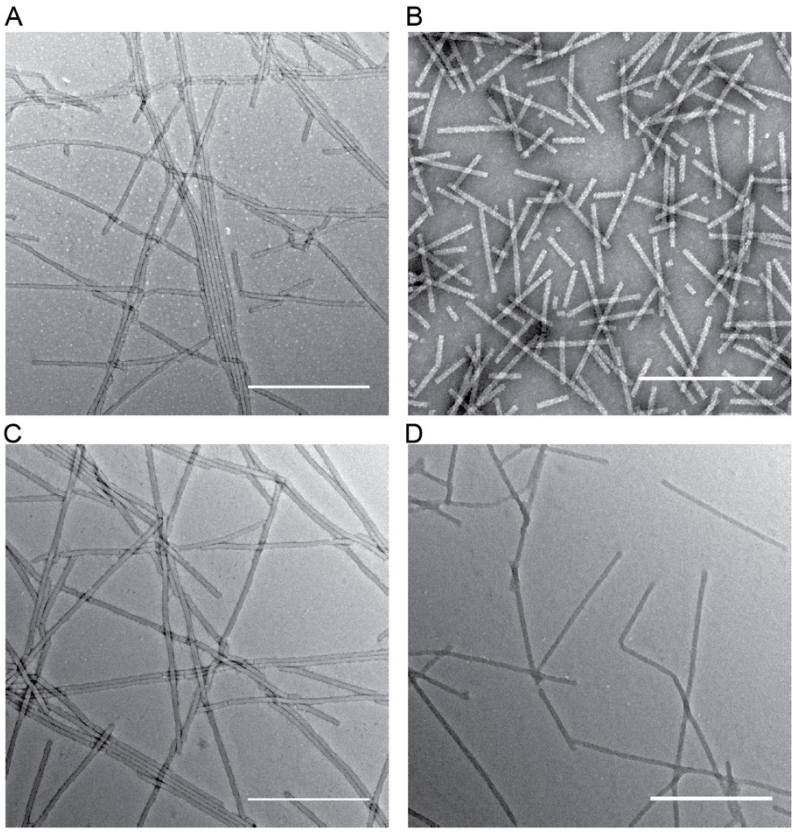

Figure S1. TEM images of: A, TMV-Cy5; B, SA-TMV-Cy5; C, TMV-/-DOX; D, SA-TMV-/-DOX. Scale bars represent 500 nm.

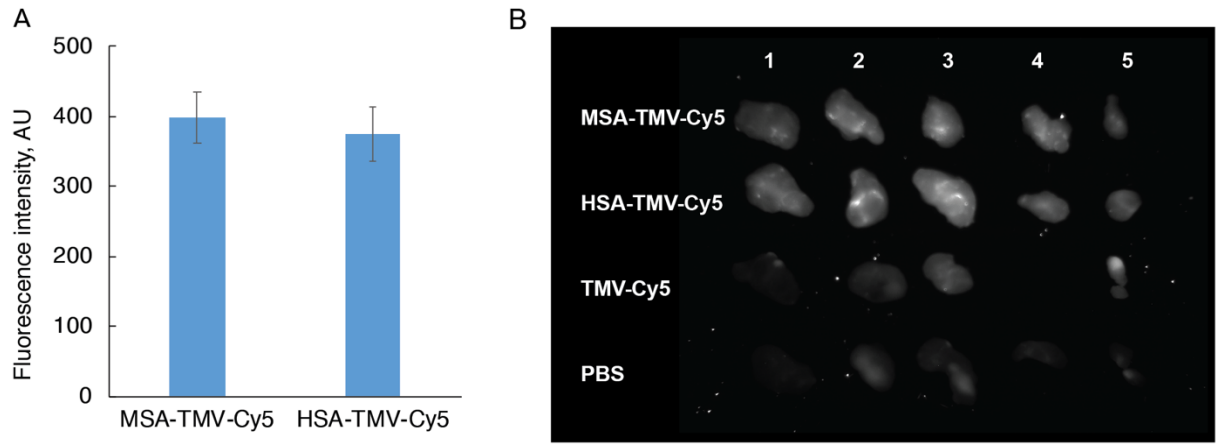

Figure S2. In vitro cell uptake and in vivo biodistribution of MSA-TMV-Cy5 and HSA-TMV-Cy5 VNPs in MDA-MB231 cancer cells. A, Quantification of cellular uptake of MSA-TMV-Cy5 and HSA-TMV-Cy5 in vitro using MDA-MB231 cells. No significant differences in uptake were found. B, Representative Maestro fluorescence image of accumulation of MSA-TMV-Cy5 and HSA-TMV-Cy5 particles in a heterotopic model of human MDA-MB231 in NCR nu/nu mice. No substantial differences in tumor targeting were found.

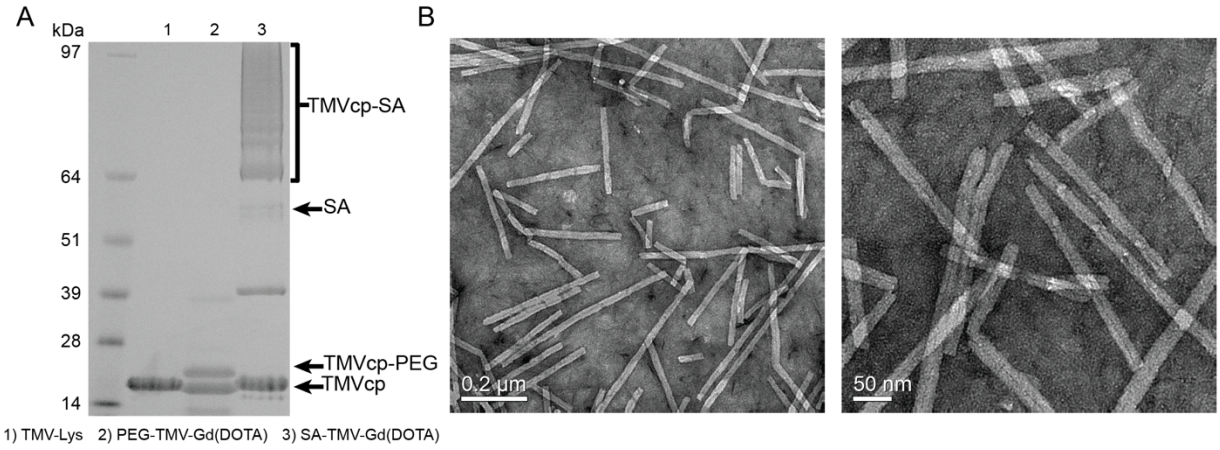

Figure S3. Characterization of TMV-Gd(DOTA). A, SDS-PAGE analysis of PEG-TMV-Gd(DOTA) and SA-TMV-Gd(DOTA) particles. B, TEM images of SA-TMV-Gd(DOTA) demonstrate structural integrity of TMV particles after the conjugation.

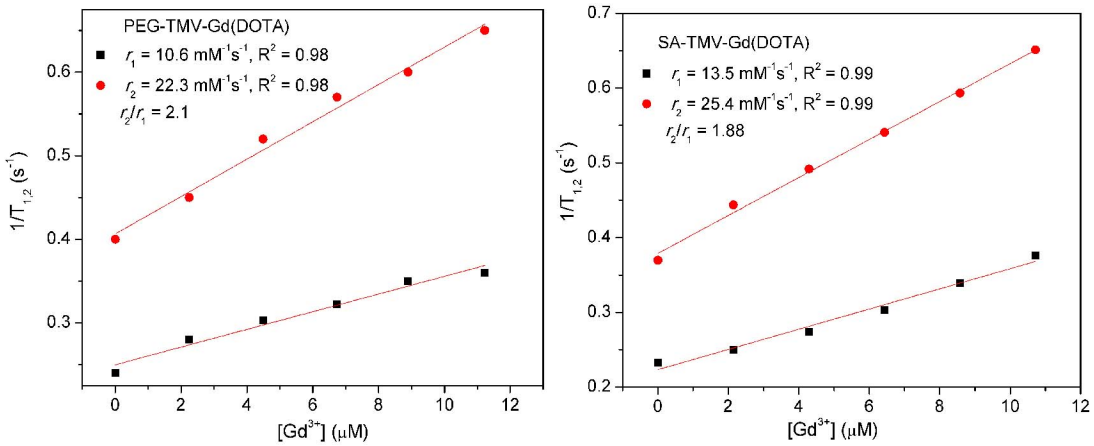

Figure S4. Characterization of MR properties of SA-TMV-Gd(DOTA). The water proton longitudinal (r_1) and transversal (r_2) relaxation rates of PEG-TMV-Gd(DOTA) and SA-TMV-Gd(DOTA) as a function of Gd^{3+} concentration measured at 60 MHz and 37°C.