Supporting Information

A water-soluble nanoconjugate for enhanced cellular delivery of receptor-targeted MR contrast agents

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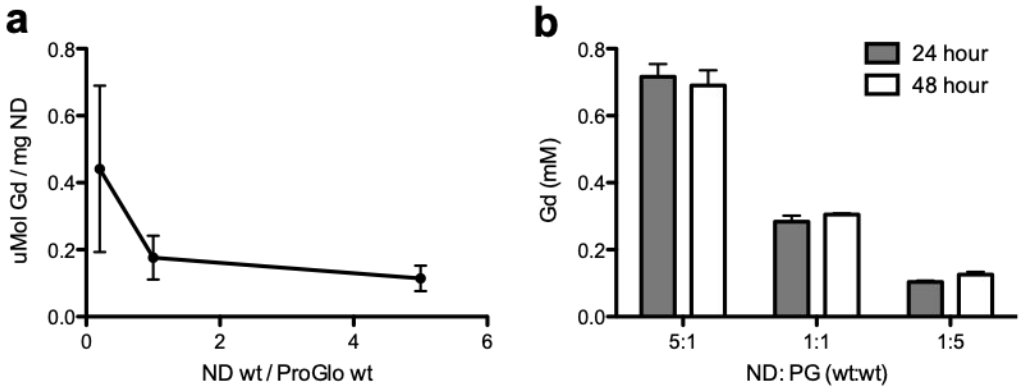
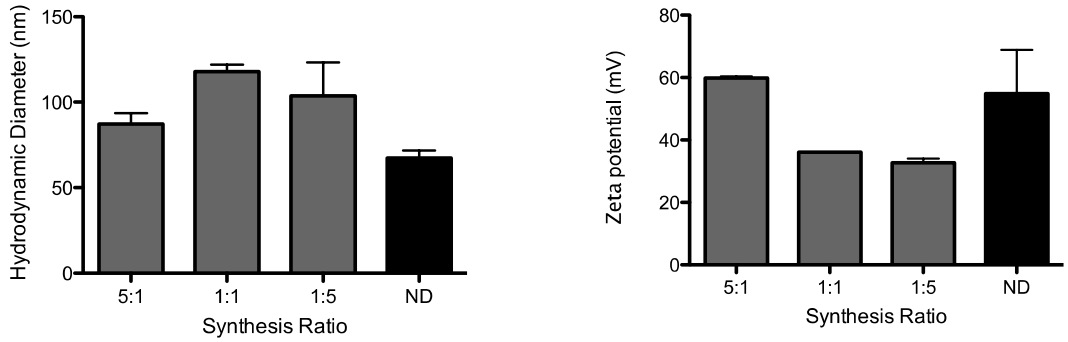


S1. A 24 hr coincubation at a 5:1 weight to weight ratio of ND to ProGlo produced the highest total loading (**b**) and loading per mg ND (**a**) of ProGlo into ND-ProGlo. The concentration of ProGlo utilized for loading was approximately 1.8 mM and the incubation concentration of ND was reduced from 8.3 mg/mL to 0.3 mg/mL across the series.

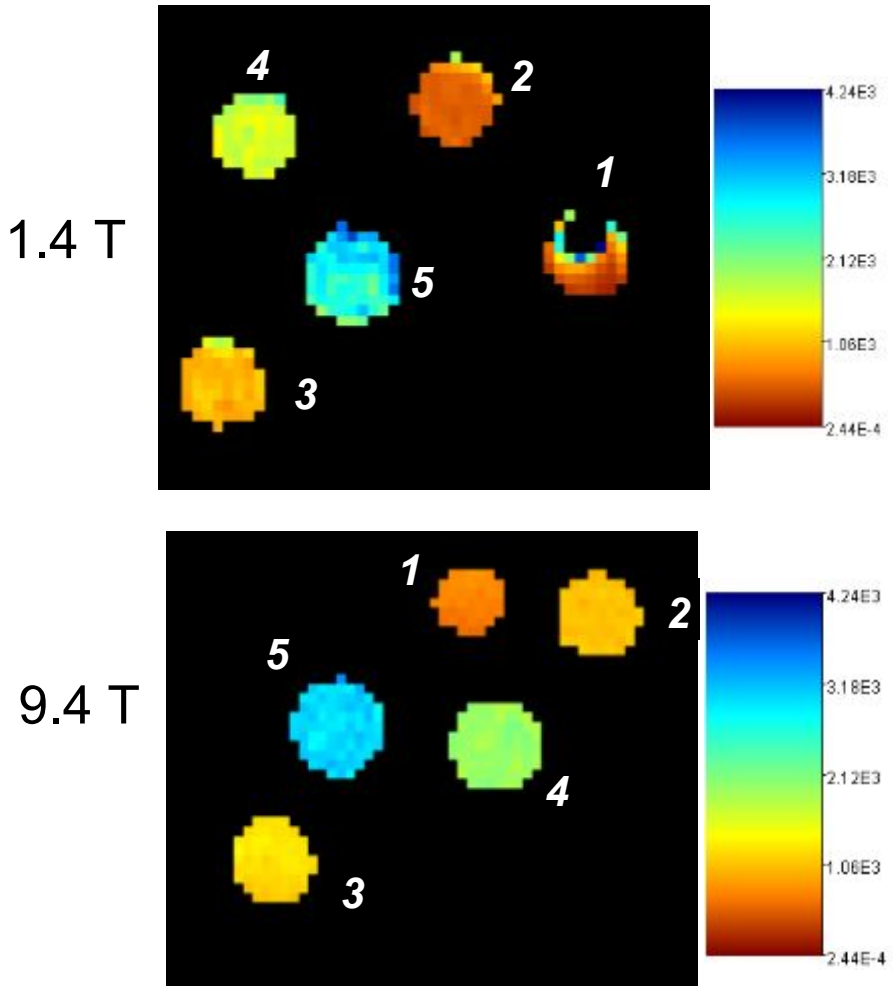


S2. a. The hydrodynamic diameter of ND-ProGlo aggregates synthesized by varying the wt:wt ratio of ND to ProGlo (n=3). **b**. Zeta-potential of ND-ProGlo synthesized at varying ratios (n=3). Hydrodynamic diameters and zeta-potentials were measured for native NDs and ND-ProGlo modified with varying ratios of ND to ProGlo. Addition of ProGlo produced an increase in aggregate size that varied little with increasing ProGlo loading. Zeta potentials showed a decrease with increasing stoichiometric ratios (and loading) of ProGlo.

Agent	r_1[a]	r_2[a]	r_2/r_1	**LogP**
ProGlo	5.4 ± 0.7	6.1 ± 0.8	1.15	1.40 ± 0.08
ND- ProGlo	22.7 ± 1.5	37.9 ± 2.3	1.67	-2.40 ± 0.26

[a] r_1 and r_2 measured in $mM^{-1}s^{-1}$ at 1.41 T, 37 °C

S3. Supplementary Table 1. Relaxivities of ProGlo and ND-ProGlo were measured at 1.41 T in a Bruker bench-top relaxometer in 1% DMSO in water and pure water, respectively. ND-ProGlo showed a significant increase in relaxivity over molecular ProGlo, as expected from the increase in τ_r associated with immobilization on a particle. The logP values for of ProGlo and ND-ProGlo reflect the change from hydrophobic to hydrophilic character upon loading of ProGlo into ND clusters.



S4. MR phantom images of ND-ProGlo solutions: 1.4 T (top) and 9.4 T (bottom). The tubes containing the samples are: (**1**) ProGlo-ND [Gd(III) = 0.14 mM, 5 mg ND], (**2**) ProGlo-ND [Gd(III) = 0.07 mM, 2.5 mg ND] (**3**) ProGlo [Gd(III) = 0.10 mM, in 1% DMSO], (**4**) ND-COOH (5 mg ND), and (**5**) water. The images are consistent with the observed relaxivities, where ProGlo-ND solutions show significantly faster T_1 times than ProGlo in phantom images. NDs alone have only a small effect on observed T_1s.