

Supplementary Information

Influence of folate-targeted gold nanoparticles on subcellular localization and distribution into lysosomes

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TABLES

Table S1. Composition of Rhodamine labelled Folate targeted AuNP formulations, size and PDI.

Sample Code	FA-PEG _{3.5kDa} -SH /AuNPs	Rho-PEG _{2kDa} -SH /AuNPs	Size (nm)	PDI
Rho-FA ₀ -AuNPs	0	500	28.6±5.4	0.28
Rho-FA ₁₀ -AuNPs	10	500	28.8±6.2	0.31
Rho-FA ₂₅ -AuNPs	25	500	29.7±5.8	0.33
Rho-FA ₅₀ -AuNPs	50	500	29.3±6.5	0.31
Rho-FA ₁₀₀ -AuNPs	100	500	29.1±6.1	0.28

Table S2. Statistical 2way ANOVA analysis of colocalization in KB^{FR-high} cells of Rho-FA₁₀-AuNPs, Rho-FA₅₀-AuNPs and the monovalent conjugate FA-C₅-Rho with lysosomes reported in Figure 7.

time	Bonferroni's multiple comparisons test	Significant	Summary	Adjusted P Value
0 h				
	Rho-FA ₁₀ -AuNPs vs. Rho-FA ₅₀ -AuNPs	No	ns	>0.9999
	Rho-FA ₁₀ -AuNPs vs. Rho-C ₅ -FA	No	ns	>0.9999
	Rho-FA ₅₀ -AuNPs vs. Rho-C ₅ -FA	No	ns	>0.9999
1h				
	Rho-FA ₁₀ -AuNPs vs. Rho-FA ₅₀ -AuNPs	Yes	*	0.0493
	Rho-FA ₁₀ -AuNPs vs. Rho-C ₅ -FA	NO	ns	>0.9999
	Rho-FA ₅₀ -AuNPs vs. Rho-C ₅ -FA	Yes	**	0.0075
2 h				
	Rho-FA ₁₀ -AuNPs vs. Rho-FA ₅₀ -AuNPs	Yes	*	0.0393
	Rho-FA ₁₀ -AuNPs vs. Rho-C ₅ -FA	No	ns	>0.9999
	Rho-FA ₅₀ -AuNPs vs. Rho-C ₅ -FA	Yes	*	0.0248
4 h				
	Rho-FA ₁₀ -AuNPs vs. Rho-FA ₅₀ -AuNPs	Yes	*	0.0122
	Rho-FA ₁₀ -AuNPs vs. Rho-C ₅ -FA	No	ns	>0.9999
	Rho-FA ₅₀ -AuNPs vs. Rho-C ₅ -FA	Yes	**	0.0046

RESULTS

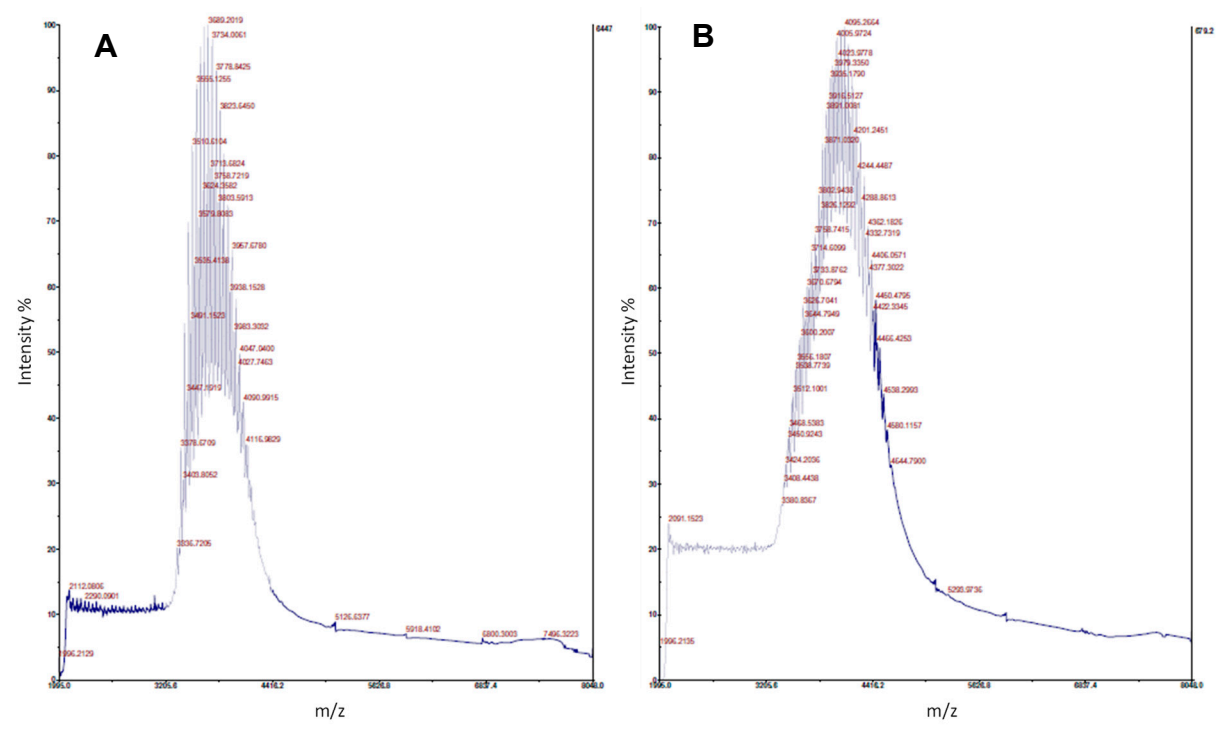


Figure S1. MALDI-TOF spectra of $\text{NH}_2\text{-PEG}_{3.5\text{kDa}}\text{-SH}$ (A) and $\text{FA-PEG}_{3.5\text{kDa}}\text{-SH}$ conjugate (B).

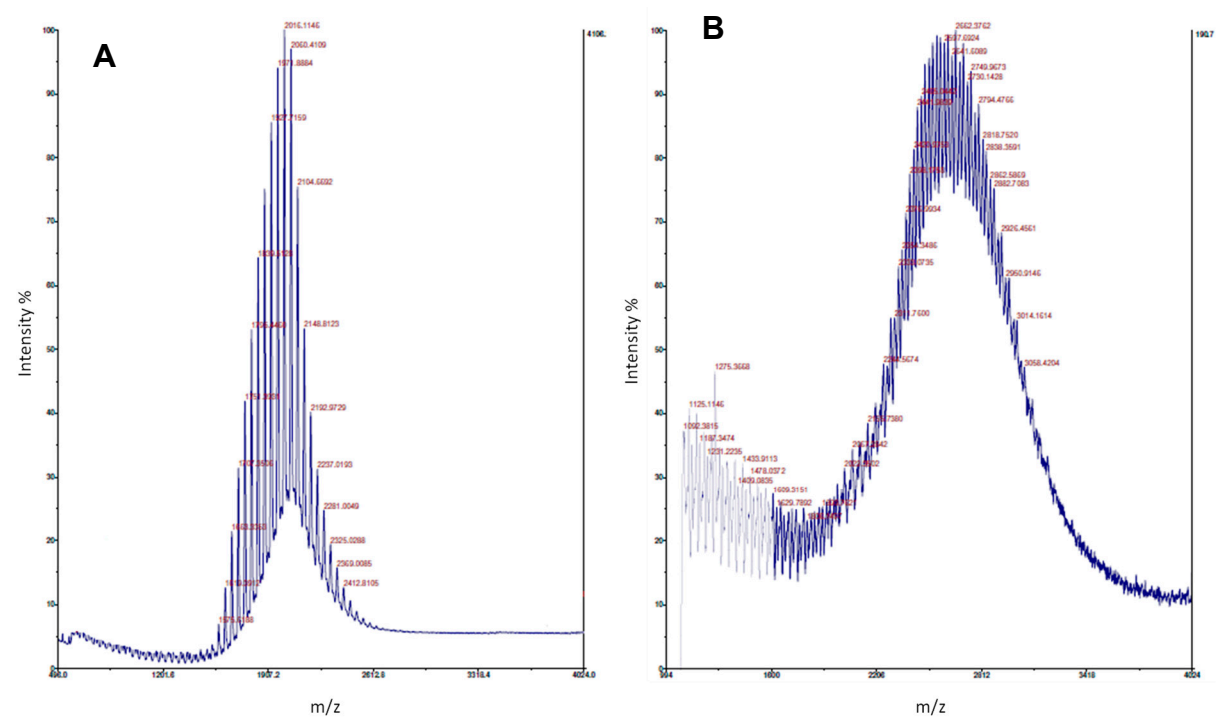


Figure S2. MALDI TOF spectra of starting $\text{NH}_2\text{-PEG}_{2\text{kDa}}\text{-SH}$ (A) and of $\text{Rho-PEG}_{2\text{kDa}}\text{-SH}$ conjugate (B).

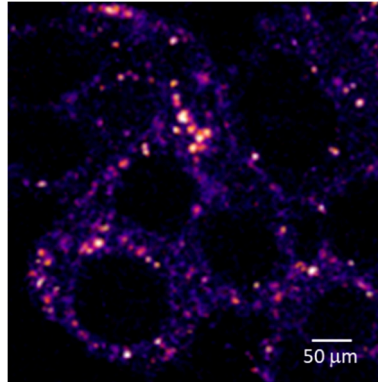


Figure S3. Magnification of the white squared area in Figure 5, panel d of confocal microscopic image of KB^{FR-high} cells incubated with Rho-FA₅₀-AuNPs at pH 7.4. Scale bars: 20 μm.

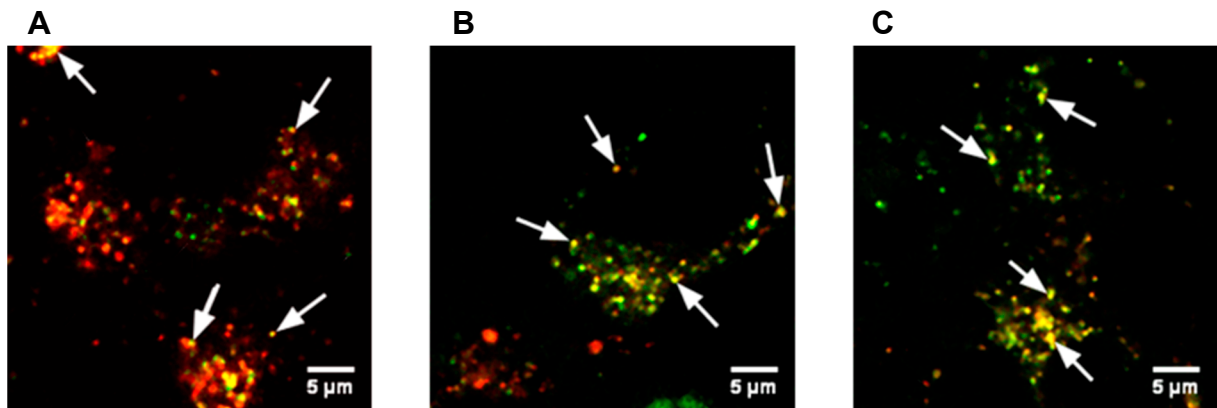


Figure S4. Magnification of confocal microscopic image of KB^{FR-high} cells treated with Dex-647 to label lysosomes, and then pulsed-chased with Rho-FA₁₀-AuNPs (A) Rho-FA₅₀-AuNPs (B) and FA-C₅-Rho (C) for 30 minutes and imaged 4 h post-incubation. Scale bars: 5 μm.