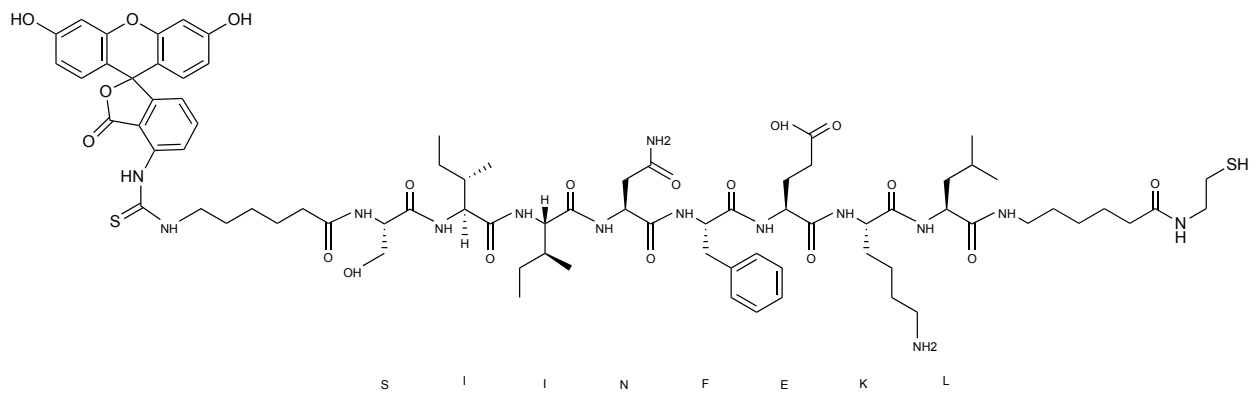
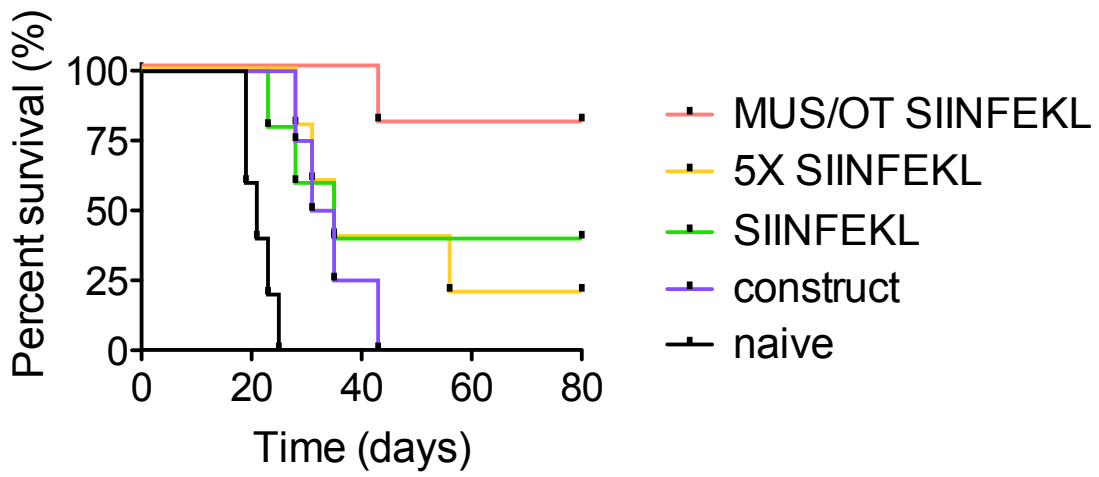


**Supplementary Figure 1. CyTOF can detect as few as ~10 gold nanoparticles (~3 nm in diameter) in macrophages.** RAW blue macrophages were treated with titrated concentrations of MUS/OT-BODIPY NPs: 0.1, 0.01 0.005 0.0025, or 0.00125 ug/ml for 6 hours at 37°C. (a) Representative CyTOF gold histograms in RAW cells treated with various concentrations of MUS/OT-BODIPY AuNPs. (b) Median number of NPs per cell determined from CyTOF data. (c) Regression with error shown by dashed lines ( $n=3$  samples per concentration). \*  $P < 0.05$ ; \*\*\*  $P < 0.0001$  by Bonferroni's Multiple Comparison Test compared to zero NPs per cell. Data points show mean  $\pm$  s.d.



**Supplementary Figure 2. Chemical structure of FITC-SIINFEKL-thiol peptide construct.** This peptide was synthesized by LifeTein (Sumerset, NJ).



**Supplementary Figure 3. Survival curve of tumor challenged mice.** A quarter million of B16-OVA cells were inoculated on the flank of mice subcutaneously 150 days post vaccination.

	Core Diam. (nm)	$\zeta$ -potential (mV)
MPSA	3.79±1.1	-32.6± 2.5
MUS/OT	2.78±0.9	-28.9± 2.2
PEG	2.61±1.0	-23.7± 0.4

**Supplementary Table 1. Characterization of nanoparticles coated with various ligands.** Size distributions and zeta potentials of MPSA, MUS/OT, and PEG NPs determined from TEM and Zetasizer NanoZS, respectively.