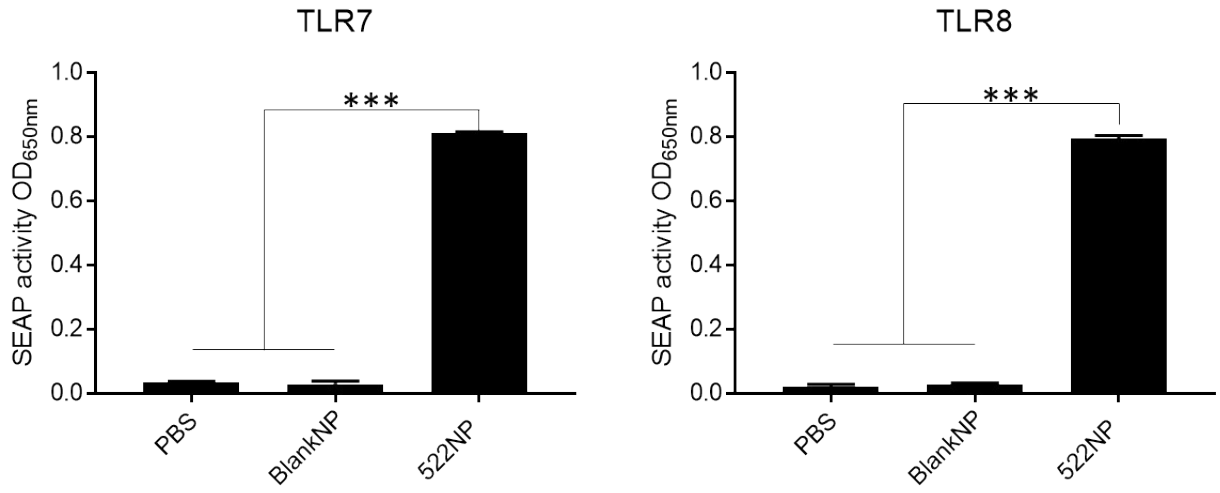
	DIW +1% PVA	Normal saline +1% PVA	PBS +1% PVA
Particle size (nm)	806 ± 74	264 ± 2	248 ± 5
Zeta-potential (mV)	-23.2 ± 6.2	-16.5 ± 2.4	-18.4 ± 0.9
Polydispersity index	0.33 ± 0.02	0.14 ± 0.01	0.09 ± 0.03
Loading amount of 522 (μg/mg NP)	3.9 ± 0.1	3.6 ± 0.1	4.9 ± 0.2
Loading efficiency (%)	5.9 ± 0.2	5.4 ± 0.2	7.3 ± 0.3

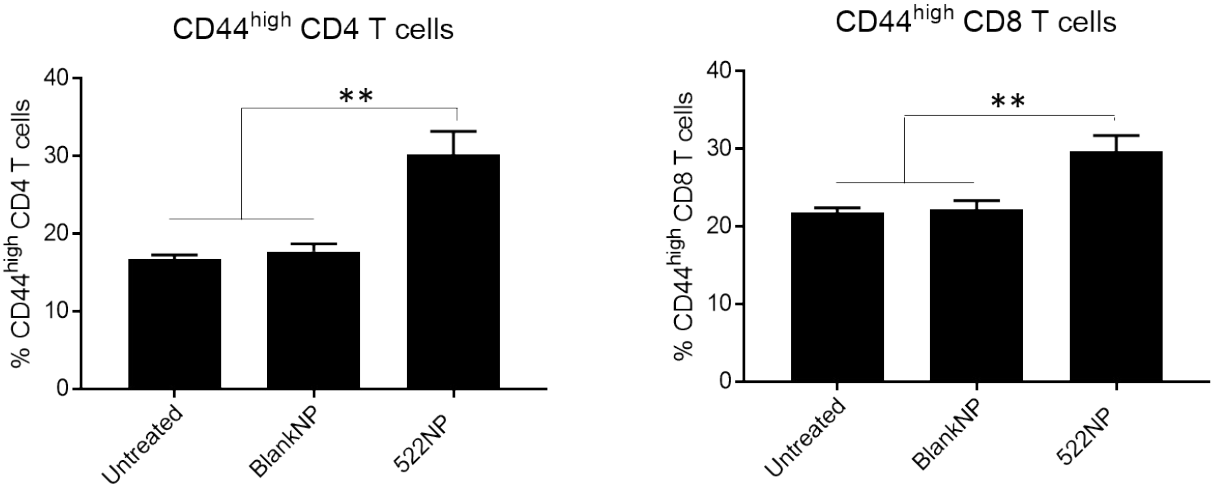
Supplement table 1. Physiochemical characterization of control 522 NPs

Particle size, zeta-potential and polydispersity index of NPs were measured by DLS. Amount of 522 loaded in nanoparticles was quantified using HPLC. Results are reported as mean ± SD, n=3.



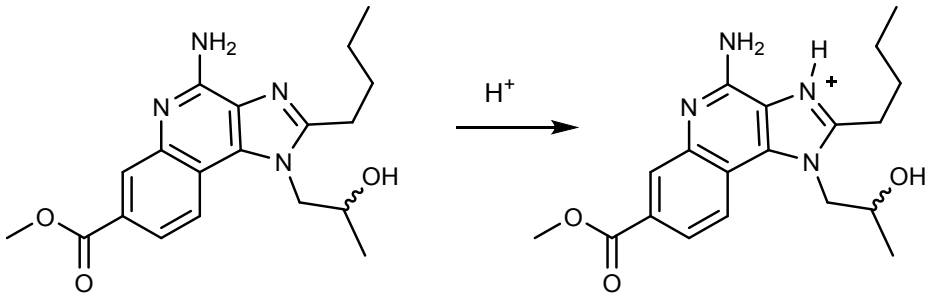
Supplement figure 1. TLR7 and 8 reporter cell assay

Human TLR7 or TLR8 specific reporter cells were incubated with PBS, PLGA NP without drug encapsulation (BlankNP), and 522NP for 24 h. TLR specific activation was measured by SEAP activity at OD_{650}. Results are reported as mean ± SD, n=4, ***$p<0.001$, One-way ANOVA.



Supplement figure 2. ***In vivo*** **T cell activation**

C57BL/6 mice received single dose of BlankNP or 522NP. After 7 d, spleens were collected and analyzed by flow cytometry. Frequencies of $CD44^{high}$ CD4 T ($CD3^{-}CD4^{+}$) and $CD44^{high}$ CD8 T($CD3^{-}CD8^{+}$) cells are shown. Results are reported as mean ± SEM, $^{**}p<0.01$, n=4, one-way ANOVA.



522 TLR7/8

Supplement figure 3. Structures of the free base and charged 522 as a function of pH