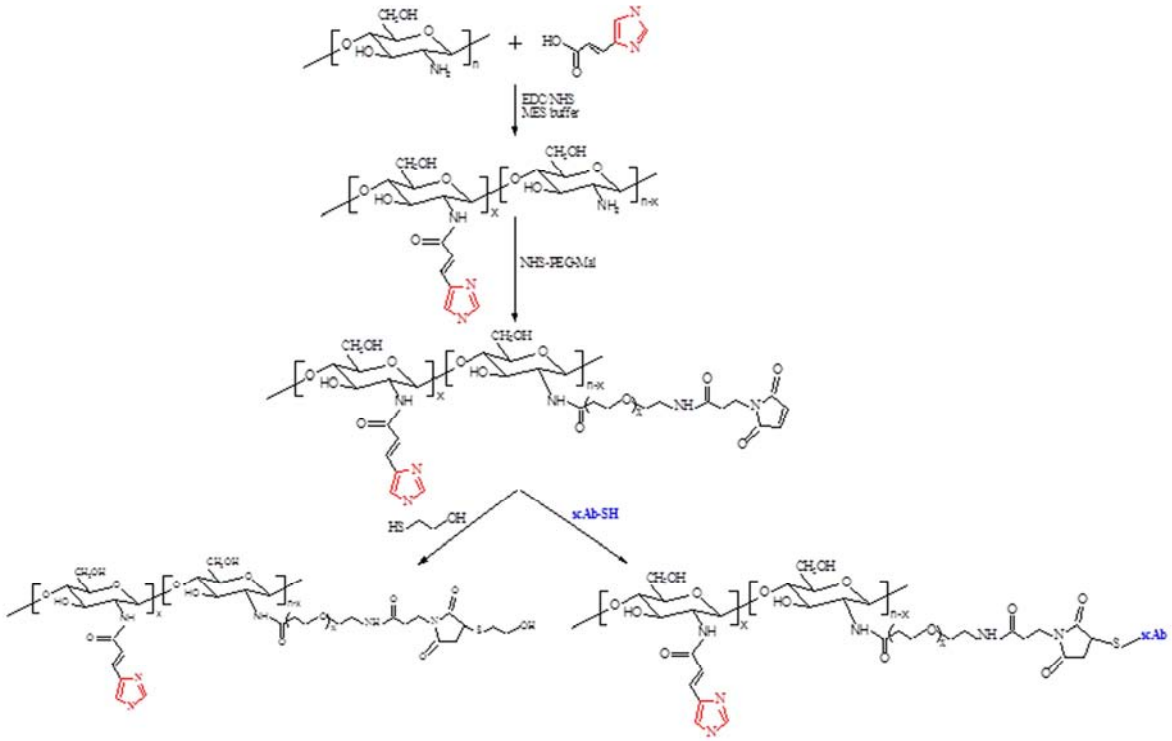
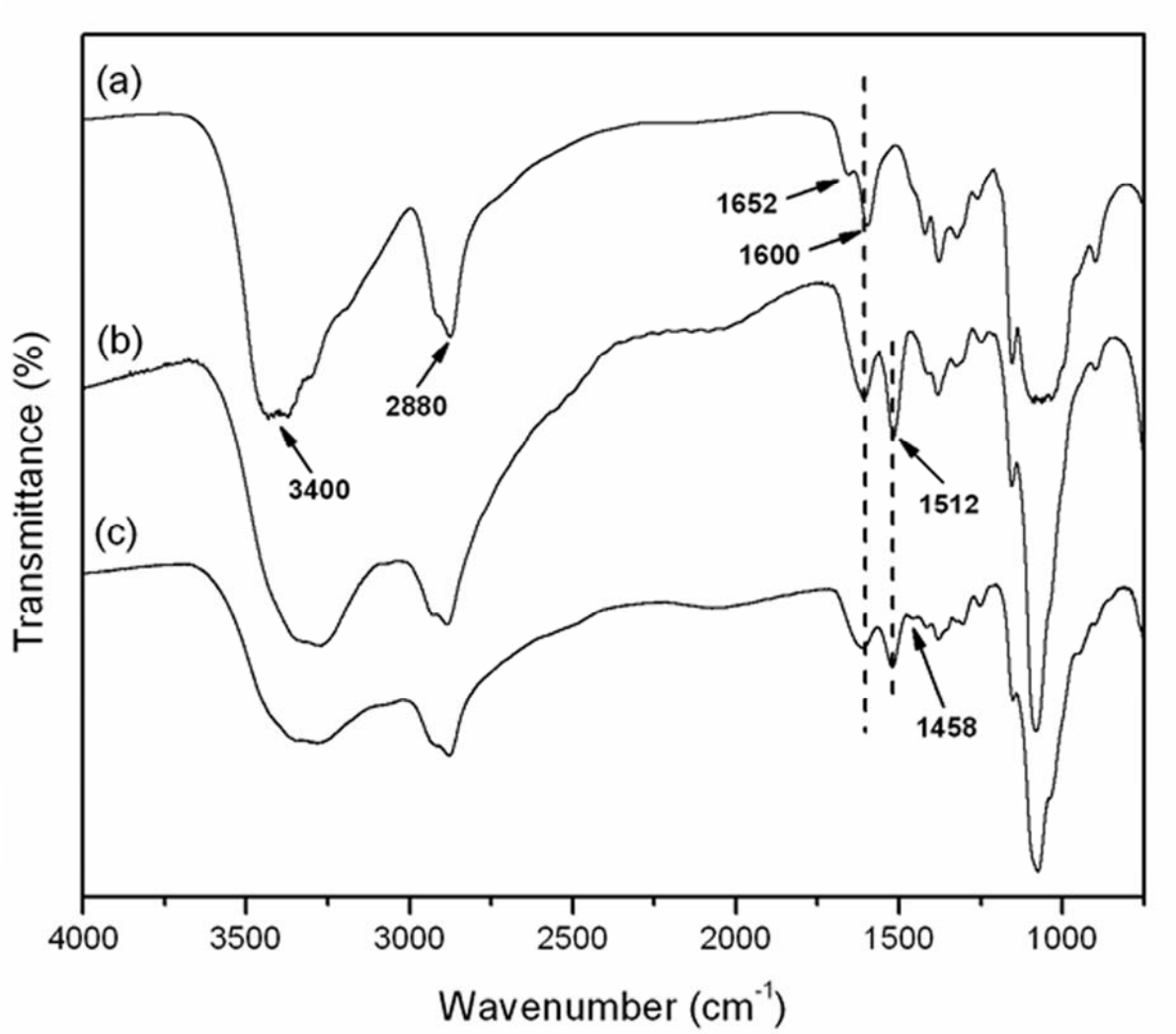
Supplementary Table 1.

Primer name	**Sequence**	**Description**
CD98-F	5'-GAGGACAGGCTTTTGATTGC-3'	CD98 gene RT-PCR forward primer
CD98-R	5'-ATTCAGTACGCTCCCCAGTG-3'	CD98 gene RT-PCR reverse primer
TNFα-F	5'-AGGCTGCCCCGACTACGT-3'	Tumor necrosis factor gene RT-PCR forward primer
TNFα-R	5'-GACTTTCTCCTGGTATGAGATAGCAAA-3'	Tumor necrosis factor gene RT-PCR reverse primer
IL6-F	5'-ACAAGTCGGAGGCTTAATTACACAT-3'	Interleukin 6 gene RT-PCR forward primer
IL6-R	5'-TTGCCATTGCACAACTCTTTTC-3'	Interleukin 6 gene RT-PCR reverse primer
IL12-F	5'-GCCAGTACACCTGCCACAAA-3'	Interleukin 12 gene RT-PCR forward primer
IL12-R	5'-TGTGGAGCAGCAGATGTGAGT-3'	Interleukin 12 gene RT-PCR reverse primer
36B4-F	5'-TCCAGGCTTTGGGCATCA-3'	36B4 gene RT-PCR forward primer
36B4-R	5'-CTTTATCAGCTGCACATCACTCAGA-3'	36B4 gene RT-PCR reverse primer

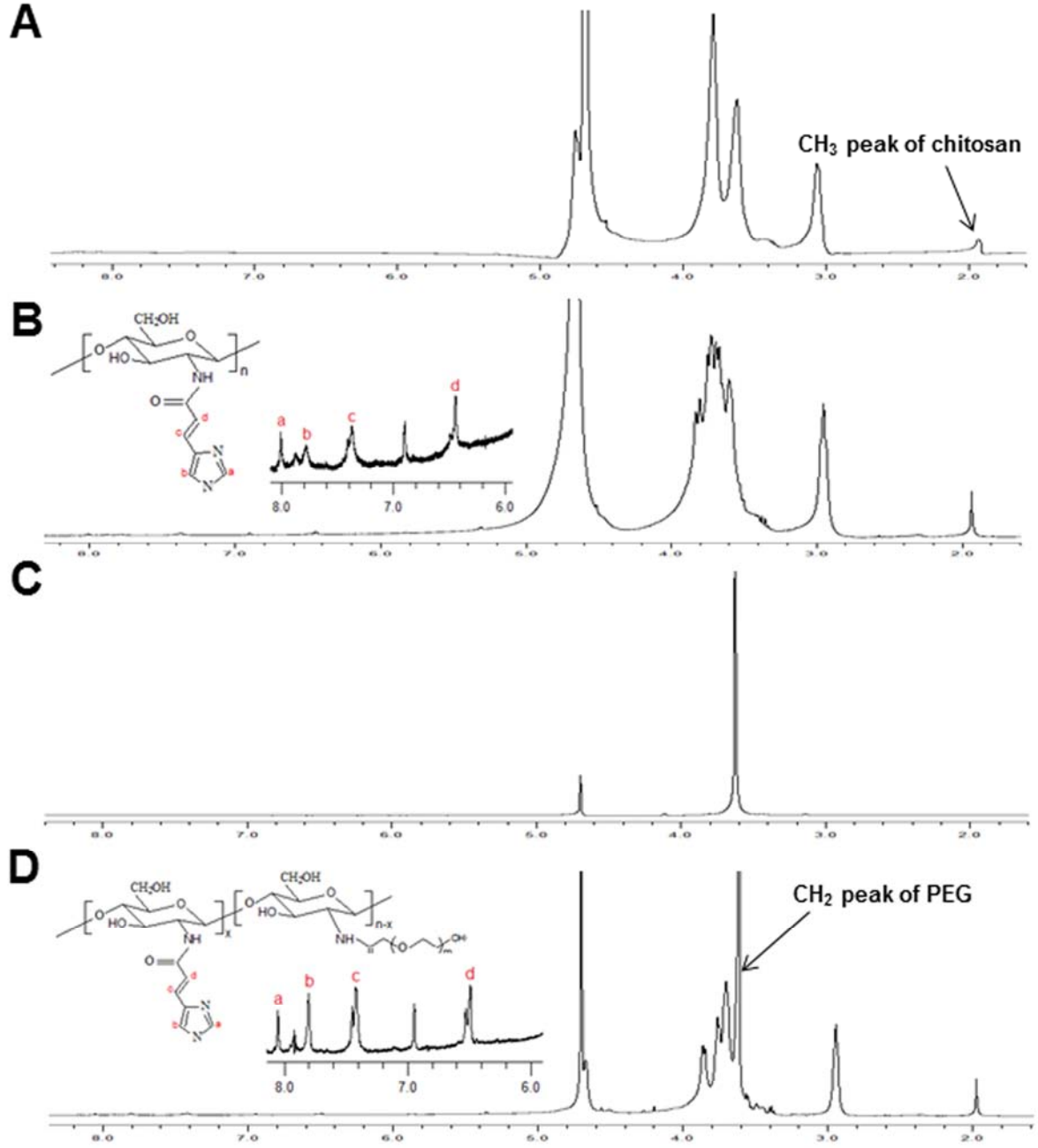
Supplementary Figure 1. Xiao B. et al.



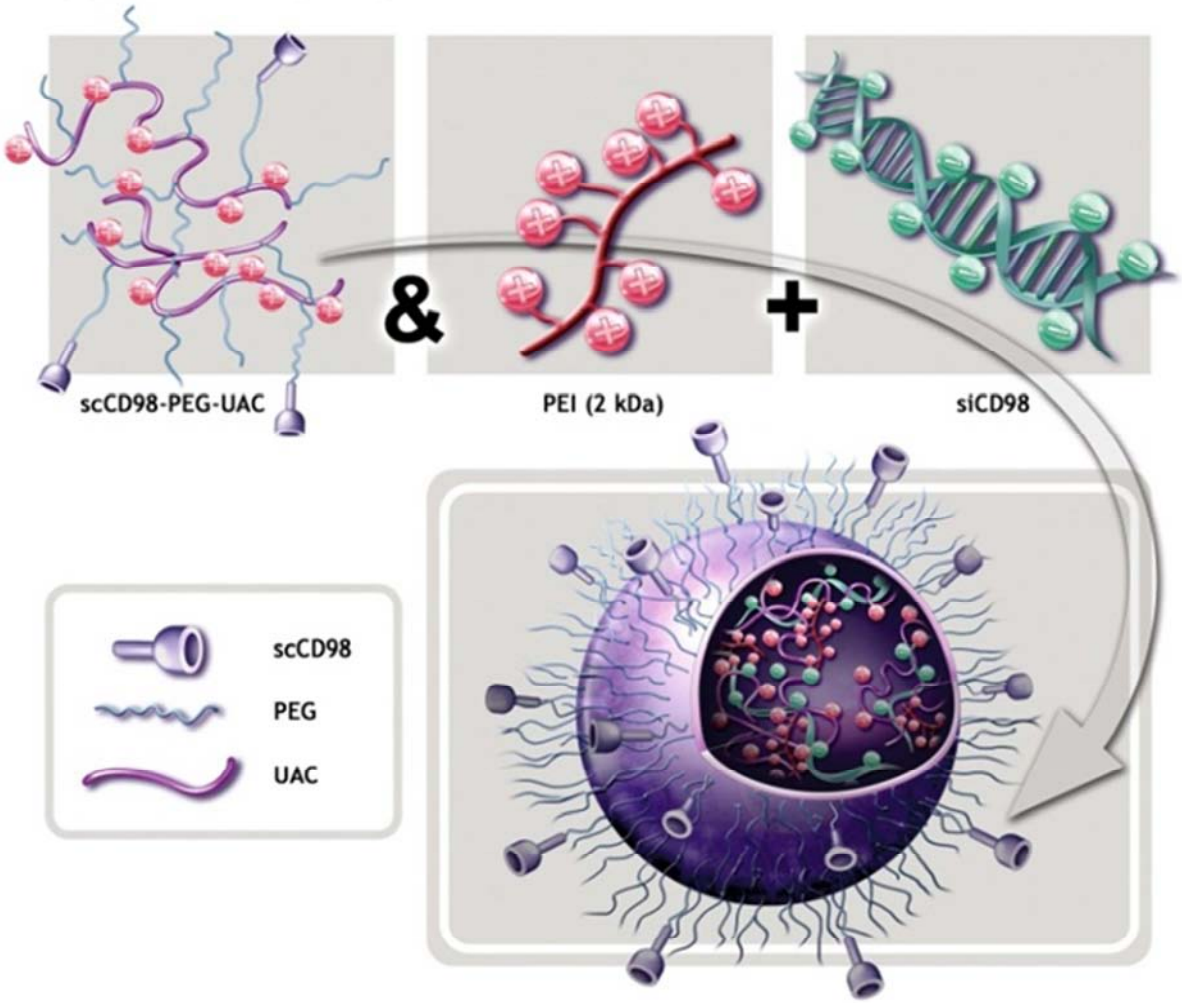
Supplementary Figure 2. Xiao B. et al.



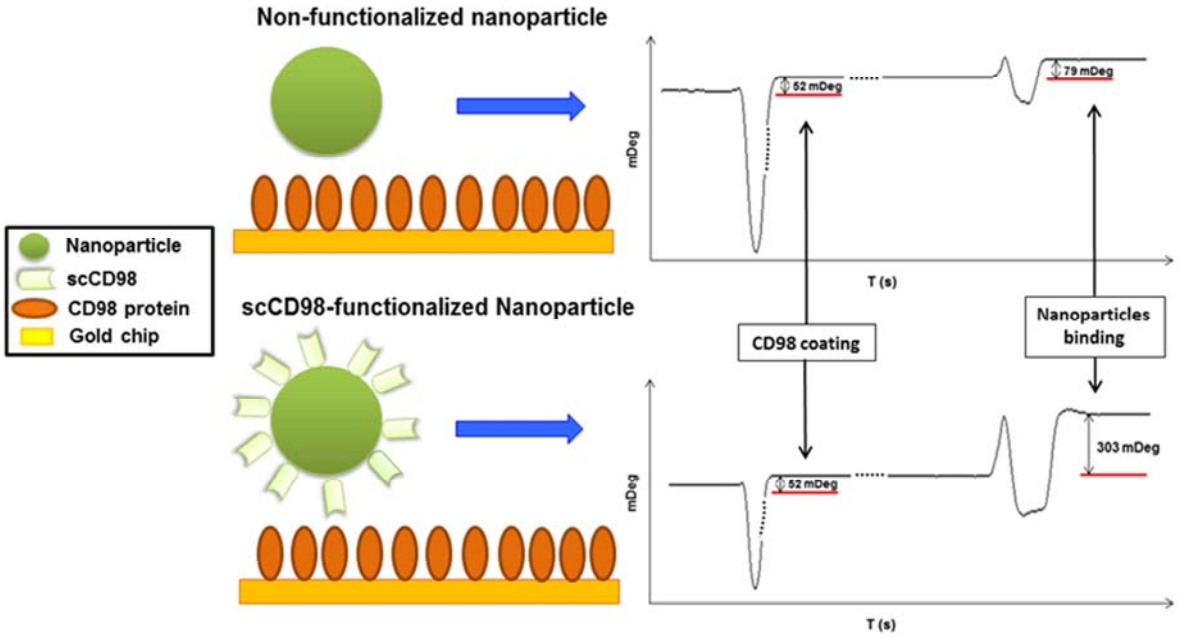
Supplementary Figure 3. Xiao B. et al.



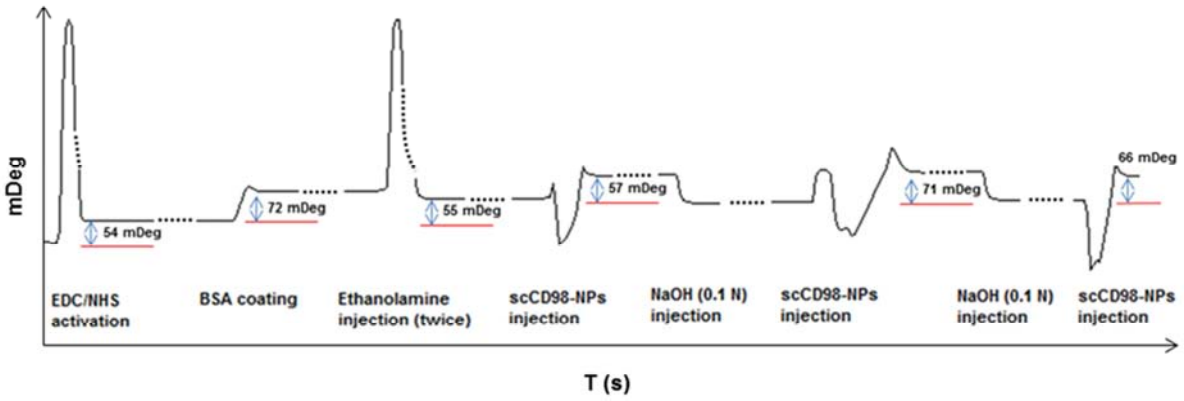
Supplementary Figure 4. Xiao B. et al.



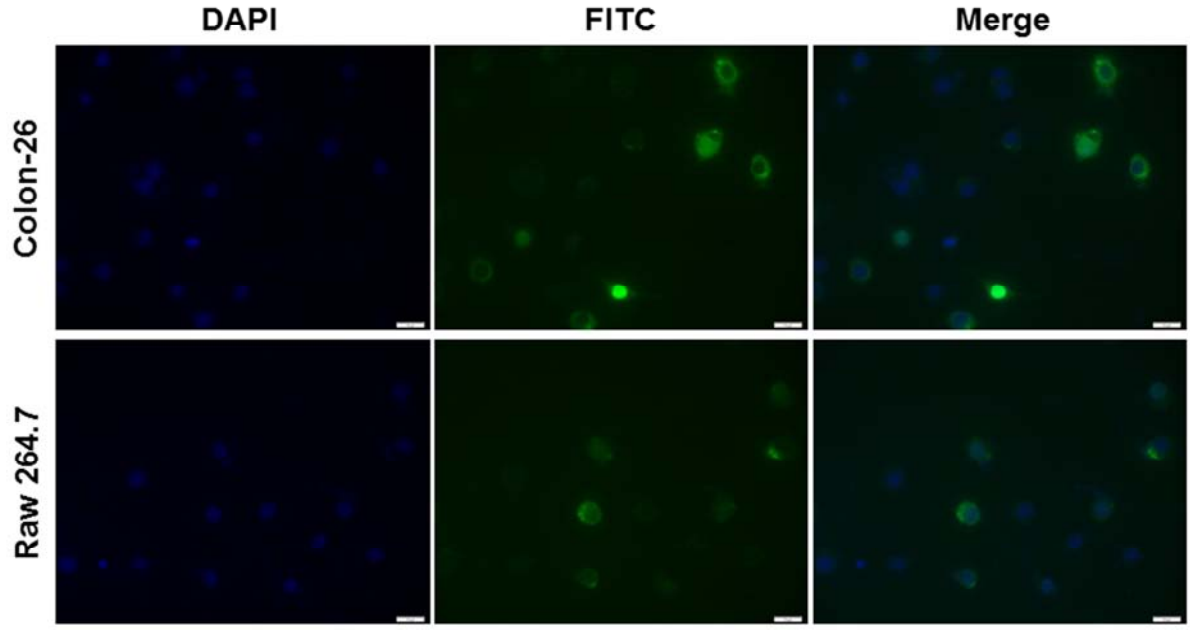
Supplementary Figure 5. Xiao B. et al.



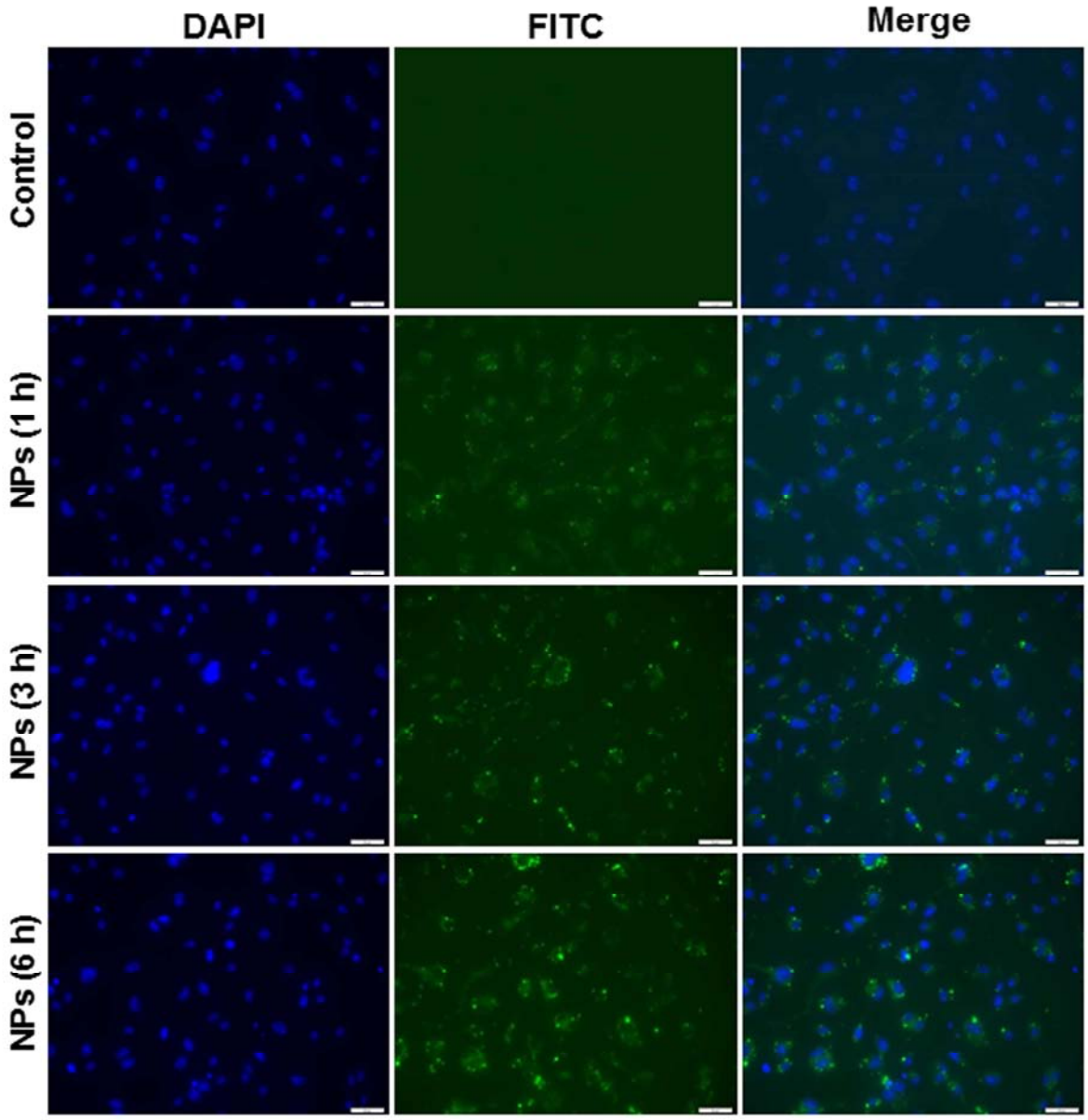
Supplementary Figure 6. Xiao B. et al.



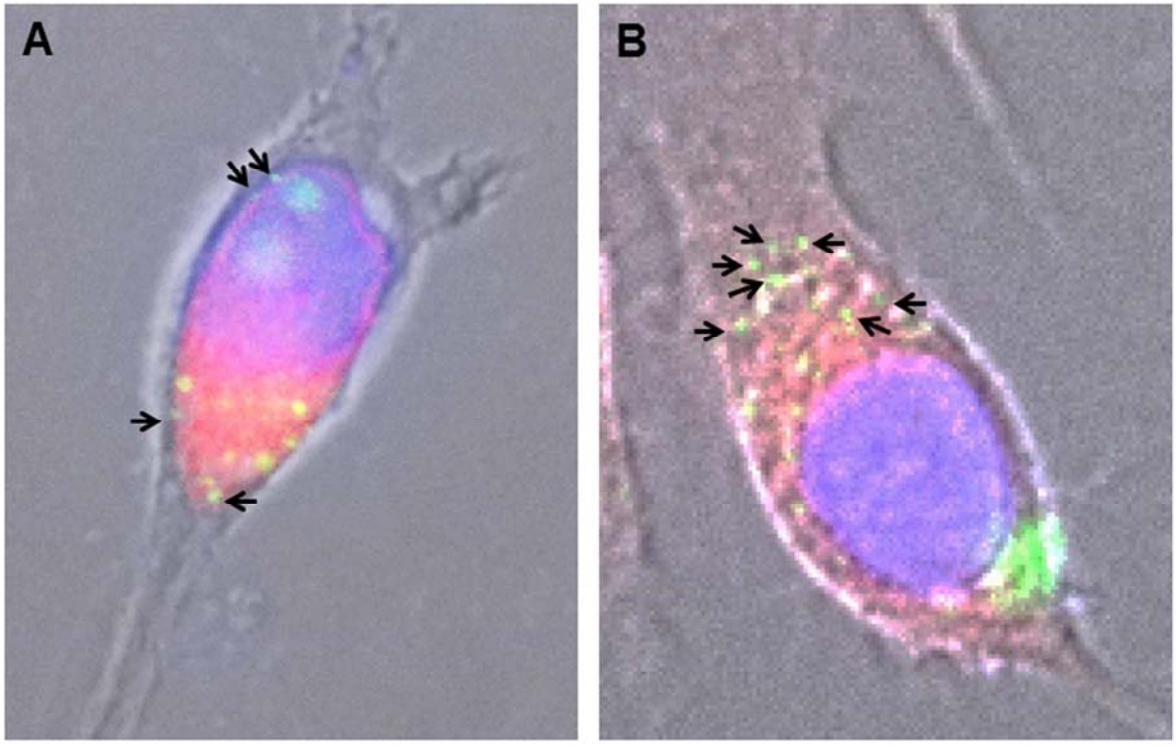
Supplementary Figure 7. Xiao B. et al.



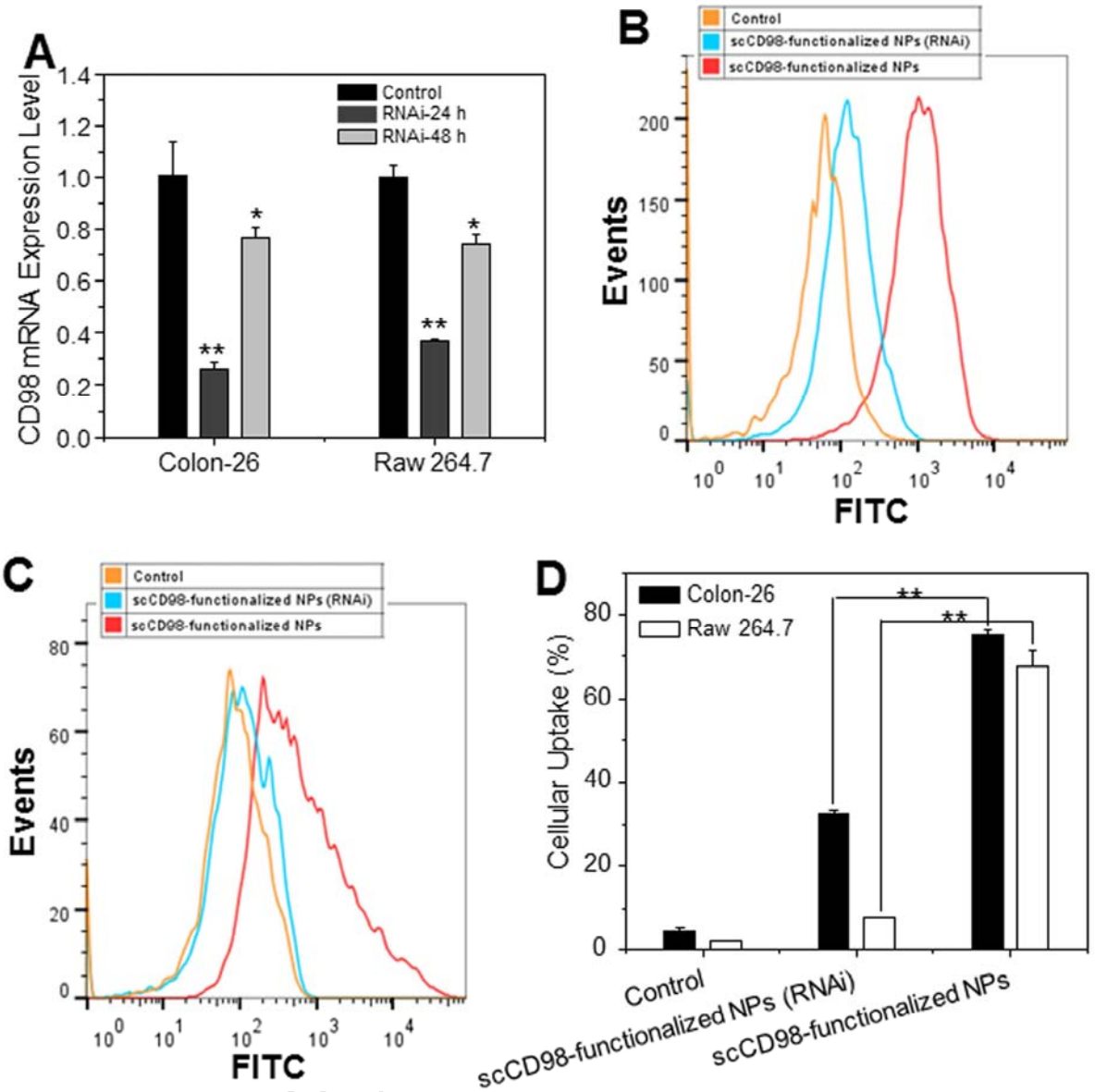
Supplementary Figure 8. Xiao B. et al.



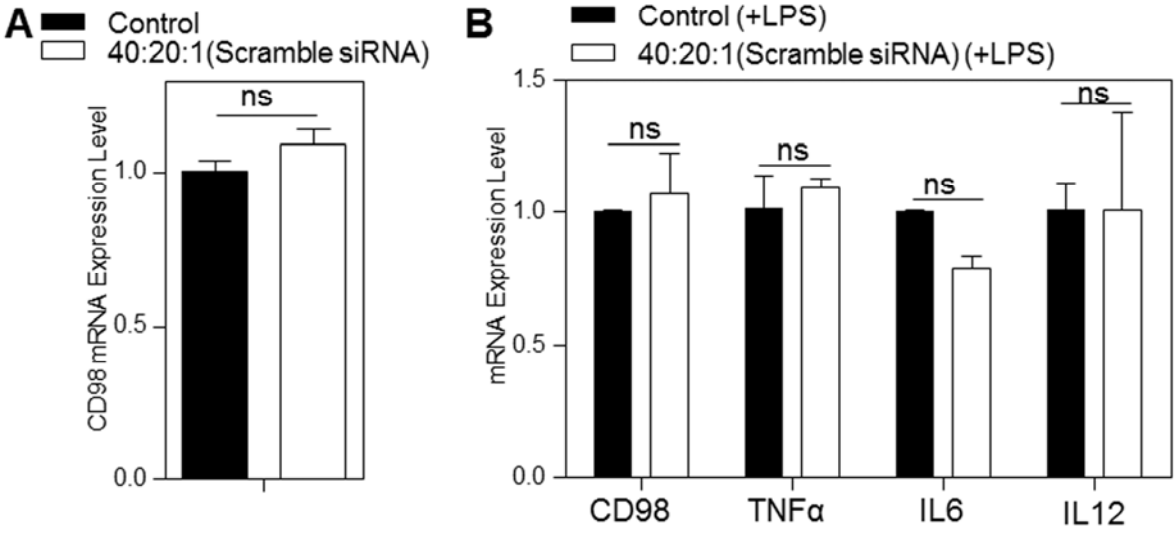
Supplementary Figure 9. Xiao B. et al.



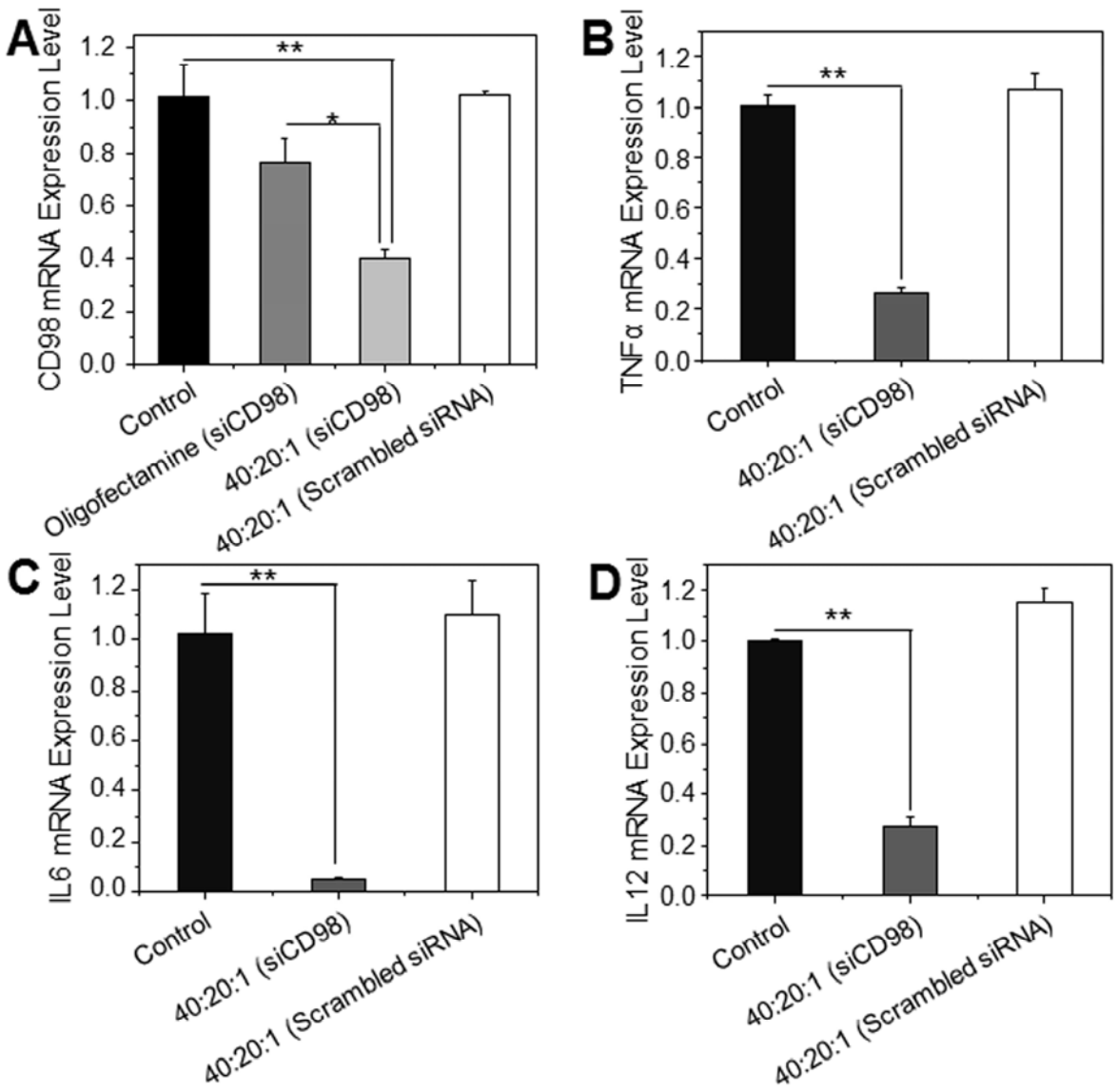
Supplementary Figure 10. **Xiao B. et al.**



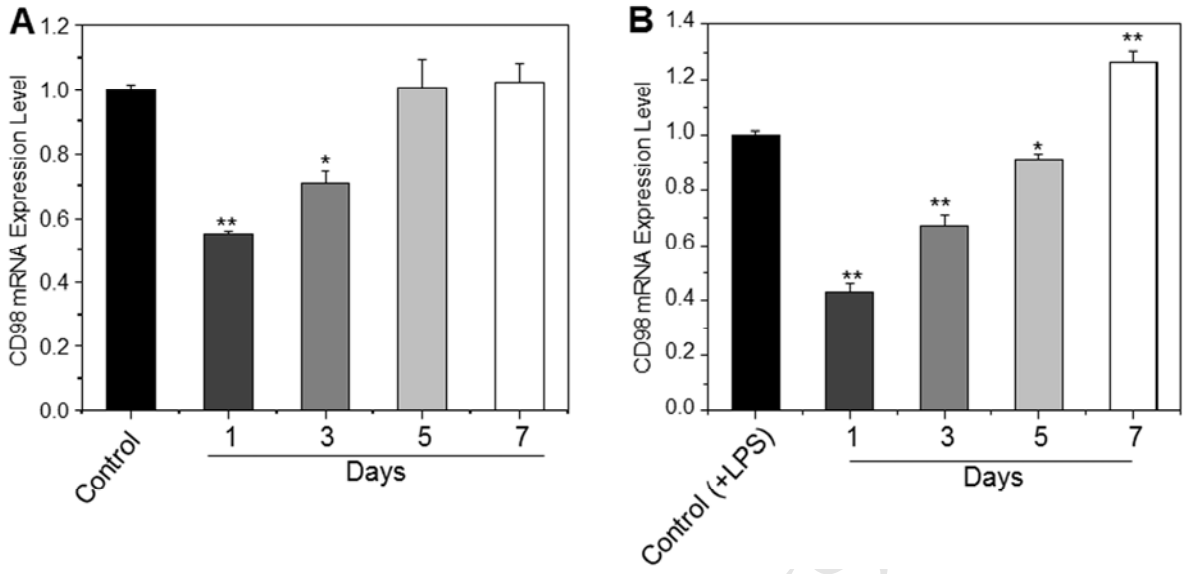
Supplementary Figure 11. Xiao B. et al.



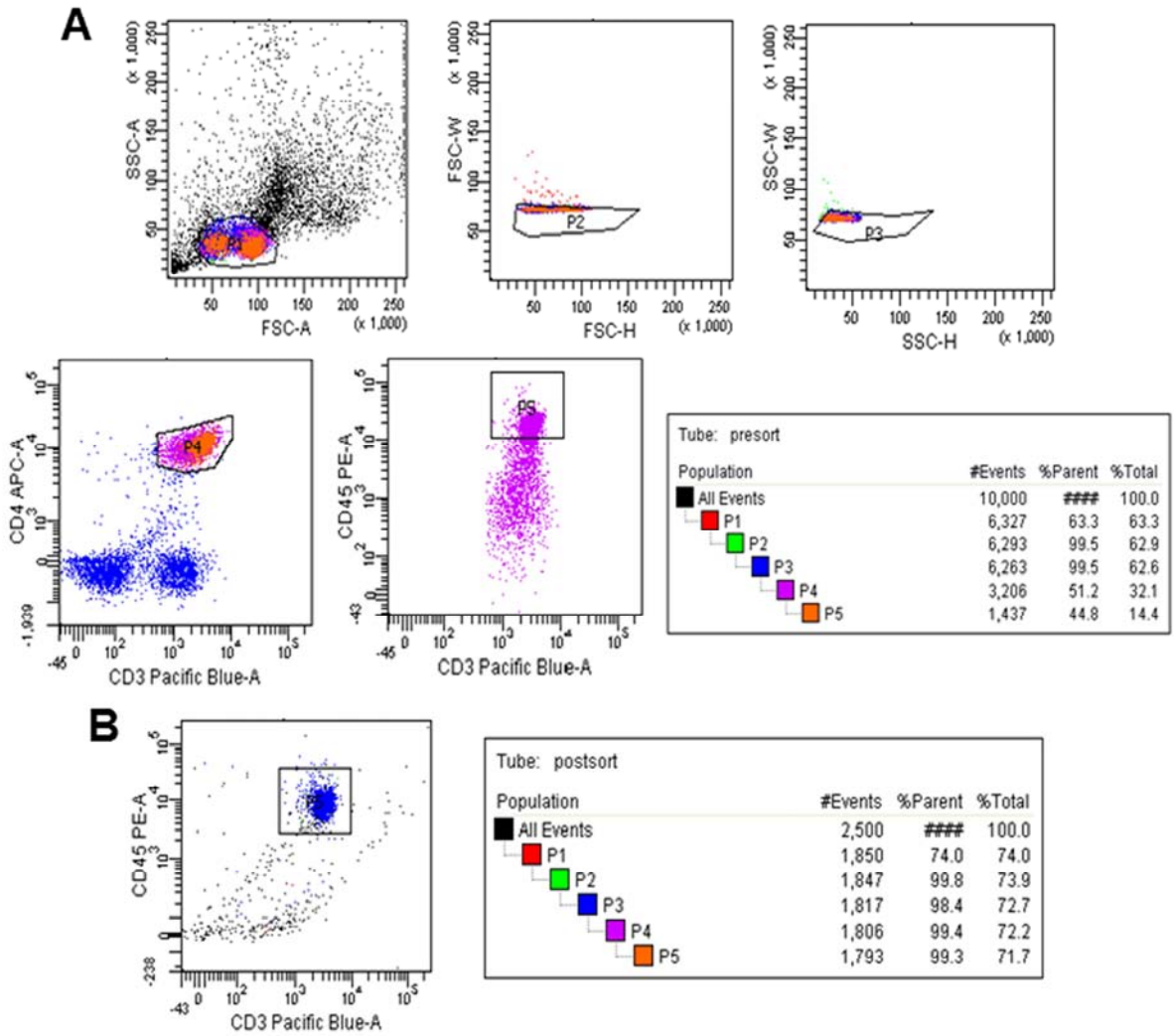
Supplementary Figure 12. Xiao B. et al.



Supplementary Figure 13. Xiao B. et al.



Supplementary Figure 14. Xiao B. et al.



Nanoparticles with Surface Antibody Against CD98 and Carrying CD98 Small Interfering RNA Reduce Colitis in Mice

Supplementary Materials and Methods

Preparation and Characterization of scCD98-PEG-UAC

The synthetic strategy of scCD98-PEG-UAC is outlined in **Supplementary Figure 1**. Chitosan (Sigma) was obtained by further deacetylating and depolymerizing commercial chitosan using alkali treatment and sodium nitrite, respectively. Degree of deacetylation of chitosan was estimated as 95.6% by ^{1}H NMR. Molecular weight of the resultant chitosan was measured as 11.4 kDa by MOLDI-TOF. The UAC sample was synthesized described in previous report [1]. UAC-PEG-MAL was prepared in phosphate-buffer solution (PBS, pH = 7.2) through specific reaction between UAC and the NHS groups of bifunctional PEG derivative (NHS-PEG-MAL, MW 2000, Jenkem, Beijing, China) at the mole ratio of 1:4 overnight while stirring. The resulting conjugate was purified by ultrafiltration with an Amicon® Ultra (regenerated cellulose membrane, MWCO = 10 kDa, Millipore). Meanwhile, CD98 antibody (Biolegend) was reduced to single-chain CD98 antibody (scCD98) using 2-mercapto ethylamine (Sigma). Then MAL-PEG-UAC was reacted with scCD98 at mole ratio of 1:2 in PBS (pH = 7.2) for 24 h at room temperature. The terminal MAL groups of MAL-PEG-UAC were specifically reacted with the thiol groups of scCD98, resulting in scCD98-PEG-UAC. Unreacted maleimide groups were quenched with 5 eq. cysteine. The final conjugates were lyophilized and characterized by FT-IR and ^{1}H NMR. SDS-PAGE was used to demonstrate the full reaction of thiolated scCD98.

Infrared spectra of chitosan and its derivatives were recorded with a Varian 600-UMA FT-IR microscope equipped with a liquid N_2 cooled HgCdTe detector and coupled to a Varian 7000 FT-IR spectrometer. NMR spectrum was recorded on a Bruker Avance spectrometer (INOVA-600

Supplementary Figure 15.

Xiao B. et al.