Supplementary information

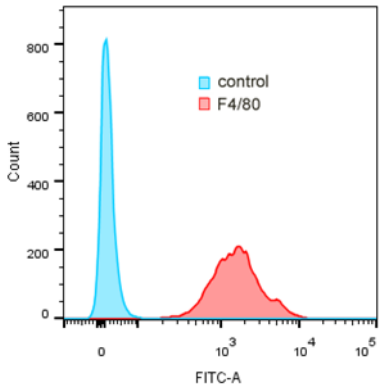

Fig. S1. The expression of F4/80 molecules in isolated cells was evaluated by flow cytometry.

To investigate pH sensitivity of PEG$_{2k}$-CDM-DOPE, the nanoparticles were centrifuged after incubation at pH6.5 or pH 7.4 and the concentration of free PEG in supernatant was measured according to the procedure of Gong et al with some modifications[1]. In this study, CDM based pH-triggering PEG deshielding material, PEG$_{2k}$-CDM-DOPE, was synthesized to modify nanoparticles. PEG release results exhibited that more than 70% of total PEG released after incubation at pH 6.5 for 24h (Fig. S2). In contrast, much more slow release was observed at pH 7.4, with ~40% under otherwise identical conditions. These data confirmed that PEG$_{2k}$-CDM-DOPE was responsive to slightly low pHs.

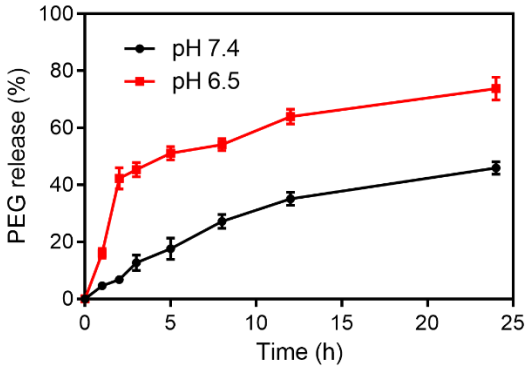

Fig. S2. PEG release at different pHs.

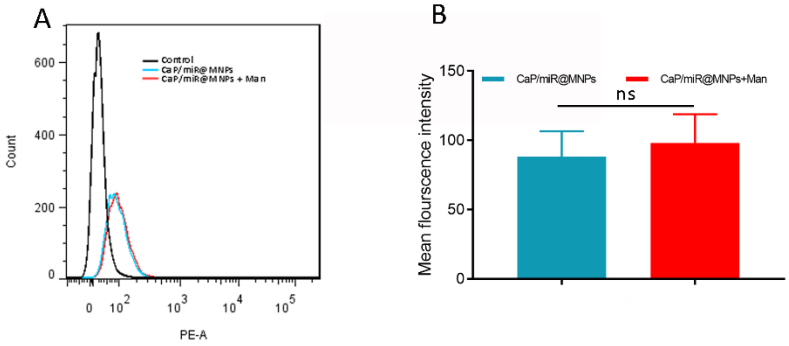

Fig.S3. Cellular uptake of CaP/miR@MNPs in A549 cells after pretreatment with mannose (2mg/mL).

[1] X.W. Gong, D.Z. Wei, M.L. He, Y.C. Xiong, Discarded free PEG-based assay for obtaining the modification extent of pegylated proteins, Talanta. 71 (2007) 381–384. doi:10.1016/j.talanta.2006.04.010.