Supplementary Information

A study of Saponin-Encapsulated Ultrasound Microbubbles Rb_3NPs@MBs for Atherosclerosis Targeted Treatment

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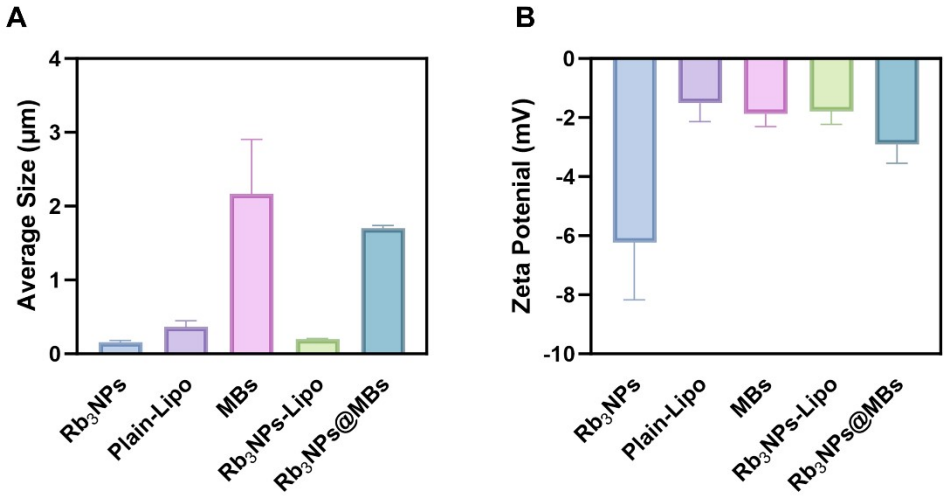

Fig.S1 Comparison of properties of different particles. **A** Comparison of particle sizes of different particles; **B** Comparison of Zeta potentials of different particles.

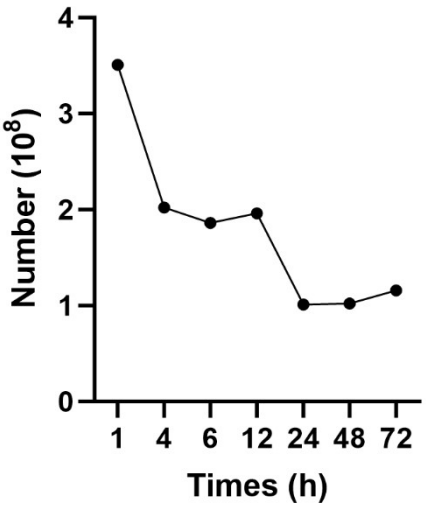

Fig.S2 Microbubble stability in 72h.

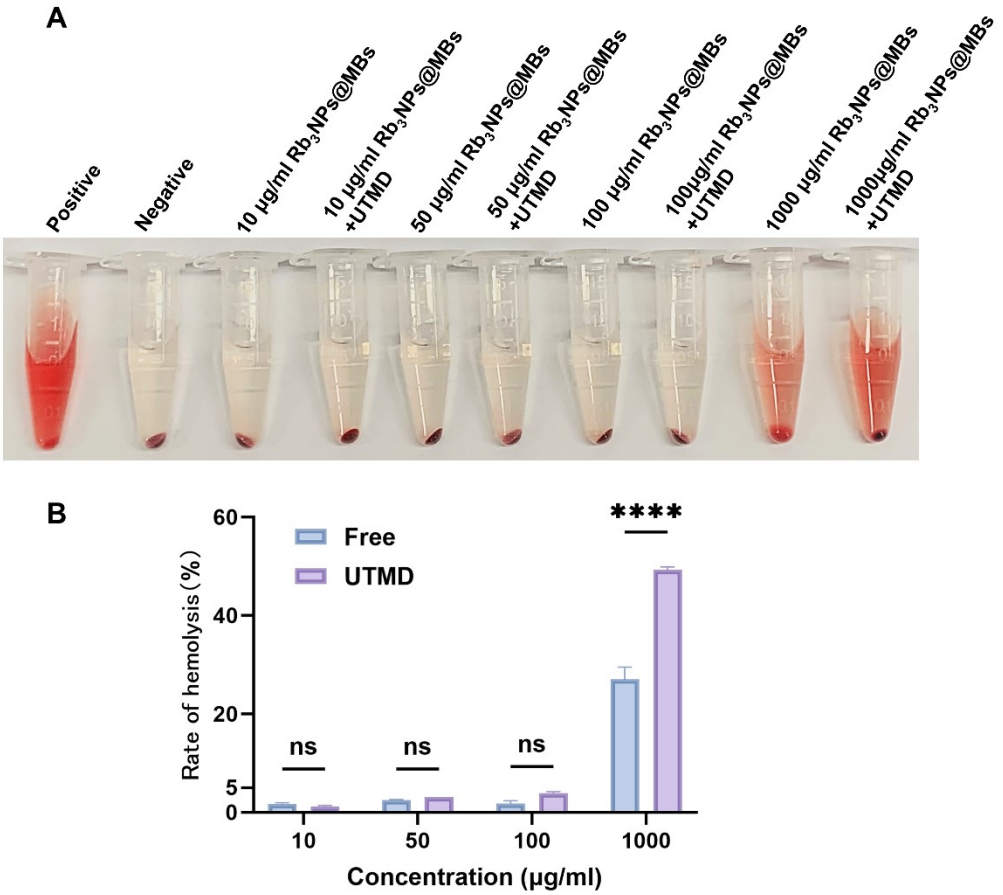

Fig.S3 Hemolysis experiments of Rb_3NPs@MBs. A) Comparison of Rb_3NPs@MBs hemolysis supernatant with different concentrations and treatments; B) Statistical analysis plot of the OD values of the supernatant of each group at the specific wavelength of 541 nm of hemoglobin measured by microplate reader in panel A. Free: no ultrasound operation group; UTMD: ultrasound-operated group.

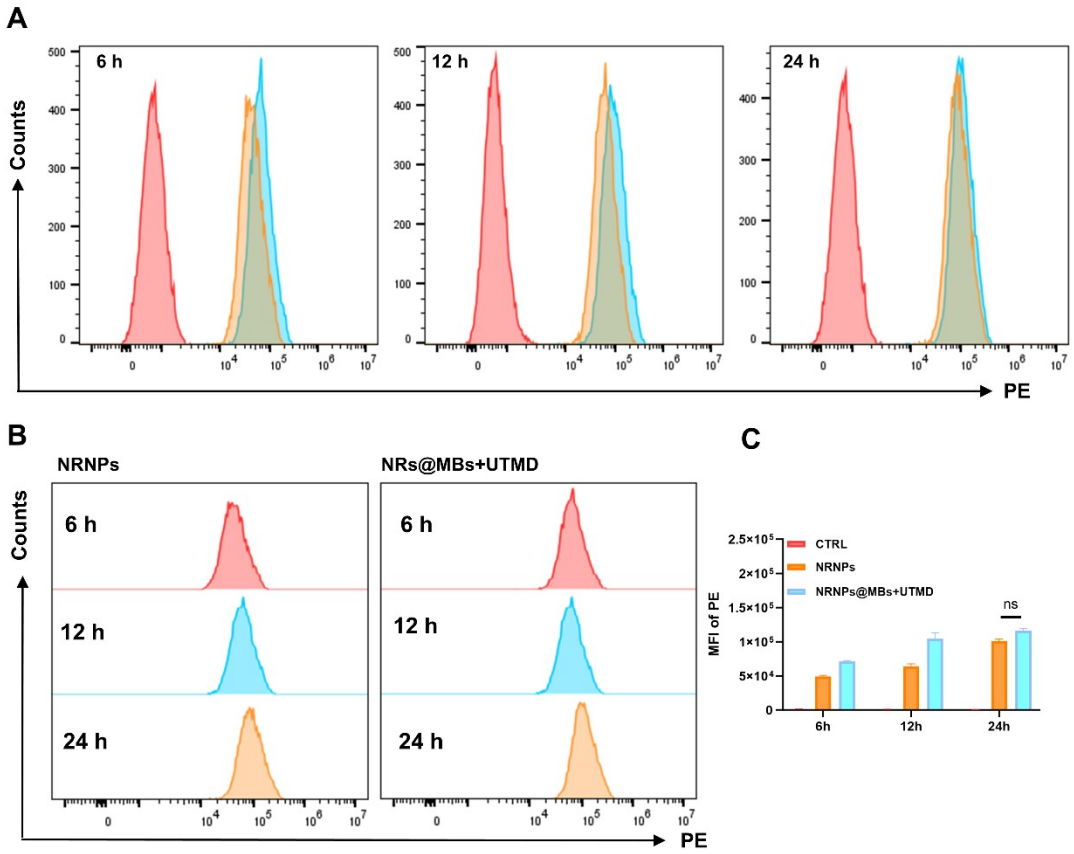

Fig.S4 Flow cytometry was used to detect the cell uptake of RAW264.7 cells for 24 h. A) Fluorescence flow diagram of RAW264.7 cells at 6 h, 12 h, and 24 h, and the grouping color corresponds to the legend color in figure C; B) Comparison of fluorescence flow images of RAW264.7 cells with NRNPs group and NRNPs@MBs+UTMD group at different time points; C) Quantitative analysis of flow fluorescence intensity in panel A (n=3).

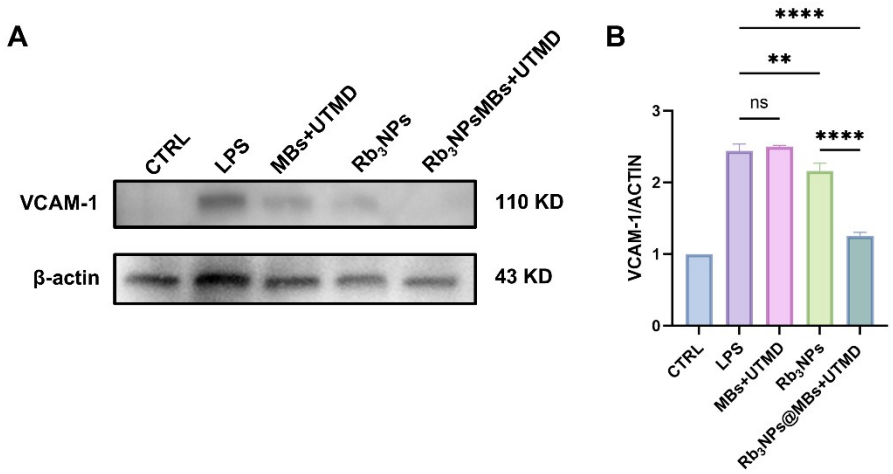

Fig.S5 Western Blot detected the expression of VCAM-1 protein in HUVEC cells. A) Western Blot images; B) Semi-quantitative analysis of Panel A (n=3).

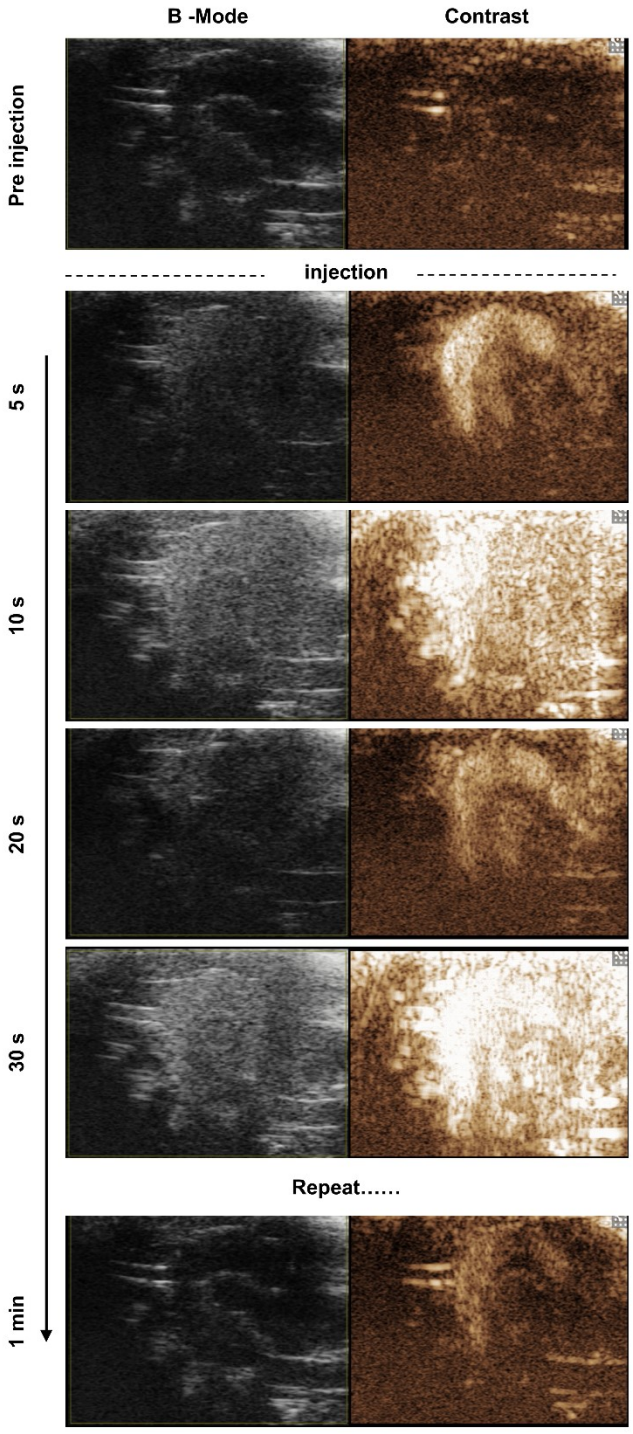

Fig.S6 The in vivo UTMD process of Rb_3NPs@MBs.

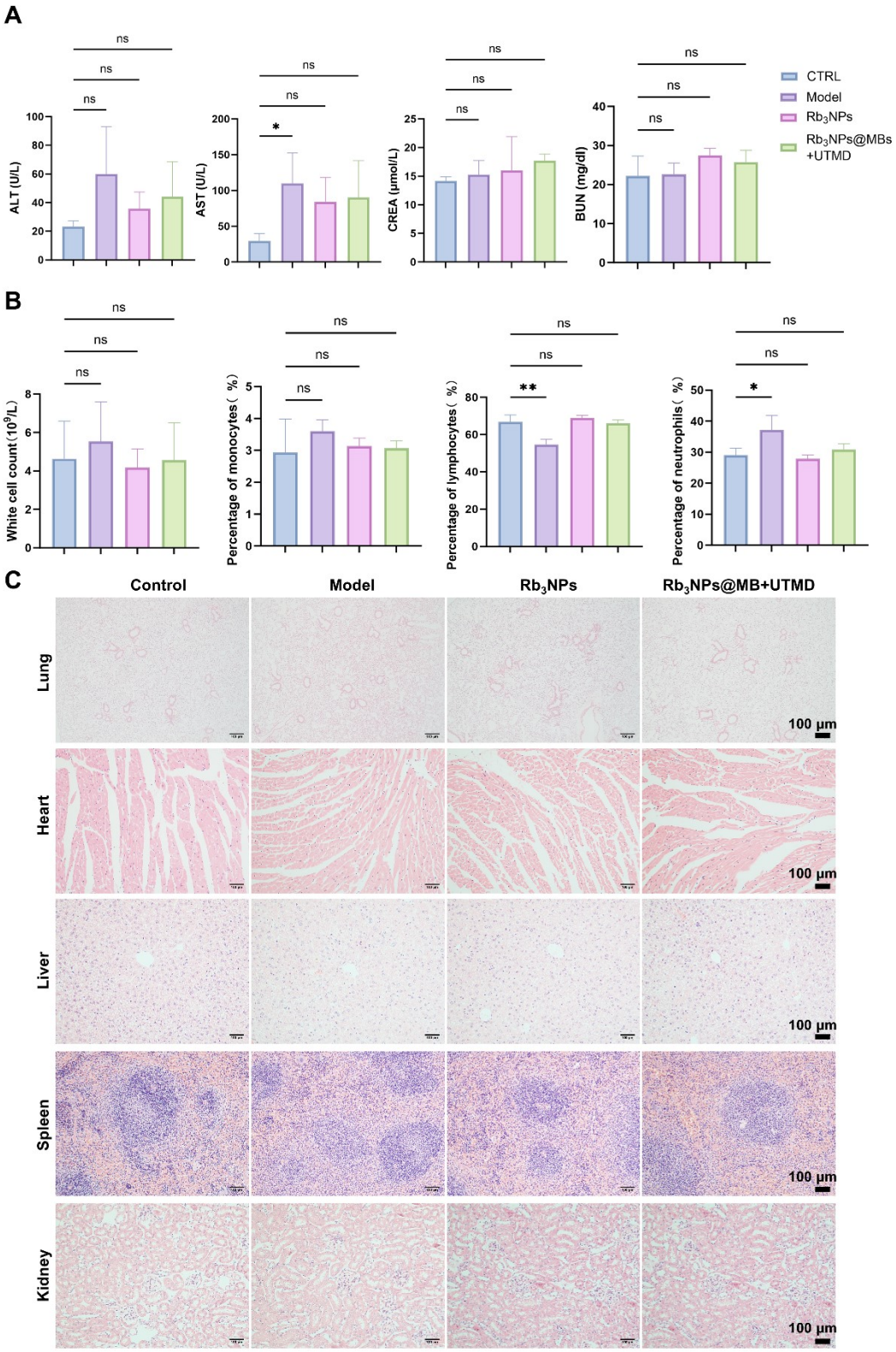

Fig.S7 Safety assessment (n=4 biologically independent mice). A) HE-stained sections of organs tissues from different groups of mice after 2w of treatment. B) Blood cell count. C) Markers of hepatic function (AST, ALT) and renal function (CREA, BUN) in different groups of mice.

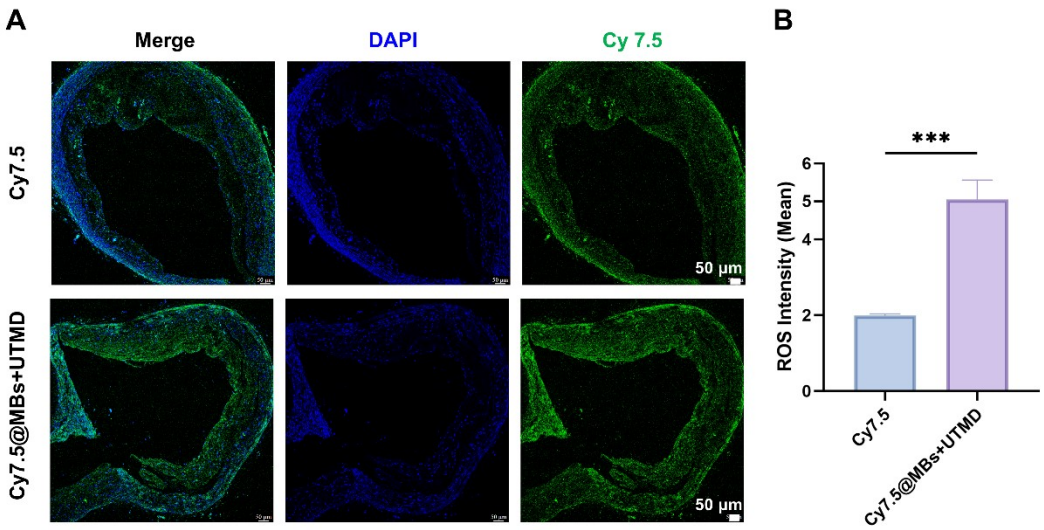

Fig.S8 Fluorescently stained sections with active arch. A) Cy7.5 fluorescence images of the aortic arch of Cy7.5 and Cy7.5@MBs+UTMD treated mice; B) Quantitative analysis of Panel A (n=3).