Supporting Information

A novel cell membrane-cloaked magnetic nanogripper with enhanced stability for drug discovery

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Samples preparation for TEM:

1. Use 300 mesh carbon coated grids.
2. Prepare $\alpha_{1A}$/MNGs solution and ultrasonic dispersed evenly.
3. Place a drop (approx. 20 $\mu$L) of $\alpha_{1A}$/MNGs solution on the grid.
4. Dry overnight in a Petri dish and view the next day in TEM.
Figure S1. Size and zeta potential results of high $\alpha_{1A}$-AR expression HEK293 cell membrane-derived vesicles (a), Fe$_3$O$_4$-CHO nanoparticles (b) and $\alpha_{1A}$/MNGs (c) (A); FT-IR spectra of Fe$_3$O$_4$ (a), Fe$_3$O$_4$-SiO$_2$ (b), Fe$_3$O$_4$-CHO (c) and $\alpha_{1A}$/MNGs (d) (B); XRD patterns of Fe$_3$O$_4$ (a), Fe$_3$O$_4$-CHO (b) and $\alpha_{1A}$/MNGs (c) (C) and VSM curves of $\alpha_{1A}$/MNGs (a), Fe$_3$O$_4$-CHO (b) and Fe$_3$O$_4$ (c) (D).
**Figure S2.** Bright-field images of confocal microscopy images of MNGs cores (A) and α1A/MNGs (B).
**Figure S3.** The binding model of compounds tamsulosin (A), bulleyaconitine A (B) and benzoylhypacoitine (C) with $\alpha_{1A}$ AR (PDB ID: 4iye).