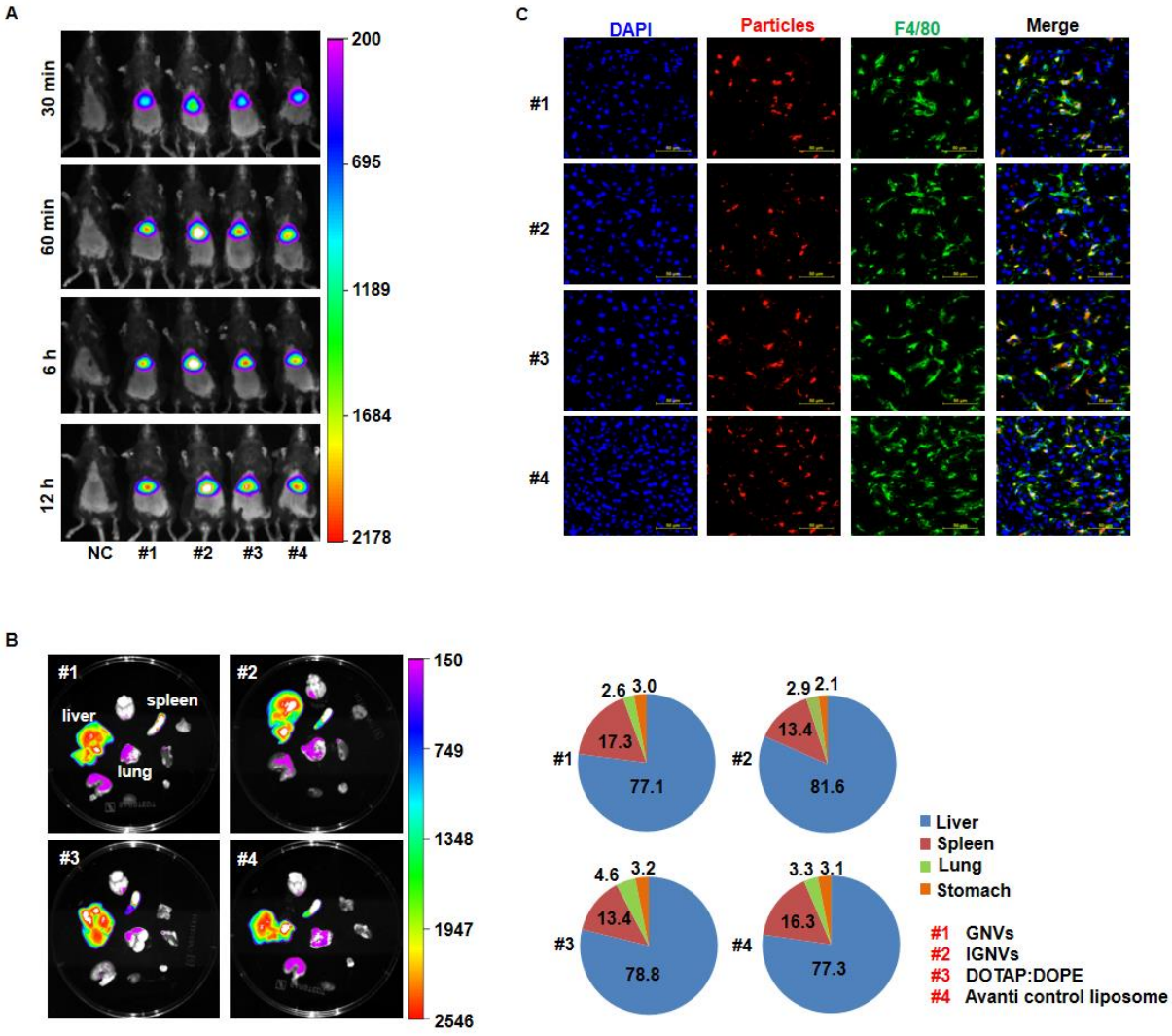
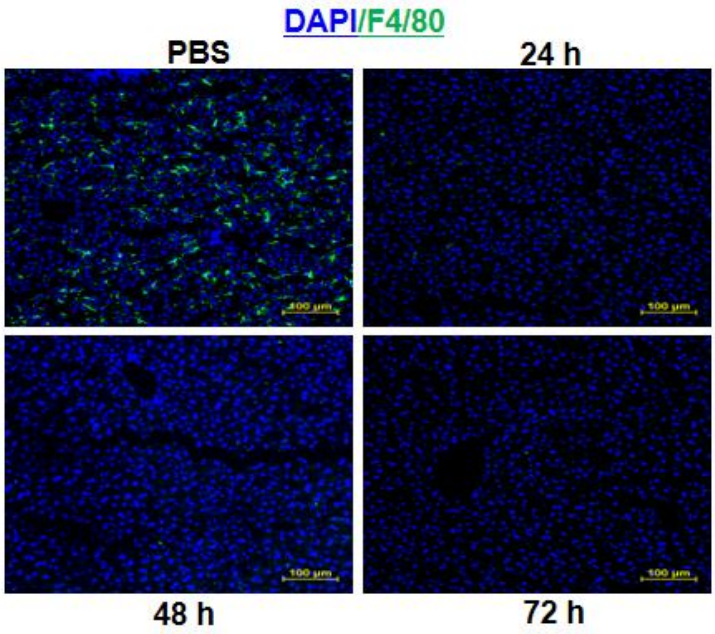
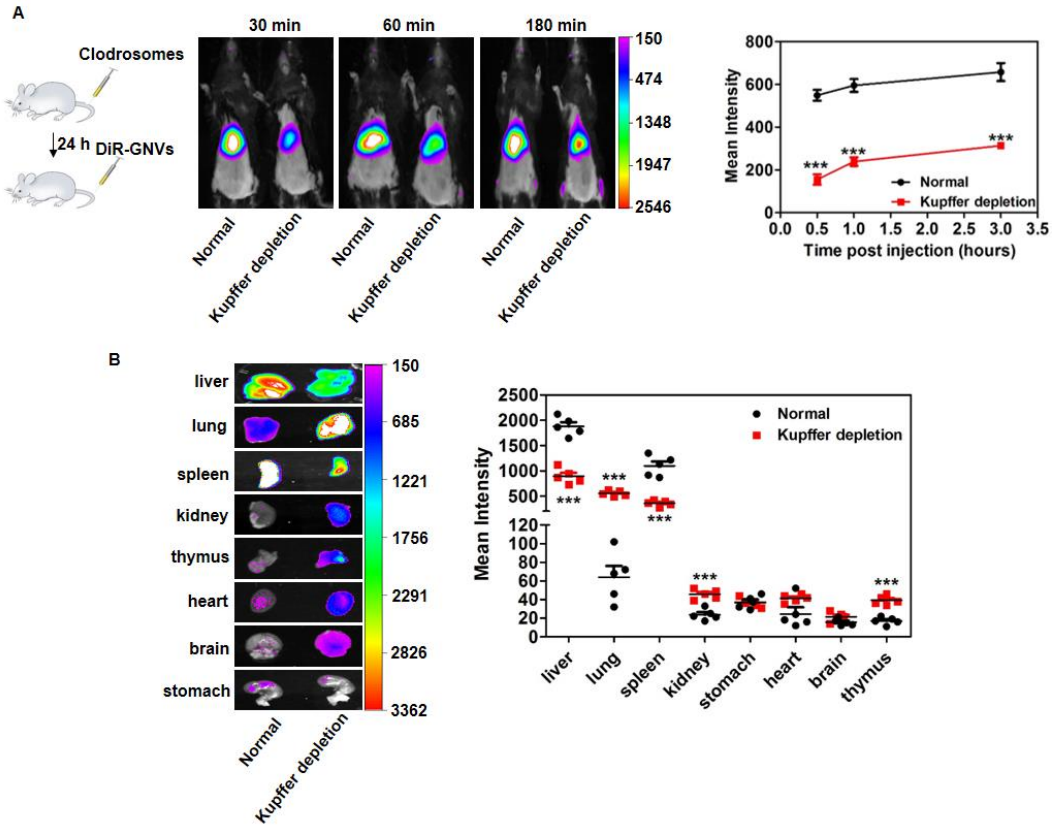
Supplementary Figures



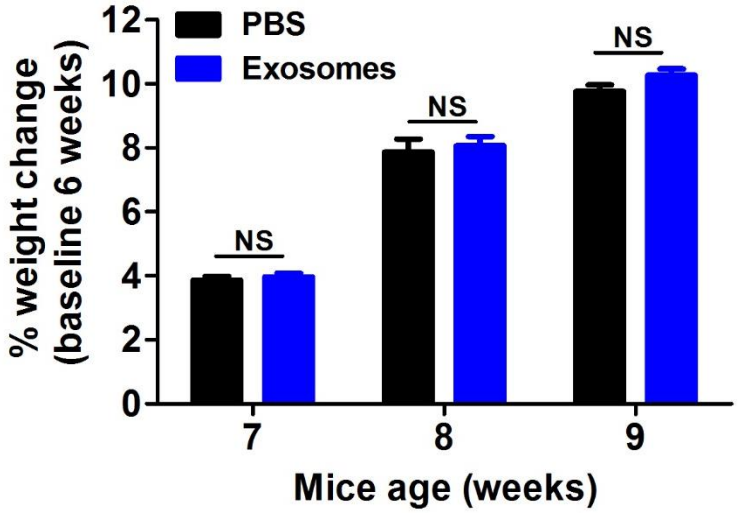
Supplementary Figure 1 Distribution of nanovectors in mice. Nanovectors including GNVs (#1), lymphocyte membrane-coated GNVs, IGNVs (#2), DOTAP:DOPE liposomes (#3) and liposomes from Avanti (#4) were labeled with DiR dye and I.V. injected into normal mice. (**A**) Live body images were collected at different time points (30 min, 60 min, 6 h and 12 h). (**B**) Mice were sacrificed, organs including liver, spleen, lung, kidney, heart, thymus, brain and stomach were removed and the DiR signals in organs were quantified by scanning using a Kodak Images Station. Representative images of DiR labeled nanovectors from mice (**A**), and organs (**B**). (**C**) Cell targets of PKH26 labeled particles in liver. Nanovectors were labeled with PKH26 and I.V. injected into mice, livers from mice were removed and tissue sections were stained with anti-mouse F4/80 antibody. The data (A-C) shown is a representative of at least 2 independent experiments (n=5).



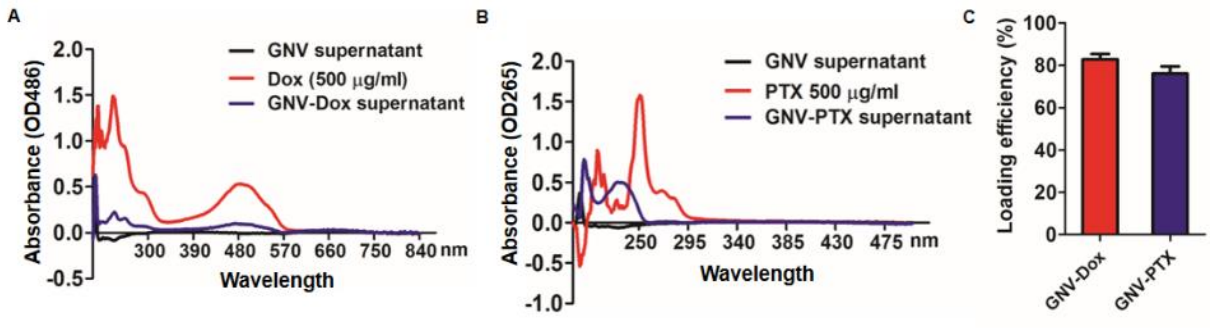
Supplementary Figure 2 Kupffer cell depletion. Mice were I.V. injected with clodrosomes (700 μg in 150 μL PBS) and Kupffer cells were stained with anti-mouse F4/80 antibody in mice liver tissue sections 24, 48 and 72 h after injection. Representative images (n=5) of antibody F4/80 stained liver tissue.


A
Clodrosomes
24 h
DiR-GNVs
30 min
60 min
180 min
150
474
1348
1947
2546
Normal
Kupffer depletion
Mean Intensity
Time post injection (hours)
Normal
Kupffer depletion
B
liver
lung
spleen
kidney
thymus
heart
brain
stomach
150
685
1221
1756
2291
2826
3362
Mean Intensity
liver
lung
spleen
kidney
stomach
heart
brain
thymus
C
DAPI
F4/80
GNVs
Merge
Normal
Kupffer depletion

Supplementary Figure 3 Biodistribution of GNV nanovector after Kupffer cell depletion. 24 h after treatment with clodrosomes, mice were I.V. injected with DiR labeled GNVs (200 nmol) and (**A**) live images were obtained at different time points (30 min, 60 min and 180 min). A representative image from each group of mice is shown (left panels) and followed by graphical figures (right panels) presented as the mean net intensity (Sum Intensity/Area, n=5). (**B**) Organs including liver, lung, spleen, kidney, brain, thymus, heart and stomach were removed and scanned. Representative images of each organ. Graphical figures (right panels) presented as the mean net intensity (Sum Intensity/Area, n=5). **(C)** PKH26 labeled GNVs were I.V. injected into Kupffer cell depleted-mice (n=5) and colocalization of PKH26-GNVs with F4/80+ Kupffer cells were examined using confocal microscopy. Representative images of anti-F4/80 stained tissues. Data are represented as mean ± SD, *p****<0.001. Error bars represents SD.



Supplementary Figure 4. Average body weight of male C57BL/6 mice. Six-week-old B6 mice (n = 5) were I.V. injected with autologous blood derived exosomes (200 μg in 100 μL PBS) or PBS as a control. Body weight was measured over the period of 3 weeks and expressed as % of gained body weight over 3 weeks period. NS: not significant; *p*>0.05.



Supplementary Figure 5. Loading efficiency of doxorubicin and paclitaxel on GNVs. GNV-Dox and GNV-PTX were prepared by bath-sonication, the residual Dox (**A**) or PTX (**B**) in the supernatant was quantitatively analyzed by UV-Visible spectrophotometer at a wavelength of 486 and 265 nm, respectively and the loading efficiency was calculated and expressed as (Total drug-amount of drug in the supernatant)/Total drug×100% (**C**).