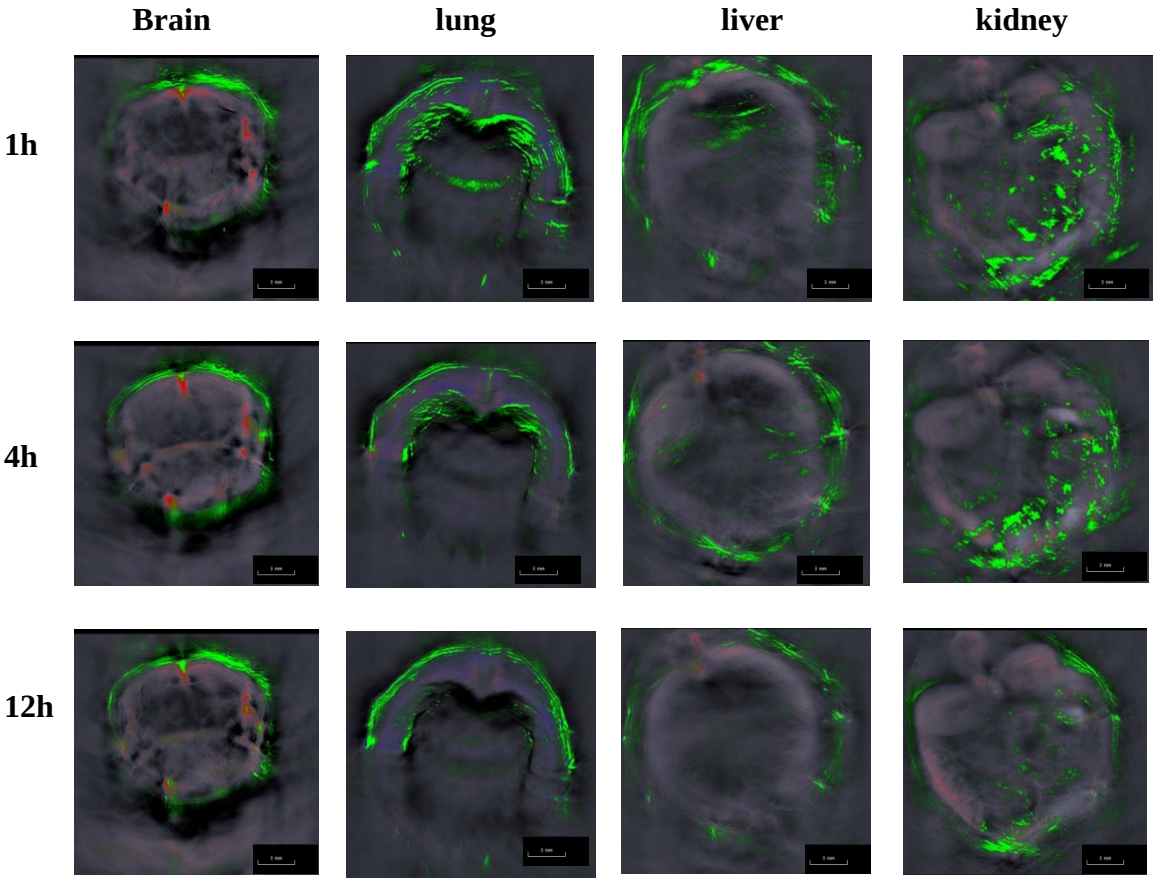
Supplement

Figure. S1. The MSOT imaging of free DTX solution (A), freeze-dried powders (B) or spray-dried powders of CLS-PEG NPs loaded with DTX (C) to mice at a dose of 10 mg/kg after intratracheal (IT) administration.

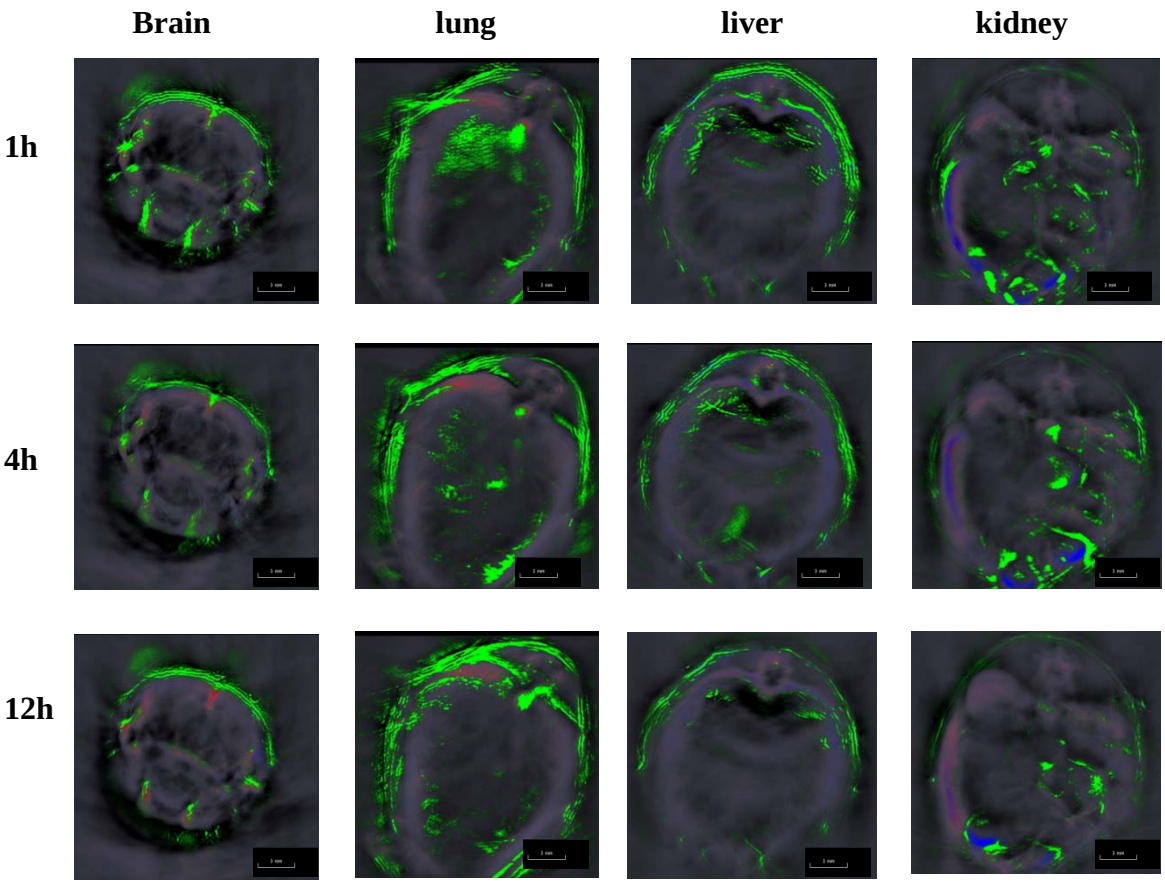
The CLS-PEG NPs loaded with a mixture of DTX and DiR (a fluorescent probe of cell membrane) were prepared as previously described. The multispectral opto-acoustic tomography (MSOT) was used to analyze the distribution of NPs *in vivo*. BALB/c mice were divided into three groups, and administered with free DTX solution, freeze-dried powders or spray-dried powders of CLS-PEG NPs loaded with DTX and DiR via IT administration, at a dose of 10 mg/kg. The transducer array and fiber bundle were submerged in a water bath kept at 34°C. Mice were put in a horizontal position in a holder with a thin polyethylene membrane with no direct contact between water and the mouse. This preparation allowed acoustic coupling between the mouse being imaged and the transducer array. The resolution of the translational stage was 0.5 mm.

Fig. 1S.

(a)



(b)



(c)