Supporting Information for

Combined image guided monitoring the pharmacokinetics of rapamycin loaded human serum albuminnanoparticleswith a split luciferase reporter

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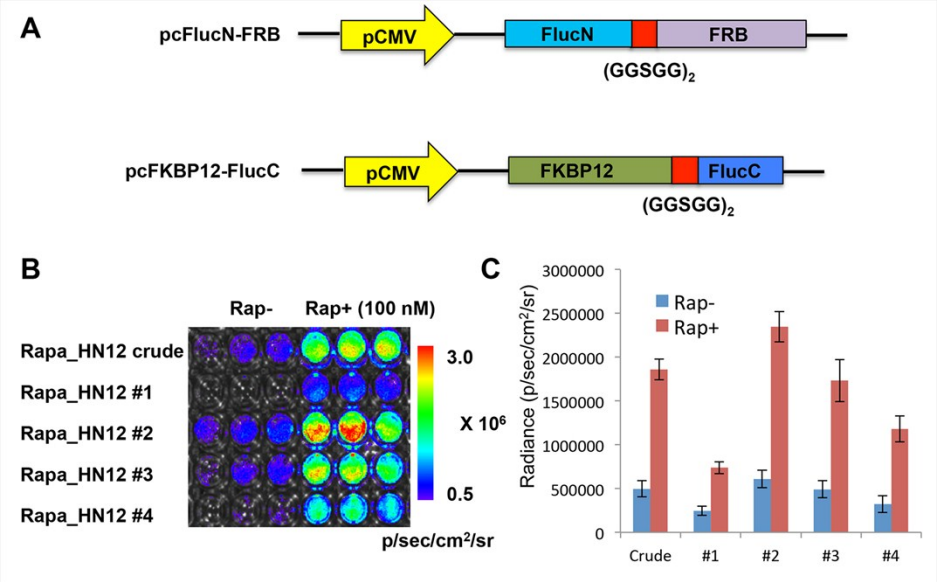

Figure S1. Validation of HN12 stable cell line expression split luciferase reporter. (A) Scheme of the split firefly luciferase reporter. The plasmids pcFlucN-FRB and pcFKBP12-FlucC allows expression of the fusion gene of interest with an N-terminal FlucN and FRB or with FKBP12 and a C-terminal FlucC under the control of CMV promoter. An in-frame coding sequence for a GGSGGGGSGG linker is indicated as red color. (B) The HN12 cells were transfected with plasmids pcFlucN-FRB and pcFKBP12-FlucC and selected byzeocin (500 μg/ml) for approximately 3 weeks. Four stable cell lineswere treated with free rapamycin (100 nM) and then subjected to bioluminescence imaging. (C) Qualification of the bioluminescence imaging experiments described in (B).

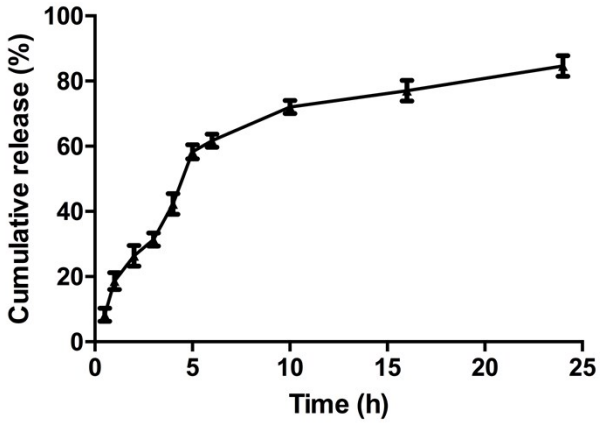

Figure S2. In vitro release profile of rapamycin from HSA Rapa nanoparticles in serum-containing medium. The percentage of rapamycin released was plotted against time.

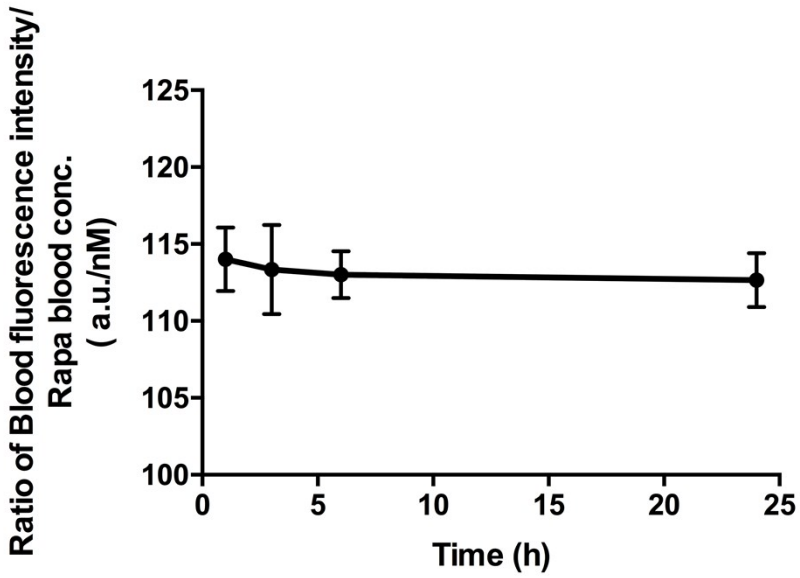

Figure S3. The ratio of fluorescence signal to rapamycin blood concentration obtained by LC-MS at various time points (1h, 3 h, 6 h, 24 h). Cy5 labeled HSA Rapa (10 mg/kg) was intravenously injected into the HN12#2 tumor bearing mice (n=6). At different time points (1, 3, 6, 24 h) after injection, blood was drawn from the tail vein of mice. The concentration of rapamycin (nM) in the blood over time was measured by LC-MS, whereas the fluorescence intensity (a.u.) from the same blood samples was measured by FITR spectrometer.