# Supporting Information Online

## Nanoparticle core stability and surface functionalization drive the mTOR signaling pathway in hepatocellular cell lines

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## Supplementary Figures

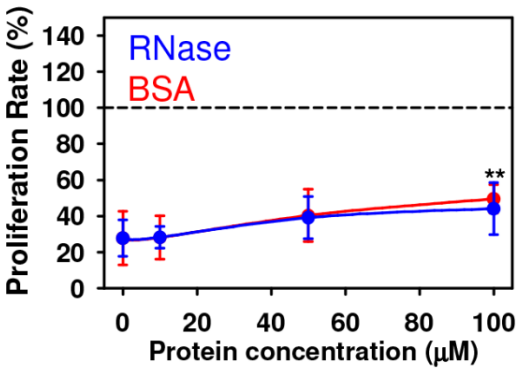


**Figure S1** Analysis of cytotoxicity in Huh7 cultured with PS-$NH_2$ nanoparticles bearing RNase or BSA as hard protein corona. Cells were cultured in the presence or absence of PS-$NH_2$ nanoparticles (100 µg/ml) pre-incubated with increasing concentrations of RNase or BSA for 1 h. Cell viability was assessed by the WST-1 assay. The data were normalized to control values (no particle exposure) and expressed as mean ± SEM, n = 3 each, $^{**}p < 0.01$.

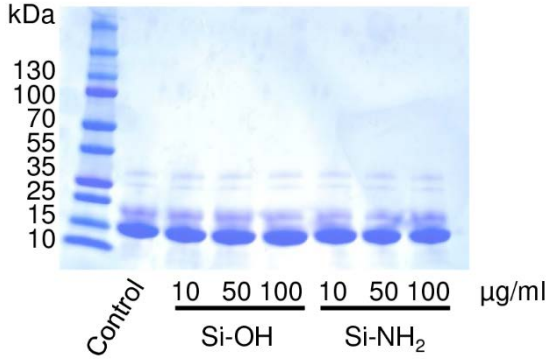


**Figure S2** Analysis of nanoparticle effect on RNase dimerization. Different concentration of Si-OH or Si-NH2 nanoparticles were incubated with RNase (100 µM) in PBS pH 7.4 for 1 h. In order to discard the excess of unbound protein, the mixture was filtered through a Vivaspin20 ultrafilter (cutoff = 30000 Da, Vivascience-Sartorius, Germany) and washed three times with PBS pH 7.4. Subsequently, RNase dimers-oligomers were resolved on SDS-PAGE followed by Coomassie Brilliant Blue staining.

**Figure 6A.**

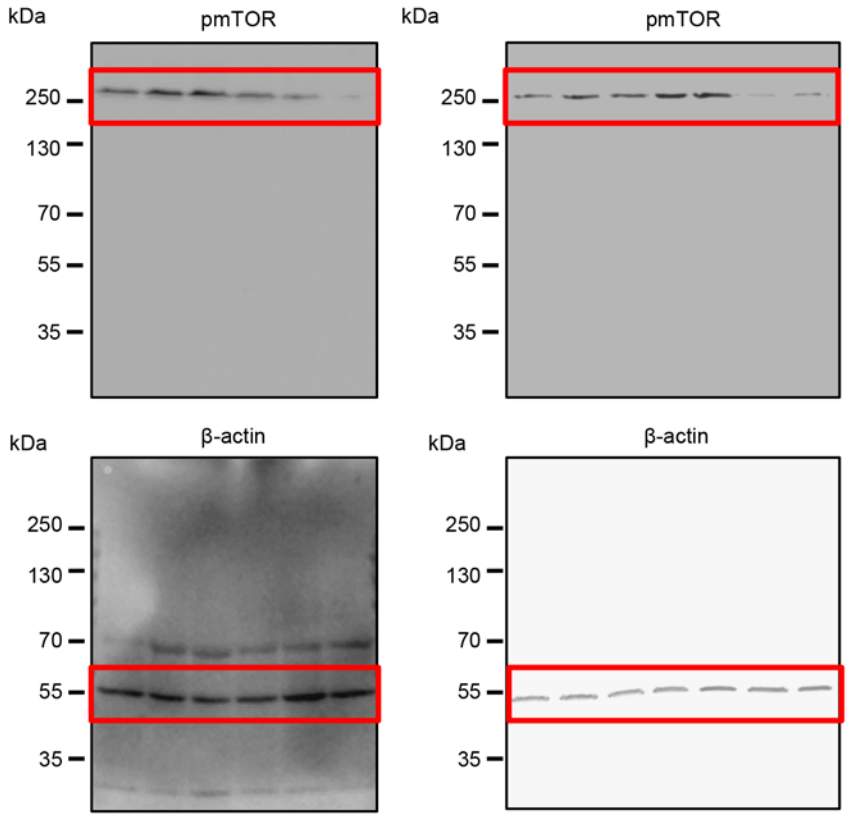


**Figure 7A.**