Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B.

Supporting Information

for

Highly Selective Dual-therapeutic Nanosystem for Simultaneous Anticancer and Antiangiogenesis

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Results:

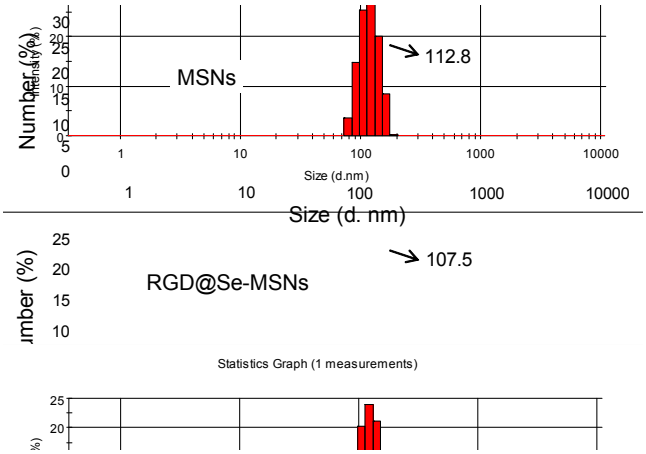

Figure S1. Size distribution of MSNs and RGD@Se-MSNs.

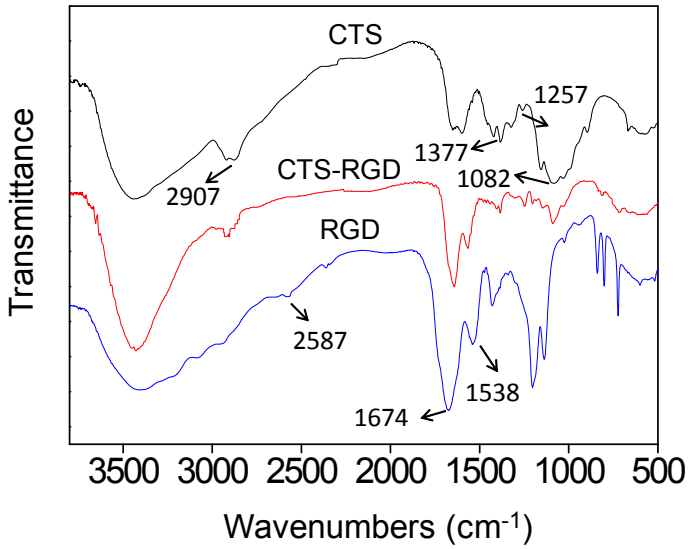

Figure S2. FTIR spectra of CTS, CTS-RGD and RGD.

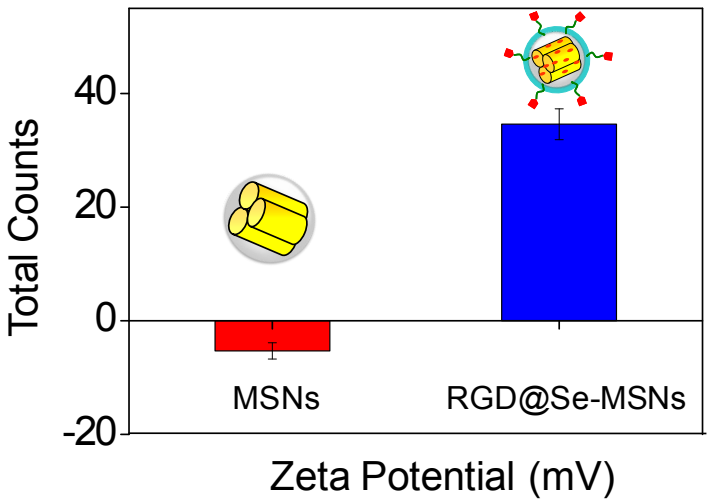

Figure S3. Zeta potentials of MSNs and RGD@Se-MSNs.

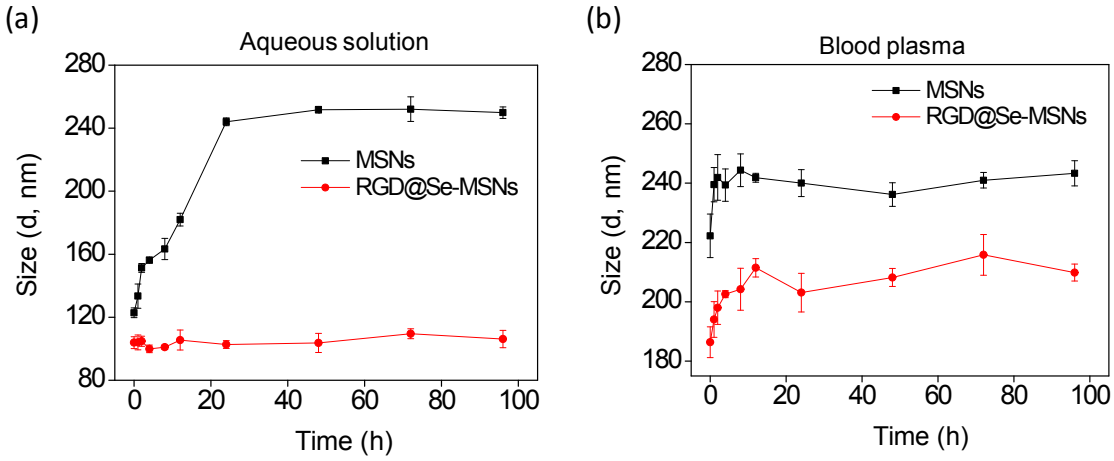

Figure S4. Stability of MSNs and RGD@Se-MSNs nanoparticles in aqueous solution and blood plasma.

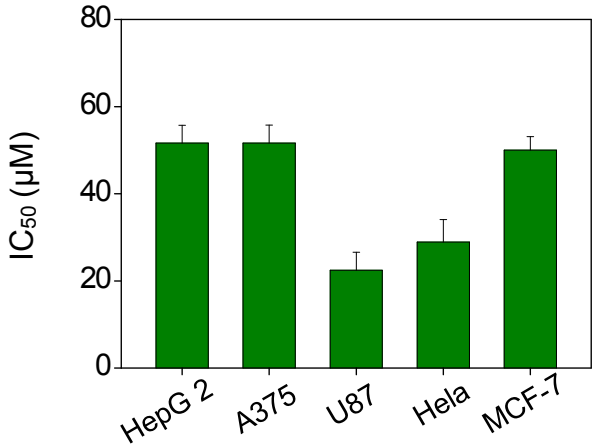

Figure S5. The IC_{50} value of SeC on human cancer cells (72-h treatment). Values expressed are means ± SD of triplicates.

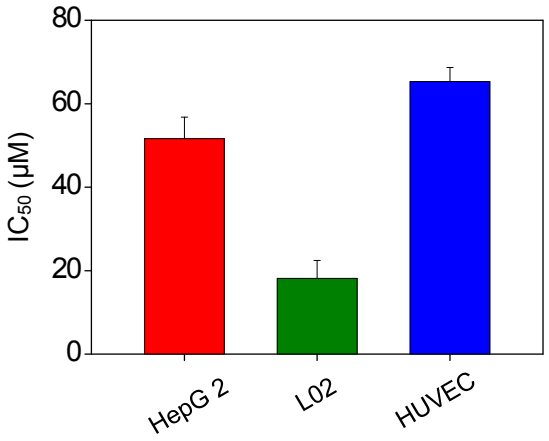

Figure S6. Comparison of the IC_{50} value of SeC on HepG-2, L02 and HUVEC cells after 72-h incubation.

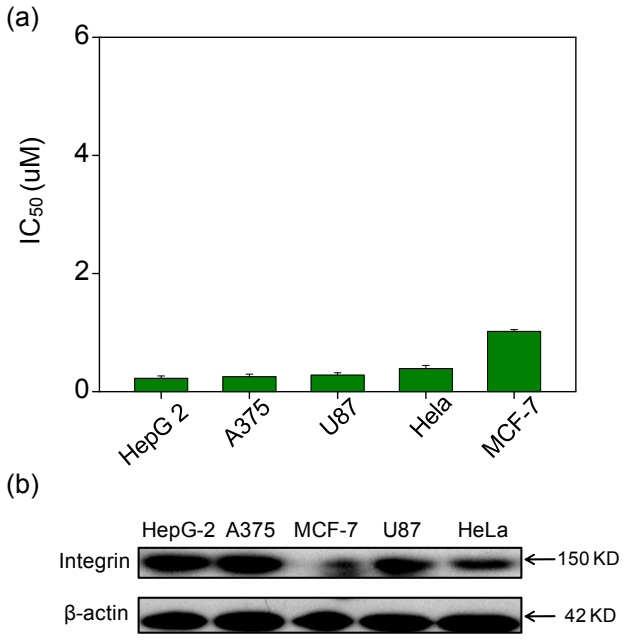

Figure S7. (a) The IC_{50} value of RGD@Se-MSNs on human cancer cells (72-h treatment). (b) Western blotting showing the different expression levels of integrin in various human cancer cells.

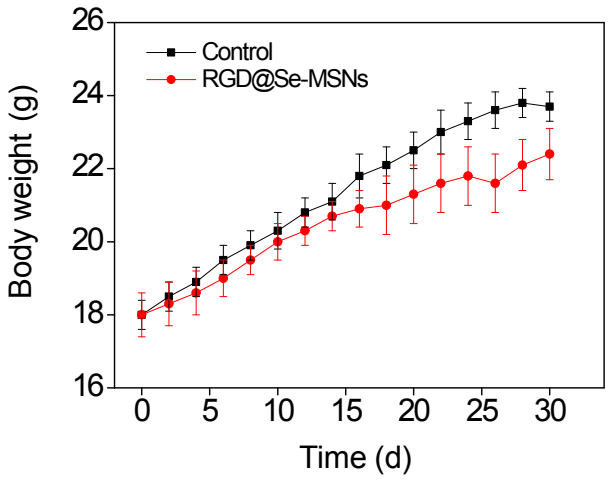

Figure S8. The body weight of nude mice after treated with RGD@Se-MSNs for 30 days.

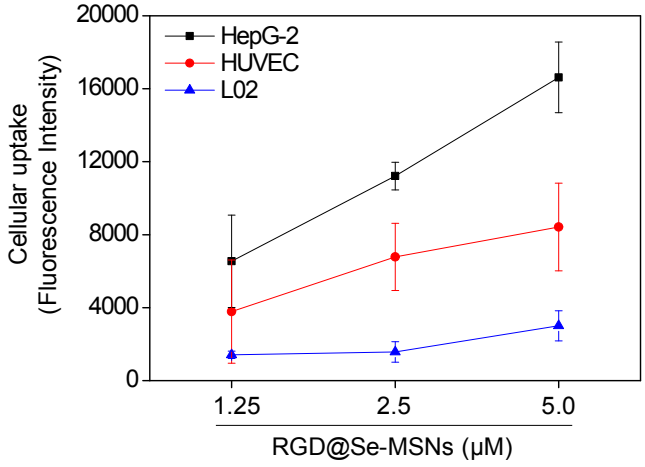

Figure S9. Cellular uptake efficiency of RGD@Se-MSNs in HepG-2, HUVEC and L02 cells (6 h).

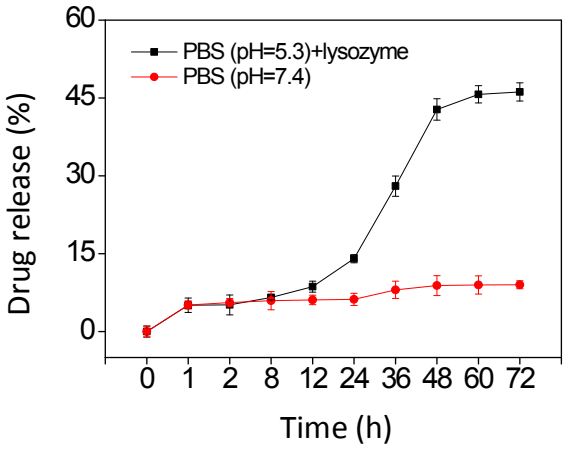

Figure S10. *In vitro* drug release curve from RGD@Se-MSNs (1 mg/ml) in PBS.

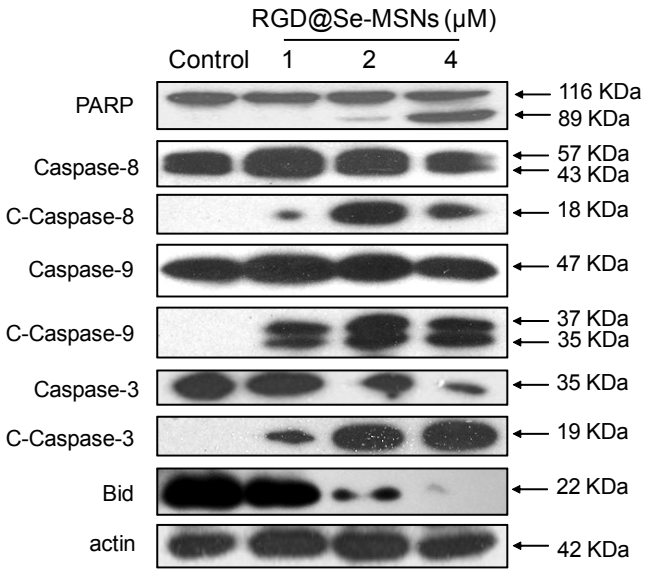

Figure S11. Western blotting showing the expression levels of the apoptosis relevant proteins in HUVEC cells after treated by RGD@Se-MSNs for 24 h.

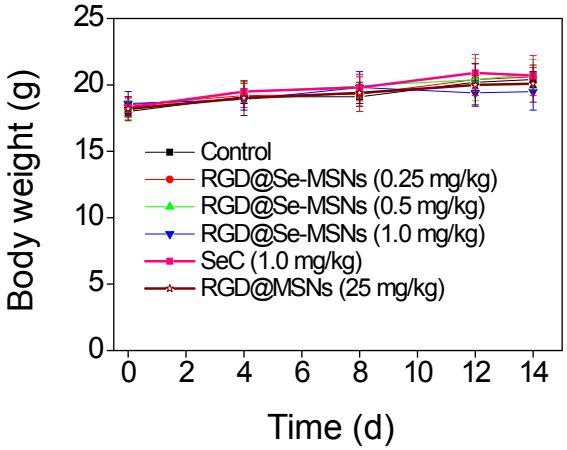

Figure S12. The body weight of nude mice after treatment with RGD@Se-MSNs, SeC and RGD@MSNs for two weeks.

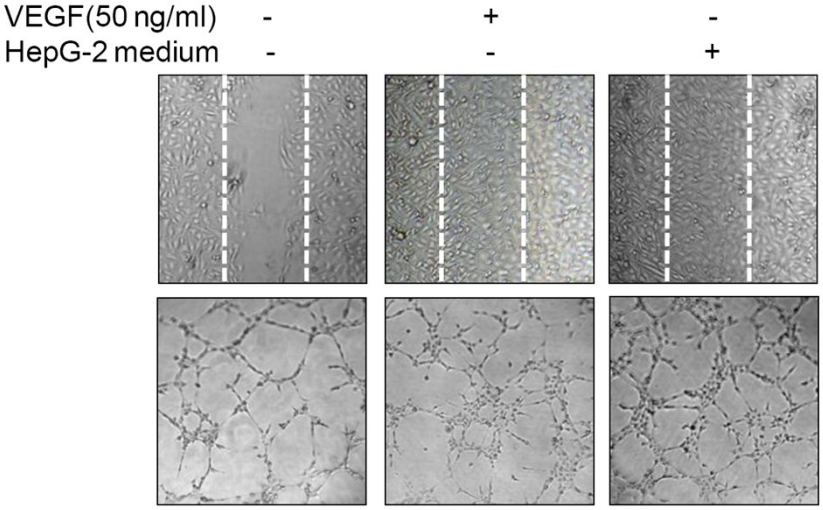

Figure S13. VEGF and HepG-2 culture medium induces HUVEC cell migration and tube formation *in vitro*.

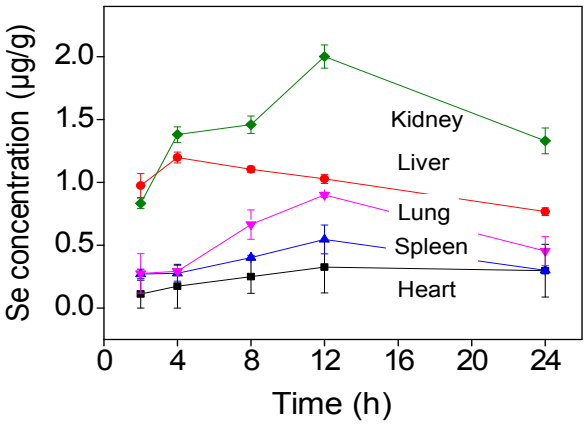

Figure S14. Biodistribution of Se in main organs within 24 h.