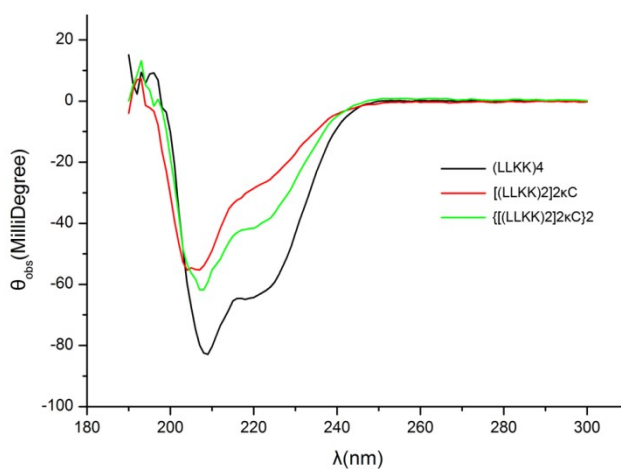
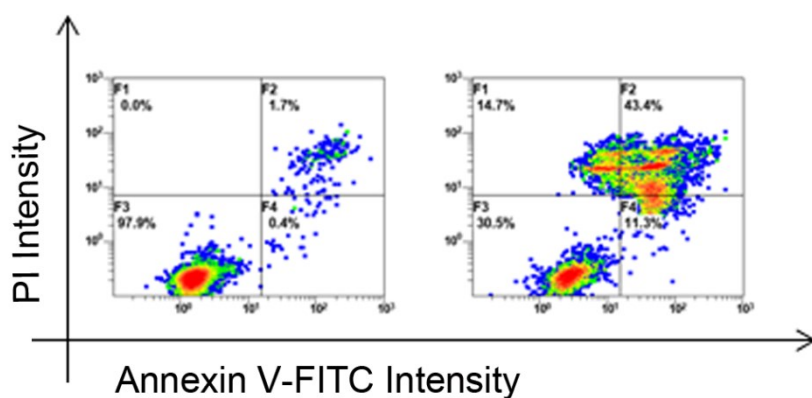


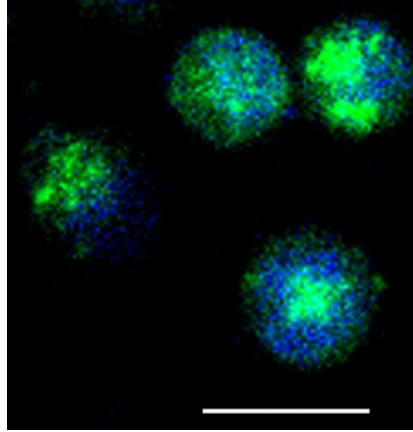
### Supplementary Information



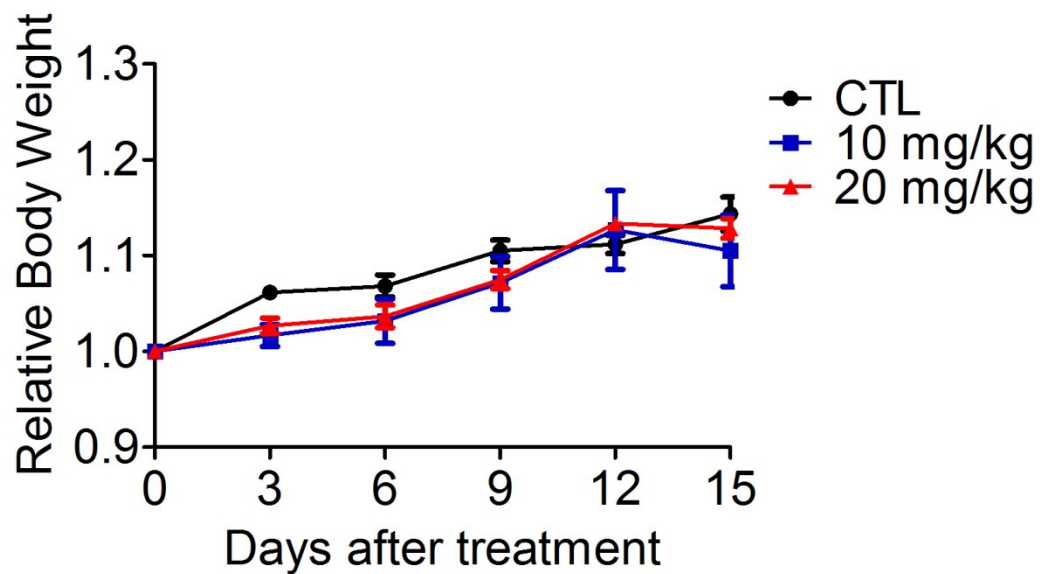
**Fig. S1** CD Spectra of (LLKK)4, [(LLKK)2]2κC and {[(LLKK)2]2κC}2 (0.5 mg/mL peptides in 25 mM SDS surfactant).



**Fig. S2** The mechanism of action of the linear peptide (LLKK)4. BCap37 cells were treated with (LLKK)4 at  $IC_{50}$  concentration (8.2 mg/L) for 48 hours, then harvested and stained with PI and Annexin V-FITC before flow cytometric analysis. Left: Control; Right: Treatment at  $IC_{50}$ .



**Fig. S3** Zoom-in image of BCap37 cells with merged fluorescence. After 2-hour incubation with FITC-labeled  $\{[(LLKK)_2]_2\kappa C\}_2$  at  $IC_{50}$ , the cells were stained with DAPI, then fixed and observed under confocal microscopy. Scale bar: 20  $\mu m$ .



**Fig. S4** The relative body weight of the mice. Nude mice bearing BCap37 tumors were treated with  $\{[(LLKK)_2]_2\kappa C\}_2$  (10 mg/kg or 20 mg/kg, intra-tumorally, q2d  $\times$  6). The body weight were measured every 3 days and the mean relative body weight of each treated group were compared with that of control group ( $p > 0.05$ ). Data are presented as mean  $\pm$  standard deviation.