An oral drug delivery system with programmed drug release and imaging properties for orthotopic colon cancer therapy

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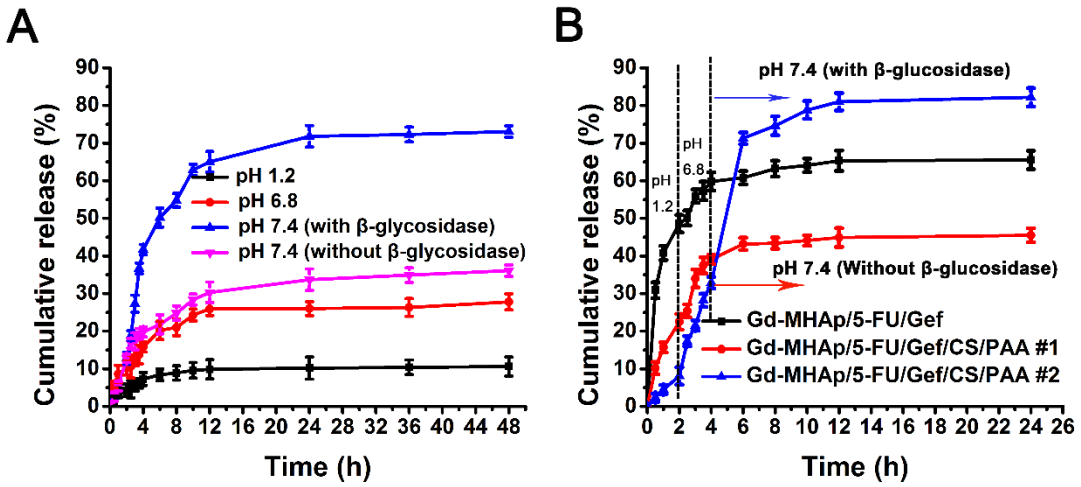

Fig. S1 5-FU release profiles in vitro. (A) Drug release behavior from preparation at different pH. (B) Release behavior of drug from Gd-MHAp/5-FU/Gefitinib and Gd-MHAp/5-FU/Gefitinib/CS/PAA incubated in a buffer with gradually changed pH over 24 h.

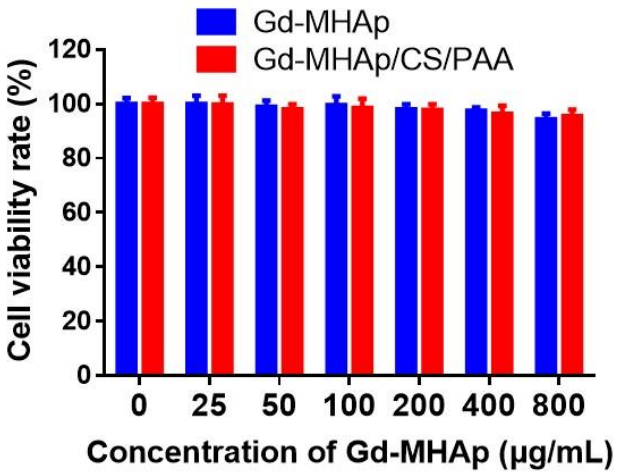

Fig. S2 Cytotoxicity. Cell viability of Gd-MHAp and Gd-MHAp/CS/PAA after 24 h treatment.

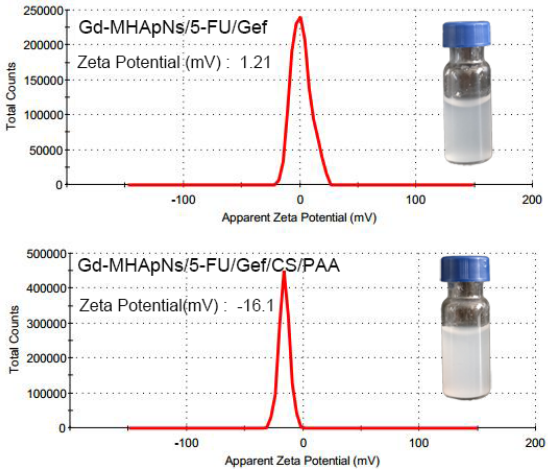

Fig. S3 Zeta potential of Gd-MHAp/5-FU/Gef and Gd-MHAp/5-FU/Gef /CS/PAA NPs.

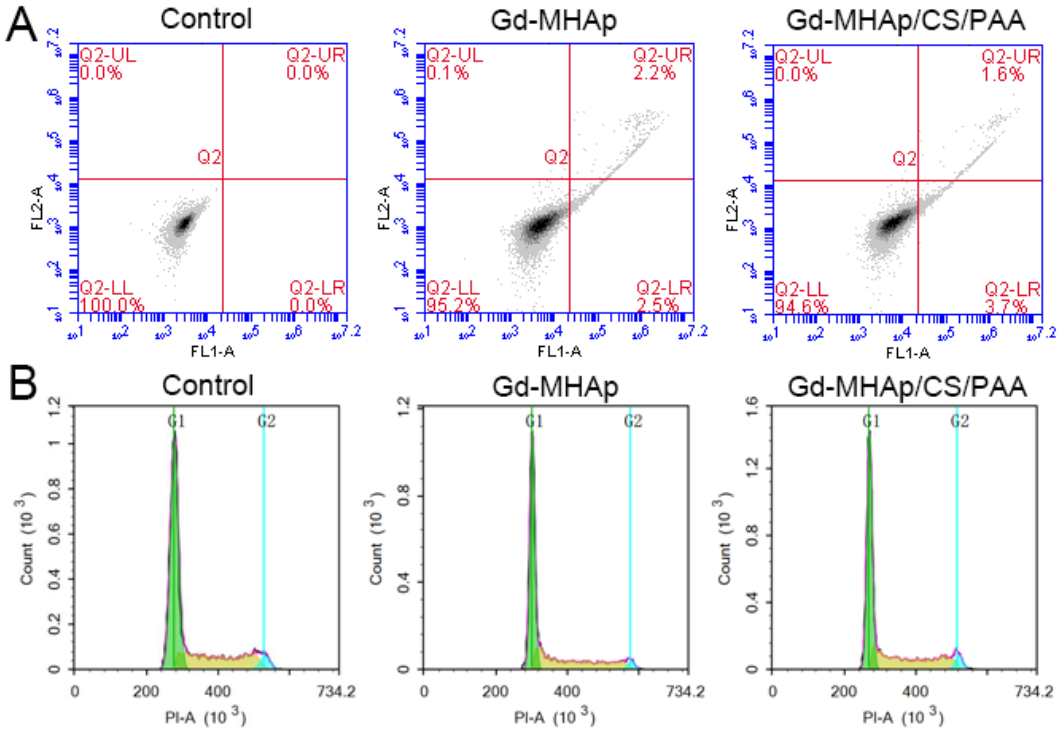

Fig. S4 Apoptosis and cell cycle assay of HT-29 cells after incubated with different formulations for 24 h.

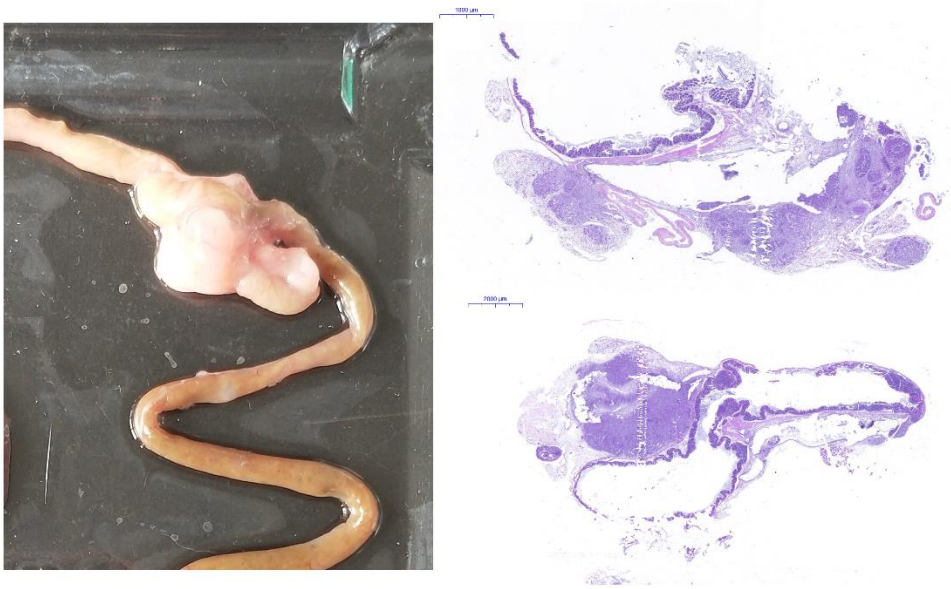

Fig. S5 Histologic section of colonic tumor.

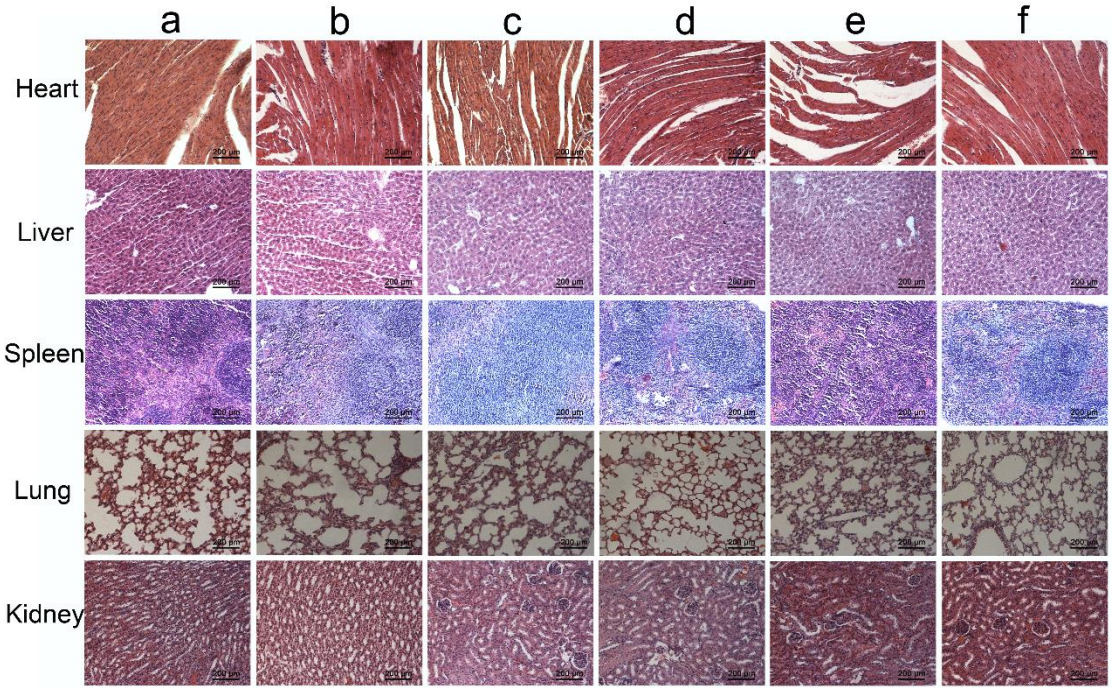

Fig. S6 Histologic assessments of major organs with H&E staining: (a) saline, (b) free 5-FU + Gefitinib, (c) Gd-MHAp/5-FU/CS/PAA, (d) Gd-MHAp/Gefitinib/CS/PAA, (e) Gd-MHAp/5-FU/Gefitinib, (f) Gd-MHAp/5-FU/Gefitinib/CS/PAA.

	Freq G_1	Freq S	Freq G2	G2/G1	CV G1
A	65.59	27.54	4.68	1.91	2.88%
B	21.99	71.12	6.05	1.91	2.86%
C	73.36	19.41	4.19	1.91	2.50%
D	43.18	46.89	8.87	1.90	2.99%
E	28.37	68.72	2.57	1.96	3.04%
F	63.58	29.33	3.56	1.92	2.96%
G	42.65	47.95	8.26	1.90	2.63%

Table S1 Average percentage of cell-cycle distribution in each phase. (A) Control, (B).5-FU; (C) Gef; (D) 5-FU + Gef; (E) Gd-MHAp/5-FU; (F) Gd-MHAp/Gef; f. (G) Gd-MHAp/5-FU/Gef. (Mean ± SD, $n = 3$)