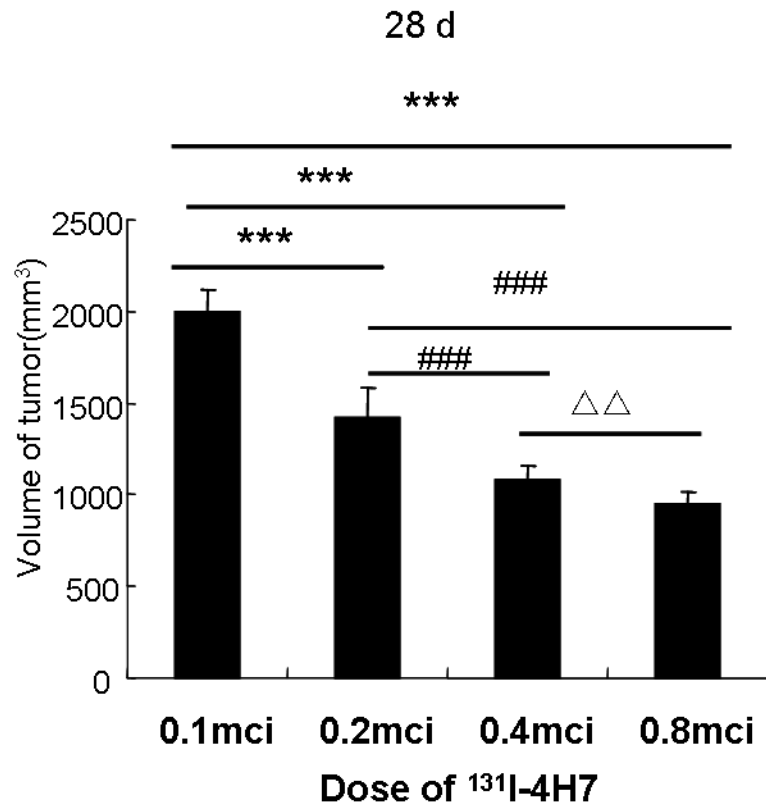
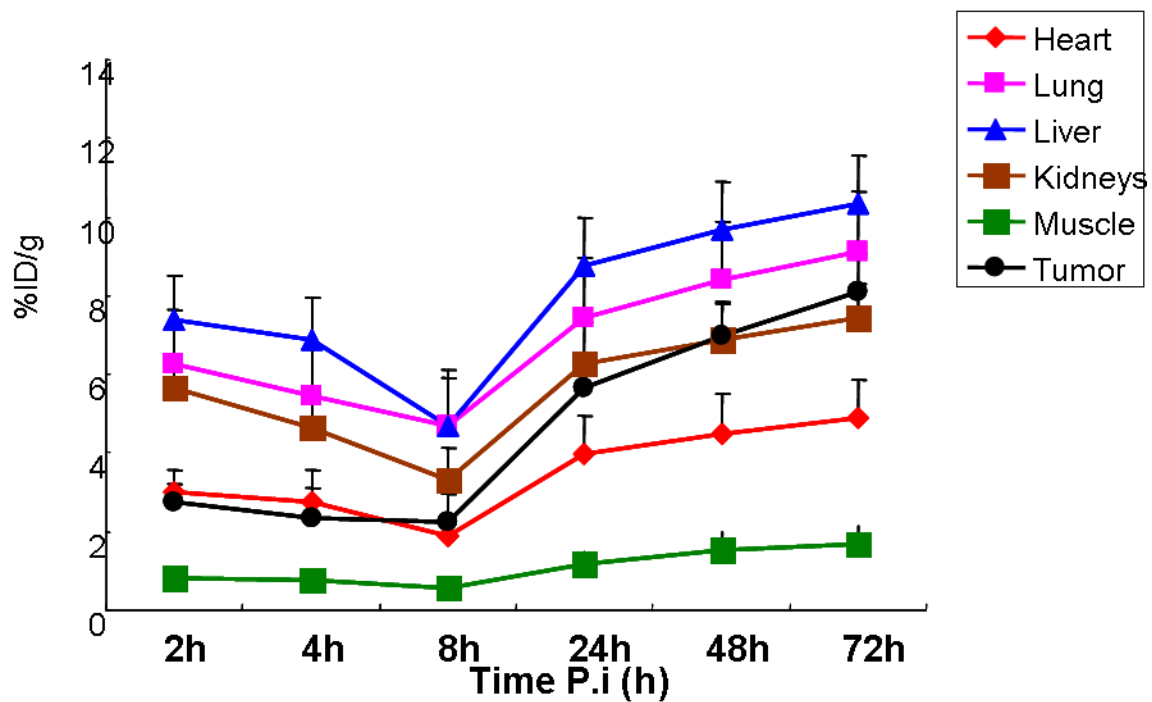


Therapy to target renal cell carcinoma using ^{131}I -labeled B7-H3 monoclonal antibody

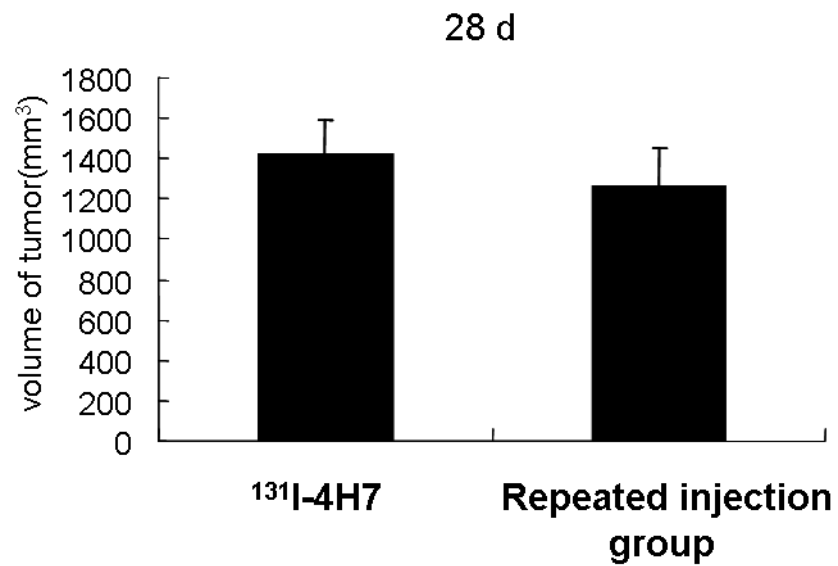
Supplementary Material



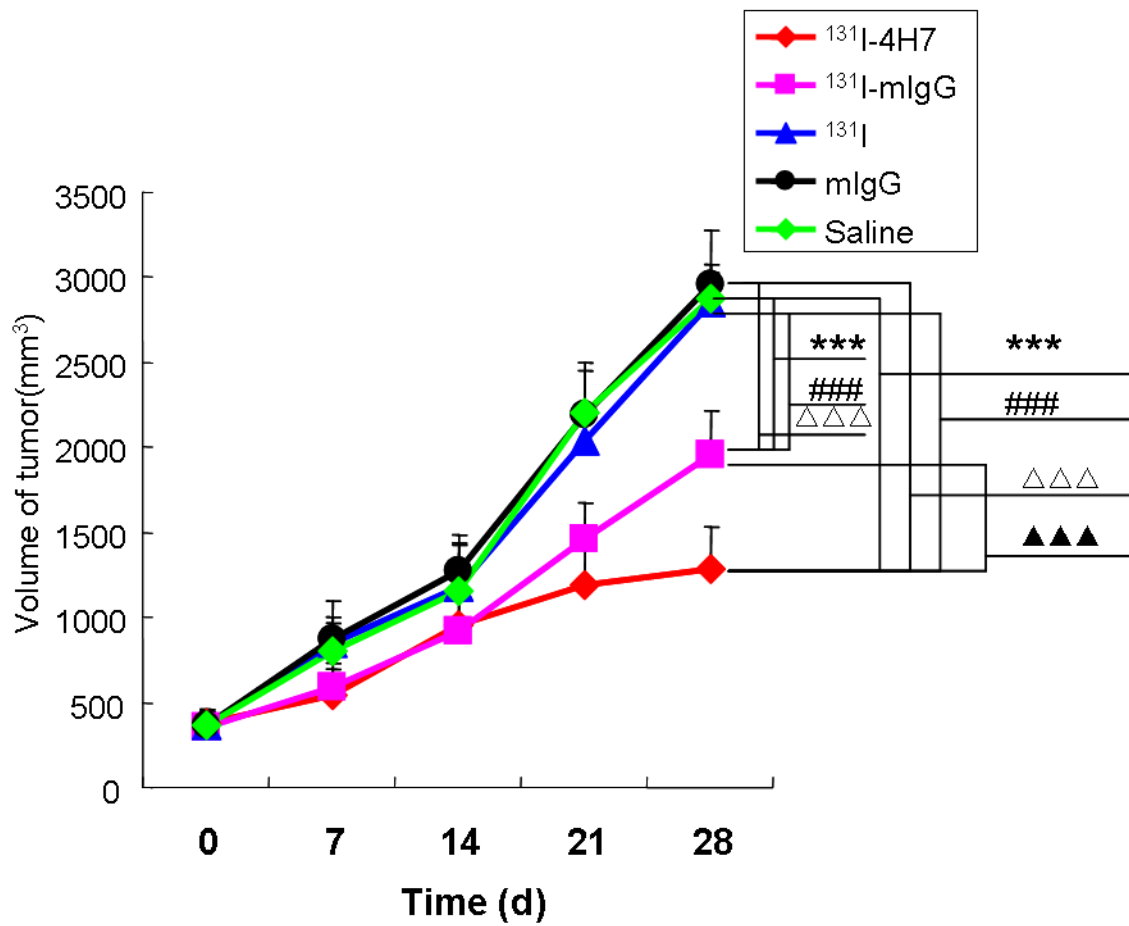
Supplementary Figure 1. Different doses of ^{131}I -4H7 on tumor inhibition. The effect of ^{131}I -4H7 on tumor inhibition was dose dependent, the higher dose of ^{131}I -4H7, the more significant effect of anti-tumor. Data are mean \pm SD, n = 8 (***: $p < 0.001$, 0.1 mci group vs. 0.2 mci, 0.4 mci, and 0.8 mci group. ###: $p < 0.001$, 0.2 mci group vs. 0.4 mci and 0.8 mci group. ^^: $p < 0.01$, 0.4 mci group vs. 0.8 mci group).



Supplementary Figure 2. Biodistribution of repeated injection of ^{131}I -4H7 (3.7 MBq) in 786-0 tumor, heart, lung, liver, kidneys, and muscle after first intravenous injection of 3.7 MBq ^{131}I -4H7 at 24 h. Data are mean \pm SD, n = 6.



Supplementary Figure 3. The effect of ¹³¹I-4H7 and repeated ¹³¹I-4H7 on tumor growth. Nude mice with renal cell carcinoma (RCC) xenografts were injected with ¹³¹I-4H7 (7.4 MBq) or repeated ¹³¹I-4H7 (7.4 MBq) at 24 h after first injection. Tumor growth was monitored over 28 d. Data are mean ± SD, n = 8.



Supplementary Figure 4. The effect of drugs on tumor growth. Nude mice with renal cell carcinoma (RCC) xenografts were injected with saline, mIgG, ¹³¹I, ¹³¹I-mIgG, or ¹³¹I-4H7. Tumor growth was monitored over 28 d. Data are mean ± SD, n = 8 (***: $p < 0.001$, Saline group vs. ¹³¹I-mIgG and ¹³¹I-4H7 group. $\Delta\Delta\Delta$: $p < 0.001$, mIgG group vs. ¹³¹I-mIgG and ¹³¹I-4H7 group. $\#\#\#$: $p < 0.001$, ¹³¹I group vs. ¹³¹I-mIgG and ¹³¹I-4H7 group. $\blacktriangle\blacktriangle\blacktriangle$: $p < 0.001$, ¹³¹I-mIgG group vs. ¹³¹I-4H7 group).

Supplementary Table 1. Volume of tumor at day 0, 7, 14, and 21 among groups of saline, ^{131}I , ^{131}I -mIgG, and ^{131}I -4H7 according to the PET-CT results

	Day 0	Day 7	Day 14	Day 21
Saline (mm ³)	321.61±22.46	2367.14±416.69	3162.17±516.07	4305.38±454.63
^{131}I (mm ³)	324.52±23.54	2019.65±119.34	2642.29±176.29	4078.97±166.53
^{131}I -mIgG (mm ³)	315.58±18.17	1347.96±162.23 ^{***,###}	1900.66±167.63 ^{***,###}	2453.30±209.01 ^{***,###}
^{131}I -4H7 (mm ³)	308.42±16.15	735.66±68.15 ^{***,###,△△△}	1145.04±156.33 ^{***,###,△△△}	1493.50±330.11 ^{***,###,△△}

^{***}: $p < 0.001$, ^{131}I , ^{131}I -mIgG, and ^{131}I -4H7 group vs. Saline group. ^{###}: $p < 0.001$, ^{131}I -mIgG, and ^{131}I -4H7 group vs. ^{131}I group. ^{△△}: $p < 0.01$; ^{△△△}: $p < 0.001$, ^{131}I -4H7 group vs. ^{131}I -mIgG group.

Supplementary Table 2. Volume of tumor at day 0, 7, 14, 21, and 28 among groups of saline, ¹³¹I, ¹³¹I-mIgG, and ¹³¹I-4H7 (Unit: mm³)

Group	Day 0	Day 7	Day 14	Day 21	Day 28
Saline	361.61±81.60	806.19±160.06	1159.31±280.05	2202.20±290.58	2871.77±207.68
¹³¹ I	366.61±85.18	843.69±256.91	1178.06±250.27	2036.07±219.79	2846.77±184.90
¹³¹ I-mIgG	353.35±68.05	588.03±141.17 ^{*,#}	924.37±182.29 [#]	1466.15±209.74 ^{***,###}	1955.03±260.48 ^{***,###}
¹³¹ I-4H7	374.55±79.53	545.37±155.25 ^{**,#}	953.80±213.33 [#]	1190.35±221.00 ^{***,###,Δ}	1286.97±241.11 ^{***,###,ΔΔΔ}

*: $p < 0.05$, **: $p < 0.01$, ***: $p < 0.001$, ¹³¹I, ¹³¹I-mIgG, and ¹³¹I-4H7 group vs. Saline group. #: $p < 0.05$, ###: $p < 0.001$, ¹³¹I-mIgG, and ¹³¹I-4H7 group vs. ¹³¹I group. Δ: $p < 0.05$; ΔΔΔ: $p < 0.001$, ¹³¹I-4H7 group vs. ¹³¹I-mIgG group.

Supplementary Table 3. Rate of tumor inhibition (%) at day 7, 14, 21, and 28 among groups of saline, ^{131}I , ^{131}I -mIgG, and ^{131}I -4H7

	Day 7	Day 14	Day 21	Day 28
^{131}I (%)	-4.65	-1.62	7.54	0.87
^{131}I -mIgG (%)	27.06	20.27	33.42	31.92
^{131}I -4H7 (%)	32.35	17.73	45.95	55.19

Supplementary Table 4. Description and comparison of biochemical characteristics between before and after different time-points of ¹³¹I-4H7 administration

	before	2h	7d	14d	21d	28d
WBC(^10 ⁹ /L)	3.56±0.08	3.57±0.07	3.54±0.05	3.47±0.12	3.49±0.05	3.50±0.06
ALT (u/L)	37.20±2.17	35.8±2.86	35.40±2.61	35.00±2.24	35.80±2.28	35.80±2.86
AST (u/L)	29.20±2.28	28.80±1.92	27.60±2.07	27.40±1.67	27.60±2.70	27.80±2.28
BNU (mmol/L)	7.72±0.46	7.44±0.45	7.60±0.44	7.52±0.43	7.50±0.54	7.48±0.31
Cr (mmol/L)	68.80±2.28	67.60±3.51	67.00±4.47	71.00±2.83	66.80±4.82	67.40±3.85