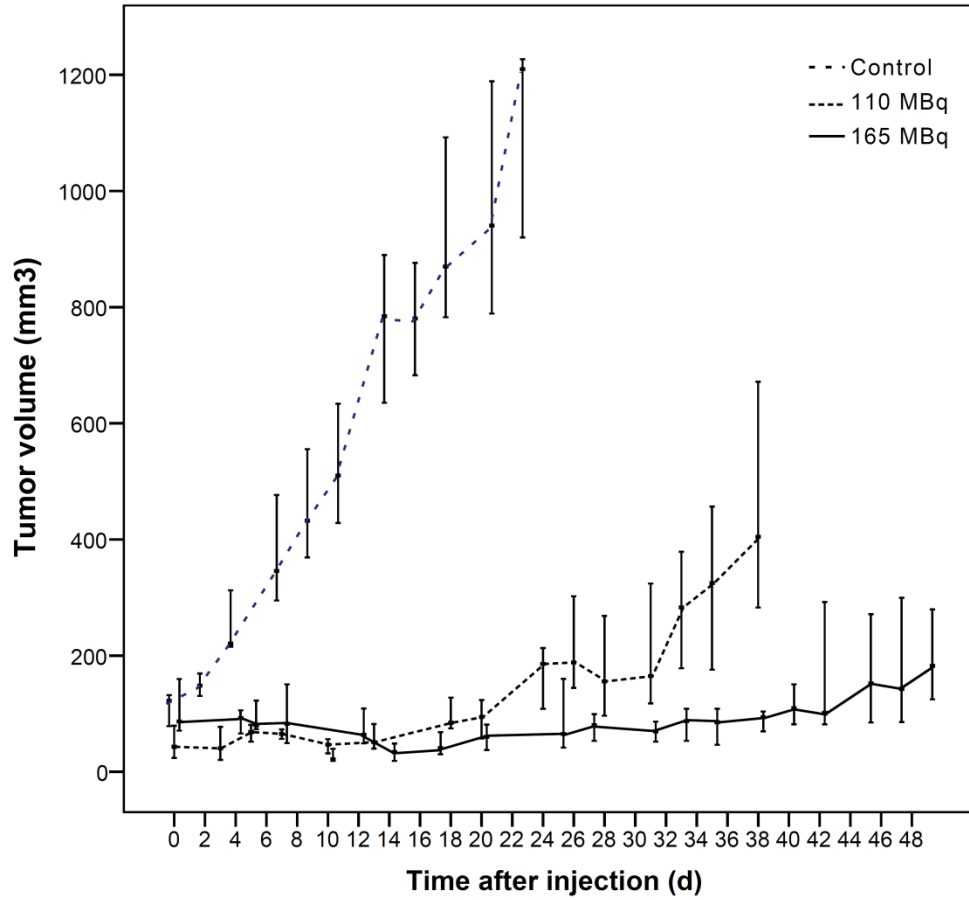
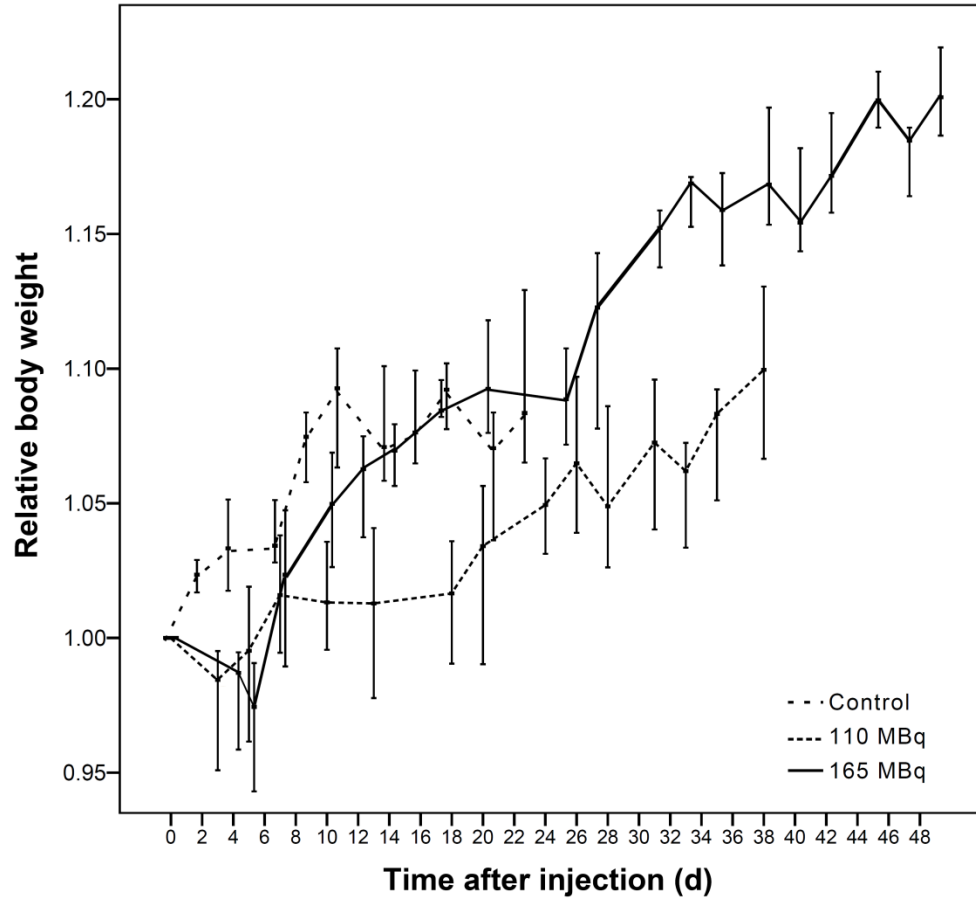


**SUPPLEMENTAL FIGURE 1.** Co-registered whole-body SPECT/CT scans of a single female nude mouse grafted with HT29 tumor cells acquired 3 (A), 20 (B), 45 (C), 69 (D), and 93 (E) hours p.i. of 159.7 MBq of  $^{177}\text{Lu}$ -3BP-227. Arrows show HT29 tumors that have grown irregularly as two closely located tumors and overlap the ipsilateral kidney. SPECT data were scaled to 0-75% of maximum count value in the tumor of the respective dataset. B = Urinary bladder, K = Kidney. Tumor-to-kidney activity ratios: 1.11 at 3 h p.i., 2.81 at 20 h p.i., 4.42 at 45 h p.i., 5.75 at 69 h p.i. and 7.84 at 93 h p.i. Tumor-to-liver activity ratios: 1.51 at 3 h p.i., 4.02 at 20 h p.i., 3.65 at 45 h p.i., 3.70 at 69 h p.i. and 3.62 at 93 h p.i..



**SUPPLEMENTAL FIGURE 2.** Absolute tumor volumes after injection of 165 MBq (n = 9) or 110 MBq (n = 10) of  $^{177}\text{Lu}$ -3BP-227 or 0,9% NaCl as control (n = 10) in nude mice grafted with HT29 cells. Data are presented as median and interquartile range.



**SUPPLEMENTAL FIGURE 3.** Body weight development of nude mice grafted with HT29 cells after injection of 165 MBq (n = 9) or 110 MBq (n = 10) of  $^{177}\text{Lu}$ -3BP-227 or 0,9% NaCl as control (n = 10). Body weight data are normalized to the measurement at the day of injection and represented as median and interquartile range.

**SUPPLEMENTAL TABLE 1.** Tissue uptake and tumor-to-normal tissue ratios of <sup>177</sup>Lu-3BP-227 in female nude mice grafted with NTR1-positive HT29 cells.

	<b>3 h p.i. n = 5</b>	<b>20 h p.i. n = 5</b>	<b>69 h p.i. n = 5</b>
Tumor	18.96 ± 3.55 <sup>†</sup>	8.64 ± 4.00 <sup>‡</sup>	2.68 ± 1.55
Heart	2.23 ± 0.29	0.16 ± 0.03	0.04 ± 0.02
Lungs	3.63 ± 0.89	0.30 ± 0.11	0.04 ± 0.01
Kidney	4.67 ± 1.64	1.71 ± 0.49	0.27 ± 0.11
Liver	3.10 ± 0.42	0.50 ± 0.21	0.34 ± 0.03
Spleen	1.96 ± 0.60	0.38 ± 0.06	0.07 ± 0.05
Stomach*	1.06 ± 0.80	0.18 ± 0.07	0.03 ± 0.01
Intestine*	2.26 ± 0.09	0.29 ± 0.02	0.11 ± 0.02
Adipose tissue	0.97 ± 0.48	0.15 ± 0.09	0.05 ± 0.03
Muscle	1.04 ± 0.13	0.18 ± 0.03	0.02 ± 0.02
Bone	1.03 ± 0.67	0.50 ± 0.13	0.26 ± 0.13
Brain	0.21 ± 0.12	0.03 ± 0.02	0.03 ± 0.03
Blood	6.82 ± 0.63	0.19 ± 0.03	0.03 ± 0.01
Urine	63.20 ± 29.06	3.58 ± 0.51	0.46 ± 0.07
Tumor/blood	2.78 ± 0.48	44.23 ± 13.45	85.04 ± 49.56
Tumor/liver	6.23 ± 1.44	32.65 ± 45.90	7.76 ± 4.56
Tumor/muscle	18.42 ± 4.07	49.63 ± 22.54	172.69 ± 206.60
Tumor/kidney	5.15 ± 2.47	6.33 ± 4.31	15.86 ± 19.28

**Uptake is expressed as mean percentage of injected dose per gram of tissue (%ID/g) ± SD.** \*Organs with their content. <sup>†</sup>*P* = 0.0005 vs. <sup>111</sup>In-3B-227 3 h p.i. <sup>‡</sup>*P* = 0.022 vs. <sup>111</sup>In-3B-227 24 h p.i. (<sup>111</sup>In-3BP-227 data: Schulz J, Rohracker M et al. Comparative Evaluation of the Biodistribution Profiles of a Series of Nonpeptidic Neurotensin Receptor-1 Antagonists Reveals a Promising Candidate for Theranostic Applications. *J. Nucl. Med.* 2016;57:1120-1123.)

**SUPPLEMENTAL TABLE 2.** Organ and effective doses (mSv/MBq) after application of <sup>177</sup>Lu-3BP-227.

<b>Target Organ</b>	<b>Dose (mSv/MBq)</b>
Brain	0.0002
Intestine	0.0106
Stomach Wall	0.0085
Heart Wall	0.0525
Kidneys	0.1250
Liver	0.0087
Lungs	0.0599
Muscle	0.0006
Red Marrow	0.0014
Osteogenic cells	0.0047
Spleen	0.0875
Effective Dose	0.0114