

Table 1. Biodistribution of ¹¹¹In-labeled antibodies in H226 tumor-bearing mice.

	Day 1	Day 2	Day 4	Day 7
NZ-12				
Blood	18.0 ± 1.5	13.8 ± 1.5	8.6 ± 2.3	5.1 ± 0.5
Brain	0.4 ± 0.1	0.4 ± 0.0	0.3 ± 0.1	0.2 ± 0.1
Lung	6.2 ± 0.4	5.0 ± 1.0	3.6 ± 1.0	2.1 ± 0.3
Liver	15.2 ± 2.1	14.1 ± 1.1	10.8 ± 1.0	7.3 ± 0.9
Spleen	9.9 ± 0.7	9.0 ± 1.4	8.6 ± 0.9	5.4 ± 1.4
Intestine	2.0 ± 0.3	1.6 ± 0.2	1.0 ± 0.2	0.6 ± 0.1
Kidney	12.1 ± 0.3	9.5 ± 0.6	6.4 ± 1.0	3.7 ± 0.7
Muscle	0.9 ± 0.1	0.9 ± 0.1	0.9 ± 0.2	0.3 ± 0.1
NZ-16				
Blood	21.8 ± 2.9	19.7 ± 2.6**	13.6 ± 1.4*	8.2 ± 4.0
Brain	0.6 ± 0.1	0.6 ± 0.1	0.5 ± 0.1	0.3 ± 0.2
Lung	7.7 ± 1.3	6.9 ± 0.7*	7.0 ± 2.7	3.4 ± 1.4
Liver	11.3 ± 3.5*	9.3 ± 0.9**	7.9 ± 2.3	7.1 ± 1.6
Spleen	7.5 ± 0.8	9.7 ± 0.7	8.0 ± 0.9	8.1 ± 3.1*
Intestine	2.6 ± 0.6	2.2 ± 0.2	1.9 ± 0.4	1.0 ± 0.4
Kidney	7.9 ± 1.2**	7.8 ± 0.7	7.0 ± 0.7	4.9 ± 1.6
Muscle	1.2 ± 0.2	1.2 ± 0.3*	1.1 ± 0.1	0.7 ± 0.4

Data indicate as the percentage of injected dose per gram (% ID/g) and as the mean ± standard deviation. * $P < 0.05$, ** $P < 0.01$ vs. NZ-12

Table 2. Biodistribution of ^{225}Ac -labeled NZ-16 in H226 tumor-bearing mice.

	Day 4
Blood	12.4 ± 0.8
Brain	$2.0 \pm 0.4^{**}$
Lung	$9.9 \pm 1.1^{**}$
Liver	10.5 ± 1.5
Spleen	$11.9 \pm 1.0^{**}$
Intestine	$2.7 \pm 0.6^*$
Kidney	7.9 ± 1.0
Muscle	$3.6 \pm 1.1^{**}$

Data indicate as the percentage of injected dose per gram (% ID/g) and as the mean $\pm$ standard deviation. $^{**}P < 0.01$, $^*P < 0.05$ vs. ^{111}In -NZ-16 (Table 1)

Table 3. Estimated absorbed dose (Gy/MBq) for ^{90}Y - and ^{225}Ac -labeled NZ-12 and NZ-16 based on the biodistribution data of ^{111}In -labeled antibodies, not considering a radiation weighting factor.

	^{90}Y		^{225}Ac	
	NZ-12	NZ-16	NZ-12	NZ-16
Brain	0.1 ± 0.0	0.2 ± 0.0	6.4 ± 0.5	9.7 ± 0.8
Lung	1.7 ± 0.1	2.4 ± 0.2	84.6 ± 4.7	124.2 ± 11.4
Liver	4.6 ± 0.1	3.5 ± 0.2	239.0 ± 7.3	185.5 ± 13.5
Spleen	3.2 ± 0.1	3.1 ± 0.1	168.7 ± 9.4	172.1 ± 36.4
Intestine	0.5 ± 0.0	0.7 ± 0.0	25.8 ± 1.1	37.1 ± 2.0
Kidney	3.1 ± 0.1	2.6 ± 0.1	156.9 ± 4.7	140.0 ± 9.5
Muscle	0.3 ± 0.0	0.4 ± 0.0	15.5 ± 0.9	21.1 ± 1.7
Bone marrow ^a	1.8 ± 0.1	2.5 ± 0.1	89.4 ± 4.0	126.1 ± 6.1
Tumor	3.0 ± 0.2	3.8 ± 0.2	174.6 ± 158.0	236.0 ± 108.6

Data indicate the mean $\pm$ standard deviation.

^aThe absorbed doses of bone marrow were estimated based on the blood uptake (Table 1), considering a red-marrow-to-blood activity ratio of 0.4.

There is no significant difference between NZ-12 and NZ-16.

Table 4. Estimated absorbed doses (Gy) from the treatment dose of ^{90}Y - and ^{225}Ac -labeled NZ-16, not considering a radiation weighting factor.

	3.7 MBq ^{90}Y	11.1 kBq ^{225}Ac	18.5 kBq ^{225}Ac
Brain	0.7	0.1	0.2
Lung	8.8	1.4	2.3
Liver	12.8	2.1	3.4
Spleen	11.4	1.9	3.2
Intestine	2.7	0.4	0.7
Kidney	9.7	1.6	2.6
Muscle	1.5	0.2	0.4
Bone marrow ^a	8.1	1.4	2.3
Tumor	14.9	2.6	4.4

^aThe absorbed doses of bone marrow were estimated based on the blood uptake (Table 1), considering a red-marrow-to-blood activity ratio of 0.4.

Table 5. Estimated absorbed doses (Sv) from the treatment dose of ^{90}Y - and ^{225}Ac -labeled NZ-16 using radiation weighting factors^a.

	3.7 MBq ^{90}Y	11.1 kBq ^{225}Ac	18.5 kBq ^{225}Ac
Brain	0.7	0.5	0.9
Lung	8.8	6.9	11.5
Liver	12.8	10.3	17.2
Spleen	11.4	9.6	15.9
Intestine	2.7	2.1	3.4
Kidney	9.7	7.8	13.0
Muscle	1.5	1.2	2.0
Bone marrow ^b	8.1	7.0	11.7
Tumor	14.9	13.1	21.8

^aThe radiation weighting factors of 1 for ^{90}Y and 5 for ^{225}Ac .

^bThe absorbed doses of bone marrow were estimated based on the blood uptake (Table 1), considering a red-marrow-to-blood activity ratio of 0.4.