

Disposition of Radioactivity 72 Hours Following a Single 10 mg/kg Oral Gavage Administration of [¹⁴C]L-BMAA to Male Harlan Sprague Dawley Rats (Group D)^a

Dose Recovered in Excreta (%)

End of Collection Period (h)	Urine CPDE ^b	Cage Rinse CPDE	Feces CPDE	Volatile Organics CPDE	CO ₂ CPDE	GI Content	Total CPDE
4	1.52 ± 0.89	0.489 ± 0.280	—	0.00985 ± 0.00296	26.3 ± 1.2	—	28.3
8	3.46 ± 0.70	0.951 ± 0.279	—	0.017 ± 0.0038	39.9 ± 0.8	—	44.3
12	4.61 ± 0.86	1.28 ± 0.39	—	0.0592 ± 0.0814	45.2 ± 0.8	—	51.1
24	5.77 ± 1.01	1.75 ± 0.73	1.63 ± 0.62	0.0668 ± 0.0807	48.7 ± 2.3	—	57.9
48	6.65 ± 1.09	1.87 ± 0.82	1.89 ± 0.65	0.0737 ± 0.0825	53.9 ± 3.3	—	64.4
72 ^c	7.04 ± 1.11	1.92 ± 0.80	1.99 ± 0.65	0.0954 ± 0.1001	55.8 ± 3.4	0.201 ± 0.050	67.2

Disposition in Tissues

Tissue	nmol-eq L-BMAA per g Tissue	Tissue/ Blood Ratio	Recovery (%)
Blood ^d	10.3 ± 2.8	unity	0.884 ± 0.238
Adipose ^d	7.31 ± 0.87	0.735 ± 0.125	0.592 ± 0.068
Muscle ^d	7.47 ± 2.12	0.743 ± 0.206	3.47 ± 0.91
Skin ^d	10.3 ± 1.1	1.04 ± 0.19	2.26 ± 0.24
Brain	7.94 ± 2.25	0.768 ± 0.055	0.0677 ± 0.0229
Heart	8.36 ± 1.59	0.834 ± 0.145	0.0358 ± 0.0094
Kidneys	16.4 ± 2.9	1.63 ± 0.27	0.131 ± 0.021
Liver	67.8 ± 18.4	6.76 ± 2.03	2.56 ± 0.60
Lung	11.0 ± 1.0	1.12 ± 0.26	0.0688 ± 0.0094
Spleen	10.7 ± 1.9	1.07 ± 0.19	0.0334 ± 0.0063
Adrenals	20.7 ± 3.9	2.09 ± 0.49	0.00485 ± 0.00101
Thymus	16.9 ± 4.9	1.67 ± 0.51	0.0395 ± 0.0107
Thyroid	20.2 ± 7.4	2.07 ± 0.93	0.00510 ± 0.00189
Urinary Bladder	13.0 ± 5.0	1.36 ± 0.72	0.00332 ± 0.00061
Pancreas	12.0 ± 1.8	1.20 ± 0.16	0.0670 ± 0.0127
Testes	5.81 ± 1.42	0.570 ± 0.081	0.0895 ± 0.0313
Cecum	7.73 ± 1.43	0.765 ± 0.087	0.0232 ± 0.0061
Large Intestine	10.5 ± 2.5	1.05 ± 0.25	0.0814 ± 0.0166
Small Intestine	11.1 ± 2.6	1.09 ± 0.13	0.225 ± 0.058
Stomach	9.61 ± 2.10	0.970 ± 0.254	0.0614 ± 0.0096

Disposition Summary (Dose Recovered [%])

Sample	Mean ± SD
Urine + Cage Rinse	8.98 ± 0.94
Urine	7.04 ± 1.11
Cage Rinse	1.92 ± 0.80
Feces	1.99 ± 0.65
Volatile Organics	0.0954 ± 0.1001
CO ₂	55.8 ± 3.4
GI Content	0.201 ± 0.050
Carcass	0.754 ± 0.735
Tissues	11.5 ± 1.3
Total Recovered	78.6 ± 3.9

^aAll values expressed as mean ± standard deviation (SD) (N = 5). The target dose was 10 mg L-BMAA/kg. The actual dose delivered was 10.2 ± 0.5 mg/kg (47.3 ± 2.3 μCi).

^bCPDE = Cumulative percent dose excreted

^c72 hours (h) urine collection includes urine present in the urinary bladder at study termination.

^dTissue weights for the dispersed tissues were calculated using the following percentages of body weight: adipose 7.0%, blood 7.4%, muscle 40.4%, and skin 19% (International Life Sciences Institute, 1994).