

Distribution of Radioactivity 168 Hours Following Oral Administration of 500 mg/kg [¹⁴C]DMAE to Male Wistar Han Rats (DMAE Study L)^a

Dose Recovered in Excreta (%)

End of Collection Period (h)	Urine CPDE ^b	Feces CPDE	Volatile Organics CPDE	CO ₂ ^c CPDE	Total CPDE
1	d	d	c	0.390 ± 0.103	0.390
2	d	d	c	0.828 ± 0.199	0.828
3	d	d	c	1.28 ± 0.25	1.28
4	d	d	c	1.68 ± 0.23	1.68
6	d	d	c	2.38 ± 0.32	2.38
8	d	d	c	3.16 ± 0.40	3.16
12	d	d	c	4.33 ± 0.48	4.33
24 ^d	51.0 ± 8.0	0.687 ± 0.460	c	6.43 ± 0.73	58.1
48	57.2 ± 8.3	1.07 ± 0.85	c	—	64.7
72	59.1 ± 8.3	1.35 ± 1.06	c	—	66.9
96	59.9 ± 8.2	1.58 ± 1.12	c	—	67.9
120	60.3 ± 8.2	1.69 ± 1.14	c	—	68.4
144	60.6 ± 8.2	1.77 ± 1.16	c	—	68.8
168 ^e	60.9 ± 8.2	1.87 ± 1.18	c	—	69.2

Distribution in Tissues (168 hours)

Tissue	nmol-eq DMAE/g Mean	nmol-eq DMAE/g SD	TBR ^j Mean	TBR SD	Dose in Total Tissue (%) Mean	Dose in Total Tissue (%) SD
Adipose ^f	294	140	0.644	0.294	0.420	0.194
Urinary Bladder	968	301	2.12	0.56	0.007	0.005
Blood ^f	451	30	Unity	—	0.684	0.085
Brain	1170	138	2.60	0.23	0.153	0.044
Heart	1090	103	2.42	0.15	0.063	0.010
Kidney	1720	345	3.80	0.76	0.225	0.056
Liver	1680	243	3.76	0.42	1.24	0.18
Lung	1080	251	2.37	0.47	0.097	0.018
Muscle ^f	774	194	1.71	0.39	6.41	1.69
Skin ^f	710	95	1.57	0.15	2.76	0.41
Spleen	1030	181	2.28	0.34	0.050	0.015
Thyroid	1090	647	2.45	1.43	0.001	0.001
Testes	790	211	1.74	0.35	0.193	0.068
Stomach ^g	NA ^h	—	NA	—	0.131	0.030
Small Intestine ^g	NA	—	NA	—	0.332	0.072
Cecum ^g	NA	—	NA	—	0.086	0.019
Large Intestine ^g	NA	—	NA	—	0.106	0.025
Carcass ⁱ	NA	—	NA	—	0.000	0.000

Disposition Summary [Dose Recovered (%)]

Tissues and GI Tract	Excreted	Total
13.0 ± 0.0	69.2 ± 7.8	82.2 ± 8.1

^aAll values expressed as mean ± standard deviation (SD) (N = 5). The target dose was 500 mg DMAE/kg. The actual dose delivered was 458 ± 38.3 mg/kg (47.5 ± 4 µCi).

^bCPDE = Cumulative percent dose excreted.

^cVolatile organics were not collected in this study, and CO₂ was not collected after 24 hours (h).

^dThe first feces and urine collection was 0–24 h.

^e168 h urine collection includes urine present in the urinary bladder at study termination.

^fPercent of dose in these tissues calculated using the following percentages of body weight: adipose 7.0%, blood 7.4%, muscle 40.4%, and skin 19%.

^gIncludes contents.

^hNA = Not applicable.

ⁱCarcass values are based on the residual digested carcass after the removal of the listed tissues (i.e., percent dose measured in skin, adipose, blood, and muscle was subtracted from the total percent dose measured in the carcass).

^kTBR = Tissue to blood ratio.