Distribution of Radioactivity 24 Hours Following Oral Administration of 500 mg/kg [^{14}C]DMAE to Male Sprague Dawley Rats (Study O)[a]

Dose Recovered in Excreta (%)

End of Collection Period (h)	Urine CPDE[b]	Feces CPDE	Volatile Organics[c] CPDE	CO_2 CPDE	Total CPDE
1	d	e	0.0243 ± 0.0041	0.318 ± 0.098	0.342
2	d	e	0.0518 ± 0.0103	0.702 ± 0.116	0.754
3	d	e	0.0824 ± 0.0164	1.09 ± 0.11	1.17
4[d]	18.4 ± 2.3	e	0.127 ± 0.041	1.44 ± 0.11	18.7
6	NA[f]	e	0.163 ± 0.046	1.91 ± 0.19	2.07
8[e]	34.8 ± 5.4	0.108 ± 0.066	0.206 ± 0.056	2.65 ± 0.71	35.6
12	49.7 ± 3.9	NA	0.179 ± 0.034	2.04 ± 0.19	2.21
24[g]	60.4 ± 3.8	0.538 ± 0.335	0.220 ± 0.047	2.94 ± 0.23	64.2

Distribution in Tissues (168 hours)

Tissue	nmol-eq DMAE/g Mean	nmol-eq DMAE/g SD	TBR[k] Mean	TBR SD	Dose in Total Tissue (%) Mean	Dose in Total Tissue (%) SD
Blood[h]	801	130	Unity	–	1.12	0.17
Adipose[h]	1950	1550	2.46	2.04	2.59	2.08
Muscle[h]	1140	220	1.47	0.44	8.70	1.70
Skin[h]	1290	110	1.63	0.15	4.61	0.32
Brain	1710	180	2.16	0.26	0.231	0.064
Heart	1560	320	1.99	0.51	0.120	0.018
Kidneys	6600	490	8.36	0.98	0.939	0.036
Liver	9630	850	12.2	1.5	8.63	0.99
Lung	4230	340	5.37	0.76	0.429	0.029
Spleen	3990	680	5.06	1.00	0.207	0.009
Thyroid	6630	2470	8.44	3.22	0.00261	0.00144
Urinary Bladder	3000	1180	3.73	1.31	0.0208	0.0151
Testes/Ovaries	1330	180	1.69	0.31	0.327	0.037
Carcass[i]	NA	–	NA	–	1.75	1.82
Cecum[j]	64.6	39.3	0.0772	0.0318	0.366	0.206
Large Intestine[j]	91.1	41.7	0.121	0.074	0.525	0.252
Small Intestine[j]	404	179	0.532	0.247	2.44	1.08
Stomach[j]	200	225	0.225	0.206	1.06	1.14

Disposition Summary [Dose Recovered (%)]

Tissues and GI Tract	Excreted	Total
34.1 ± 1.8	64.2 ± 3.5	98.3 ± 3.5

[a]All values expressed as mean ± standard deviation SD (N = 5). The target dose was 500 mg DMAE/kg. The actual dose delivered was 496 ± 10 mg/kg (51.9 ± 1.1 µCi).
[b]CPDE = Cumulative percent dose excreted.
[c]Volatile organics (trapped by isopropanol) in exhaled breath.
[d]The first urine collection was 0−4 hours (h).
[e]The first feces collection was 0−8 h.
[f]NA = Not applicable.
[g]24 h urine collection includes urine present in the urinary bladder at study termination.
[h]Percent 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%.
[i]Carcass 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 measure in the carcass).
[j]Includes contents.
[k]TBR = Tissue to blood ratio.