

Distribution of Radioactivity 24 Hours Following Oral Administration of 500 mg/kg [¹⁴C]DMAE to Female B6C3F₁ Mice (DMAE Study B)^a

Dose Recovered in Excreta (%)

End of Collection Period (h)	Urine CPDE ^b	Feces CPDE	Volatile Organics ^c CPDE	CO ₂ ^c CPDE	Total CPDE
1	d	e	0.121 ± 0.010	1.12 ± 0.20	1.24 ± 0.19
2	d	e	0.230 ± 0.018	2.18 ± 0.40	2.41 ± 0.39
3	d	e	0.363 ± 0.034	3.38 ± 0.52	3.74 ± 0.51
4	22.2 ± 15.9	e	0.513 ± 0.050	4.45 ± 0.54	27.2 ± 16.1
6	d	e	0.647 ± 0.056	5.59 ± 0.60	28.4 ± 16.3
8	32.1 ± 14.6	0.139 ± 0.0242	0.902 ± 0.222	6.86 ± 0.72	40.0 ± 15.3
12	35.4 ± 13.8	e	1.14 ± 0.22	9.43 ± 1.03	46.1 ± 14.3
24 ^f	43.4 ± 11.5	0.713 ± 0.273	1.51 ± 0.21	13.2 ± 1.8	58.6 ± 10.9

Distribution in Tissues (24 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
Adipose ^g	5215	5716	6.76	6.08	6.46	6.97
Urinary Bladder	4391	1556	5.93	1.73	0.0227	0.0044
Blood ^g	772	247	Unity	—	0.681	0.216
Brain	1303	250	1.76	0.29	0.418	0.118
Heart	2662	513	3.63	0.86	0.161	0.027
Kidney	12497	3017	16.6	2.3	2.15	0.42
Liver	11840	4302	15.5	2.9	8.93	2.93
Lung	7541	2331	10.1	2.7	0.615	0.131
Muscle ^g	1395	683	1.87	0.70	9.59	4.49
Skin ^g	1024	215	1.37	0.19	3.04	0.63
Spleen	5450	1554	7.32	1.72	0.134	0.030
Thyroid	9285	6585	11.4	5.1	0.0037	0.0010
Uterus	4785	1652	6.61	2.63	0.130	0.077
Stomach ^h	NA ⁱ	—	NA	—	1.46	0.79
Small Intestine ^h	NA	—	NA	—	3.59	1.13
Cecum ^h	NA	—	NA	—	0.323	0.086
Large Intestine ^h	NA	—	NA	—	0.499	0.092
Carcass ^j	NA	—	NA	—	0.212	0.425

Disposition Summary [Dose Recovered (%)]

Tissues and GI Tract	Excreted	Total
38.4 ± 16.1	58.6 ± 10.9	97.1 ± 15.2

^aAll values expressed as mean ± standard deviation (SD) (N = 4). The target dose was 500 mg DMAE/kg. The actual dose delivered was 495 ± 15 mg/kg (119 ± 4 µCi/kg).

^bCPDE = Cumulative percent dose excreted.

^cVolatile organics (trapped by isopropanol) and CO₂ (trapped by 1 N NaOH in H₂O) in exhaled breath.

^dUrine was collected at 4, 8, 12, and 24 hours (h) after [¹⁴C]DMAE administration.

^eFeces were collected at 8 and 24 h after [¹⁴C]DMAE administration.

^f24 h urine collection includes urine present in the urinary bladder at study termination.

^gPercent of dose in these tissues calculated using the following percentages of body weight: adipose 7.0%, blood 4.9%, muscle 38.4%, and skin 16.5%.

^hIncludes contents.

ⁱNA = Not applicable.

^jCarcass 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.