Distribution of Radioactivity 24 Hours Following Intravenous Administration of 16 mg/kg [^{14}C]Choline to Female Wistar Han Rats (Choline Study K)[a]

Dose Recovered in Excreta (%)

End of Collection Period (h)	Urine CPDE[b]	Feces CPDE	Volatile Organics[c] CPDE	CO_2[c] CPDE	Total[d] CPDE
1	e	f	0.0399 ± 0.0093	1.41 ± 1.09	1.45
2	e	f	0.0865 ± 0.0201	4.62 ± 2.19	4.71
3	e	f	0.134 ± 0.027	7.63 ± 1.88	7.76
4	3.11 ± 2.93	f	0.173 ± 0.0281	11.3 ± 2.2	14.6
6	e	f	0.209 ± 0.033	15.3 ± 2.4	15.5
8	5.47 ± 0.78	0.0143 ± 0.0145	0.239 ± 0.033	17.8 ± 2.7	23.6
12	6.16 ± 2.68	f	0.260 ± 0.037	21.6 ± 2.8	28.0
24[g]	7.45 ± 2.58	0.303 ± 0.132	0.284 ± 0.038	28.1 ± 2.9	36.1

Distribution in Tissues (24 hours)

Tissue	nmol-eq Choline/g Mean	nmol-eq Choline/g SD	TBR[l] Mean	TBR SD	Dose in Total Tissue (%) Mean	Dose in Total Tissue (%) SD
Adipose[h]	17.8	4.7	0.556	0.176	1.09	0.32
Urinary Bladder	76.8	5.44	2.38	0.26	0.0191	0.049
Blood[h]	32.4	2.1	Unity	–	2.09	0.010
Brain	24.3	3.4	0.752	0.107	0.186	0.045
Heart	90.7	18.0	2.80	0.56	0.245	0.044
Kidney	258	39	7.96	1.25	1.63	0.24
Liver	298	25	9.17	0.50	10.6	2.1
Lung	208	35	6.43	1.18	0.998	0.370
Muscle[h]	56.0	9.1	1.74	0.39	19.7	3.7
Skin[h]	59.8	3.8	1.85	0.09	9.87	0.32
Spleen	145	43	4.47	1.27	0.302	0.044
Thyroid	160	22	4.91	0.51	0.0140	0.0052
Testes	124	41	3.83	1.28	0.347	0.155
Stomach[i]	NA[j]	–	NA	–	0.661	0.093
Small Intestine[i]	NA	–	NA	–	3.65	0.39
Cecum[i]	NA	–	NA	–	0.545	0.155
Large Intestine[i]	NA	–	NA	–	0.761	0.082
Carcass[k]	NA	–	NA	–	0.00	0.00

Disposition Summary [Dose Recovered (%)]

Tissues and GI Tract	Excreted	Total
54.0 ± 5.5	36.1 ± 4.6	90.1 ± 6.1

[a]All values expressed as mean ± standard deviation (SD) (N = 5). The target dose was 16 mg choline/kg. The actual dose delivered was 16.1 ± 0.6 mg/kg (59.9 ± 2.3 µCi).
[b]CPDE = Cumulative percent dose excreted.
[c]Volatile organics (trapped by isopropanol) and CO_2 (trapped by 1 N NaOH in H_2O) in exhaled breath.
[d]No SD given for individual data points. Accurate SD is reported for the total recovery.
[e]Urine was collected at 4, 8, 12 and 24 hours (h) after [^{14}C]choline administration.
[f]Feces were collected at 8 and 24 h after [^{14}C]choline administration.
[g]24 h urine collection includes urine, if 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 19.0%.
[i]Includes contents.
[j]NA = Not applicable.
[k]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 measured in the carcass).
[l]TBR = Tissue to blood ratio.