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

End of Collection Period (h)	Urine CPDE ^b	Feces CPDE	Volatile Organics ^c CPDE	CO₂ ^c CPDE	Total ^d CPDE
1	е	f	0.0153 ± 0.0044	1.02 ± 0.40	1.03
2	е	f	0.0316 ± 0.0102	3.48 ± 1.19	3.51
3	е	f	0.0520 ± 0.0156	5.62 ± 1.84	5.67
4	1.97 ± 0.79	f	0.0688 ± 0.0203	7.37 ± 2.13	9.41
6	е	f	0.0853 ± 0.0266	9.42 ± 2.44	11.5
8	2.57 ± 0.78	0.0123 ± g	0.102 ± 0.029	10.9 ± 2.6	13.6
12	3.08 ± 0.75	f	0.122 ± 0.032	13.2 ± 2.3	16.4
24 ^h	3.92 ± 0.85	0.107 ± 0.052	0.139 ± 0.035	17.4 ± 2.4	21.5

Dose Recovered in Excreta (%)

Distribution in Tissues (24 hours)

Tissue	nmol-eq Choline/g Mean	nmol-eq Choline/g SD	TBR ^m Mean	TBR SD	Dose in Total Tissue (%) Mean	Dose in Total Tissue (%) SD
Adipose ⁱ	36.9	24.9	1.14	0.79	2.38	1.63
Urinary Bladder	61.9	13.2	1.85	0.30	0.0178	0.0035
Blood ⁱ	34.4	9.6	Unity	_	2.29	0.58
Brain	27.6	6.4	0.817	0.099	0.164	0.035
Heart	87.8	14.3	2.65	0.48	0.240	0.054
Kidney	305	86	8.95	1.11	1.79	0.41
Liver	358	107	10.4	0.4	10.5	1.7
Lung	200	128	5.78	3.05	0.757	0.464
Muscle ⁱ	51.8	11.7	1.57	0.42	19.0	4.4
Skin ⁱ	55.0	18.4	1.58	0.10	9.42	2.95
Spleen	212	127	6.23	3.62	0.393	0.214
Thyroid	239	73	7.23	2.16	0.00667	0.00239
Testes	44.1	14.1	1.29	0.21	0.460	0.119
Stomach ^j	NA ^k	-	NA	-	0.756	0.117
Small Intestine ^j	NA	-	NA	_	3.00	0.47
Cecum ^j	NA	_	NA	_	0.510	0.119
Large Intestine ^j	NA	_	NA	_	0.555	0.097
Carcass	NA	_	NA	_	2.02	2.43

Disposition Summary [Dose Recovered (%)]

Tissues and GI Tract	Excreted	Total
56.2 ± 9.9	21.5 ± 3.0	77.7 ± 12.0

^aAll values expressed as mean ± standard deviation (SD) (N = 4). The target dose was 16 mg choline/kg. The actual dose delivered was 15.6 ± 0.3 mg/kg (60.2 ± 1.3 μ Ci).

^bCPDE = Cumulative percent dose excreted.

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

^dNo SD given for individual data points. Accurate SD is reported for the total recovery.

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

^fFeces were collected at 8 and 24 h after [¹⁴C]choline administration.

⁹No SD given because only one sample available for collection.

^h24 h urine collection includes urine, if present, in the urinary bladder at study termination.

ⁱPercent 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%.

^JIncludes contents.

^kNA = 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).

^mTBR = Tissue to blood ratio.