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One Hundred Eighty Day Subchronic Oral Toxicity Study of Pyridostigmine Bromide in Rats

(Volume 2 of 2)
(Part 2)

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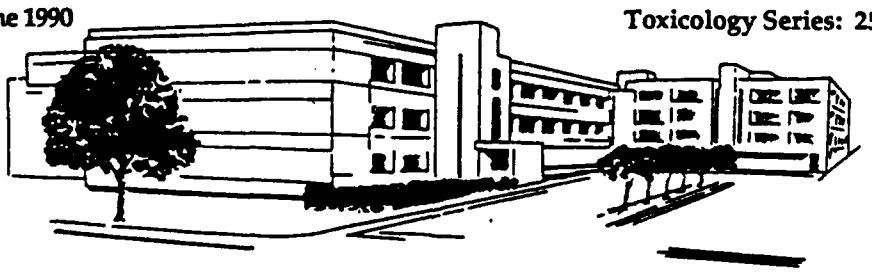

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One Hundred Eighty Day Subchronic Oral Toxicity Study of Pyridostigmine Bromide in Rats (Toxicology Series 253)--
Morgan *et al.*

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for William C. Cole CDR 13 June 90
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19. ABSTRACT (Continue on reverse if necessary and identify by block number)

The 180-day subchronic oral toxicity of pyridostigmine bromide was evaluated in male Sprague-Dawley rats. Pyridostigmine was administered in the diet at dose levels of 0, 1, and 10 mg/kg/day daily, and 10 mg/kg/day 5 days per week for 180 days. Following the 180-day dosing period, subgroups of animals from the control, 10 mg/kg/day, and 10 mg/kg/day 5 days/week groups were subjected to a 30-day recovery period during which the test compound was not administered. The addition of pyridostigmine to the diet resulted in dose-related decreases in plasma cholinesterase and erythrocyte acetylcholinesterase activity ranging from 25% to 63% and from 21% to 49%, respectively. The only toxic sign associated with the decrease in cholinesterase activity was increased startle reflex which was observed with increased incidence among pyridostigmine-treated animals. Blood samples taken at necropsy for hematological and serum chemistry analyses exhibited no

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19 (cont.) significant ($p \leq 0.05$) abnormalities that could be attributed to pyridostigmine after 180 days of dosing. Increases in aspartate aminotransferase, lactate dehydrogenase, and creatine phosphokinase were observed at Day 210, 30 days after withdrawal of the test compound, but the changes could not be attributed to compound administration/withdrawal. No compound-related changes in food or water consumption or body weights were observed, and no morphologic signs of pyridostigmine-induced toxicity were detected during necropsy or subsequent microscopic examination of the tissues. These findings indicate that pyridostigmine bromide, when administered for 180 days to rats at doses that produce up to 63% inhibition of cholinesterase activity, produces little subchronic toxicity other than that attributable to cholinesterase inhibition.

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Appendix L: INDIVIDUAL ANIMAL HISTORIES

DAY 180 SACRIFICE

0 mg/kg/day PYRIDOSTIGMINE BROMIDE

Animal Number	Clinical Signs	Dates Observed (1986/1987)	Severity
86D00517	Material, Red, Nose	Dec 27,28	Slight
	Irritable	Dec 29-31,Jan 4-16	
		Jan 21-26,28,Feb 3,4	
		Mar 11-14,22,May 2-4	Marked
	Aggressive	Jan 30,Feb 2,5-Mar 10	
		Mar 15-20,23-31	
		Apr 3-6	Marked
	Stain, Red, Nose	Feb 18	Slight
86D00532	Stain, Yellow, Perianal	Dec 12	Slight
	Alopecia, Front Legs	Jan 19-29	Slight
	Material, Dark, Nose	Jan 22,29	Slight
	Irritable	Jan 23-27,Feb 2,3	
		Feb 12-17,19-25	
		Mar 2-6,19,20,23-25	
		Apr 6,7,21	Moderate
	Stain, Brown, Leg	Feb 2,3	Slight
	Stain, Red, Nose	Feb 18	Slight
	Material, Red, Neck	Mar 4	Slight
	Aggressive	Mar 7-16	Marked
	Stain, Red, Eye	Mar 30-Apr 6	Moderate
	Material, Red, Eye	Apr 8-15	Moderate
86D00538	Stain, Red, Nose	Feb 7,8	Moderate
	Vocalization	Mar 19	Slight
	Aggressive	Mar 20	Slight
86D00558	Inactive	Nov 7,Jan 17	Slight
	Incr. Startle Reflex	Nov 13,Jan 2	Slight
	Material, Red, Nose	Dec 3,Apr 5,6	Slight
	Material, Dark, Nose	Dec 17,24,25,Mar 25	Moderate
	Stain, Red, Nose	Jan 1,4,28,Feb 10	Slight
	Irritable	Jan 6,13,20,Feb 3	
		Feb 13-18,23-27	
		Mar 2,3,5,6,19,20	
		Apr 6,7	Slight
	Rough Coat	Jan 14-24,29-Feb 3	Moderate

Appendix L (cont.): INDIVIDUAL ANIMAL HISTORIES

DAY 180 SACRIFICE

0 mg/kg/day PYRIDOSTIGMINE BROMIDE

Animal Number	Clinical Signs	Dates Observed (1986/1987)	Severity
86D00558 (cont.)	Stain, Dark, Nose	Jan 29,30,Feb 25	
		Mar 9,10	Slight
	Stain, Red, Ear	Feb 4	Slight
	Conjunctivitis	Feb 5-21	Moderate
	Stain, Red, Eye	Feb 5-8,10-16	Moderate
	Stain, Brown, Nose	Feb 9	Slight
86D00576	Irritable	Nov 17,20,Jan 6,27	
		Mar 25,Apr 6-9	Moderate
	Rough Coat	Jan 19,20	Slight
	Alopecia, Hind Leg	Feb 2-12	Slight
	Stain, Red, Nose	Feb 5,20	Slight
	Aggressive	Feb 6-8,Mar 26-Apr 2	Slight
	Stain, Dark, Nose	Mar 9-11	Slight
86D00578	Rough Coat	Jan 19,20	Slight
	Stain, Red, Nose	Feb 7,11,18,25,26	Moderate
	Irritable	Mar 13-16,May 5-7	Slight
	Material, Red, Nose	Mar 23	Slight
	Stain, Brown, Nose	Mar 25	Slight
86D00579	Irritable	Nov 18	Slight
	Material, Red, Nose	Dec 3	Slight
	Material, Dark, Nose	Dec 17,19,22,25,27	
		Jan 26,Mar 11	Slight
	Stain, Red, Nose	Jan 10,18,21,29	
		Feb 5	Slight
	Stain, Dark, Nose	Feb 12	Slight
	Stain, Orange, Nose	Feb 23,24	Slight
	Aggressive	Mar 23-25	Slight
86D00584	Irritable	Nov 12,14,18	
		Dec 6,11,12,24,28-30	
		Jan 5-7,11,14,15	
		Jan 26-28,Feb 2-6	
		Feb 8,9,11,12,18,24	
		Feb 27,Mar 3,18-21	Moderate

Appendix L (cont.): INDIVIDUAL ANIMAL HISTORIES

DAY 180 SACRIFICE

0 mg/kg/day PYRIDOSTIGMINE BROMIDE

Animal Number	Clinical Signs	Dates Observed (1986/1987)	Severity
86D00584 (cont.)	Irritable	Mar 23,25-27	
		Mar 30-Apr 3,28,29	
		May 2-6	Moderate
	Material, Red, Nose	Dec 6	Slight
	Material, Dark, Nose	Jan 26,27,Feb 13	Slight
	Alopecia, Front Legs	Jan 29,Feb 11-20	
		Feb 27-May 7	Marked
	Stain, Brown, Nose	Feb 2,3	Slight
	Stain, Red, Nose	Feb 5-8,27-Mar 1	Slight
	Scab, Front Leg	Mar 9-16	Slight
	Stain, Brown, Legs	Apr 5-May 7	Slight
	Aggressive	Apr 5,6,13-27,30	Moderate
86D00715	Irritable	Dec 23,Jan 6,10	
		Feb 17,18,Apr 5	Moderate
	Material, Dark, Nose	Dec 24,Feb 7,21,22	Slight
	Stain, Red, Nose	Jan 1,2,9,14	Slight
	Material, Red, Eye	Feb 4,5	Moderate
	Material, Dark, Eye	Feb 9,23-25,Mar 13-21	Slight
	Material, Red, Nose	Feb 12,13	Slight
	Conjunctivitis	Feb 22	Slight
	Aggressive	Apr 4	Slight
86D00725	Stain, Red, Nose	Jan 2,3,11,Mar 9,10	Slight
	Stain, Red, Back	Jan 3	Slight
	Irritable	Jan 4,10,12,13,26,27	
		Jan 29,30,Feb 2-9,11	
		Feb 20-22,Mar 7,8	
		Mar 18-20,23-27	
		Apr 5-9,20-May 4	Marked
	Stain, Red, Legs	Jan 11,18-21	Moderate
	Stain, Brown, Legs	Jan 22-Feb 5,7-May 7	Moderate
	Rough Coat	Feb 5	Slight
	Alopecia, Front Legs	Feb 19-Mar 3,8-29	
		Apr 15-19	Slight
	Aggressive	Mar 9-16	Slight
	Material, Red, Nose	Mar 15,16,22-24	Slight
	Incr. Startle Reflex	Mar 30-Apr 1	Slight

Appendix L (cont.): INDIVIDUAL ANIMAL HISTORIES

DAY 210 SACRIFICE

0 mg/kg/day PYRIDOSTIGMINE BROMIDE

Animal Number	Clinical Signs	Dates Observed (1986/1987)	Severity
86D00540	Material, Red, Nose	Dec 1	Slight
	Irritable	Dec 29,Mar 5,6,19,20	Moderate
	Stain, Dark, Foot	Jan 8	
	Material, Dark, Nose	Jan 29	Slight
	Stain, Brown, Nose	Feb 13	Slight
	Stain, Red, Nose	Mar 5,May 24	Slight
	Stain, Red, Eye	Mar 6	Slight
	Aggressive	May 7-10,22,23,25	Slight
86D00585	Stain, Brown, Perianal	Nov 14	Slight
	Incr. Startle Reflex	Nov 20,Dec 25	Slight
	Irritable	Jan 28,Feb 2,26	
		Mar 18-20,25	Slight
	Stain, Red, Nose	Mar 8	Slight
86D00614	Material, Red, Nose	Dec 24,25,Feb 4,23	
		Feb 24	Moderate
	Material, Eye	Jan 7	Slight
	Stain, Red, Nose	Jan 9,10,21,Apr 1	
		May 24	Slight
	Rough Coat	Jan 19-28	Slight
	Material, Dark, Nose	Jan 26-28,Feb 2,7,11	Slight
	Irritable	Feb 10,Mar 13-16	Slight
	Aggressive	Apr 4,May 2-4,7-23	Slight
86D00647	Material, Red, Nose	Dec 3	Slight
	Irritable	Jan 5,6,8,9,Feb 5-8	
		Feb 20-22,Mar 7,18-20	
		Mar 23-31,Apr 6,7	Marked
	Rough Coat	Feb 6-9	Slight
	Stain, Red, Nose	Feb 21,Mar 7	Slight
	Aggressive	Apr 5	Slight

Appendix L (cont.): INDIVIDUAL ANIMAL HISTORIES

DAY 210 SACRIFICE

0 mg/kg/day PYRIDOSTIGMINE BROMIDE

Animal Number	Clinical Signs	Dates Observed (1986/1987)	Severity
86D00665	Material, Red, Nose	Dec 7	Slight
	Incr. Startle Reflex	Dec 17	Slight
	Material, Dark, Nose	Dec 24,Feb 11,Mar 23	Slight
	Irritable	Dec 29,Jan 4,Feb 5,6	
		Feb 13-18,25,Mar 3-7	
		Mar 9-16,18-20,23-27	
		Mar 30-Apr 2	
		Apr 28-May 23,25-31	Moderate
	Stain, Red, Nose	Jan 4	Slight
	Alopecia, Front Leg	Jan 11-Feb 12,18-22	
		Feb 27-May 31	Marked

Appendix L (cont.): INDIVIDUAL ANIMAL HISTORIES

DAY 180 SACRIFICE

1.0 mg/kg/day PYRIDOSTIGMINE BROMIDE

Animal Number	Clinical Signs	Dates Observed (1986/1987)	Severity
86D00503	Irritable	Nov 21,Dec 24	
		Jan 10-12,Feb 6,12-16	
		Feb 18-22,25-27	
		Mar 2,5-7,9,10,12-20	
		Mar 24-29,Apr 6	Marked
86D00515	Irritable	Nov 14,Dec 22-30	
		Jan 1-6,11,12,27,28	
		Feb 12-16,Mar 7,30	
		Mar 31,Apr 13,14	
		May 2	Moderate
	Material, Red, Nose	Dec 7,Feb 20-22	Slight
	Incr. Startle Reflex	Dec 24	Slight
	Rough Coat	Jan 28-Feb 3	
		Mar 21,22	Moderate
	Aggressive	Mar 8-20,Apr 4,5	
		Apr 15-21	Marked
	Stain, Red, Nose	Mar 13	Slight
86D00549	Material, Red, Nose	Dec 17,18	Slight
	Material, Dark, Nose	Dec 22,28,Mar 4	Slight
	Irritable	Dec 23,24,29-Jan 3	
		Jan 5,6,27,Feb 5	
		Mar 10,11,Apr 7	
		Apr 28-30,May 2	Moderate
	Material, Clear, Nose	Dec 26	Slight
	Stain, Red, Nose	Feb 12,13,18,Mar 9	Moderate
	Aggressive	Mar 5,Apr 5,6	Moderate
86D00582	Stain, Red, Nose	Jan 4	Slight
	Alopecia, Legs	Jan 12-Apr 4,6-30	
		May 2-5	Marked
	Scab, Leg	Jan 29	Slight
	Irritable	Mar 12-18,Apr 6-12	Slight

Appendix L (cont.): INDIVIDUAL ANIMAL HISTORIES

DAY 180 SACRIFICE

1.0 mg/kg/day PYRIDOSTIGMINE BROMIDE

Animal Number	Clinical Signs	Dates Observed (1986/1987)	Severity
86D00594	Irritable	Nov 12,Dec 26-30	
		Jan 4,11-13,26,28	
		Feb 4,9-16,19,20	
		Feb 25-27,Mar 2-5	
		Mar 24,25,30-Apr 2	
		Apr 5-9,20-23	Marked
	Material, Red, Nose	Dec 26,Mar 4	Slight
	Stain, Red, Nose	Jan 8,21,22	Moderate
	Rough Coat	Jan 31,Feb 1	Slight
	Aggressive	Feb 23,24,Mar 18-20	Moderate
	Stain, Brown, Eye	Apr 20	Slight
	Stain, Brown, Nose	Apr 20	Slight
	Diarrhea	Apr 21,22	Present
86D00610	Stain, Yellow, Perianal	Nov 12	Slight
	Irritable	Nov 12,13,Dec 15,16	
		Dec 22,25,27-29	
		Jan 5-7,10-13,16	
		Jan 23-27,29,30,Feb 6	
		Feb 11,13-16,21-Mar 1	
		Mar 8-10,May 2-7	Marked
	Material, Red, Nose	Dec 28,Feb 11	Slight
	Stain, Red, Nose	Feb 13,19	Moderate
	Aggressive	Mar 2-7,11-20	
		Mar 23-Apr 12	Slight
86D00653	Irritable	Nov 12,13,24-26,Dec 2	
		Dec 19-21,24,25,27-30	
		Jan 3,6,8,10-15,28	
		Feb 12,Mar 5-7,11-17	
		Mar 24-27,Apr 7,21	
		May 2	Marked
	Material, Red, Nose	Dec 27	Slight
	Stain, Red, Nose	Jan 2,3,10,14,15	
		Feb 26-Mar 1,23	
		Mar 26-29,Apr 1,2	Moderate

Appendix L (cont.): INDIVIDUAL ANIMAL HISTORIES

DAY 180 SACRIFICE

1.0 mg/kg/day PYRIDOSTIGMINE BROMIDE

Animal Number	Clinical Signs	Dates Observed (1986/1987)	Severity
86D00653 (cont.)	Aggressive	Jan 9,Feb 11	
		Feb 27-Mar 4,8-10	
		Mar 30-Apr 6	Marked
	Stain, Red, Legs	Jan 10	Slight
	Stain, Brown, Leg	Jan 12,13,26-30,Feb 2	
		Feb 3,9-13	Slight
	Material, Dark, Nose	Jan 21-23,29,Feb 7-12	
		Apr 5-14	Slight
	Alopecia, Front Legs	Jan 31-Feb 3,21,22	
		Feb 26-May 7	Slight
	Stain, Red, Head	Feb 5	Slight
	Material, Brown, Nose	Feb 13	Slight
	Stain, Dark, Nose	Feb 21-23,Mar 9	Slight
	Stain, Dark, Eye	Apr 6	Slight
	Stain, Brown, Nose	Apr 20	Moderate
86D00693	Material, Yellow, Nose	Dec 1	Slight
	Irritable	Dec 29,Jan 1,5,8,11-14	
		Jan 16,21,22,27,28	
		Feb 2-6,19,23,24	
		Mar 3,4,May 2	Marked
	Aggressive	Jan 9,10,23-26	
		Feb 7-16,21,22	
		Feb 25-Mar 2,5-20	
		Mar 23-Apr 29	Marked
	Material, Red, Nose	Feb 12	Moderate
	Stain, Brown, Nose	Feb 20	Slight
	Stain, Red, Nose	Feb 22	Slight
86D00710	Incr. Startle Reflex	Nov 21	Slight
	Irritable	Dec 15,24,Jan 13	
		Feb 13-16,Mar 12-20	Moderate
	Rough Coat	Jan 19,20	Slight
	Stain, Red, Nose	Jan 26,27,Mar 30,31	Slight
	Material, Red, Foot	Feb 9,10	Moderate
	Stain, Red, Foot	Feb 11-13	Present
	Alopecia, Leg	Mar 1	Slight

Appendix L (cont.): INDIVIDUAL ANIMAL HISTORIES

DAY 180 SACRIFICE

1.0 mg/kg/day PYRIDOSTIGMINE BROMIDE

Animal Number	Clinical Signs	Dates Observed (1986/1987)	Severity
86D00732	Irritable	Nov 13,14,17-22	
		Dec 3,4,12,15,16	
		Dec 20,21,Jan 8,22	Moderate
	Incr. Startle Reflex	Nov 20,Jan 4,21	Moderate
	Aggressive	Nov 24,Dec 17-19,22	
		Dec 24-Jan 7,9-18	
		Jan 23-Feb 2	
		Feb 4-Mar 20,23-May 7	Marked
	Rough Coat	Dec 10,12-14,17-22	Slight
	Material, Red, Nose	Dec 11,28-Jan 8,16	
		Mar 23	Moderate
	Stain, Red, Nose	Jan 19,26-30,Feb 1	
		Feb 25,Mar 5,9,31	
		Apr 6	Moderate
	Material, Dark, Nose	Feb 8	Slight
	Material, Dark, Eye	Feb 25	Slight
	Stain, Brown, Nose	Mar 19	Slight
	Chewing	Apr 6	Moderate

Appendix L (cont.): INDIVIDUAL ANIMAL HISTORIES

DAY 180 SACRIFICE

10.0 mg/kg/day, daily PYRIDOSTIGMINE BROMIDE

Animal Number	Clinical Signs	Dates Observed (1986/1987)	Severity
86D00534	Irritable	Dec 17,18,24,29	
		Jan 3,5,12,23-28	Moderate
	Stain, Red, Nose	Jan 1,Feb 5	Slight
	Material, Brown, Nose	Jan 30	Slight
	Material, Dark, Nose	Feb 21	Slight
	Aggressive	Mar 19,20,23-31	Slight
86D00536	Irritable	Nov 12,Jan 23-25,30	
		Mar 6-10,12-20,23,24	Marked
	Incr. Startle Reflex	Nov 14	Slight
	Stain, Yellow, Perianal	Nov 18	Slight
86D00572	Stain, Red, Nose	Jan 4	Moderate
	Irritable	Feb 13-17,22	Moderate
	Aggressive	Apr 13-19	Slight
86D00603	Irritable	Nov 12,Dec 15-24,28	
		Jan 4-6,9,10,13,16	
		Jan 26-30,Feb 3-7	
		Mar 6-12,22,May 7	Marked
	Incr. Startle Reflex	Dec 24	Slight
	Alopecia, Front Legs	Jan 12-20,31-Apr 27	
		May 2-4	Moderate
	Rough Coat	Jan 19,20,28,29	Slight
	Stain, Red, Nose	Feb 6,7,21-23,25,26	
		Apr 2	Moderate
	Aggressive	Feb 8-Mar 5,13-20	
		Mar 23-Apr 6,20-30	Moderate
86D00613	Rough Coat	Jan 19-21	Slight
	Irritable	Feb 21,22	Marked
	Aggressive	Feb 23-27,Mar 9,12-20	Slight

Appendix L (cont.): INDIVIDUAL ANIMAL HISTORIES

DAY 180 SACRIFICE

10.0 mg/kg/day, daily PYRIDOSTIGMINE BROMIDE

Animal Number	Clinical Signs	Dates Observed (1986/1987)	Severity
86D00638	Incr. Startle Reflex	Nov 13	Slight
	Material, Dark, Nose	Nov 19,Feb 13	Slight
	Material, Red, Nose	Dec 1,Mar 11,22-25	Slight
	Irritable	Jan 3,Apr 5	Moderate
	Stain, Red, Nose	Jan 4,28	Slight
	Stain, Brown, Nose	Apr 27-29	Moderate
86D00658	Incr. Startle Reflex	Nov 13,Jan 1	Slight
	Irritable	Dec 12,Jan 5,11,12	
		Mar 9,23-25,Apr 5	Marked
	Stain, Red, Nose	Dec 14	Slight
	Material, Red, Nose	Feb 5,6	Moderate
	Aggressive	Mar 15-20.Apr 4	Moderate
86D00662	Material, Red, Nose	Dec 28,Mar 22,23	Slight
	Incr. Startle Reflex	Jan 1,Feb 5-7	Slight
	Irritable	Jan 8,11,29,Feb 21,22	
		Feb 26,Mar 2-5,13-15	
		Mar 19,20	Marked
	Stain, Red, Nose	Jan 11,19,Feb 18,19	
		Feb 21,22,Mar 5-9	
		Mar 30,31,Apr 4	Marked
	Stain, Brown, Nose	Feb 13-16,Mar 19,20	Moderate
	Aggressive	Feb 13-17,23-25	
		Mar 23-31,Apr 5,6	Slight
	Stain, Dark, Nose	Feb 26,27	Slight
	Material, Dark, Nose	Mar 4	Slight
86D00671	Material, Red, Nose	Dec 19,Feb 20,21	Slight
	Irritable	Jan 4,5,9-12	
		Feb 13-16,19,22	
		Apr 4,5	Marked
	Stain, Red, Nose	Jan 11,Feb 25	Slight
	Stain, Dark, Nose	Jan 21	Slight
	Jumping	Feb 3	Slight
	Material, Dark, Nose	Feb 11,12	Slight
	Material, Brown, Nose	Mar 11	Slight
	Aggressive	Apr 24-27	Slight

Appendix L (cont.): INDIVIDUAL ANIMAL HISTORIES

DAY 180 SACRIFICE

10.0 mg/kg/day, daily PYRIDOSTIGMINE BROMIDE

Animal Number	Clinical Signs	Dates Observed (1986/1987)	Severity
86D00701	Irritable	Dec 17,18,27,28	
		Feb 8-10,17,19	
		Feb 27-Mar 4	Marked
	Stain, Red, Nose	Feb 5,25,Apr 3,13,14	
		Apr 24,25	Moderate
	Aggressive	Feb 23-26	
		Mar 23-Apr 7,May 2-4	Moderate
	Material, Dark, Nose	Mar 5	Slight
	Material, Red, Nose	Mar 22	Slight

Appendix L (cont.): INDIVIDUAL ANIMAL HISTORIES

DAY 210 SACRIFICE (30 day recovery)

10.0 mg/kg/day, daily PYRIDOSTIGMINE BROMIDE

Animal Number	Clinical Signs	Dates Observed (1986/1987)	Severity
86D00559	Irritable	Nov 13,Dec 17,22	
		Jan 27,28,Feb 5	
		Mar 11,12,23-29	
		Apr 5	Moderate
	Stain, Red, Nose	Jan 1,14,Feb 1,19,21	
		Feb 22,Mar 21	Slight
	Stain, Red, Ear	Jan 2,3,4	Slight
	Incr. Startle Reflex	Jan 2,3	Slight
	Stain, Red, Neck	Jan 4,Mar 30,31	Slight
	Aggressive	Jan 26	Slight
	Material, Red, Nose	Feb 8-10	Slight
	Stain, Red, Head	Feb 20-22	Slight
	Material, Dark, Nose	Apr 5	Slight
86D00571	Material, Dark, Nose	Dec 28,29	Slight
	Stain, Red, Nose	Jan 2,10,26-29,Feb 5	
		Feb 8-10,12,25,26	
		Mar 9-11,23	Moderate
	Rough Coat	Jan 19,20	Slight
	Stain, Front Leg	Jan 28,Feb 20-May 31	Marked
	Stain, Dark, Nose	Jan 30	Slight
	Alopecia, Front Leg	Feb 9-Apr 6,13-27	
		May 6-31	Moderate
	Scab, Leg	Feb 18,May 12,13	Slight
	Material, Red, Nose	Feb 19,20,23	Moderate
	Irritable	Feb 20,Mar 17,Apr 7	
		May 7-11,26	Slight
86D00608	Irritable	Dec 29,Jan 9,Mar 5-7	
		Mar 25	Slight
	Rough Coat	Jan 19,20	Slight
	Stain, Red, Nose	Mar 13,24	Marked

Appendix L (cont.): INDIVIDUAL ANIMAL HISTORIES

DAY 210 SACRIFICE (30 day recovery)

10.0 mg/kg/day, daily PYRIDOSTIGMINE BROMIDE

Animal Number	Clinical Signs	Dates Observed (1986/1987)	Severity
86D00622	Material, Red, Nose	Dec 3,Feb 20	Slight
	Stain, Red, Nose	Jan 4,18	Slight
	Irritable	Jan 21,Feb 6,21	
		Mar 19,20,22	Slight
	Aggressive	Jan 30,Mar 23-Apr 1	Slight
	Rough Coat	Feb 5-8	Slight
	Swollen, Red, Feet	Feb 12,13	Moderate
86D00651	Incr. Startle Reflex	Nov 13	Slight
	Rough Coat	Dec 26-28	Slight
	Irritable	Jan 4,10,12,14	
		Mar 6-8,25,May 7-11	Moderate
	Stain, Red, Nose	Jan 11	Slight
	Aggressive	Jan 26-30,Feb 4-27	
		Mar 5,11-20,Apr 4-6	
		Apr 15-21,May 22,23	
		May 27,28	Marked
	Stain, Brown, Nose	Apr 20,21	Slight
	Material, Red, Nose	May 27	Slight

Appendix L (cont.): INDIVIDUAL ANIMAL HISTORIES

DAY 180 SACRIFICE

10.0 mg/kg/day, 5 days/week PYRIDOSTIGMINE BROMIDE

Animal Number	Clinical Signs	Dates Observed (1986/1987)	Severity
86D00516	Incr. Startle Reflex	Nov 14,Jan 7	Slight
	Stain, Red, Nose	Jan 1,28	Slight
	Irritable	Jan 5,6,10,30,Mar 6	
		Mar 9,15,25-Apr 2	Moderate
	Alopecia, Hind Leg	Feb 2,3	Slight
	Alopecia, Front Leg	Mar 30-Apr 2,6-May 4	Slight
86D00535	Incr. Startle Reflex	Nov 13,Jan 1	Moderate
	Irritable	Dec 1-5,28-Jan 1,3-6	
		Jan 8,10-12,14-16	
		Jan 22-26,May 1	Moderate
	Aggressive	Dec 17-19,22-27	
		Jan 7,9,27-30,Feb 2-9	
		Feb 11-Mar 20,23-25	
		Mar 30-Apr 14	Marked
	Rough Coat	Dec 22-28,Jan 10-14	Slight
	Stain, Red, Nose	Jan 1,2,31,Mar 13	Slight
	Material, Brown, Nose	Jan 22	Slight
	Material, Dark, Nose	Feb 13	Slight
	Material, Red, Nose	Mar 4	Slight
	Stain, Brown, Nose	May 2,3	Slight
86D00560	Material, Red, Nose	Dec 3,17,19-21,Mar 5	Moderate
	Irritable	Jan 4,5,Feb 4-9,11	
		Feb 21-24,Mar 7-10	
		Mar 25,Apr 6	Marked
	Stain, Red, Nose	Jan 4,5,7,19,20	
		Apr 4	Moderate
	Aggressive	Feb 25-Mar 6,11-20	
		Mar 23,Apr 3-5	Moderate
86D00569	Irritable	Nov 12,Dec 1,2,26,27	
		Jan 4,5,11,Mar 13-17	
		Apr 4,5	Moderate
	Stain, Brown, Nose	Nov 16	Slight
	Material, Red, Nose	Dec 25,26,Feb 20	Moderate
	Material, Dark, Nose	Dec 23	Slight
	Stain, Red, Nose	Jan 29,Feb 8,Apr 1	Moderate
	Aggressive	Mar 23,Apr 6	Moderate

Appendix L (cont.): INDIVIDUAL ANIMAL HISTORIES

DAY 180 SACRIFICE

10.0 mg/kg/day, 5 days/week PYRIDOSTIGMINE BROMIDE

Animal Number	Clinical Signs	Dates Observed (1986/1987)	Severity
86D00597	Irritable	Nov 13-15,17,18,20-22	
		Nov 25-29,Dec 10-12	
		Dec 14-25,29,Jan 3-9	
		Jan 11-16,18-29,31	
		Feb 1,Mar 25,Apr 20-24	Marked
	Aggressive	Dec 26-28,Jan 9,10	
		Jan 30,Feb 2-Mar 20	
		Mar 23,30,31,Apr 3-8	
		May 1-4	Marked
	Rough Coat	Jan 16-19	Slight
	Stain, Red, Nose	Feb 5,25,26	Moderate
	Stain, Brown, Leg	Mar 2-5,Apr 1-8,13-25	Slight
	Stain, Red, Leg	Mar 30,31	Slight
	Stain, Leg	Apr 26-30	Slight
	Dehydrated	May 5	Slight
86D00616	Material, Red, Nose	Dec 1,Feb 19,20	Moderate
	Stain, Red, Nose	Jan 7,Feb 5,7	Slight
	Incr. Startle Reflex	Feb 5,6	Moderate
	Stain, Dark, Nose	Feb 26	Slight
	Irritable	Mar 6,Apr 6	Slight
	Aggressive	May 3,4	Slight
86D00623	Inactive	Nov 6	Slight
	Irritable	Nov 12,18,20,24-26	
		Dec 1,2,5,10,11	
		Dec 16-19,21,22	
		Dec 24-Jan 29	
		Jan 31-Feb 4,Mar 10	
		Mar 21,22,30,31	
		Apr 20,21,26-30	Marked
	Stain, Red, Nose	Nov 27,28,Jan 28	Slight
	Material, Red, Nose	Dec 17,26,Jan 26	Slight
	Stain, Brown, Perianal	Jan 9	Slight
	Rough Coat	Jan 18-20,22	Slight

Appendix L (cont.): INDIVIDUAL ANIMAL HISTORIES

DAY 180 SACRIFICE

10.0 mg/kg/day, 5 days/week PYRIDOSTIGMINE BROMIDE

Animal Number	Clinical Signs	Dates Observed (1986/1987)	Severity
86D00623 (cont.)	Aggressive	Jan 30,Feb 5-Mar 9	
		Mar 11-20,23-29,Apr 1	
		Apr 4-19,May 1-5	Marked
	Material, Dark, Nose	Mar 4	Moderate
	Stain, Brown, Mouth	Mar 8	Slight
	Chewing	Apr 6,7	Marked
86D00654	Incr. Startle Reflex	Nov 12	Slight
	Material, Red, Nose	Dec 1,5,17,24	Slight
	Material, Dark, Nose	Dec 26,28	Slight
	Irritable	Jan 1,Apr 26-28	
		May 1	Moderate
	Stain, Red, Nose	Jan 8,Feb 7-9,11,21	
		Feb 22,25,26,Mar 30	
		Mar 31	Moderate
	Stain, Brown, Nose	Mar 11,Apr 3,4	Slight
	Aggressive	Mar 23-31,Apr 3,8	
		May 2-5	Moderate
86D00660	Irritable	Nov 12,14,15,Dec 5,25	
		Jan 1,3,5,11,13,14	
		Jan 22-25,Feb 1-3	
		Feb 11-20,25-27	
		Mar 4,6,8-18,Apr 4-6	Moderate
	Stain, Red, Nose	Jan 12,19	Slight
	Alopecia, Front, Leg	Jan 12-19,Feb 21,22	Slight
	Rough Coat	Jan 19	
	Material, Dark, Nose	Jan 30	Slight
	Stain, Brown, Nose	Feb 12-18	Slight
	Material, Red, Nose	Feb 23,24	Slight
86D00729	Irritable	Dec 28,Jan 1,4,11	
		Feb 2,3,22,Mar 1,19	
		Mar 20,23,24,Apr 5-7	Moderate

Appendix L (cont.): INDIVIDUAL ANIMAL HISTORIES

DAY 210 SACRIFICE (30 day recovery)

10.0 mg/kg/day, 5 days/week PYRIDOSTIGMINE BROMIDE

Animal Number	Clinical Signs	Dates Observed (1986/1987)	Severity
86D00518	Incr. Startle Reflex	Nov 14,21	Slight
	Material, Red, Nose	Dec 3,17,18	Slight
	Stain, Red, Nose	Jan 1-3,10,11,30	
		Feb 7-9,22,May 24	Moderate
	Irritable	Jan 15,Feb 23-26	
		Mar 12-14,17-20	
		Apr 20,21	Moderate
	Material, Dark, Nose	Jan 26,Feb 21	Slight
	Stain, Brown, Nose	Apr 20,21,24,25	Moderate
86D00524	Irritable	Nov 18,20,Dec 1,5,18	
		Dec 22,26,27,Jan 5	
		Jan 8-10,12,28,29	
		Feb 2,4-9,11-26	
		Mar 25-29,Apr 6,7	Marked
	Incr. Startle Reflex	Nov 20-22,Dec 24	Slight
	Inactive	Dec 5	Slight
	Aggressive	Dec 17,Jan 22-27,30	
		Feb 27,Mar 4-6,9-20	
		Mar 23,30-Apr 1	
		May 22,23	Moderate
	Material, Dark, Nose	Dec 26,27,Mar 4,5	Moderate
	Alopecia, Front Leg	May 7-11	Slight
	Stain, Red, Nose	May 24	Slight
86D00537	Irritable	Nov 12,Dec 15,Jan 4-6	
		Jan 8,9,12,23-29	
		Feb 2,3,7-9,11-19	
		Feb 21-25,Mar 15,19	
		Mar 20,27-29	Moderate
	Material, Red, Nose	Feb 20	Slight
	Stain, Red, Nose	Mar 9	Slight
	Inactive	Mar 30,31	Slight
	Alopecia, Front Legs	May 22-31	Moderate

Appendix L (cont.): INDIVIDUAL ANIMAL HISTORIES

DAY 210 SACRIFICE (30 day recovery)

10.0 mg/kg/day, 5 days/week PYRIDOSTIGMINE BROMIDE

Animal Number	Clinical Signs	Dates Observed (1986/1987)	Severity
86D00547	Incr. Startle Reflex	Nov 14,Dec 24,Jan 1-4	Slight
	Material, Red, Nose	Dec 17,Mar 4	Slight
	Irritable	Jan 5,26,Feb 2,3	Slight
	Stain, Red, Mouth	Jan 10	Slight
	Material, Dark, Nose	Jan 30	Slight
	Aggressive	Mar 23	Slight
86D00591	Diarrhea	Nov 7	Present
	Material, Red, Nose	Nov 20	Slight
	Irritable	Dec 1,11,14,Jan 5,11	
		Feb 2,3,6-9,23-26	
		Mar 2-4,12,18-20,22	
		Mar 23,Apr 6,7	Moderate
	Incr. Startle Reflex	Jan 1-3	Slight
	Aggressive	Apr 4-7	Slight

Appendix M: SERUM CHEMISTRY

List of Serum Chemistry Abbreviations/Units

ACHE	Erythrocyte Acetylcholinesterase (U/ml)
CHE	Plasma Cholinesterase (U/ml)
ALT	Alanine Aminotransferase (U/l)
AST	Aspartate Aminotransferase (U/l)
ALK	Alkaline Phosphatase (U/l)
LDH	Lactate Dehydrogenase (U/l)
CK	Creatine Phosphokinase (U/l)
BILI	Total Bilirubin (mg/dl)
CHOL	Cholesterol (mg/dl)
TRIG	Triglyceride (mg/dl)
URIC	Uric Acid (mg/dl)
TP	Total Protein (g/dl)
ALB	Albumin (g/dl)
GLU	Glucose (mg/dl)
BUN	Blood Urea Nitrogen (mg/dl)
CR	Creatinine (mg/dl)
CAL	Calcium (mg/dl)
PHOS	Phosphorus (mg/dl)
NA	Sodium (Meq/l)
CL	Chloride (Meq/l)
K	Potassium (Meq/l)
IRON	Iron (µg/dl)
MAG	Magnesium (mg/dl)
NT	Not Taken

Appendix M (cont.): SERUM CHEMISTRY

Animal	Group	Day	ACHE	CHE	ALT	AST	ALK	LDH	CK	BILI
86D00512	baseline	0	1.662	0.251	58.7	195.1	196.8	954.7	1606.0	0.00
86D00519	baseline	0	1.496	0.259	48.5	157.7	220.8	999.1	1275.1	0.00
86D00529	baseline	0	1.778	0.438	76.6	99.5	355.9	434.3	621.7	0.00
86D00564	baseline	0	1.129	0.365	50.0	141.1	185.0	799.2	917.8	0.00
86D00637	baseline	0	1.313	0.291	50.9	111.3	287.0	667.2	889.4	0.00
86D00673	baseline	0	1.411	0.446	55.8	110.2	227.5	279.8	593.2	0.00
86D00687	baseline	0	1.314	0.422	66.8	278.1	246.0	763.8	866.8	0.00
86D00702	baseline	0	1.470	0.275	47.5	80.0	314.2	376.9	496.4	0.00
86D00711	baseline	0	NT	NT	NT	NT	NT	NT	NT	NT
86D00714	baseline	0	1.327	0.283	54.4	75.0	258.7	141.2	412.1	0.00
Mean			1.4333	0.3367	56.58	138.67	254.66	601.80	853.17	0.000
Std Dev			0.1967	0.0810	9.61	64.79	55.92	305.44	386.24	0.000

Appendix M (cont.): SERUM CHEMISTRY

Animal	Group	Day	CHOL	TRIG	URIC	TP	ALB	GLU	BUN	CR
86D00512	baseline	0	65.8	167.0	2.8	5.4	2.32	196.2	19.0	0.37
86D00519	baseline	0	43.3	74.1	2.2	5.2	2.89	246.0	16.8	0.37
86D00529	baseline	0	77.4	86.0	3.2	5.4	3.02	241.6	15.2	0.56
86D00564	baseline	0	55.9	117.8	2.3	5.1	2.74	248.4	11.7	0.40
86D00637	baseline	0	69.9	71.2	1.4	5.3	2.90	254.9	14.2	0.42
86D00673	baseline	0	55.9	71.5	2.7	4.8	2.74	186.4	13.5	0.42
86D00687	baseline	0	46.1	107.1	2.6	4.7	2.62	241.3	16.6	0.42
86D00702	baseline	0	55.4	62.2	2.3	5.2	2.83	284.9	16.0	0.55
86D00711	baseline	0	NT	NT	NT	NT	NT	NT	NT	NT
86D00714	baseline	0	54.6	71.0	2.5	5.2	2.92	240.8	19.6	0.55
Mean			58.26	91.99	2.44	5.14	2.776	237.83	15.84	0.451
Std Dev			10.97	33.65	0.50	0.25	0.208	29.79	2.53	0.079

Appendix M (cont.): SERUM CHEMISTRY

Animal	Group	Day	CAL	PHOS	NA	CL	K	IRON	MAG
86D00512	baseline	0	11.2	9.90	146	103	6.1	341	2.75
86D00519	baseline	0	10.9	9.20	148	100	6.3	337	2.87
86D00529	baseline	0	12.0	11.30	147	101	6.7	343	2.94
86D00564	baseline	0	10.6	9.40	151	101	6.[illegible]	276	2.57
86D00637	baseline	0	11.4	9.10	147	103	6.3	174	2.75
86D00673	baseline	0	11.2	[illegible].40	148	104	6.7	356	2.78
86D00687	baseline	0	10.0	9.00	145	105	6.7	454	2.59
86D00702	baseline	0	10.8	10.00	145	98	6.3	170	2.68
86D00711	baseline	0	NT	NT	NT	NT	NT	NT	NT
86D00714	baseline	0	10.7	11.[illegible]0	140	101	7.4	135	2.58
Mean			10.98	9.83	146.3	101.8	6.50	287.3	2.723
Std Dev			0.56	0.87[illegible]	3.0	2.2	0.43	106.6	0.131

Appendix M (cont.): SERUM CHEMISTRY

Animal	Group	Day	ACHE	CHE	ALT	AST	ALK	LDH	CK	BILI
86D00517	1	180	1.35	0.34	59.5	147.7	113.8	1760.1	867.2	0.0
86D00532	1	180	1.07	0.48	58.9	160.5	132.8	1980.1	1078.2	0.0
86D00538	1	180	1.32	0.64	73.5	182.3	99.0	803.5	1551.1	0.0
86D00558	1	180	1.59	0.31	56.8	129.8	138.2	877.5	628.3	0.0
86D00576	1	180	1.34	0.34	49.9	131.4	73.3	1226.2	1082.4	0.0
86D00578	1	180	1.59	0.43	74.9	144.2	81.7	1284.8	577.9	0.0
86D00579	1	180	1.61	0.54	58.3	120.6	148.5	528.3	265.1	0.0
86D00584	1	180	1.63	0.45	51.3	131.5	99.2	1901.5	820.3	0.0
86D00715	1	180	1.76	0.39	52.0	115.5	110.5	1021.8	464.2	0.0
86D00725	1	180	1.58	0.45	114.0	173.0	246.1	943.3	610.3	0.0
Mean			1.484	0.437	64.91	143.65	124.31	1232.71	794.50	0.00
Std Dev			0.206	0.101	19.25	22.28	49.07	496.83	371.12	0.00
86D00503	2	180	1.27	0.22	82.3	160.1	180.0	1686.3	674.4	0.0
86D00515	2	180	1.24	0.54	43.8	96.3	107.1	796.6	533.2	0.0
86D00549	2	180	1.16	0.22	83.3	144.2	201.0	942.5	593.7	0.0
86D00582	2	180	1.19	0.34	52.2	81.8	102.5	822.9	561.6	0.0
86D00594	2	180	1.27	0.53	62.7	114.0	151.3	584.0	591.1	0.0
86D00610	2	180	1.39	0.36	90.2	135.2	140.1	495.2	353.8	0.0
86D00653	2	180	1.46	0.25	66.8	110.7	63.0	1109.3	665.1	0.0
86D00693	2	180	1.02	0.22	55.6	111.8	58.4	1078.1	563.5	0.0
86D00710	2	180	0.98	0.39	106.0	165.5	190.5	958.5	511.9	0.0
86D00732	2	180	0.77	0.19	51.3	106.8	119.9	632.9	421.9	0.0
Mean			1.175	0.326	69.42	122.64	131.38	910.63	547.02	0.00
Std Dev			0.204	0.129	20.15	27.51	50.26	341.50	99.55	0.00

Appendix M (cont.): SERUM CHEMISTRY

Animal	Group	Day	ACHE	CHE	ALT	AST	ALK	LDH	CK	BILI
86D00534	3	180	0.84	0.24	73.0	141.2	93.6	781.5	469.8	0.0
86D00536	3	180	1.06	0.10	56.0	109.5	117.4	1454.0	788.8	0.0
86D00572	3	180	1.01	0.12	67.0	122.8	139.7	728.6	430.1	0.0
86D00603	3	180	0.85	0.20	130.6	201.1	112.8	656.9	389.1	0.0
86D00613	3	180	0.79	0.16	60.0	136.1	131.5	1050.7	834.3	0.0
86D00638	3	180	0.79	0.18	132.6	237.3	77.9	888.5	456.6	0.0
86D00658	3	180	0.73	0.13	60.2	97.9	114.6	882.8	527.3	0.0
86D00662	3	180	0.63	0.16	57.5	90.1	79.5	1052.4	478.4	0.0
86D00671	3	180	0.50	0.15	90.2	170.6	128.2	884.1	475.4	0.0
86D00701	3	180	0.36	0.16	58.0	165.5	72.4	1686.3	1229.7	0.0
Mean			0.756	0.160	78.51	147.21	106.76	1006.58	607.95	0.00
Std Dev			0.214	0.040	29.79	46.87	24.26	326.72	265.18	0.00
86D00516	7	180	1.17	0.37	63.8	100.8	74.7	844.9	470.6	0.0
86D00535	7	180	1.06	0.25	274.1	351.0	85.4	707.6	399.8	0.0
86D00560	7	180	1.22	0.38	58.4	87.0	130.8	348.5	366.7	0.0
86D00569	7	180	0.99	0.24	87.1	224.7	98.2	952.2	1160.2	0.0
86D00597	7	180	0.98	0.39	69.4	126.4	132.6	1193.9	634.6	0.0
86D00616	7	180	1.08	0.34	45.5	98.1	104.1	745.3	486.8	0.0
86D00623	7	180	0.34	0.19	86.0	211.1	81.2	1042.9	619.5	0.0
86D00654	7	180	1.37	0.40	71.3	193.5	137.7	2180.5	1043.9	0.0
86D00660	7	180	1.05	0.25	82.9	161.7	150.3	1355.1	986.6	0.0
86D00729	7	180	0.95	0.23	74.2	134.7	65.6	491.0	632.4	0.0
Mean			1.021	0.304	91.27	168.90	106.06	986.19	680.11	0.00
Std Dev			0.271	0.079	65.52	80.31	29.82	518.27	283.40	0.00

Appendix M (cont.): SERUM CHEMISTRY

Animal	Group	Day	CHOL	TRIG	URIC	TP	ALB	GLU	BUN	CR
86D00517	1	180	76.7	147.7	1.9	6.2	3.08	223.7	20.7	0.69
86D00532	1	180	77.4	354.1	2.7	6.5	3.53	242.9	20.4	0.74
86D00538	1	180	81.0	231.4	2.1	6.4	3.17	323.7	18.7	0.74
86D00558	1	180	76.1	135.5	6.4	6.7	3.22	359.2	18.3	0.84
86D00576	1	180	126.0	232.0	2.1	6.5	2.93	305.3	18.1	0.84
86D00578	1	180	71.5	326.4	2.6	6.4	3.16	225.0	18.0	0.59
86D00579	1	180	113.9	273.1	2.8	6.5	3.25	224.7	14.9	0.61
86D00584	1	180	68.6	457.7	2.3	6.8	3.67	234.5	24.9	0.61
86D00715	1	180	67.1	174.2	2.4	6.2	3.02	206.6	16.3	0.57
86D00725	1	180	54.1	187.3	4.8	6.8	3.20	320.4	18.6	0.67
Mean			81.24	251.94	3.01	6.50	3.223	266.60	18.89	0.690
Std Dev			21.92	102.32	1.44	0.22	0.224	54.51	2.71	0.099
86D00503	2	180	65.9	348.6	2.3	6.9	3.39	267.0	18.6	0.67
86D00515	2	180	88.4	284.9	2.8	6.3	3.12	261.1	15.4	0.59
86D00549	2	180	57.8	167.0	2.3	6.4	3.47	230.3	18.8	0.63
86D00582	2	180	75.6	236.3	2.3	6.3	3.00	294.3	15.6	0.60
86D00594	2	180	81.5	156.2	3.0	6.4	3.41	309.3	14.0	0.67
86D00610	2	180	77.4	265.3	2.5	7.3	3.37	231.6	19.3	0.64
86D00653	2	180	102.4	308.7	3.8	5.9	2.84	281.4	16.2	0.64
86D00693	2	180	48.5	209.2	2.1	5.9	2.92	191.5	15.6	0.52
86D00710	2	180	108.7	280.4	2.5	6.7	3.23	197.2	15.5	0.61
86D00732	2	180	60.7	383.7	2.1	6.8	3.32	303.2	18.8	0.68
Mean			76.69	264.03	2.57	6.49	3.207	256.69	16.78	0.625
Std Dev			19.35	73.78	0.52	0.44	0.224	42.42	1.89	0.048

Appendix M (cont.): SERUM CHEMISTRY

Animal	Group	Day	CHOL	TRIG	URIC	TP	ALB	GLU	BUN	CR
86D00534	3	180	72.5	290.6	2.3	6.6	2.95	282.5	18.8	0.66
86D00536	3	180	77.5	430.8	2.2	6.4	3.35	291.4	21.5	0.70
86D00572	3	180	101.6	319.1	1.0	6.1	2.89	210.6	20.8	0.66
86D00603	3	180	75.0	207.5	1.5	6.4	3.08	266.7	26.8	0.90
86D00613	3	180	69.1	246.5	3.0	6.7	3.34	231.5	17.0	0.60
86D00638	3	180	100.5	232.7	4.2	6.8	3.45	253.5	17.3	0.64
86D00658	3	180	68.7	189.9	2.2	6.3	2.95	215.1	18.4	0.56
86D00662	3	180	72.7	338.8	1.4	6.3	3.36	198.0	17.8	0.64
86D00671	3	180	56.3	307.5	2.6	6.3	3.14	229.8	18.3	0.67
86D00701	3	180	90.2	242.7	3.3	5.8	3.49	242.8	18.6	0.49
Mean			78.41	280.61	2.37	6.37	3.200	242.19	19.53	0.652
Std Dev			14.59	72.05	0.96	0.29	0.224	31.14	2.92	0.106
86D00516	7	180	66.6	184.5	2.8	6.4	3.31	241.6	16.9	0.74
86D00535	7	180	67.9	150.1	1.2	6.1	3.09	207.2	20.2	0.71
86D00560	7	180	73.1	246.5	6.7	6.8	3.30	393.2	18.1	0.73
86D00569	7	180	101.6	509.0	5.9	6.7	3.30	383.2	19.6	0.75
86D00597	7	180	67.4	96.4	3.8	6.7	3.65	252.2	18.9	0.67
86D00616	7	180	84.8	300.5	0.8	6.2	3.12	235.9	19.6	0.64
86D00623	7	180	99.2	253.8	1.5	6.3	3.07	217.4	14.7	0.67
86D00654	7	180	85.4	152.9	3.3	6.2	3.00	222.4	17.4	0.68
86D00660	7	180	68.5	420.6	3.4	6.5	3.53	223.2	17.7	0.64
86D00729	7	180	76.3	205.6	1.5	5.6	3.15	194.9	19.4	0.65
Mean			79.08	251.99	3.09	6.35	3.252	257.12	18.25	0.688
Std Dev			13.15	128.23	1.99	0.36	0.209	71.04	1.66	0.042

Appendix M (cont.): SERUM CHEMISTRY

Animal	Group	Day	CAL	PHOS	NA	CL	K	IRON	MAG
86D00517	1	180	9.9	5.75	148	102	6.9	159	2.38
86D00532	1	180	10.6	6.08	149	102	6.8	171	2.55
86D00538	1	180	10.2	5.32	147	101	6.1	135	2.57
86D00558	1	180	10.8	6.52	148	101	9.4	119	3.56
86D00576	1	180	10.3	6.08	146	100	7.0	118	2.49
86D00578	1	180	9.9	6.71	144	105	5.8	114	2.33
86D00579	1	180	10.4	6.98	143	100	6.2	154	2.31
86D00584	1	180	10.0	5.49	148	104	6.4	168	2.55
86D00715	1	180	10.1	5.23	145	103	5.2	161	2.33
86D00725	1	180	10.3	7.81	145	103	8.3	168	3.29
Mean			10.25	6.197	146.3	102.1	6.81	146.7	2.636
Std Dev			0.30	0.817	2.0	1.7	1.23	22.9	0.432
86D00503	2	180	9.7	5.28	145	104	6.3	176	2.66
86D00515	2	180	10.2	6.13	144	104	6.9	142	2.47
86D00549	2	180	9.9	6.46	146	112	7.1	163	2.58
86D00582	2	180	10.0	5.08	145	103	7.3	147	2.67
86D00594	2	180	10.4	6.14	145	103	6.8	146	2.39
86D00610	2	180	10.2	6.22	145	102	6.0	178	2.44
86D00653	2	180	9.8	7.13	142	103	6.0	149	2.58
86D00693	2	180	9.9	7.32	146	101	5.3	147	2.18
86D00710	2	180	10.4	6.54	145	101	5.7	148	2.44
86D00732	2	180	10.7	6.48	140	100	8.1	2*	2.88
Mean			10.12	6.278	144.3	103.3	6.55	155.1	2.529
Std Dev			0.32	0.702	1.9	3.3	0.84	13.7	0.190

* Value not included in group mean.

Appendix M (cont.): SERUM CHEMISTRY

Animal	Group	Day	CAL	PHOS	NA	CL	K	IRON	MAG
86D00534	3	180	9.7	5.68	143	103	6.0	179	2.40
86D00536	3	180	9.9	6.55	145	104	6.0	165	2.48
86D00572	3	180	9.9	4.61	144	103	5.2	141	1.93
86D00603	3	180	9.2	4.98	145	103	5.9	139	2.12
86D00613	3	180	10.0	6.64	145	105	6.5	125	2.54
86D00638	3	180	10.6	7.25	146	103	6.4	181	2.60
86D00658	3	180	9.6	6.12	146	107	5.6	142	2.10
86D00662	3	180	10.1	5.04	145	105	5.2	147	1.98
86D00671	3	180	10.4	7.27	145	104	6.6	193	2.24
86D00701	3	180	10.0	7.74	145	105	6.9	210	2.73
Mean			9.94	6.188	144.9	104.2	6.03	162.2	2.312
Std Dev			0.39	1.084	0.9	1.3	0.58	27.7	0.277
86D00516	7	180	10.2	6.26	149	102	6.7	176	2.75
86D00535	7	180	10.5	7.11	149	106	5.8	153	2.20
86D00560	7	180	11.4	7.70	145	101	9.0	143	3.56
86D00569	7	180	11.3	7.62	147	101	7.6	141	3.36
86D00597	7	180	11.2	8.04	152	104	6.4	129	3.13
86D00616	7	180	10.8	6.27	146	105	6.2	158	2.17
86D00623	7	180	10.8	5.89	151	106	5.3	154	2.44
86D00654	7	180	10.2	6.89	147	103	7.1	134	2.79
86D00660	7	180	11.2	7.54	149	101	7.9	152	2.79
86D00729	7	180	10.6	6.43	148	101	5.3	147	2.33
Mean			10.82	6.975	148.3	103.0	6.73	148.[illegible]	2.752
Std Dev			0.44	0.738	2.2	2.1	1.19	13.[illegible]	0.482

Appendix M (cont.): SERUM CHEMISTRY

Animal	Group	Day	ACHE	CHE	ALT	AST	ALK	LDH	CK	BILI
86D00540	1	210	1.44	0.35	54.7	88.6	149.3	224.5	523.1	0.0
86D00585	1	210	1.75	0.27	39.3	73.8	60.8	272.4	301.3	0.0
86D00614	1	210	1.89	0.39	40.5	85.8	66.6	307.7	457.8	0.0
86D00647	1	210	1.49	0.28	50.1	116.9	74.7	1501.0	913.0	0.0
86D00665	1	210	1.10	0.30	45.4	115.5	61.6	1066.6	638.2	0.0
Mean			1.534	0.318	46.00	96.12	82.60	674.44	566.68	0.00
Std Dev			0.305	0.051	6.48	19.16	37.69	577.83	228.71	0.00
86D00559	3A	210	1.41	0.36	67.7	133.0	89.1	934.4	804.7	0.0
86D00571	3A	210	1.61	0.41	50.5	142.5	112.8	2447.8	944.0	0.0
86D00608	3A	210	1.84	0.31	52.6	110.2	94.5	1176.4	976.6	0.0
86D00622	3A	210	1.84	0.27	45.0	108.2	100.4	1312.5	783.3	0.0
86D00651	3A	210	1.94	0.32	52.1	139.0	96.0	1521.8	1113.9	0.0
Mean			1.728	0.334	53.58	126.58	98.56	1478.58	924.50	0.00
Std Dev			0.215	0.053	8.45	16.24	8.93	582.30	135.33	0.00
86D00518	7A	210	1.04	0.40	43.9	125.2	90.0	1538.6	914.0	0.0
86D00524	7A	210	0.80	0.30	58.9	186.7	53.4	1452.9	1060.0	0.0
86D00537	7A	210	1.24	0.27	50.2	137.2	160.2	1722.4	1100.1	0.0
86D00547	7A	210	1.02	0.28	47.4	119.9	106.4	1425.9	701.3	0.0
86D00591	7A	210	0.82	0.45	70.4	142.5	100.5	1272.2	1287.1	0.0
Mean			0.984	0.340	54.16	142.30	102.10	1482.40	1012.50	0.00
Std Dev			0.181	0.080	10.64	26.42	38.45	165.08	219.02	0.00

Appendix M (cont.): SERUM CHEMISTRY

Animal	Group	Day	CHOL	TRIG	URIC	TP	ALB	GLU	BUN	CR
86D00540	1	210	67.7	231.5	2.6	5.8	3.24	268.5	14.7	0.70
86D00585	1	210	64.0	106.8	2.6	6.2	3.46	216.6	17.2	0.67
86D00614	1	210	79.3	266.4	0.8	5.8	3.52	222.7	17.0	0.51
86D00647	1	210	78.1	361.1	2.6	6.5	3.23	258.0	15.2	0.71
86D00665	1	210	72.5	207.2	1.3	6.0	3.29	218.7	16.8	0.45
Mean			72.32	234.60	1.98	6.06	3.348	236.90	16.18	0.608
Std Dev			6.57	92.34	0.87	0.30	0.133	24.44	1.15	0.120
86D00559	3A	210	63.6	218.0	4.7	6.3	3.51	242.7	21.1	0.68
86D00571	3A	210	47.6	131.3	2.8	6.1	3.45	229.2	19.6	0.62
86D00608	3A	210	66.3	178.0	3.2	5.8	3.17	242.9	17.0	0.63
86D00622	3A	210	108.4	296.2	2.5	6.2	3.23	243.4	15.8	0.51
86D00651	3A	210	69.2	208.1	1.5	6.5	3.41	204.4	16.2	0.58
Mean			71.02	206.32	2.94	6.18	3.354	232.52	[illegible].94	0.604
Std Dev			22.51	60.51	1.17	0.26	0.147	16.82	2.30	0.063
86D00518	7A	210	70.6	333.3	1.4	6.2	3.23	219.7	17.1	0.35
86D00524	7A	210	93.5	185.0	1.8	6.2	3.37	216.4	17.8	0.79
86D00537	7A	210	66.9	289.6	2.4	6.0	3.51	214.4	17.4	0.65
86D00547	7A	210	70.4	160.7	1.5	6.1	3.39	247.4	15.2	0.66
86D00591	7A	210	90.6	409.5	2.0	5.8	3.20	258.0	15.0	0.29
Mean			78.40	275.62	1.82	6.06	3.340	231.18	16.50	0.548
Std Dev			12.59	103.52	0.40	0.17	0.126	20.09	1.30	0.216

Appendix M (cont.): SERUM CHEMISTRY

Animal	Group	Day	CAL	PHOS	NA	CL	K	IRON	MAG
86D00540	1	210	9.6	5.94	147	101	6.5	103	2.40
86D00585	1	210	10.3	5.52	148	101	7.0	109	2.46
86D00614	1	210	9.8	5.09	148	103	5.7	143	2.01
86D00647	1	210	10.4	5.94	148	99	7.2	107	2.65
86D00665	1	210	10.5	5.22	148	101	5.7	155	2.19
Mean			10.12	5.542	147.8	101.0	6.42	123.4	2.342
Std Dev			0.40	0.395	0.4	1.4	0.70	23.8	0.248
86D00559	3A	210	10.4	5.41	149	100	8.7	201	2.97
86D00571	3A	210	9.8	5.31	149	101	6.7	138	2.61
86D00608	3A	210	9.9	5.95	147	99	8.0	133	2.64
86D00622	3A	210	11.3	5.76	147	100	7.0	130	2.66
86D00651	3A	210	9.8	5.20	149	100	6.6	154	2.54
Mean			10.24	5.526	148.2	100.0	7.40	151.2	2.684
Std Dev			0.64	0.317	1.1	0.7	0.91	29.3	0.166
86D00518	7A	210	10.0	5.32	148	99	6.3	139	2.34
86D00524	7A	210	10.2	5.83	151	99	6.6	149	2.77
86D00537	7A	210	10.3	6.26	148	98	8.4	140	2.95
86D00547	7A	210	10.1	4.75	148	99	6.5	104	2.55
86D00591	7A	210	9.7	5.03	147	99	7.2	169	2.60
Mean			10.06	5.438	148.4	98.8	7.00	140.2	2.642
Std Dev			0.23	0.609	1.5	0.4	0.85	23.6	0.231

Appendix N: HEMATOLOGY

List of Hematology Abbreviations/Units

RBC	Erythrocytes ($x10^6/\mu l$)
HGB	Hemoglobin (g/dl)
HCT	Hematocrit (%)
MCV	Mean Corpuscular Volume (femtoliters)
MCH	Mean Corpuscular Hemoglobin (picograms)
MCHC	Mean Corpuscular Hemoglobin Concentration (g/dl)
PLT	Platelets ($x10^3/\mu l$)
WBC	Total Leukocyte Count ($x10^3/\mu l$)
SEG	Polymorphonuclear Granulocytes (%)
BAN	Immature Neutrophils (%)
EOS	Eosinophils (%)
BAS	Basophils (%)
LYM	Lymphocytes (%)
MON	Monocytes (%)
ATL	Atypical Lymphocytes (%)
NRBC	Nucleated Red Blood Cell (#/100 WBC)
NT	Not Taken

Appendix N (cont.): HEMATOLOGY

Animal	Group	Day	RBC	HGB	HCT	MCV	MCH	MCHC	RET	PLT
86D00512	baseline	0	6.40	14.1	39.3	61	21.9	35.7	0.0	789
86D00519	baseline	0	6.08	13.5	37.3	61	22.1	35.9	0.4	895
86D00529	baseline	0	4.17	8.8	25.3	60	20.9	34.7	0.8	652
86D00564	baseline	0	6.14	14.0	39.0	63	22.7	35.9	0.6	1039
86D00637	baseline	0	6.46	14.5	40.2	62	22.4	36.0	0.6	962
86D00687	baseline	0	5.72	13.1	37.9	60	23.7	35.3	0.0	652
86D00673	baseline	0	6.21	13.4	38.6	59	22.3	34.4	0.2	618
86D00702	baseline	0	6.07	13.4	36.7	60	22.0	36.3	0.8	784
86D00711	baseline	0	5.65	12.8	37.2	63	22.9	34.6	0.4	878
86D00714	baseline	0	6.35	13.9	38.9	61	21.8	35.5	0.2	688
Mean			5.925	13.15	37.04	61.0	22.27	35.43	0.40	795.7
Std Dev			0.672	1.61	4.26	1.3	0.74	0.66	0.30	144.6

Appendix N (cont.): HEMATOLOGY

Animal	Group	Day	WBC	SEG	BAN	EOS	BAS	LYM	MON	ATL	NRBC
86D00512	baseline	0	5.3	10	0	0	0	89	1	0	0
86D00519	baseline	0	2.5	21	0	0	0	79	0	0	0
86D00529	baseline	0	4.2	19	0	1	0	80	0	0	0
86D00564	baseline	0	3.2	9	0	0	0	91	0	0	0
86D00637	baseline	0	6.3	13	0	0	0	87	0	0	0
86D00687	baseline	0	6.0	27	0	0	0	73	0	0	0
86D00673	baseline	0	5.8	27	0	0	0	73	0	0	0
86D00702	baseline	0	6.3	8	0	0	0	91	1	0	0
86D00711	baseline	0	4.9	28	0	0	0	72	0	0	0
86D00714	baseline	0	6.5	8	0	1	0	90	1	0	0
Mean			5.10	17.0	0.0	0.2	0.0	82.5	0.3	0.0	0.0
Std Dev			1.39	8.4	0.0	0.4	0.0	8.0	0.5	0.0	0.0

Appendix N (cont.): HEMATOLOGY

Animal	Group	Day	RBC	HGB	HCT	MCV	MCH	MCHC	PLT
86D00517	1	180	7.96	14.6	40.5	51	18.4	36.1	NT
86D00532	1	180	7.96	15.1	41.7	52	19.0	36.3	NT
86D00538	1	180	8.13	15.1	41.5	51	18.5	36.4	NT
86D00558	1	180	8.51	15.2	43.9	52	17.9	34.5	NT
86D00576	1	180	8.30	14.9	41.8	50	17.9	35.6	NT
86D00578	1	180	7.58	13.9	38.2	50	18.4	36.5	NT
86D00579	1	180	7.71	14.7	39.0	50	19.1	37.7	NT
86D00584	1	180	8.01	14.8	41.2	51	18.5	36.0	NT
86D00715	1	180	6.95	14.6	39.8	50	18.4	36.6	NT
86D00725	1	180	8.31	14.9	40.6	49	17.9	36.7	NT
Mean			7.942	14.78	40.82	50.6	18.40	36.24	NT
Std Dev			0.447	0.37	1.61	1.0	0.42	0.82	NT
86D00503	2	180	4.66	8.6	22.4	47	18.5	38.5	NT
86D00515	2	180	8.37	14.1	43.0	51	16.9	32.9	NT
86D00549	2	180	Insufficient sample						
86D00582	2	180	8.29	15.7	43.2	52	18.9	36.4	NT
86D00594	2	180	Insufficient sample						
86D00610	2	180	8.42	15.6	44.2	52	18.6	35.4	NT
86D00653	2	180	7.35	13.6	37.1	50	18.5	36.7	NT
86D00693	2	180	8.37	15.2	42.1	50	18.4	36.3	NT
86D00710	2	180	8.25	15.3	42.7	52	18.6	35.9	NT
86D00732	2	180	7.61	14.5	39.2	51	19.1	37.0	NT
Mean			7.665	14.08	39.24	50.6	18.44	36.14	NT
Std Dev			1.278	2.33	7.20	1.7	0.66	1.60	NT

Appendix N (cont.): HEMATOLOGY

Animal	Group	Day	RBC	HGB	HCT	MCV	MCH	MCHC	PLT
86D00534	3	180	7.70	14.2	39.3	51	18.5	36.3	NT
86D00536	3	180	8.26	14.5	40.3	49	17.6	36.0	NT
86D00572	3	180	6.91	13.7	38.4	48	17.3	35.6	NT
86D00603	3	180	8.18	14.5	39.0	48	17.8	37.3	NT
86D00613	3	180	8.26	14.9	40.7	49	18.1	36.7	NT
86D00638	3	180	7.97	14.5	39.0	49	18.3	37.2	NT
86D00658	3	180	7.84	14.2	38.5	49	18.1	37.0	NT
86D00662	3	180	8.26	15.5	42.4	51	18.9	36.7	NT
86D00671	3	180	5.25	15.6	42.5	51	18.9	36.7	NT
86D00701	3	180	Clotted						
Mean			7.626	14.62	40.01	49.4	18.17	36.61	NT
Std Dev			0.990	0.62	1.58	1.2	0.55	0.56	NT
86D00516	7	180	8.23	15.0	42.9	52	18.2	34.9	NT
86D00535	7	180	7.91	14.1	39.4	50	17.9	35.9	NT
86D00560	7	180	7.87	14.8	41.5	53	18.9	35.7	NT
86D00569	7	180	8.04	13.7	38.6	48	17.2	35.7	NT
86D00597	7	180	8.84	16.5	45.0	51	18.7	36.8	NT
86D00616	7	180	7.45	14.1	38.6	52	18.9	36.5	NT
86D00623	7	180	7.74	14.2	38.9	50	18.3	36.5	NT
86D00654	7	180	7.89	14.5	39.7	50	18.4	36.6	NT
86D00660	7	180	8.58	15.2	42.1	49	17.7	36.0	NT
86D00729	7	180	Insuffic ent sample						
Mean			8.061	14.68	40.74	50.6	18.24	36.07	NT
Std Dev			0.429	0.84	2.25	1.6	0.57	0.60	NT

Appendix N (cont.): HEMATOLOGY

Animal	Group	Day	WBC	SEG	BAN	EOS	BAS	LYM	MON	ATL	NRBC
86D00517	1	180	3.3	8	0	0	0	92	0	0	0
86D00532	1	180	7.3	13	0	0	0	87	0	0	0
86D00538	1	180	7.6	13	0	0	0	87	0	0	0
86D00558	1	180	7.8	8	0	0	0	92	0	0	0
86D00576	1	180	8.1	31	0	0	0	67	2	0	0
86D00578	1	180	9.1	25	0	1	0	74	0	0	0
86D00579	1	180	6.9	12	0	0	0	88	0	0	0
86D00584	1	180	7.3	10	0	0	0	90	0	0	0
86D00715	1	180	4.9	9	0	0	0	91	0	0	0
86D00725	1	180	9.4	25	0	2	0	73	0	0	0
Mean			7.17	15.4	0.0	0.3	0.0	84.1	0.2	0.0	0.0
Std Dev			1.84	8.4	0.0	0.7	0.0	9.2	0.6	0.0	0.0
86D00503	2	180	6.4	19	0	0	0	81	0	0	0
86D00515	2	180	9.6	23	0	0	0	77	0	0	0
86D00549	2	180	Insufficient sample								
86D00582	2	180	4.8	22	0	0	0	78	0	0	0
86D00594	2	180	Insufficient sample								
86D00610	2	180	8.1	11	0	0	0	89	0	0	0
86D00653	2	180	4.5	41	0	0	0	59	0	0	0
86D00693	2	180	5.6	28	0	0	0	72	0	0	0
86D00710	2	180	10.2	19	0	2	0	71	0	0	0
86D00732	2	180	8.6	13	0	1	0	86	0	0	0
Mean			7.23	22.0	0.0	0.4	0.0	76.6	0.0	0.0	0.0
Std Dev			2.20	9.4	0.0	0.7	0.0	9.5	0.0	0.0	0.0

Appendix N (cont.): HEMATOLOGY

Animal	Group	Day	WBC	SEG	BAN	EOS	BAS	LYM	MON	ATL	NRBC
86D00534	3	180	10.1	12	0	0	0	88	0	0	0
86D00536	3	180	6.7	8	0	1	0	91	0	0	0
86D00572	3	180	8.4	16	0	1	1	82	0	0	0
86D00603	3	180	5.5	10	0	3	0	87	0	0	0
86D00613	3	180	6.7	10	0	0	0	90	0	0	0
86D00638	3	180	5.2	17	0	0	0	82	1	0	0
86D00658	3	180	6.2	19	0	0	0	81	0	0	0
86D00662	3	180	9.5	9	0	0	0	91	0	0	0
86D00671	3	180	8.3	44	0	1	0	55	0	0	0
86D00701	3	180	Clotted								
Mean			7.40	16.1	0.0	0.7	0.1	83.0	0.1	0.0	0.0
Std Dev			1.75	11.2	0.0	1.0	0.3	11.2	0.3	0.0	0.0
86D00516	7	180	6.2	7	0	0	0	93	0	0	0
86D00535	7	180	9.7	15	0	0	0	85	0	0	0
86D00560	7	180	12.1	21	0	0	0	79	0	0	0
86D00569	7	180	6.0	18	0	0	0	81	1	0	0
86D00597	7	180	4.4	19	0	1	0	80	0	0	0
86D00616	7	180	6.7	13	0	0	0	87	0	0	0
86D00623	7	180	6.9	8	0	2	0	90	0	0	0
86D00654	7	180	4.3	15	0	0	0	85	0	0	0
86D00660	7	180	5.5	7	0	0	0	92	1	0	0
86D00729	7	180	Insufficient sample								
Mean			6.87	13.7	0.0	0.3	0.0	85.8	0.2	0.0	0.0
Std Dev			2.53	5.3	0.0	0.7	0.0	5.2	0.4	0.0	0.0

Appendix N (cont.): HEMATOLOGY

Animal	Group	Day	RBC	HGB	HCT	MCV	MCH	MCHC	PLT
86D00540	1	210	8.06	14.9	40.2	50	18.6	37.1	962
86D00585	1	210	7.54	14.2	38.1	50	18.8	37.2	947
86D00614	1	210	8.01	14.9	40.3	50	18.6	37.0	792
86D00647	1	210	8.41	14.9	40.4	48	17.8	36.9	952
86D00665	1	210	7.97	15.1	41.2	52	19.0	36.7	903
Mean			7.998	14.80	40.04	50.0	18.56	36.98	911.2
Std Dev			0.310	0.35	1.15	1.4	0.46	0.19	70.4
86D00559	3A	210	8.26	15.6	42.2	51	19.0	37.1	795
86D00571	3A	210	8.31	15.2	41.6	50	18.5	36.7	1000
86D00608	3A	210	8.43	15.7	42.1	50	18.7	37.4	774
86D00622	3A	210	8.30	15.1	40.9	49	18.2	36.9	989
86D00651	3A	210	8.65	15.4	41.6	48	17.8	36.9	906
Mean			8.390	15.40	41.68	49.6	18.44	37.00	892.8
Std Dev			0.159	0.25	0.52	1.1	0.46	0.26	105.6
86D00518	7A	210	8.44	14.9	40.0	47	17.6	37.2	1288
86D00524	7A	210	8.02	16.3	44.4	55	20.4	36.8	813
86D00537	7A	210	7.62	14.3	39.1	51	18.8	36.6	872
86D00547	7A	210	6.93	15.2	40.6	51	19.2	37.5	764
86D00591	7A	210	6.96	13.1	34.9	50	18.8	37.6	57
Mean			7.594	14.76	39.80	50.8	18.96	37.14	758.8
Std Dev			0.660	1.18	3.40	2.9	1.00	0.43	443.9

Appendix N (cont.): HEMATOLOGY

Animal	Group	Day	WBC	SEG	BAN	EOS	BAS	LYM	MON	ATL	NRBC
86D00540	1	210	5.8	10	0	1	0	89	0	0	0
86D00585	1	210	5.6	13	0	1	0	86	0	0	0
86D00614	1	210	8.9	14	0	0	0	86	0	0	0
86D00647	1	210	8.2	45	0	0	0	55	0	0	0
86D00665	1	210	8.6	24	0	1	0	75	0	0	0
Mean			7.42	21.2	0.0	0.6	0.0	78.2	0.0	0.0	0.0
Std Dev			1.59	14.3	0.0	0.5	0.0	14.0	0.0	0.0	0.0
86D00559	3A	210	7.9	7	0	1	0	92	0	0	0
86D00571	3A	210	6.5	22	0	1	0	77	0	0	0
86D00608	3A	210	6.2	8	0	0	0	82	0	0	0
86D00622	3A	210	5.2	23	0	2	0	75	0	0	0
86D00651	3A	210	5.4	11	0	0	0	88	1	0	0
Mean			6.24	14.2	0.0	0.8	0.0	82.8	0.2	0.0	0.0
Std Dev			1.07	7.7	0.0	0.8	0.0	7.2	0.4	0.0	0.0
86D00518	7A	210	7.5	35	0	0	0	65	0	0	0
86D00524	7A	210	12.7	9	0	0	0	90	1	0	0
86D00537	7A	210	4.6	27	0	0	0	73	0	0	0
86D00547	7A	210	6.5	17	0	0	0	83	0	0	0
86D00591	7A	210	4.9	16	0	0	0	83	1	0	0
Mean			7.24	20.8	0.0	0.0	0.0	78.8	0.4	0.0	0.0
Std Dev			3.27	10.2	0.0	0.0	0.0	9.8	0.5	0.0	0.0

Appendix O: PATHOLOGY

GLP STUDY # 86005
Pathology Report

Study Director: Don W. Korte, PhD, LTC, MS.
Principal Investigator: Earl W. Morgan, DVM, MAJ, VC.
Pathologist: Charles B. Clifford, DVM, PhD, MAJ, VC.

I. INTRODUCTION

Study: 180 - Day Oral Subchronic Toxicity Test
Test Compound: Pyridostigmine Bromide
Animal: Rattus norvegicus, Sprague-Dawley, 5 weeks, 55 Males.
Dosage Groups:

Group	Daily Dose (mg/kg B.W.)	Sacrifice At 180 Days (Interim Sacrifice)	Recover for 30 Day Sacrifice (Final Sacrifice)
1	0 (Control)	10 males	5 males
2	1	10 males	0 males
3	10	10 males	0 males
7	10 (dose 5 d., recover 2 d.)	10 males	0 males
8	10	0 males	5 males
9	10 (dose 5 d., recover 2 d.)	0 males	5 males

Reference: SOP-OP-STX-74

II. SUMMARY OF PROCEDURES
Euthanasia: Sodium Pentobarbital, IP.
Organ Weights: Brain, Liver, Kidney, Heart, Spleen, Adrenal, and Testes.
Fixative: 10% Neutral Buffered Formalin.
Histopathology: Routine.

III. ORGAN WEIGHT FINDINGS: Summaries of absolute organ weight data by dosage group are presented in Pathology Table 1. Pathology Tables 2 has group summaries of organ weights as a percentage of brain weight. Organ weight as a percentage of body weight was also calculated for each organ and dose group, data not shown. No significant differences were detected by analysis of variance among the dosage groups with respect to organ weight or organ weight ratios.

IV. GROSS FINDINGS: Gross findings are summarized in Pathology Table 3. All gross findings were interpreted as incidental and unrelated to treatment.

V. MICROSCOPIC FINDINGS: Tissues saved for microscopic examination from all groups were: Accessory sex glands, adrenal glands, aorta, femur, brain, sternum, bone marrow, vertebrae, cecum, colon, diaphragm, duodenum, extensor digitorum longus muscle, epididymis, esophagus, eyes with optic nerve, heart, ileum, jejunum, kidney, lacrimal gland, liver, lung, mesenteric lymph node, nose/turbinates, pancreas, pituitary, parathyroid gland, spinal cord, salivary gland, skin, skeletal muscle, sciatic nerve, soleus muscle, spleen, stomach, thyroid gland, testis, thymus, trachea, and urinary bladder. All tissues from all animals were examined in each dose group. All gross lesions were examined from all animals. Due to concern of extraocular muscles as a potential target tissue for pyridostigmine bromide, extraocular muscle was also examined in all eye sections where it was present, and was recorded as a separate, miscellaneous, tissue.

Pathology Tables 4 and 5 list the incidence summary for all microscopic observations of all tissues from the final and interim sacrifices. Based on results of Kolmogorov-Smirnov two-tailed analysis (95% confidence level) of microscopic findings, two of thirty-six lesions were significantly more frequent in a treated group than in the control group. Chronic, multifocal hepatic inflammation, slight to mild in severity, occurred more frequently in Dose Group 3 (interim sacrifice), and brown pigment, probably hemosiderin, in macrophages was more frequently observed in the spleens of rats in Group 9 (final sacrifice). Neither of the findings was unique to treated animals and their

Appendix O (cont.): PATHOLOGY

increased frequency was considered unlikely to be related to treatment. Inflammation of the pancreas, varying from slight to moderate in severity, was observed in animals from all groups. Islets of Langerhans were surrounded by this chronic process and appeared increased in size, but actual destruction of the Islets was not observed. The cause of the pancreatic inflammation was not determined. Pathology Annex A has the correlation of gross and microscopic lesions for all rats, with any gross finding other than "No Lesions Recognized". Pathology Annex B contains the Individual Animal Reports with organ weight data and gross and microscopic findings.

VI. SUMMARY COMMENTS: All lesions observed in these rats were interpreted as incidental findings. No morphologic evidence of toxicity due to the test compound was found.

Charles B. Clifford
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Pathology Services Branch,
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29 MAY 1990

Appendix O (cont.): PATHOLOGY

Glossary of Microscopic Findings

Cecum

--Granuloma(s), Submucosa: One or more aggregates of macrophages and lymphocytes is present in the submucosa.

Cervical Lymph Node

--Plasmacytosis, Medullary: The medullary cords are thickened by an increased number of plasma cells.

Colon

--Granuloma(s), Submucosa: One or more aggregates of macrophages and lymphocytes is present in the submucosa.

Diaphragm

--Inflammation and Myofiber Degeneration, Chronic: The interstitium is infiltrated by lymphocytes and macrophages. Some myofibers are infiltrated by mononuclear cells and have degenerate sarcoplasm.

Epididymis

--Lymphocyte Infiltration: The interstitial connective tissue contains aggregates of lymphocytes.

--Microcystic Change, Epithelium: The epithelium of the epididymis contains numerous round clear spaces, approximately the diameter of the epithelial cells, and which appear to be extracellular.

Extensor Digitorum Longus

--Inflammation, Chronic: The interstitium is infiltrated by lymphocytes and macrophages.

Extraocular Muscles

--Myopathic Change: Myofibers are variably decreased in diameter, with central nuclei. The fibrous connective tissue between fibers contains an infiltrate of mononuclear cells.

Heart

--Chronic Myofiber Degeneration: In one or more areas myofibers are narrowed with loss of sarcoplasm, and are separated by increased fibrous connective tissue. Myofiber nuclei are increased in number, and Anitschkow cells may be present.

--Inflammation, Chronic: Myocardial interstitial tissue is infiltrated by lymphocytes and a few macrophages. Fibrosis may be present.

Kidney

--Cortical Lymphocytic Aggregates: Self-explanatory.

--Dilated Renal Pelvis: Self-explanatory.

--Infarct: A well-demarcated wedge-shaped area of the cortex is undergoing coagulative necrosis.

--Mineralization, Pelvis: Foci of mineral are present in the urinary pelvis of the urinary space.

Appendix O (cont.): PATHOLOGY

--Progressive Renal Disease: Cortical tubules contain homogeneous, brightly eosinophilic material. Small interstitial aggregates of lymphocytes are occasionally present.

--Pyelonephritis, Acute: The epithelium, subjacent tissue and the urinary space of the renal pelvis are infiltrated with neutrophils.

Lacrimal Gland

--Inflammation, Chronic: Interstitial aggregates of macrophages, lymphocytes and/or plasma cells surround ducts, ductules and occasional acini.

Liver

--Arteritis, Chronic: The wall of one or more arteries in a portal area is thickened by fibrosis and an infiltration of mononuclear cells. The endothelium may be hypertrophic and/or hyperplastic.

--Inflammation, Chronic, Multifocal: Multifocal infiltration of sinusoids and/or portal areas with a mixed population of mononuclear cells. Some fibrosis and/or slight bile duct hyperplasia may be present in these foci.

--Necrosis, Acute: One or more contiguous group(s) of necrotic hepatocytes. These may be infiltrated by neutrophils.

--Telangiectasis: Hepatic sinusoids are dilated, with narrowing of the hepatic cords and loss of some hepatocytes.

--Thrombosis, Portal Vein: An acute fibrin thrombus is present in one of the larger portal veins.

--Vacuolization, Focal: Hepatocytes in a single contiguous group contain numerous, irregular and poorly defined clear vacuoles.

Lungs

--Alveolar Histiocytosis: Self-explanatory.

--Granuloma(s): A focal aggregate of macrophages and lymphocytes, with or without multinucleated giant cells.

-- Hyperplasia, BALT: Bronchus- and Bronchiole-associated lymphoid tissue, in the form of lymphoid nodules is slightly increased in prominence.

Mesentery

--Arteritis, Chronic: The wall of one or more arteries in a portal area is thickened by fibrosis and an infiltration of mononuclear cells. The endothelium may be hypertrophic and/or hyperplastic.

--Inflammation, Granulomatous: The intestinal mesentery contains aggregates of macrophages and lymphocytes.

Pancreas

--Inflammation, Chronic: Interstitial fibrosis infiltration is accompanied by aggregates of macrophages, lymphocytes and/or plasma cells. Interstitial macrophages contain brown pigment. The inflammation is predominantly surrounding ducts and islets of Langerhans.

Pancreatic Lymph Node

--Brown Pigment in Macrophages: Macrophages in the Medulla are laden with dark brown isotropic pigment, probably hemosiderin.

Appendix O (cont.): PATHOLOGY

Pituitary Gland

--Cyst(s), Pars Distalis: The cyst(s) may be ciliated or non-ciliated.

Preputial Gland

--Inflammation, Chronic: Glandular acini and the interstitial connective tissue is infiltrated by lymphocytes, macrophages and neutrophils.

Salivary Gland

--Inflammation, Chronic: Interstitial aggregates of macrophages, lymphocytes and/or plasma cells surround ducts, ductules and occasional acini, predominantly in the exorbital salivary gland.

Skin

--Inflammation, Chronic: The dermis is infiltrated with lymphocytes, plasma cells, and macrophages.

Soleus Muscle

--Inflammation, Chronic: The interstitium is infiltrated by lymphocytes and macrophages.

Spleen

--Increased Brown Pigment in Macrophages: Self-explanatory.

Testis

--Degeneration, Seminiferous Tubules: Loss of germinal epithelium, with local aspermatogenesis. Sertoli cells remain.

Thyroid

-Cyst(s): Squamous epithelial-lined cyst.

Turbinates

--Inflammation, Lymphocytic: The submucosa is thickened, and along with the mucosal epithelium is infiltrated with lymphocytes. Mast cells are prominent.

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Group Comparison Statistics for Absolute Organ Weights (gms)
Study Number: 86005
Report includes all dead animals (All subgroups)
Study Start Date: 10-Dec-86

PRINTED: 14-May-90
Page: 1

SUBCHRONIC/180 DAY FEEDING

Male Animals

Organ: LIVER Controls from group: 1 Data homogeneous by Bartlett's test (Dunnett's T test)

Group	Control	2	3	7	8	9
Number/group	15	10	10	10	5	5
Mean	21.8	23.0	22.5	20.5	19.0	20.8
Standard deviation	3.8	3.0	2.3	2.8	2.7	3.1
Group diff.@ P=.05		3.3	3.3	3.3	4.2	4.2
Group diff.@ P=.01		4.1	4.1	4.1	5.2	5.2

Analysis of variance: F ratio = 1.57 Df = 5/ 49 F probability = 0.185
Note: a * indicates group mean is significantly different from control at level of significance shown.

Male Animals

Organ: KIDNEY Controls from group: 1 Data homogeneous by Bartlett's test (Dunnett's T test)

Group	Control	2	3	7	8	9
Number/group	15	10	10	10	5	5
Mean	3.7	4.1	3.7	3.8	3.5	3.7
Standard deviation	0.4	0.4	0.3	0.5	0.2	0.8
Group diff.@ P=.05		0.5	0.5	0.5	0.6	0.6
Group diff.@ P=.01		0.6	0.6	0.6	0.7	0.7

Analysis of variance: F ratio = 1.57 Df = 5/ 49 F probability = 0.185
Note: a * indicates group mean is significantly different from control at level of significance shown.

Appendix O (cont.): PATHOLOGY

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SUBCHRONIC/180 DAY FEEDING

Male Animals

Organ: HEART — Controls from group: 1 — Data homogeneous by Bartlett's test (Dunnett's T test)

Group	Control	2	3	7	8	9
Number/group	15	10	10	10	5	5
Mean	1.7	1.8	1.7	1.8	1.6	1.7
Standard deviation	0.2	0.2	0.2	0.3	0.1	0.2
Group diff.@ P=.05		0.2	0.2	0.2	0.3	0.3
Group diff.@ P=.01		0.3	0.3	0.3	0.4	0.4

Analysis of variance: F ratio = 0.86 Df = 5/ 49 F probability = 0.517
Note: a * indicates group mean is significantly different from control at level of significance shown.

Male Animals

Organ: BRAIN — Controls from group: 1 — Data homogeneous by Bartlett's test (Dunnett's T test)

Group	Control	2	3	7	8	9
Number/group	15	10	10	10	5	5
Mean	2.	2.	2.	2.	2.	2.
Standard deviation	0.	0.	0.	0.	0.	0.
Group diff.@ P=.05		0.	0.	0.	0.	0.
Group diff.@ P=.01		0.	0.	0.	0.	0.

Analysis of variance: F ratio = 1.05 Df = 5/ 49 F probability = 0.402
Note: a * indicates group mean is significantly different from control at level of significance shown.

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SUBCHRONIC/180 DAY FEEDING

Male Animals

Organ: ADRENAL GLANDS Controls from group: 1 Data homogeneous by Bartlett's test (Dunnett's T test)

Group	Control	2	3	7	8	9
Number/group	15	10	10	10	5	5
Mean	0.06	0.07	0.06	0.06	0.07	0.06
Standard deviation	0.01	0.02	0.02	0.02	0.01	0.01
Group diff.@ P=.05		0.02	0.02	0.02	0.02	0.02
Group diff.@ P=.01		0.02	0.02	0.02	0.02	0.02

Analysis of variance: F ratio = 1.32 Df = 5/ 49 F probability = 0.272
Note: a * indicates group mean is significantly different from control at level of significance shown.

Male Animals

Organ: TESTIS Controls from group: 1 Data nonhomogeneous by Bartlett's test (modified T test)

Group	Control	2	3	7	8	9
Number/group	15	10	10	5	5	5
Mean	3.51	3.58	3.40	3.46	2.89	3.[illegible]0
Standard deviation	0.38	0.24	0.43	0.29	1.21	0.41
Group diff.@ P=.05		0.27	0.37	0.30	1.52	0.5[illegible]
Group diff.@ P=.01		0.38	0.53	0.42	2.52	0.6[illegible]

Analysis of variance: F ratio = 1.52 Df = 5/ 49 F probability = 0.201
Note: a * indicates group mean is significantly different from control at level of significance shown.

Appendix O (cont.): PATHOLOGY

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SUBCHRONIC/180 DAY FEEDING

Male Animals

Organ: SPLEEN Controls from group: 1 Data homogeneous by Bartlett's test (Dunnett's T test)

Group	Control	2	3	7	8	9
Number/group	15	10	10	10	5	5
Mean	1.	1.	1.	1.	1.	1.
Standard deviation	0.	0.	0.	0.	0.	0.
Group diff.@ P=.05		0.	0.	0.	0.	0.
Group diff.@ P=.01		0.	0.	0.	0.	0.

Analysis of variance: F ratio = 2.10 Df = 5/ 49 F probability = 0.080
Note: a * indicates group mean is significantly different from control at level of significance shown.

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Group Comparison Statistics for % Organ to Brain Weight Ratio
Study Number: 86005
Report includes all dead animals (All subgroups)
Study Start Date: 10-Dec-86

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SUBCHRONIC/180 DAY FEEDING

Male Animals

Organ: LIVER — Controls from group: 1 — Data homogeneous by Bartlett's test (Dunnett's T test)

Group	Control	2	3	7	8	9
Number/group	15	10	10	10	5	5
Mean	1026.	1044.	1089.	978.	874.	992.
Standard deviation	184.	124.	136.	128.	129.	145.
Group diff.@ P=.05		157.	157.	157.	199.	199.
Group diff.@ P=.01		195.	195.	195.	246.	246.

Analysis of variance: F ratio = 1.65 Df = 5/ 49 F probability = 0.164
Note: a * indicates group mean is significantly different from control at level of significance shown.

Male Animals

Organ: KIDNEY — Controls from group: 1 — Data homogeneous by Bartlett's test (Dunnett's T test)

Group	Control	2	3	7	8	9
Number/group	15	10	10	10	5	5
Mean	174.	186.	179.	179.	161.	176.
Standard deviation	22.	18.	19.	27.	9.	37.
Group diff.@ P=.05		24.	24.	24.	30.	30.
Group diff.@ P=.01		29.	29.	29.	37.	37.

Analysis of variance: F ratio = 0.93 Df = 5/ 49 F probability = 0.469
Note: a * indicates group mean is significantly different from control at level of significance shown.

Appendix O (cont.): PATHOLOGY

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Group Comparison Statistics for % Organ to Brain Weight Ratio
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SUBCHRONIC/180 DAY FEEDING

Male Animals

Organ: HEART — Controls from group: 1 — Data homogeneous by Bartlett's test (Dunnett's T test)

Group	Control	2	3	7	8	9
Number/group	15	10	10	10	5	5
Mean	82.	82.	83.	86.	73.	83.
Standard deviation	9.	7.	13.	17.	8.	12.
Group diff.@ P=.05		12.	12.	12.	15.	15.
Group diff.@ P=.01		15.	15.	15.	19.	19.

Analysis of variance: F ratio = 0.99 Df = 5/ 49 F probability = 0.434
Note: a * indicates group mean is significantly different from control at level of significance shown.

Male Animals

Organ: BRAIN — Controls from group: 1 — Data homogeneous by Bartlett's test (Dunnett's T test)

Group	Control	2	3	7	8	9
Number/group	15	10	10	10	5	5
Mean	100.	100.	100.	100.	100.	100.
Standard deviation	0.	0.	0.	0.	0.	0.
Group diff.@ P=.05		0.	0.	0.	0.	0.
Group diff.@ P=.01		0.	0.	0.	0.	0.

Analysis of variance: F ratio = 0.00 Df = 5/ 49 F probability = 1.000
Note: a * indicates group mean is significantly different from control at level of significance shown.

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SUBCHRONIC/180 DAY FEEDING

Male Animals

Organ: ADRENAL GLANDS Controls from group: 1 Data nonhomogeneous by Bartlett's test (modified T test)

Group	Control	2	3	7	8	9
Number/group	15	10	10	10	5	5
Mean	3.0	3.3	3.1	2.7	3.1	2.9
Standard deviation	0.6	0.8	0.8	0.9	0.3	0.2
Group diff.@ P=.05		0.7	0.7	0.7	0.5	0.4
Group diff.@ P=.01		0.9	0.9	1.0	0.8	0.6

Analysis of variance: F ratio = 0.92 Df = 5/ 49 F probability = 0.480
Note: a * indicates group mean is significantly different from control at level of significance shown.

Male Animals

Organ: TESTIS Controls from group: 1 Data nonhomogeneous by Bartlett's test (modified T test)

Group	Control	2	3	7	8	9
Number/group	15	10	10	10	5	5
Mean	164.4	162.8	165.1	165.2	132.2	166.7
Standard deviation	14.3	8.4	27.8	12.4	55.1	15.9
Group diff.@ P=.05		9.9	21.4	11.9	69.0	21.2
Group diff.@ P=.01		14.0	30.6	16.8	114.6	34.4

Analysis of variance: F ratio = 1.90 Df = 5/ 49 F probability = 0.111
Note: a * indicates group mean is significantly different from control at level of significance shown.

Appendix O (cont.): PATHOLOGY

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Group Comparison Statistics for % Organ to Brain Weight Ratio
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SUBCHRONIC/180 DAY FEEDING

Male Animals

Organ: SPLEEN Controls from group: 1 Data homogeneous by Bartlett's test (Dunnett's T test)

Group	Control	2	3	7	8	9
Number/group	15	10	10	10	5	5
Mean	43.	46.	45.	41.	36.	37.
Standard deviation	7.	7.	9.	10.	2.	11.
Group diff.@ P=.05		8.	8.	8.	11.	11.
Group diff.@ P=.01		10.	10.	10.	13.	13.

Analysis of variance: F ratio = 1.82 Df = 5/ 49 F probability = 0.126
Note: a * indicates group mean is significantly different from control at level of significance shown.

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Incidence Summary Report for Gross Necropsy Observations
Study Number: 86005
Report includes all dead animals
Study Start Date: 10-Dec-86

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SUBCHRONIC/180 DAY FEEDING

	-- Males --					
	Ctls	2	3	7	8	9
	15	10	10	10	5	5
KIDNEY						
DILATED RENAL PELVIS	0	0	0	0	1	0
CYST(S)	0	0	0	0	0	1
LIVER						
ENLARGED	0	0	1	1	1	0
ABNORMAL PIGMENTATION	0	0	1	0	1	0
CONGESTED	0	0	0	1	0	0
LYMPH NODES						
ENLARGED	1	0	0	0	0	0
SKIN						
ALOPECIA	0	0	1	0	0	0
SPLEEN						
ENLARGED(SPLENOMEGALY)	0	1	0	0	0	0
NODULAR SURFACE	0	0	0	1	0	0
TESTIS						
ATROPHIC/SMALL, UNILATERALLY ...	0	0	1	0	0	0
ATROPHIC/SMALL, BILATERALLY	0	0	0	0	1	0
WHOLE BODY						
NO LESIONS RECOGNIZED	14	9	8	9	3	4

PATHOLOGY TABLE 3

Appendix O (cont.): PATHOLOGY

LETTERMAN ARMY INSTITUTE OF RESEARCH
DIV OF RES SUPP, PATH SERV GP
PRESIDIO OF SAN FRANCISCO, CA 94129
RAT/SPRAGUE-DAWLEY

Incidence Summary of Microscopic Observations
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SUBCHRONIC/180 DAY FEEDING

Notes: Animals = interim sacrifice 1
Controls from group(s): 1

Tissues With Diagnoses		-- Animals Affected --			
	Animal sex:	-- Males --			
	Dosage group:	Ctls	2	3	7
	No. in group:	10	10	10	10
ADRENAL GLANDS	Number examined:	9	10	10	9
AORTA	Number examined:	9	8	10	10
BONE, FEMUR	Number examined:	8	7	9	9
BONE MARROW	Number examined:	10	9	9	10
BRAIN	Number examined:	10	10	10	10
BONE, STERNUM	Number examined:	10	8	9	10
BONE, VERTEBRAE	Number examined:	10	7	9	10
CECUM	Number examined:	10	10	10	10
GRANULOMA(S), SUBMUCOSA		0	0	0	1
CERVICAL LYMPH N	Number examined:	8	3	2	5
PLASMACYTOSIS, MEDULLARY		4	3	2	4
COLON	Number examined:	10	10	10	10
GRANULOMA(S), SUBMUCOSA		0	1	2	0
DIAPHRAGM	Number examined:	10	10	10	10
INFLAMMATION AND MYOFIBER DEGENERATION, CHRONIC		0	0	1	0
DUODENUM	Number examined:	10	10	10	10

Note: Entries flagged with a - (minus) are significantly different from control at the 0.05 level using the Kolmogorov-Smirnov two tailed test.

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Incidence Summary of Microscopic Observations
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SUBCHRONIC/180 DAY FEEDING

Notes: Animals = interim sacrifice 1
Controls from group(s): 1

Tissues With Diagnoses	Animal sex:	-- Animals Affected --			
		-- Males --			
	Dosage group:	Ctls	2	3	7
	No. in group:	10	10	10	10
EXTEN DIG LONG M	Number examined:	10	10	10	10
INFLAMMATION, CHRONIC		1	0	0	0
EXTRAOCULAR MM	Number examined:	10	9	10	10
MYOPATHIC CHANGE		1	1	3	2
EPIDIDYMUS	Number examined:	10	7	8	10
MICROCYSTIC CHANGE, EPITHELIUM		1	0	1	1
LYMPHOCYTE INFILTRATION		1	0	0	0
ESOPHAGUS	Number examined:	10	10	10	10
EYES & OPTIC N.	Number examined:	10	9	10	10
HEART	Number examined:	10	10	10	10
INFLAMMATION, CHRONIC		5	5	5	3
CHRONIC MYOFIBER DEGENERATION		5	0	1	1
ILEUM	Number examined:	10	10	9	10
JEJUNUM	Number examined:	10	10	10	10
KIDNEY	Number examined:	10	10	10	10
CORTICAL LYMPHOCYTE AGGREGATES		5	4	9	5
PROGRESSIVE RENAL DISEASE		4	3	8	2
PYELONEPHRITIS, ACUTE		2	0	0	0
INFARCT		0	0	0	1
MINERALIZATION, PELVIS		0	0	0	0
DILATED RENAL PELVIS		0	0	0	0

Note: Entries flagged with a - (minus) are significantly different from control at the 0.05 level using the Kolmogorov-Smirnov two tailed test.

PATHOLOGY TABLE 4 (cont.)

Appendix O (cont.): PATHOLOGY

LETTERMAN ARMY INSTITUTE OF RESEARCH
DIV OF RES SUPP, PATH SERV GP
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Incidence Summary of Microscopic Observations
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SUBCHRONIC/180 DAY FEEDING

Notes: Animals = interim sacrifice 1
Controls from group(s): 1

Tissues With Diagnoses		-- Animals Affected -- Males --			
	Animal sex:				
	Dosage group:	Ctls	2	3	7
	No. in group:	10	10	10	10
LACRIMAL GLAND	Number examined:	10	9	10	10
INFLAMMATION, CHRONIC		0	0	1	1
LIVER	Number examined:	10	10	10	10
VACUOLIZATION, FOCAL		1	0	0	1
INFLAMMATION, CHRONIC, MULTIFOCAL		3	3	-9	4
NECROSIS, ACUTE		1	1	2	1
THROMBOSIS, PORTAL VEIN		0	0	1	0
ARTERITIS, CHRONIC		1	1	1	0
TELANGIECTASIS		0	0	0	0
LUNGS	Number examined:	10	10	10	10
HYPERPLASIA, BALT		2	0	2	1
GRANULOMA(S)		0	0	1	0
ALVEOLAR HISTIOCYTOSIS		0	0	1	0
MIDDLE EAR(S)	Number examined:	5	5	6	7
MESENTERY	Number examined:	0	1	1	1
INFLAMMATION, GRANULOMATOUS		0	0	1	1
ARTERITIS, CHRONIC		0	1	0	1
MAMMARY GLAND	Number examined:	6	7	5	4
MESENT LYMPH NOD	Number examined:	7	10	10	10
PANCREAS	Number examined:	10	10	10	10
INFLAMMATION, CHRONIC		5	7	5	4

Note: Entries flagged with a - (minus) are significantly different from control at the 0.05 level using the Kolmogorov-Smirnov two tailed test.

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Incidence Summary of Microscopic Observations
Study Number: 86005
All Diagnoses
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Page: 4

SUBCHRONIC/180 DAY FEEDING

Notes: Animals = interim sacrifice 1
Controls from group(s): 1

Tissues With Diagnoses	Animal sex:	-- Animals Affected --			
		-- Males --			
	Dosage group:	Ctls	2	3	7
	No. in group:	10	10	10	10
PITUITARY GLAND	Number examined:	9	8	10	8
CYST(S), PARS DISTALIS		1	0	1	0
PREPUTIAL GLAND	Number examined:	1	2	0	1
INFLAMMATION, CHRONIC		1	1	0	1
PANCREATIC LN	Number examined:	0	0	0	1
BROWN PIGMENT IN MACROPHAGES		0	0	0	0
PROSTATE	Number examined:	10	9	10	10
PARATHYROID	Number examined:	6	8	6	8
RECTUM	Number examined:	3	10	3	5
SPINAL CORD	Number examined:	10	7	9	10
SALIVARY GLAND	Number examined:	10	10	10	10
INFLAMMATION, CHRONIC		6	7	8	7
SKIN	Number examined:	10	10	10	10
INFLAMMATION, CHRONIC		0	0	1	0
SKELETAL MUSCLE	Number examined:	10	7	9	10
SCIATIC NERVE	Number examined:	10	7	9	10
SOLEUS MUSCLE	Number examined:	10	10	10	10
INFLAMMATION, CHRONIC		0	0	0	1

Note: Entries flagged with a - (minus) are significantly different from control at the 0.05 level using the Kolmogorov-Smirnov two tailed test.

Appendix O (cont.): PATHOLOGY

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Incidence Summary of Microscopic Observations
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All Diagnoses
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SUBCHRONIC/180 DAY FEEDING

Notes: Animals = interim sacrifice 1
Controls from group(s): 1

Tissues With Diagnoses	Animal sex:	-- Animals Affected --			
		-- Males --			
	Dosage group:	Ctls	2	3	7
	No. in group:	10	10	10	10
SPLEEN	Number examined:	9	10	10	10
INCREASED BROWN PIGMENT IN MACROPHAGES		7	5	4	5
STOMACH	Number examined:	10	10	10	10
TESTIS	Number examined:	10	10	10	10
DEGENERATION, SEMINIFEROUS EPITHELIUM		0	0	2	2
THYROID GLAND	Number examined:	10	10	10	10
CYST(S)		2	3	1	3
THYMUS	Number examined:	8	9	10	9
TRACHEA	Number examined:	10	10	10	10
TURBINATES	Number examined:	9	8	10	10
INFLAMMATION, LYMPHOCYTIC		5	3	1	1
URINARY BLADDER	Number examined:	9	10	10	9

Note: Entries flagged with a - (minus) are significantly different from control at the 0.05 level using the Kolmogorov-Smirnov two tailed test.

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Incidence Summary of Microscopic Observations
Study Number: 86005
All Diagnoses
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SUBCHRONIC/180 DAY FEEDING

Notes: Animals = final sacrifice only
Controls from group(s): 1

Tissues With Diagnoses	Animal sex:	-- Animals Affected -- Males --		
	Dosage group:	Ctls	8	9
	No. in group:	5	5	5
ADRENAL GLANDS	Number examined:	5	5	5
AORTA	Number examined:	5	5	5
BONE, FEMUR	Number examined:	4	4	5
BONE MARROW	Number examined:	5	5	5
BRAIN	Number examined:	5	5	5
BONE, STERNUM	Number examined:	5	5	5
BONE, VERTEBRAE	Number examined:	5	5	5
CECUM	Number examined:	5	5	5
GRANULOMA(S), SUBMUCOSA		0	0	0
CERVICAL LYMPH N	Number examined:	3	3	3
PLASMACYTOSIS, MEDULLARY		1	1	2
COLON	Number examined:	5	5	5
GRANULOMA(S), SUBMUCOSA		0	0	0
DIAPHRAGM	Number examined:	5	5	5
INFLAMMATION AND MYOFIBER DEGENERATION, CHRONIC		0	0	0
DUODENUM	Number examined:	5	5	5

Note: Entries flagged with a - (minus) are significantly different from control at the 0.05 level using the Kolmogorov-Smirnov two tailed test.

Appendix O (cont.): PATHOLOGY

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Incidence Summary of Microscopic Observations
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SUBCHRONIC/180 DAY FEEDING

Notes: Animals = final sacrifice only
Controls from group(s): 1

Tissues With Diagnoses		-- Animals Affected --		
	Animal sex:	-- Males --		
	Dosage group:	Ctls	8	9
	No. in group:	5	5	5
EXTEN DIG LONG M	Number examined:	5	5	5
INFLAMMATION, CHRONIC		0	0	0
EXTRAOCULAR MM	Number examined:	5	5	5
MYOPATHIC CHANGE		0	1	0
EPIDIDYMUS	Number examined:	5	5	5
MICROCYSTIC CHANGE, EPITHELIUM		1	0	2
LYMPHOCYTE INFILTRATION		1	0	0
ESOPHAGUS	Number examined:	5	5	5
EYES & OPTIC N.	Number examined:	5	5	4
HEART	Number examined:	5	5	5
INFLAMMATION, CHRONIC		4	1	0
CHRONIC MYOFIBER DEGENERATION		1	0	1
ILEUM	Number examined:	5	5	5
JEJUNUM	Number examined:	4	5	5
KIDNEY	Number examined:	5	5	5
CORTICAL LYMPHOCYTE AGGREGATES		3	2	0
PROGRESSIVE RENAL DISEASE		0	2	3
PYELONEPHRITIS, ACUTE		0	0	0
INFARCT		0	0	0
MINERALIZATION, PELVIS		0	0	2
DILATED RENAL PELVIS		0	1	0

Note: Entries flagged with a - (minus) are significantly different from control at the 0.05 level using the Kolmogorov-Smirnov two tailed test.

PATHOLOGY TABLE 5 (cont.)

LETTERMAN ARMY INSTITUTE OF RESEARCH
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RAT/SPRAGUE-DAWLEY

Incidence Summary of Microscopic Observations
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All Diagnoses
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SUBCHRONIC/180 DAY FEEDING

Notes: Animals = final sacrifice only
Controls from group(s): 1

Tissues With Diagnoses		-- Animals Affected --		
	Animal sex:	-- Males --		
	Dosage group:	Ctls	8	9
	No. in group:	5	5	5
LACRIMAL GLAND	Number examined:	5	5	5
INFLAMMATION, CHRONIC		1	0	1
LIVER	Number examined:	5	5	5
VACUOLIZATION, FOCAL		0	0	0
INFLAMMATION, CHRONIC, MULTIFOCAL		2	3	1
NECROSIS, ACUTE		0	0	0
THROMBOSIS, PORTAL VEIN		0	0	0
ARTERITIS, CHRONIC		0	0	0
TELANGIECTASIS		1	0	0
LUNGS	Number examined:	5	5	5
HYPERPLASIA, BALT		0	0	0
GRANULOMA(S)		0	0	0
ALVEOLAR HISTIOCYTOSIS		0	0	0
MIDDLE EAR(S)	Number examined:	2	2	2
MESENTERY	Number examined:	0	0	0
MAMMARY GLAND	Number examined:	5	3	5
MESENT LYMPH NOD	Number examined:	5	4	5
PANCREAS	Number examined:	5	5	5
INFLAMMATION, CHRONIC		4	4	3
PITUITARY GLAND	Number examined:	5	5	4
CYST(S), PARS DISTALIS		1	1	0

Note: Entries flagged with a - (minus) are significantly different from control at the 0.05 level using the Kolmogorov-Smirnov two tailed test.

Appendix O (cont.): PATHOLOGY

LETTERMAN ARMY INSTITUTE OF RESEARCH
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Incidence Summary of Microscopic Observations
Study Number: 86005
All Diagnoses
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SUBCHRONIC/180 DAY FEEDING

Notes: Animals = final sacrifice only
Controls from group(s): 1

Tissues With Diagnoses	Animal sex:	-- Animals Affected -- Males --		
	Dosage group:	Ctls	8	9
	No. in group:	5	5	5
PREPUTIAL GLAND	Number examined:	1	0	1
INFLAMMATION, CHRONIC		1	0	1
PANCREATIC LN	Number examined:	0	0	1
BROWN PIGMENT IN MACROPHAGES		0	0	1
PROSTATE	Number examined:	5	5	5
PARATHYROID	Number examined:	3	4	4
RECTUM	Number examined:	3	4	4
SPINAL CORD	Number examined:	5	5	5
SALIVARY GLAND	Number examined:	5	5	5
INFLAMMATION, CHRONIC		4	3	3
SKIN	Number examined:	5	5	5
INFLAMMATION, CHRONIC		0	0	1
SKELETAL MUSCLE	Number examined:	4	4	5
SCIATIC NERVE	Number examined:	4	4	5
SOLEUS MUSCLE	Number examined:	5	5	5
INFLAMMATION, CHRONIC		0	0	0
SPLEEN	Number examined:	5	5	5
INCREASED BROWN PIGMENT IN MACROPHAGES		2	2	-5
STOMACH	Number examined:	5	5	5

Note: Entries flagged with a - (minus) are significantly different from control at the 0.05 level using the Kolmogorov-Smirnov two tailed test.

PATHOLOGY TABLE 5 (cont.)

LETTERMAN ARMY INSTITUTE OF RESEARCH
DIV OF RES SUPP, PATH SERV GP
PRESIDIO OF SAN FRANCISCO, CA 94129
RAT/SPRAGUE-DAWLEY

Incidence Summary of Microscopic Observations
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SUBCHRONIC/180 DAY FEEDING

Notes: Animals = final sacrifice only
Controls from group(s): 1

Tissues With Diagnoses		-- Animals Affected --		
	Animal sex:	-- Males --		
	Dosage group:	Ctls	8	9
	No. in group:	5	5	5
TESTIS	Number examined:	5	5	5
DEGENERATION, SEMINIFEROUS EPITHELIUM		1	1	0
THYROID GLAND	Number examined:	5	5	5
CYST(S)		1	3	1
THYMUS	Number examined:	4	5	5
TRACHEA	Number examined:	5	5	5
TURBINATES	Number examined:	5	5	5
INFLAMMATION, LYMPHOCYTIC		3	0	1
URINARY BLADDER	Number examined:	5	5	5

Note: Entries flagged with a - (minus) are significantly different from control at the 0.05 level using the Kolmogorov-Smirnov two tailed test.

Appendix O (cont.): PATHOLOGY

LETTERMAN ARMY INSTITUTE OF RESEARCH Individual animal report of correlated gross and microscopic diagnoses PRINTED: 29-May-90
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PRESIDIO OF SAN FRANCISCO, CA 94129 Tissues With Gross Observations Only
RAT/SPRAGUE-DAWLEY Study Start Date: 10-Dec-86 SUBCHRONIC/180 DAY FEEDING

Animal: 86D00576 Sex: Male Group: 1 Dose level: Control
Day of death: 147 Status: Interim sacrifice 1 Terminal body weight (kms): 0.74

Tissue	Gross observations / Comments	Correlated microscopic observations
CERVICAL LYMPH N	ENLARGED, Moderate/ BOTH ARE 1 CM IN DIAMETER	PLASMACYTOSIS, marked

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Individual animal report of correlated gross and microscopic diagnoses
Study Number: 86005
Tissues With Gross Observations Only
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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00732 Sex: Male Group: 2 Dose level: 1 (MG/KG)
Day of death: 149 Status: Interim sacrifice 1 Terminal body weight (kms): 0.70

Tissue	Gross observations / Comments	Correlated microscopic observations
SPLEEN	ENLARGED(SPLENOMEGALY), Moderate	INCREASED BROWN PIGMENT IN MACROPHAGES, Slight.

Appendix O (cont.): PATHOLOGY

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Individual animal report of correlated gross and microscopic diagnoses
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Tissues With Gross Obse[illegible]tions Only
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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00534 Sex: Male Group: 3 Dose level: 10 (MG/KG)/day
Day of death: 149 Status: Interim sacrifice 1 Terminal body weight (kms): 0.68

Tissue	Gross observations / Comments	Correlated microscopic observations
SKIN	ALOPECIA, Trace/ A 1CM ABRASION IS PRESENT IN THE VENTRAL ABDOMINAL REGION.	INFLAMMATION, CHRONIC, Moderate, Focal.
TESTIS	ATROPHIC/SMALL, UNILATERALLY, Moderate/ THE LEFT TESTIS IS ABOUT HALF THE SIZE OF THE RIGHT TESTIS.	DEGENERATION, SEMINIFEROUS EPITHELIUM, Marked, Diffuse.

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PRESIDIO OF SAN FRANCISCO, CA 94129 Tissues With Gross Observations Only
RAT/SPRAGUE-DAWLEY Study Start Date: 10-Dec-86 SUBCHRONIC/180 DAY FEEDING

Animal: 86D00572 Sex: Male Group: 3 Dose level: 10 (MG/KG)/day
Day of death: 149 Status: Interim sacrifice 1 Terminal body weight (kms): 0.59

Tissue	Gross observations / Comments	Correlated microscopic observations
LIVER	ENLARGED, Mild/ EDGES WERE ALSO ROUNDED.	INFLAMMATION, CHRONIC, MULTIFOCAL, Slight, Multifocal.
	ABNORMAL PIGMENTATION, Mild/ CENTRAL PALLOR, MARKEDLY ACCENTUATED ARCHITECTURE	No correlated microscopic observation

LETTERMAN ARMY INSTITUTE OF RESEARCH Individual animal report of correlated gross and microscopic diagnoses PRINTED: 15-May-90
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PRESIDIO OF SAN FRANCISCO, CA 94129 Tissues With Gross Observations Only
RAT/SPRAGUE-DAWLEY Study Start Date: 10-Dec-86 SUBCHRONIC/180 DAY FEEDING

Animal: 86D00616 Sex: Male Group: 7 Dose level: 10 (MG/KG)/day
Day of death: 147 Status: Interim sacrifice 1 Terminal body weight (kms): 0.70

Tissue	Gross observations / Comments	Correlated microscopic observations
SPLEEN	NODULAR SURFACE, Mild/ 2X3MM NODULE ON THE VISCERAL SURFACE.	No correlated microscopic observation
LIVER	ENLARGED, Trace	No correlated microscopic observation
	CONGESTED, Trace	No correlated microscopic observation

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Individual animal report of correlated gross and microscopic diagnoses
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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00559 Sex: Male Group: 8 Dose level: 10 (MG/KG)/day
Day of death: 175 Status: Final sacrifice Terminal body weight (kms): 0.66

Tissue	Gross observations / Comments	Correlated microscopic observations
LIVER	ENLARGED, Trace/ ACCENTUATED ARCHITECTURE, ROUNDED EDGES.	INFLAMMATION, CHRONIC, MULTIFOCAL, Slight, Multifocal.
	ABNORMAL PIGMENTATION/ PALE	No correlated microscopic observation
TESTIS	ATROPHIC/SMALL, BILATERALLY, Mild/ 1X1.5CM	DEGENERATION, SEMINIFEROUS EPITHELIUM, Marked, Diffuse.

Appendix O (cont.): PATHOLOGY

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PRESIDIO OF SAN FRANCISCO, CA 94129 Tissues With Gross Observations Only
RAT/SPRAGUE-DAWLEY Study Start Date: 10-Dec-86 SUBCHRONIC/180 DAY FEEDING

Animal: 86D00571 Sex: Male Group: 8 Dose level: 10 (MG/KG)/day
Day of death: 175 Status: Final sacrifice Terminal body weight (kms): 0.70

Tissue	Gross observations / Comments	Correlated microscopic observations
KIDNEY	DILATED RENAL PELVIS, Trace/ THE PELVIS OF THE RIGHT KIDNEY IS 2 X 4 MM.	DILATED RENAL PELVIS, Present.

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RAT/SPRAGUE-DAWLEY

Individual animal report of correlated gross and microscopic diagnoses
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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00591 Sex: Male Group: 9 Dose level: 10 (MG/KG)/day
Day of death: 175 Status: Final sacrifice Terminal body weight (kms): 0.73

Tissue	Gross observations / Comments	Correlated microscopic observations
KIDNEY	CYST(S)	PROGRESSIVE RENAL DISEASE, Mild.

Appendix O (cont.): PATHOLOGY

LETTERM/ ARMY INSTITUTE OF RESEARCH
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Individual Animal Data Dump Table
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SUBCHRONIC/180 DAY FEEDING

Animal: 86000517 Sex: Male Group: 1 Dose level: Control
Day of death: 17 Status: Interim sacrifice 1 Terminal body weight (kms): 0.64

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	16.3	2.54	796.4	Low
05-May-87	147/21	KIDNEY	3.8	0.60	187.3	Low
05-May-87	147/21	HEART	1.7	0.26	82.5	Low
05-May-87	147/21	BRAIN	2.0	0.32	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.06	0.009	2.69	Low
05-May-87	147/21	TESTIS	3.30	0.515	161.11	Low
05-May-87	147/21	SPLEEN	0.6	0.09	29.2	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
EYES & OPTIC N.	LEFT EYE DESTROYED AT NECROPSY.

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
AORTA	Required protocol tissue is missing.
THYMUS	Required protocol tissue is missing.
MESENT LYMPH NOD	Required protocol tissue is missing.
SPLEEN	Required protocol tissue is missing.
LIVER	VACUOLIZATION, FOCAL, Slight, Focal.
PANCREAS	INFLAMMATION, CHRONIC, Mild, Multifocal.

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00532 Sex: Male Group: 1 Dose level: Control
Day of death: 147 Status: Interim sacrifice 1 Terminal body weight (kms): 0.75

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	27.1	3.63	1234.1	
05-May-87	147/21	KIDNEY	4.3	0.58	196.1	High
05-May-87	147/21	HEART	1.8	0.24	79.9	Low
05-May-87	147/21	BRAIN	2.2	0.29	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.06	0.008	2.69	
05-May-87	147/21	TESTIS	3.64	0.488	165.63	
05-May-87	147/21	SPLEEN	1.1	0.15	50.2	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
HEART	INFLAMMATION, CHRONIC, Slight, Multifocal. CHRONIC MYOFIBER DEGENERATION, Slight, Multifocal.
LUNGS	HYPERPLASIA, BALT, Slight.
SPLEEN	INCREASED BROWN PIGMENT IN MACROPHAGES, Mild.
KIDNEY	CORTICAL LYMPHOCYTE AGGREGATES, Slight, Multifocal. PROGRESSIVE RENAL DISEASE, Slight, Multifocal.
EPIDIDYMUS	LYMPHOCYTE INFILTRATION, Slight, Focal.
TURBINATES	INFLAMMATION, LYMPHOCYTIC, Mild, Multifocal.

Appendix O (cont.): PATHOLOGY

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00532 Sex: Male Group: 1 Dose level: Control
Day of death: 147 Status: Interim sacrifice 1 Terminal body weight (kms): 0.75

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
BONE, FEMUR	Required protocol tissue is missing.
EXTRAOCULAR MM	Miscellaneous. MYOPATHIC CHANGE, Slight.

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RAT/SPRAGUE-DAWLEY

Individual Animal Data Dump Table
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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00538 Sex: Male Group: 1 Dose level: Control
Day of death: 147 Status: Interim sacrifice 1 Terminal body weight (kms): 0.65

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	21.0	3.23	981.2	Low
05-May-87	147/21	KIDNEY	3.8	0.59	179.3	High
05-May-87	147/21	HEART	1.7	0.27	81.3	Low
05-May-87	147/21	BRAIN	2.1	0.33	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.05	0.008	2.52	
05-May-87	147/21	TESTIS	3.08	0.474	144.07	
05-May-87	147/21	SPLEEN	0.9	0.14	41.9	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
PARATHYROID	Required protocol tissue is missing.
SALIVARY GLAND	INFLAMMATION, CHRONIC, Mild.
HEART	INFLAMMATION, CHRONIC, Mild, Focal.
MESENT LYMPH NOD	Required protocol tissue is missing.
SPLEEN	INCREASED BROWN PIGMENT IN MACROPHAGES, Mild.
KIDNEY	CORTICAL LYMPHOCYTE AGGREGATES, Slight, Multifocal. PROGRESSIVE RENAL DISEASE, Slight, Multifocal.
URINARY BLADDER	Required protocol tissue is missing.

Appendix O (cont.): PATHOLOGY

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Study Start Date: 10-Dec-86

SUBCHRONIC/180 DAY FEEDING

Animal: 86D00538 Sex: Male Group: 1 Dose level: Control
Day of death: 147 Status: Interim sacrifice 1 Terminal body weight (kms): 0.65

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
EPIDIDYMUS	MICROCYSTIC CHANGE, EPITHELIUM, Mild, Focal.
PANCREAS	INFLAMMATION, CHRONIC, Mild, Multifocal.
TURBINATES	INFLAMMATION, LYMPHOCYTIC, Mild, Multifocal.
BONE, FEMUR	Required protocol tissue is missing.
CERVICAL LYMPH N	Miscellaneous. PLASMACYTOSIS, MEDULLARY, Moderate.

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Individual Animal Data Dump Table
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Study Start Date: 10-Dec-86

SUBCHRONIC/180 DAY FEEDING

Animal: 86D00558 Sex: Male Group: 1 Dose level: Control
Day of death: 147 Status: Interim sacrifice 1 Terminal body weight (kms): 0.60

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms,	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	19.3	3.21	961.6	Low
05-May-87	147/21	KIDNEY	3.7	0.61	182.4	High
05-May-87	147/21	HEART	1.7	0.28	83.5	Low
05-May-87	147/21	BRAIN	2.0	0.33	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.06	0.010	3.04	
05-May-87	147/21	TESTIS	3.24	0.538	161.24	
05-May-87	147/21	SPLEEN	1.0	0.16	48.3	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
THYROID GLAND	CYST(S), Mild, Multifocal.
PARATHYROID	Required protocol tissue is missing.
SALIVARY GLAND	INFLAMMATION, CHRONIC, Mild, Multifocal.
MESENT LYMPH NOD	Required protocol tissue is missing.
SPLEEN	INCREASED BROWN PIGMENT IN MACROPHAGES, Moderate.
LIVER	INFLAMMATION, CHRONIC, MULTIFOCAL, Slight, Multifocal.
TURBINATES	INFLAMMATION, LYMPHOCYTIC, Slight, Multifocal.

Appendix O (cont.): PATHOLOGY

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00558 Sex: Male Group: 1 Dose level: Control
Day of death: 147 Status: Interim sacrifice 1 Terminal body weight (kms): 0.60

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
ADRENAL GLANDS	Required protocol tissue is missing.

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Individual Animal Data Dump Table
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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00576 Sex: Male Group: 1 Dose level: Control
Day of death: 147 Status: Interim sacrifice 1 Terminal body weight (kms): 0.74

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	26.5	3.58	1196.8	
05-May-87	147/21	KIDNEY	4.3	0.58	195.2	High
05-May-87	147/21	HEART	2.0	0.27	91.6	Low
05-May-87	147/21	BRAIN	2.2	0.30	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.06	0.009	2.89	
05-May-87	147/21	TESTIS	3.88	0.523	174.88	
05-May-87	147/21	SPLEEN	1.0	0.13	42.9	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
CERVICAL LYMPH N	ENLARGED, Moderate	BOTH ARE 1 CM IN DIAMETER.

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
SALIVARY GLAND	INFLAMMATION, CHRONIC, Mild, Multifocal.
HEART	INFLAMMATION, CHRONIC, Slight, Multifocal. CHRONIC MYOFIBER DEGENERATION, Slight, Multifocal.
LUNGS	HYPERPLASIA, BALT, Slight, Multifocal.
THYMUS	Required protocol tissue is missing.
KIDNEY	CORTICAL LYMPHOCYTE AGGREGATES, Mild, Multifocal. PROGRESSIVE RENAL DISEASE, Slight, Multifocal.
EXTEN DIG LONG M	INFLAMMATION, CHRONIC, Mild, Focal.

Appendix O (cont.): PATHOLOGY

LETTERMAN ARMY INSTITUTE OF RESEARCH
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Individual Animal Data Dump Table
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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00576 Sex: Male Group: 1 Dose level: Control
Day of death: 147 Status: Interim sacrifice 1 Terminal body weight (kms): 0.74

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
CERVICAL LYMPH N	Miscellaneous. PLASMACYTOSIS, MEDULLARY, Marked.
PREPUTIAL GLAND	Miscellaneous. INFLAMMATION, CHRONIC, Mild.

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00578 Sex: Male Group: 1 Dose level: Control
Day of death: 149 Status: Interim sacrifice 1 Terminal body weight (kms): 0.62

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	22.9	3.69	1173.8	
05-May-87	147/21	KIDNEY	3.8	0.60	192.3	High
05-May-87	147/21	HEART	1.8	0.28	89.6	
05-May-87	147/21	BRAIN	2.0	0.31	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.09	0.014	4.35	
05-May-87	147/21	TESTIS	3.07	0.493	156.93	
05-May-87	147/21	SPLEEN	1.0	0.16	50.8	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
PARATHYROID	Required protocol tissue is missing.
SALIVARY GLAND	INFLAMMATION, CHRONIC, Slight, Multifocal.
HEART	INFLAMMATION, CHRONIC, Slight, Multifocal.
SPLEEN	INCREASED BROWN PIGMENT IN MACROPHAGES, Mild.
LIVER	INFLAMMATION, CHRONIC, MULTIFOCAL, Slight, Multifocal.
KIDNEY	CORTICAL LYMPHOCYTE AGGREGATES, Slight, Multifocal. PYELONEPHRITIS, ACUTE, Mild, Focal.

Appendix O (cont.): PATHOLOGY

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00578 Sex: Male Group: 1 Dose level: Control
Day of death: 149 Status: Interim sacrifice 1 Terminal body weight (kms): 0.62

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
PANCREAS	INFLAMMATION, CHRONIC, Moderate, Multifocal.
PITUITARY GLAND	CYST(S), PARS DISTALIS, Mild, Focal.
CERVICAL LYMPH N	Miscellaneous. PLASMACYTOSIS, MEDULLARY, Moderate.

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00579 Sex: Male Group: 1 Dose level: Control
Day of death: 149 Status: Interim sacrifice 1 Terminal body weight (kms): 0.68

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	23.5	3.48	1195.3	
05-May-87	147/21	KIDNEY	3.6	0.53	183.0	
05-May-87	147/21	HEART	1.8	0.27	92.4	Low
05-May-87	147/21	BRAIN	2.0	0.29	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.07	0.010	3.30	
05-May-87	147/21	TESTIS	3.53	0.522	179.28	
05-May-87	147/21	SPLEEN	1.0	0.15	52.9	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
PARATHYROID	Required protocol tissue is missing.
SALIVARY GLAND	INFLAMMATION, CHRONIC, Slight, Multifocal.
SPLEEN	INCREASED BROWN PIGMENT IN MACROPHAGES, Slight.
TURBINATES	INFLAMMATION, LYMPHOCYTIC, Slight, Multifocal.
PITUITARY GLAND	Required protocol tissue is missing.

Appendix O (cont.): PATHOLOGY

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00584 Sex: Male Group: 1 Dose level: Control
Day of death: 149 Status: Interim sacrifice 1 Terminal body weight (kms): 0.70

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	27.1	3.89	1288.5	
05-May-87	147/21	KIDNEY	3.9	0.56	184.4	
05-May-87	147/21	HEART	1.9	0.27	89.4	Low
05-May-87	147/21	BRAIN	2.1	0.30	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.07	0.010	3.42	
05-May-87	147/21	TESTIS	3.48	0.500	165.34	
05-May-87	147/21	SPLEEN	1.1	0.16	52.0	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
SALIVARY GLAND	INFLAMMATION, CHRONIC, Slight, Multifocal.
HEART	INFLAMMATION, CHRONIC, Slight, Multifocal. CHRONIC MYOFIBER DEGENERATION, Slight, Multifocal.
SPLEEN	INCREASED BROWN PIGMENT IN MACROPHAGES, Mild.
LIVER	INFLAMMATION, CHRONIC, MULTIFOCAL, Slight, Multifocal. ARTERITIS, CHRONIC, Moderate, Focal.
KIDNEY	CORTICAL LYMPHOCYTE AGGREGATES, Slight, Multifocal.
PANCREAS	INFLAMMATION, CHRONIC, Moderate, Multifocal.

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Individual Animal Data Dump Table
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Study Start Date: 10-Dec-86

SUBCHRONIC/180 DAY FEEDING

Animal: 86D00715 Sex: Male Group: 1 Dose level: Control
Day of death: 149 Status: Interim sacrifice 1 Terminal body weight (kms): 0.59

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	20.9	3.53	1100.1	
05-May-87	147/21	KIDNEY	3.7	0.63	196.5	High
05-May-87	147/21	HEART	1.5	0.26	80.5	Low
05-May-87	147/21	BRAIN	1.9	0.32	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.07	0.011	3.53	
05-May-87	147/21	TESTIS	3.31	0.560	174.54	
05-May-87	147/21	SPLEEN	0.8	0.14	42.9	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
THYROID GLAND	CYSTS, Mild, Focal.
HEART	CHRONIC MYOFIBER DEGENERATION, Slight, Multifocal.
SPLEEN	INCREASED BROWN PIGMENT IN MACROPHAGES, Slight.
LIVER	NECROSIS, ACUTE, Slight, Multifocal.
KIDNEY	PROGRESSIVE RENAL DISEASE, Mild, Multifocal.
PANCREAS	INFLAMMATION, CHRONIC, Mild, Multifocal.
TURBINATES	INFLAMMATION, LYMPHOCYTIC, Mild, Multifocal.

Appendix O (cont.): PATHOLOGY

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00725 Sex: Male Group: 1 Dose level: Control
Day of death: 149 Status: Interim sacrifice 1 Terminal body weight (kms): 0.65

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	21.6	3.34	1053.4	Low
05-May-87	147/21	KIDNEY	3.6	0.55	173.5	
05-May-87	147/21	HEART	1.6	0.25	78.7	Low
05-May-87	147/21	BRAIN	2.0	0.32	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.08	0.012	3.71	
05-May-87	147/21	TESTIS	3.31	0.513	161.85	
05-May-87	147/21	SPLEEN	0.9	0.13	42.3	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
HEART	CHRONIC MYOFIBER DEGENERATION, Slight, Multifocal.
KIDNEY	PYELONEPHRITIS, ACUTE, Mild.
TURBINATES	Required protocol tissue is missing.
CERVICAL LYMPH N	Miscellaneous. PLASMACYTOSIS, MEDULLARY, Moderate.

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Individual Animal Data Dump Table
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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00540 Sex: Male Group: 1 Dose level: Control
Day of death: 175 Status: Final sacrifice Terminal body weight (kms): 0.66

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	19.4	2.96	830.3	Low
05-May-87	147/21	KIDNEY	3.6	0.55	153.7	
05-May-87	147/21	HEART	1.6	0.24	67.1	Low
05-May-87	147/21	BRAIN	2.3	0.36	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.07	0.010	2.87	
05-May-87	147/21	TESTIS	3.10	0.473	132.83	
05-May-87	147/21	SPLEEN	1.0	0.15	41.8	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
PARATHYROID	Required protocol tissue is missing.
HEART	INFLAMMATION, CHRONIC, Slight, Multifocal.
THYMUS	Required protocol tissue is missing.
TESTIS	DEGENERATION, SEMINIFEROUS EPITHELIUM, Slight, Multifocal.
PANCREAS	INFLAMMATION, CHRONIC, Slight, Multifocal.
SCIATIC NERVE	Required protocol tissue is missing.
SKELETAL MUSCLE	Required protocol tissue is missing.

Appendix O (cont.): PATHOLOGY

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Individual Animal Data Dump Table
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Study Start Date: 10-Dec-86

SUBCHRONIC/180 DAY FEEDING

Animal: 86D00540 Sex: Male Group: 1 Dose level: Control
Day of death: 175 Status: Final sacrifice Terminal body weight (kms): 0.66

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
TURBINATES	INFLAMMATION, LYMPHOCYTIC, Slight, Multifocal.

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00585 Sex: Male Group: 1 Dose level: Control
Day of death: 175 Status: Final sacrifice Terminal body weight (kms): 0.52

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	14.3	2.77	639.6	Low
05-May-87	147/21	KIDNEY	2.8	0.55	126.7	
05-May-87	147/21	HEART	1.4	0.27	61.5	Low
05-May-87	147/21	BRAIN	2.2	0.43	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.05	0.009	2.01	
05-May-87	147/21	TESTIS	3.93	0.761	175.67	High
05-May-87	147/21	SPLEEN	0.7	0.14	33.1	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
SALIVARY GLAND	INFLAMMATION, CHRONIC, Mild, Multifocal.
SPLEEN	INCREASED BROWN PIGMENT IN MACROPHAGES, Slight.
EPIDIDYMUS	MICROCYSTIC CHANGE, EPITHELIUM, Slight. LYMPHOCYTE INFILTRATION, Slight, Multifocal.
PANCREAS	INFLAMMATION, CHRONIC, Slight, Multifocal.
TURBINATES	INFLAMMATION, LYMPHOCYTIC, Mild, Multifocal.
BONE, FEMUR	Required protocol tissue is missing.

Appendix O (cont.): PATHOLOGY

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00614 Sex: Male Group: 1 Dose level: Control
Day of death: 175 Status: Final sacrifice Terminal body weight (kms): 0.88

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	25.7	2.94	1102.0	Low
05-May-87	147/21	KIDNEY	3.9	0.44	165.0	
05-May-87	147/21	HEART	2.2	0.25	93.1	Low
05-May-87	147/21	BRAIN	2.3	0.27	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.05	0.006	2.31	Low
05-May-87	147/21	TESTIS	4.46	0.509	190.97	
05-May-87	147/21	SPLEEN	1.1	0.12	45.0	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
PARATHYROID	Required protocol tissue is missing.
SALIVARY GLAND	INFLAMMATION, CHRONIC, Mild, Multifocal.
LACRIMAL GLAND	INFLAMMATION, CHRONIC, Slight, Focal.
HEART	INFLAMMATION, CHRONIC, Mild, Focal.
LIVER	TELANGIECTASIS, Slight, Focal.
KIDNEY	CORTICAL LYMPHOCYTE AGGREGATES, Mild, Multifocal.
TURBINATES	INFLAMMATION, LYMPHOCYTIC, Mild, Multifocal.

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00647 Sex: Male Group: 1 Dose level: Control
Day of death: 175 Status: Final sacrifice Terminal body weight (kms): 0.67

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	20.8	3.09	919.9	Low
05-May-87	147/21	KIDNEY	3.3	0.49	144.5	
05-May-87	147/21	HEART	1.7	0.26	76.7	Low
05-May-87	147/21	BRAIN	2.3	0.34	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.06	0.008	2.48	
05-May-87	147/21	TESTIS	3.49	0.520	154.92	
05-May-87	147/21	SPLEEN	0.9	0.13	40.2	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
THYROID GLAND	CYST(S), Slight, Focal.
SALIVARY GLAND	INFLAMMATION, CHRONIC, Slight, Multifocal.
HEART	INFLAMMATION, CHRONIC, Mild, Multifocal.
LIVER	INFLAMMATION, CHRONIC, MULTIFOCAL, Mild, Multifocal.
KIDNEY	CORTICAL LYMPHOCYTE AGGREGATES, Slight, Focal.
PANCREAS	INFLAMMATION, CHRONIC, Mild, Multifocal.
PITUITARY GLAND	CYST(S), PARS DISTALIS, Mild, Focal.

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00647 Sex: Male Group: 1 Dose level: Control
Day of death: 175 Status: Final sacrifice Terminal body weight (kms): 0.67

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
CERVICAL LYMPH N	Miscellaneous. PLASMACYTOSIS, MEDULLARY, Moderate.

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00665 Sex: Male Group: 1 Dose level: Control
Day of death: 175 Status: Final sacrifice Terminal body weight (kms): 0.66

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	20.6	3.11	913.1	Low
05-May-87	147/21	KIDNEY	3.3	0.50	147.7	
05-May-87	147/21	HEART	1.8	0.27	78.2	Low
05-May-87	147/21	BRAIN	2.3	0.34	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.07	0.011	3.23	
05-May-87	147/21	TESTIS	3.76	0.567	166.42	
05-May-87	147/21	SPLEEN	0.7	0.11	32.2	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
SALIVARY GLAND	INFLAMMATION, CHRONIC, Slight, Focal.
HEART	INFLAMMATION, CHRONIC, Slight, Multifocal. CHRONIC MYOFIBER DEGENERATION, Slight, Multifocal.
SPLEEN	INCREASED BROWN PIGMENT IN MACROPHAGES, Slight.
LIVER	INFLAMMATION, CHRONIC, MULTIFOCAL, Slight, Multifocal.
KIDNEY	CORTICAL LYMPHOCYTE AGGREGATES, Slight, Focal.
PANCREAS	INFLAMMATION, CHRONIC, Moderate, Multifocal.
JEJUNUM	Required protocol tissue is missing.

Appendix O (cont.): PATHOLOGY

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00665 Sex: Male Group: 1 Dose level: Control
Day of death: 175 Status: Final sacrifice Terminal body weight (kms): 0.66

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
PREPUTIAL GLAND	Miscellaneous. INFLAMMATION, CHRONIC, Mild.

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00503 Sex: Male Group: 2 Dose level: 1. (MG/KG)/day
Day of death: 148 Status: Interim sacrifice 1 Terminal body weight (kms): 0.65

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	23.5	3.61	1045.3	
05-May-87	147/21	KIDNEY	3.7	0.57	165.7	High
05-May-87	147/21	HEART	1.9	0.29	83.5	
05-May-87	147/21	BRAIN	2.2	0.35	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.05	0.008	2.18	
05-May-87	147/21	TESTIS	3.38	0.520	150.56	
05-May-87	147/21	SPLEEN	0.8	0.13	36.8	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
THYROID GLAND	CYST(S), Slight, Multifocal.
SALIVARY GLAND	INFLAMMATION, CHRONIC, Mild, Multifocal.
SPLEEN	INCREASED BROWN PIGMENT IN MACROPHAGES, Mild, Diffuse.
KIDNEY	CORTICAL LYMPHOCYTE AGGREGATES, Slight, Focal.
PANCREAS	INFLAMMATION, CHRONIC, Mild, Multifocal.
TURBINATES	INFLAMMATION, LYMPHOCYTIC, Mild, Multifocal.
CERVICAL LYMPH N	Miscellaneous. PLASMACYTOSIS, MEDULLARY, Slight.

Appendix O (cont.): PATHOLOGY

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00515 Sex: Male Group: 2 Dose level: 1. (MG/KG)/day
Day of death: 148 Status: Interim sacrifice 1 Terminal body weight (kms): 0.84

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	27.3	3.24	1126.5	Low
05-May-87	147/21	KIDNEY	4.1	0.49	169.8	
05-May-87	147/21	HEART	2.1	0.25	85.7	Low
05-May-87	147/21	BRAIN	2.4	0.29	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.08	0.009	3.22	
05-May-87	147/21	TESTIS	4.07	0.484	168.13	
05-May-87	147/21	SPLEEN	1.4	0.16	55.8	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
SALIVARY GLAND	INFLAMMATION, CHRONIC, Slight, Multifocal.
HEART	INFLAMMATION, CHRONIC, Mild, Focal.
PANCREAS	INFLAMMATION, CHRONIC, Mild, Multifocal.
COLON	GRANULOMA(S), SUBMUCOSA, Mild, Multifocal.
CERVICAL LYMPH N	Miscellaneous. PLASMACYTOSIS, MEDULLARY, Mild.

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00549 Sex: Male Group: 2 Dose level: 1. (MG/KG)/day
Day of death: 148 Status: Interim sacrifice 1 Terminal body weight (kms): 0.60

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	21.8	3.66	994.8	
05-May-87	147/21	KIDNEY	3.7	0.62	167.8	High
05-May-87	147/21	HEART	1.6	0.26	71.1	Low
05-May-87	147/21	BRAIN	2.2	0.37	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.07	0.011	2.97	
05-May-87	147/21	TESTIS	3.57	0.600	163.33	
05-May-87	147/21	SPLEEN	1.0	0.16	44.4	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
THYROID GLAND	CYST(S), Mild, Focal.

Appendix O (cont.): PATHOLOGY

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00582 Sex: Male Group: 2 Dose level: 1. (MG/KG)/day
Day of death: 148 Status: Interim sacrifice 1 Terminal body weight (kms): 0.64

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	23.7	3.68	1042.8	
05-May-87	147/21	KIDNEY	4.3	0.67	189.0	High
05-May-87	147/21	HEART	1.7	0.26	73.5	Low
05-May-87	147/21	BRAIN	2.3	0.35	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.05	0.008	2.34	
05-May-87	147/21	TESTIS	3.36	0.523	148.15	
05-May-87	147/21	SPLEEN	0.8	0.13	35.9	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos recorded on animal	

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
SALIVARY GLAND	INFLAMMATION, CHRONIC, Slight, Multifocal.
LIVER	INFLAMMATION, CHRONIC, MULTIFOCAL, Slight, Multifocal.

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00594 Sex: Male Group: 2 Dose level: 1. (MG/KG)/day
Day of death: 148 Status: Interim sacrifice 1 Terminal body weight (kms): 0.81

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	24.2	3.01	1170.0	Low
05-May-87	147/21	KIDNEY	4.5	0.56	217.8	High
05-May-87	147/21	HEART	1.9	0.23	89.6	Low
05-May-87	147/21	BRAIN	2.1	0.26	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.07	0.008	3.14	
05-May-87	147/21	TESTIS	3.59	0.446	173.12	
05-May-87	147/21	SPLEEN	1.0	0.12	48.5	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
SALIVARY GLAND	INFLAMMATION, CHRONIC, Mild, Multifocal.
HEART	INFLAMMATION, CHRONIC, Mild, Multifocal.
SPLEEN	INCREASED BROWN PIGMENT IN MACROPHAGES, Slight.
KIDNEY	CORTICAL LYMPHOCYTE AGGREGATES, Slight, Multifocal.
PANCREAS	INFLAMMATION, CHRONIC, Moderate, Multifocal.
TURBINATES	INFLAMMATION, LYMPHOCYTIC, Slight, Multifocal.

Appendix O (cont.): PATHOLOGY

LETTERMAN ARMY INSTITUTE OF RESEARCH
DIV OF RES SUPP, PATH SERV GP
PRESIDIO OF SAN FRANCISCO, CA 94129
RAT/SPRAGUE-DAWLEY

Individual Animal Data Dump Table
Study Number: 86005
Study Start Date: 10-Dec-86

PRINTED: 15-May-90
Page: 29
SUBCHRONIC/180 DAY FEEDING

Animal: 86D00610 Sex: Male Group: 2 Dose level: 1. (MG/KG)/day
Day of death: 149 Status: Interim sacrifice 1 Terminal body weight (kms): 0.52

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	17.6	3.41	804.2	
05-May-87	147/21	KIDNEY	4.1	0.79	186.5	High
05-May-87	147/21	HEART	1.6	0.32	74.9	
05-May-87	147/21	BRAIN	2.2	0.42	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.10	0.020	4.67	
05-May-87	147/21	TESTIS	3.75	0.729	171.87	High
05-May-87	147/21	SPLEEN	1.0	0.19	45.0	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
KIDNEY	CORTICAL LYMPHOCYTE AGGREGATES, Slight, Multifocal. PROGRESSIVE RENAL DISEASE, Slight.

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Individual Animal Data Dump Table
Study Number: 86005

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Study Start Date: 10-Dec-86

SUBCHRONIC/180 DAY FEEDING

Animal: 86D00653 Sex: Male Group: 2 Dose level: 1. (MG/KG)/day
Day of death: 149 Status: Interim sacrifice 1 Terminal body weight (kms): 0.68

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	2[illegible].9	3.52	1080.9	
05-May-87	147/21	KIDNEY	4.3	0.63	193.8	High
05-May-87	147/21	HEART	1.7	0.25	76.5	Low
05-May-87	147/21	BRAIN	2.2	0.33	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	[illegible].09	0.013	4.07	
05-May-87	147/21	TESTIS	3.72	0.547	168.22	
05-May-87	147/21	SPLEEN	1.2	0.18	55.1	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
SALIVARY GLAND	INFLAMMATION, CHRONIC, Mild, Multifocal.
PANCREAS	INFLAMMATION, CHRONIC, Moderate, Multifocal.
TURBINATES	INFLAMMATION, LYMPHOCYTIC, Slight, Multifocal.
CERVICAL LYMPH N	Miscellaneous. PLASMACYTOSIS, MEDULLARY, Moderate
EXTRAOCULAR MM	Miscellaneous. MYOPATHIC CHANGE, Slight.

Appendix O (cont.): PATHOLOGY

LETTERMAN ARMY INSTITUTE OF RESEARCH
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Individual Animal Data Dump Table
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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00693 Sex: Male Group: 2 Dose level: 1. (MG/KG)/day
Day of death: 149 Status: Interim sacrifice 1 Terminal body weight (kms): 0.69

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	18.1	2.61	876.3	Low
05-May-87	147/21	KIDNEY	3.5	0.51	172.2	
05-May-87	147/21	HEART	1.7	0.25	82.4	Low
05-May-87	147/21	BRAIN	2.1	0.30	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.05	0.008	2.62	
05-May-87	147/21	TESTIS	3.25	0.470	157.86	
05-May-87	147/21	SPLEEN	0.8	0.12	39.8	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
SALIVARY GLAND	INFLAMMATION, CHRONIC, Mild, Multifocal.
HEART	INFLAMMATION, CHRONIC, Slight, Multifocal.
SPLEEN	INCREASED BROWN PIGMENT IN MACROPHAGES, Mild.
LIVER	INFLAMMATION, CHRONIC, MULTIFOCAL, Slight, Multifocal.
PANCREAS	INFLAMMATION, CHRONIC, Slight, Multifocal.
EYES & OPTIC N.	/ONE EYE UNREADABLE DUE TO MANIPULATION ARTIFACT

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Individual Animal Data Dump Table
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Study Start Date: 10-Dec-86

SUBCHRONIC/180 DAY FEEDING

Animal: 86D00710 Sex: Male Group: 2 Dose level: 1. (MG/KG)/day
Day of death: 149 Status: Interim sacrifice 1 Terminal body weight (kms): 0.74

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	24.9	3.35	1187.7	Low
05-May-87	147/21	KIDNEY	3.9	0.53	187.5	
05-May-87	147/21	HEART	1.9	0.26	92.4	Low
05-May-87	147/21	BRAIN	2.1	0.28	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.08	0.011	3.87	
05-May-87	147/21	TESTIS	3.42	0.461	163.35	
05-May-87	147/21	SPLEEN	1.0	0.13	47.6	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	*recorded on animal*

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
HEART	INFLAMMATION, CHRONIC, Mild, Multifocal.
SPLEEN	INCREASED BROWN PIGMENT IN MACROPHAGES, Mild.
LIVER	NECROSIS, ACUTE, Mild, Multifocal.
KIDNEY	PROGRESSIVE RENAL DISEASE, Mild.
PANCREAS	INFLAMMATION, CHRONIC, Moderate, Multifocal.
PREPUTIAL GLAND	Miscellaneous. INFLAMMATION, CHRONIC, Slight.

Appendix O (cont.): PATHOLOGY

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Individual Animal Data Dump Table
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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00732 Sex: Male Group: 2 Dose level: 1. (MG/KG)/day
Day of death: 149 Status: Interim sacrifice 1 Terminal body weight (kms): 0.70

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	24.9	3.54	1115.3	
05-May-87	147/21	KIDNEY	4.6	0.66	207.9	High
05-May-87	147/21	HEART	1.9	0.27	85.9	Low
05-May-87	147/21	BRAIN	2.2	0.32	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.08	0.012	3.63	
05-May-87	147/21	TESTIS	3.65	0.520	163.89	
05-May-87	147/21	SPLEEN	1.1	0.15	47.4	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
SPLEEN	ENLARGED(SPLENOMEGALY), Moderate	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
THYROID GLAND	CYST(S), Mild, Focal.
SALIVARY GLAND	INFLAMMATION, CHRONIC, Slight, Multifocal.
HEART	INFLAMMATION, CHRONIC, Slight, Multifocal.
SPLEEN	INCREASED BROWN PIGMENT IN MACROPHAGES, Slight.
LIVER	INFLAMMATION, CHRONIC, MULTIFOCAL, Slight, Multifocal. ARTERITIS, CHRONIC, Mild, Focal.
KIDNEY	CORTICAL LYMPHOCYTE AGGREGATES, Mild, Focal. PROGRESSIVE RENAL DISEASE, Slight, Multifocal.

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00732 Sex: Male Group: 2 Dose level: 1. (MG/KG)/day
Day of death: 149 Status: Interim sacrifice 1 Terminal body weight (kms): 0.70

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
PANCREAS	INFLAMMATION, CHRONIC, Slight, Multifocal.
MESENTERY	Miscellaneous. ARTERITIS, CHRONIC, Mild.

Appendix O (cont.): PATHOLOGY

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00534 Sex: Male Group: 3 Dose level: 10. (MG/KG)/day
Day of death: 149 Status: Interim sacrifice 1 Terminal body weight (kms): 0.68

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	26.2	3.84	1169.8	
05-May-87	147/21	KIDNEY	4.1	0.61	184.7	High
05-May-87	147/21	HEART	1.9	0.28	84.2	Low
05-May-87	147/21	BRAIN	2.2	0.33	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.08	0.011	3.35	
05-May-87	147/21	TESTIS	2.50	0.367	111.79	
05-May-87	147/21	SPLEEN	1.2	0.17	52.7	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
SKIN	ALOPECIA, Trace	A 1CM ABRASION IS PRESENT IN THE VENTRAL ABDOMINAL REGION.
TESTIS	ATROPHIC/SMALL, UNILATERALLY, Moderate	THE LEFT TESTIS IS ABOUT HALF THE SIZE OF THE RIGHT TESTIS.

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
SALIVARY GLAND	INFLAMMATION, CHRONIC, Mild, Multifocal.
HEART	INFLAMMATION, CHRONIC, Slight, Focal.
LIVER	INFLAMMATION, CHRONIC, MULTIFOCAL, Mild, Multifocal. NECROSIS, ACUTE, Slight, Multifocal.
KIDNEY	CORTICAL LYMPHOCYTE AGGREGATES, Slight, Multifocal. PROGRESSIVE RENAL DISEASE, Mild, Multifocal.
TESTIS	DEGENERATION, SEMINIFEROUS EPITHELIUM, Marked, Diffuse.

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Study Start Date: 10-Dec-86

SUBCHRONIC/180 DAY FEEDING

Animal: 86000534 Sex: Male Group: 3 Dose level: 10. (MG/KG)/day
Day of death: 149 Status: Interim sacrifice 1 Terminal body weight (kms): 0.68

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
SKIN	INFLAMMATION, CHRONIC, Moderate, Focal.
TURBINATES	INFLAMMATION, LYMPHOCYTIC, Slight, Multifocal.

Appendix O (cont.): PATHOLOGY

LETTERMAN ARMY INSTITUTE OF RESEARCH
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Individual Animal Data Dump Table
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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00536 Sex: Male Group: 3
Day of death: 149 Status: Interim sacrifice 1
Dose level: 10. (MG/KG)/day
Terminal body weight (kms): 0.61

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	25.3	4.18	1408.4	
05-May-87	147/21	KIDNEY	3.9	0.65	217.9	
05-May-87	147/21	HEART	2.0	0.34	114.0	
05-May-87	147/21	BRAIN	1.8	0.30	100.0	
05-May-87	147/21	ADRENAL GLANDS	0.08	0.012	4.18	High
05-May-87	147/21	TESTIS	3.85	0.636	214.48	
05-May-87	147/21	SPLEEN	0.8	0.14	46.5	Low

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
SALIVARY GLAND	INFLAMMATION, CHRONIC, Mild, Multifocal.
LUNGS	HYPERPLASIA, BALT, Slight.
SPLEEN	INCREASED BROWN PIGMENT IN MACROPHAGES, Mild.
KIDNEY	CORTICAL LYMPHOCYTE AGGREGATES, Slight, Multifocal.

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00572 Sex: Male Group: 3 Dose level: 10. (MG/KG)/day
Day of death: 149 Status: Interim sacrifice 1 Terminal body weight (kms): 0.59

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	23.3	3.95	1000.0	
05-May-87	147/21	KIDNEY	4.0	0.68	172.7	High
05-May-87	147/21	HEART	1.7	0.29	73.8	
05-May-87	147/21	BRAIN	2.3	0.40	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.09	0.016	3.94	
05-May-87	147/21	TESTIS	3.53	0.599	151.44	
05-May-87	147/21	SPLEEN	0.8	0.13	33.9	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
LIVER	ENLARGED, Mild	EDGES WERE ALSO ROUNDED.
	ABNORMAL PIGMENTATION, Mild	CENTRAL PALLOR, MARKEDLY ACCENTUATED ARCHITECTURE

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
SPLEEN	INCREASED BROWN PIGMENT IN MACROPHAGES, Slight.
LIVER	INFLAMMATION, CHRONIC, MULTIFOCAL, Slight, Multifocal.
KIDNEY	CORTICAL LYMPHOCYTE AGGREGATES, Slight, Multifocal.
	PROGRESSIVE RENAL DISEASE, Mild, Multifocal.
PANCREAS	INFLAMMATION, CHRONIC, Slight, Multifocal.
PITUITARY GLAND	CYST(S), PARS DISTALIS, Slight, Multifocal.

Appendix O (cont.): PATHOLOGY

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Individual Animal Data Dump Table
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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00603 Sex: Male Group: 3 Dose level: 10. (MG/KG)/day
Day of death: 149 Status: Interim sacrifice 1 Terminal body weight (kms): 0.64

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	19.4	3.02	937.9	Low
05-May-87	147/21	KIDNEY	3.2	0.49	153.5	
05-May-87	147/21	HEART	1.6	0.25	77.9	Low
05-May-87	147/21	BRAIN	2.1	0.32	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.06	0.010	3.05	
05-May-87	147/21	TESTIS	3.17	0.495	153.66	
05-May-87	147/21	SPLEEN	0.9	0.14	42.9	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
SALIVARY GLAND	INFLAMMATION, CHRONIC, Slight, Multifocal.
HEART	INFLAMMATION, CHRONIC, Slight, Multifocal.
LUNGS	ALVEOLAR HISTIOCYTOSIS, Mild, Focal.
LIVER	INFLAMMATION, CHRONIC, MULTIFOCAL, Slight, Multifocal. NECROSIS, ACUTE, Slight, Multifocal. THROMBOSIS, PORTAL VEIN, Slight, Focal.
KIDNEY	CORTICAL LYMPHOCYTE AGGREGATES, Mild, Multifocal. PROGRESSIVE RENAL DISEASE, Slight, Multifocal.

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00603 Sex: Male Group: 3 Dose level: 10. (MG/KG)/day
Day of death: 149 Status: Interim sacrifice 1 Terminal body weight (kms): 0.64

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
EXTRAOCULAR MM	*Miscellaneous.* MYOPATHIC CHANGE, Slight.

Appendix O (cont.): PATHOLOGY

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00613 Sex: Male Group: 3 Dose level: 10. (MG/KG)/day
Day of death: 149 Status: Interim sacrifice 1 Terminal body weight (kms): 0.63

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	21.9	3.47	1016.1	
05-May-87	147/21	KIDNEY	3.5	0.55	161.2	
05-May-87	147/21	HEART	1.4	0.23	66.7	Low
05-May-87	147/21	BRAIN	2.2	0.34	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.06	0.009	2.60	
05-May-87	147/21	TESTIS	3.03	0.479	140.54	
05-May-87	147/21	SPLEEN	0.9	0.15	43.5	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
SALIVARY GLAND	INFLAMMATION, CHRONIC, Mild, Multifocal.
HEART	INFLAMMATION, CHRONIC, Mild, Focal.
LIVER	INFLAMMATION, CHRONIC, MULTIFOCAL, Mild, Multifocal. ARTERITIS, CHRONIC, Mild, Focal.
KIDNEY	CORTICAL LYMPHOCYTE AGGREGATES, Mild, Multifocal. PROGRESSIVE RENAL DISEASE, Mild, Multifocal.
PANCREAS	INFLAMMATION, CHRONIC, Moderate, Multifocal.
CERVICAL LYMPH N	Miscellaneous. PLASMACYTOSIS, MEDULLARY, Mild.

Appendix O (cont.): PATHOLOGY

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00638 Sex: Male Group: 3 Dose level: 10. (MG/KG)/day
Day of death: 149 Status: Interim sacrifice 1 Terminal body weight (kms): 0.66

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	23.0	3.47	1091.3	
05-May-87	147/21	KIDNEY	4.1	0.61	192.7	High
05-May-87	147/21	HEART	1.7	0.26	82.8	Low
05-May-87	147/21	BRAIN	2.1	0.32	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.03	0.005	1.56	Low
05-May-87	147/21	TESTIS	3.84	0.579	182.12	
05-May-87	147/21	SPLEEN	0.9	0.14	44.2	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
ADRENAL GLANDS	ONE ADRENAL GLAND MISSING

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
SALIVARY GLAND	INFLAMMATION, CHRONIC, Slight, Multifocal.
SPLEEN	INCREASED BROWN PIGMENT IN MACROPHAGES, Slight.
LIVER	INFLAMMATION, CHRONIC, MULTIFOCAL, Slight, Multifocal.
KIDNEY	CORTICAL LYMPHOCYTE AGGREGATES, Slight, Focal. PROGRESSIVE RENAL DISEASE, Mild, Multifocal.
PANCREAS	INFLAMMATION, CHRONIC, Mild, Multifocal.
EXTRAOCULAR MM	Miscellaneous. MYOPATHIC CHANGE, Slight.

Appendix O (cont.): PATHOLOGY

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00658 Sex: Male Group: 3 Dose level: 10. (MG/KG)/day
Day of death: 149 Status: Interim sacrifice 1 Terminal body weight (kms): 0.60

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	19.5	3.25	1046.9	Low
05-May-87	147/21	KIDNEY	3.6	0.59	190.5	High
05-May-87	147/21	HEART	1.4	0.23	75.5	Low
05-May-87	147/21	BRAIN	1.9	0.31	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.07	0.012	3.75	
05-May-87	147/21	TESTIS	3.14	0.522	168.45	
05-May-87	147/21	SPLEEN	0.8	0.14	45.3	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
SALIVARY GLAND	INFLAMMATION, CHRONIC, Mild, Multifocal.
LACRIMAL GLAND	INFLAMMATION, CHRONIC, Slight, Multifocal.
LIVER	INFLAMMATION, CHRONIC, MULTIFOCAL, Slight, Multifocal.
KIDNEY	CORTICAL LYMPHOCYTE AGGREGATES, Mild, Focal. PROGRESSIVE RENAL DISEASE, Slight, Multifocal.
PANCREAS	INFLAMMATION, CHRONIC, Mild, Multifocal.
COLON	GRANULOMA(S), SUBMUCOSA, Slight, Focal.

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Individual Animal Data Dump Table
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Study Start Date: 10-Dec-86

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00658 Sex: Male Group: 3 Dose level: 10. (MG/KG)/day
Day of death: 149 Status: Interim sacrifice 1 Terminal body weight (kms): 0.60

<< P a t h o l o g y O b s e r v a t i o n s >>

Tissue	Histopathologic diagnoses / Special histological comments
MESENTERY	Miscellaneous. INFLAMMATION, GRANULOMATOUS, Mild, Focal.
EXTRAOCULAR MM	Miscellaneous. MYOPATHIC CHANGE, Slight.

Appendix O (cont.): PATHOLOGY

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Individual Animal Data Dump Table
Study Number: 86005
Study Start Date: 10-Dec-86

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00662 Sex: Male Group: 3 Dose level: 10. (MG/KG)/day
Day of death: 149 Status: Interim sacrifice 1 Terminal body weight (kms): 0.74

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	19.9	2.69	962.6	Low
05-May-87	147/21	KIDNEY	3.7	0.49	177.3	
05-May-87	147/21	HEART	1.7	0.23	80.8	Low
05-May-87	147/21	BRAIN	2.1	0.28	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.07	0.010	3.43	
05-May-87	147/21	TESTIS	3.50	0.473	169.44	
05-May-87	147/21	SPLEEN	0.9	0.12	42.1	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
HEART	INFLAMMATION, CHRONIC, Mild, Multifocal.
LUNGS	HYPERPLASIA, BALT, Slight.
SPLEEN	INCREASED BROWN PIGMENT IN MACROPHAGES, Mild.
LIVER	INFLAMMATION, CHRONIC, MULTIFOCAL, Slight, Multifocal.
KIDNEY	PROGRESSIVE RENAL DISEASE, Slight, Multifocal.

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Study Start Date: 10-Dec-86

SUBCHRONIC/180 DAY FEEDING

Animal: 86D00671 Sex: Male Group: 3 Dose level: 10. (MG/KG)/day
Day of death: 149 Status: Interim sacrifice 1 Terminal body weight (kms): 0.71

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	23.2	3.27	1150.7	Low
05-May-87	147/21	KIDNEY	3.5	0.50	175.4	
05-May-87	147/21	HEART	1.7	0.25	86.7	Low
05-May-87	147/21	BRAIN	2.0	0.28	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.06	0.008	2.93	
05-May-87	147/21	TESTIS	3.69	0.520	183.13	
05-May-87	147/21	SPLEEN	1.3	0.18	64.5	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
SALIVARY GLAND	INFLAMMATION, CHRONIC, Slight, Multifocal.
HEART	INFLAMMATION, CHRONIC, Slight, Multifocal. CHRONIC MYOFIBER DEGENERATION, Slight, Multifocal.
LUNGS	GRANULOMA(S), Slight, Focal.
LIVER	INFLAMMATION, CHRONIC, MULTIFOCAL, Slight, Multifocal.
KIDNEY	CORTICAL LYMPHOCYTE AGGREGATES, Slight, Focal. PROGRESSIVE RENAL DISEASE, Slight, Multifocal.
COLON	GRANULOMA(S), SUBMUCOSA, Mild, Multifocal.

Appendix O (cont.): PATHOLOGY

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Individual Animal Data Dump Table
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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00671 Sex: Male Group: 3 Dose level: 10. (MG/KG)/day
Day of death: 149 Status: Interim sacrifice 1 Terminal body weight (kms): 0.71

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
DIAPHRAGM	INFLAMMATION AND MYOFIBER DEGENERATION, CHRONIC, Mild, Multifocal.
CERVICAL LYMPH N	Miscellaneous. PLASMACYTOSIS, MEDULLARY, Mild.

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Study Start Date: 10-Dec-86

SUBCHRONIC/180 DAY FEEDING

Animal: 86D00701 Sex: Male Group: 3 Dose level: 10. (MG/KG)/day
Day of death: 149 Status: Interim sacrifice 1 Terminal body weight (kms): 0.71

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	23.5	3.31	1105.7	Low
05-May-87	147/21	KIDNEY	3.5	0.49	164.1	
05-May-87	147/21	HEART	1.8	0.26	85.7	Low
05-May-87	147/21	BRAIN	2.1	0.30	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.05	0.007	2.31	Low
05-May-87	147/21	TESTIS	3.74	0.528	176.06	
05-May-87	147/21	SPLEEN	0.8	0.11	36.5	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	*recorded on animal*

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
THYROID GLAND	CYST(S), Mild, Multifocal.
SALIVARY GLAND	INFLAMMATION, CHRONIC, Mild, Multifocal.
LIVER	INFLAMMATION, CHRONIC, MULTIFOCAL, Slight, Multifocal.
KIDNEY	CORTICAL LYMPHOCYTE AGGREGATES, Slight, Multifocal.
EPIDIDYMUS	MICROCYSTIC CHANGE, EPITHELIUM, Mild.
TESTIS	DEGENERATION, SEMINIFEROUS EPITHELIUM, Slight.
PANCREAS	INFLAMMATION, CHRONIC, Mild, Focal.

Appendix O (cont.): PATHOLOGY

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Study Start Date: 10-Dec-86

SUBCHRONIC/180 DAY FEEDING

Animal: 86D00516 Sex: Male Group: 7 Dose level: 10. (MG/KG)/day
Day of death: 147 Status: Interim sacrifice 1 Terminal body weight (kms): 0.57

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	16.9	2.96	845.0	Low
05-May-87	147/21	KIDNEY	3.3	0.58	165.0	High
05-May-87	147/21	HEART	1.7	0.30	85.0	
05-May-87	147/21	BRAIN	2.0	0.35	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.06	0.011	3.00	
05-May-87	147/21	TESTIS	3.49	0.612	174.50	
05-May-87	147/21	SPLEEN	0.8	0.14	40.0	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
SALIVARY GLAND	INFLAMMATION, CHRONIC, Slight, Multifocal.
SPLEEN	INCREASED BROWN PIGMENT IN MACROPHAGES, Mild, Multifocal.
KIDNEY	CORTICAL LYMPHOCYTE AGGREGATES, Slight, Multifocal.
PANCREAS	INFLAMMATION, CHRONIC, Slight, Multifocal.
PITUITARY GLAND	Required protocol tissue is missing.
CERVICAL LYMPH N	Miscellaneous. PLASMACYTOSIS, MEDULLARY, Slight.

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Study Start Date: 10-Dec-86

SUBCHRONIC/180 DAY FEEDING

Animal: 86D00516 Sex: Male Group: 7 Dose level: 10. (MG/KG)/day
Day of death: 147 Status: Interim sacrifice 1 Terminal body weight (kms): 0.57

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
EXTRAOCULAR MM	Miscellaneous. MYOPATHIC CHANGE, Slight.

Appendix O (cont.): PATHOLOGY

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00535 Sex: Male Group: 7 Dose level: 10. (MG/KG)/day
Day of death: 147 Status: Interim sacrifice 1 Terminal body weight (kms): 0.66

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	20.6	3.12	981.0	Low
05-May-87	147/21	KIDNEY	3.9	0.59	185.7	High
05-May-87	147/21	HEART	2.7	0.41	128.6	
05-May-87	147/21	BRAIN	2.1	0.32	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.07	0.011	3.33	
05-May-87	147/21	TESTIS	3.45	0.523	164.29	
05-May-87	147/21	SPLEEN	1.0	0.15	47.6	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
SALIVARY GLAND	INFLAMMATION, CHRONIC, Mild, Multifocal.
HEART	INFLAMMATION, CHRONIC, Slight, Focal.
LIVER	NECROSIS, ACUTE, Mild, Multifocal.
PANCREAS	INFLAMMATION, CHRONIC, Mild.
SOLEUS MUSCLE	INFLAMMATION, CHRONIC, Mild.
PREPUTIAL GLAND	Miscellaneous. INFLAMMATION, CHRONIC, Mild.

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Study Start Date: 10-Dec-86

SUBCHRONIC/180 DAY FEEDING

Animal: 86D00560 Sex: Male Group: 7 Dose level: 10. (MG/KG)/day
Day of death: 147 Status: Interim sacrifice 1 Terminal body weight (kms): 0.75

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	25.1	3.35	1255.0	Low
05-May-87	147/21	KIDNEY	5.0	0.67	250.0	High
05-May-87	147/21	HEART	1.9	0.25	95.0	Low
05-May-87	147/21	BRAIN	2.0	0.27	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.04	0.005	2.00	Low
05-May-87	147/21	TESTIS	3.32	0.443	166.00	
05-May-87	147/21	SPLEEN	1.3	0.17	65.0	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
LIVER	INFLAMMATION, CHRONIC, MULTIFOCAL, Slight, Multifocal.
KIDNEY	CORTICAL LYMPHOCYTE AGGREGATES, Slight, Multifocal. PROGRESSIVE RENAL DISEASE, Slight, Multifocal.
PANCREAS	INFLAMMATION, CHRONIC, Moderate, Multifocal.
ADRENAL GLANDS	Required protocol tissue is missing.

Appendix O (cont.): PATHOLOGY

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00569 Sex: Male Group: 7 Dose level: 10. (MG/KG)/day
Day of death: 147 Status: Interim sacrifice 1 Terminal body weight (kms): 0.53

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	21.7	4.09	986.4	
05-May-87	147/21	KIDNEY	3.3	0.62	150.0	High
05-May-87	147/21	HEART	1.4	0.26	63.6	Low
05-May-87	147/21	BRAIN	2.2	0.42	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.03	0.006	1.36	Low
05-May-87	147/21	TESTIS	3.06	0.577	139.09	
05-May-87	147/21	SPLEEN	0.9	0.17	40.9	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
THYROID GLAND	CYST(S), Slight, Multifocal.
SALIVARY GLAND	INFLAMMATION, CHRONIC, Mild, Multifocal.
LACRIMAL GLAND	INFLAMMATION, CHRONIC, Slight, Multifocal.
HEART	INFLAMMATION, CHRONIC, Mild, Multifocal.
THYMUS	Required protocol tissue is missing.
SPLEEN	INCREASED BROWN PIGMENT IN MACROPHAGES, Mild.
KIDNEY	CORTICAL LYMPHOCYTE AGGREGATES, Mild, Multifocal.

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00569 Sex: Male Group: 7 Dose level: 10. (MG/KG)/day
Day of death: 147 Status: Interim sacrifice 1 Terminal body weight (kms): 0.53

<< P a t h o l o g y O b s e r v a t i o n s >>

Tissue	Histopathologic diagnoses / Special histological comments
KIDNEY	INFARCT, Mild, Focal.
URINARY BLADDER	Required protocol tissue is missing.
TESTIS	DEGENERATION, SEMINIFEROUS EPITHELIUM, Mild, Multifocal.
BONE, FEMUR	Required protocol tissue is missing.
CERVICAL LYMPH N	Miscellaneous. PLASMACYTOSIS, MEDULLARY, Moderate.

Appendix O (cont.): PATHOLOGY

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00597 Sex: Male Group: 7 Dose level: 10. (MG/KG)/day
Day of death: 147 Status: Interim sacrifice 1 Terminal body weight (kms): 0.59

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	18.3	3.10	795.7	Low
05-May-87	147/21	KIDNEY	3.9	0.66	169.6	High
05-May-87	147/21	HEART	1.9	0.32	82.6	
05-May-87	147/21	BRAIN	2.3	0.39	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.08	0.014	3.48	
05-May-87	147/21	TESTIS	3.69	0.625	160.43	
05-May-87	147/21	SPLEEN	0.7	0.12	30.4	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
PARATHYROID	Required protocol tissue is missing.
SALIVARY GLAND	INFLAMMATION, CHRONIC, Slight, Multifocal.

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00616 Sex: Male Group: 7 Dose level: 10. (MG/KG)/day
Day of death: 147 Status: Interim sacrifice 1 Terminal body weight (kms): 0.70

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	21.9	3.13	1042.9	Low
05-May-87	147/21	KIDNEY	3.7	0.53	176.2	
05-May-87	147/21	HEART	1.6	0.23	76.2	Low
05-May-87	147/21	BRAIN	2.1	0.30	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.07	0.010	3.33	
05-May-87	147/21	TESTIS	3.83	0.547	182.38	
05-May-87	147/21	SPLEEN	0.8	0.11	38.1	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
SPLEEN	NODULAR SURFACE, Mild	2X3MM NODULE ON THE VISCERAL SURFACE.
LIVER	ENLARGED, Trace CONGESTED, Trace	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
THYROID GLAND	CYST(S), Slight, Multifocal.
SALIVARY GLAND	INFLAMMATION, CHRONIC, Mild, Multifocal.
HEART	INFLAMMATION, CHRONIC, Slight.
SPLEEN	INCREASED BROWN PIGMENT IN MACROPHAGES, Mild.
LIVER	INFLAMMATION, CHRONIC, MULTIFOCAL, Slight, Multifocal.

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00616 Sex: Male Group: 7 Dose level: 10. (MG/KG)/day
Day of death: 147 Status: Interim sacrifice 1 Terminal body weight (kms): 0.70

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
KIDNEY	CORTICAL LYMPHOCYTE AGGREGATES, Slight, Multifocal. PROGRESSIVE RENAL DISEASE, Slight, Multifocal.
EPIDIDYMUS	MICROCYSTIC CHANGE, EPITHELIUM, Slight.
TESTIS	DEGENERATION, SEMINIFEROUS EPITHELIUM, Marked.
PANCREAS	INFLAMMATION, CHRONIC, Mild, Multifocal.
CERVICAL LYMPH N	Miscellaneous. PLASMACYTOSIS, MEDULLARY, Slight.
EXTRAOCULAR MM	Miscellaneous. MYOPATHIC CHANGE, Slight.

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00623 Sex: Male Group: 7 Dose level: 10. (MG/KG)/day
Day of death: 147 Status: Interim sacrifice 1 Terminal body weight (kms): 0.68

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	19.8	2.91	900.0	Low
05-May-87	147/21	KIDNEY	3.7	0.54	168.2	
05-May-87	147/21	HEART	1.8	0.26	81.8	Low
05-May-87	147/21	BRAIN	2.2	0.32	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.07	0.010	3.18	
05-May-87	147/21	TESTIS	3.68	0.541	167.27	
05-May-87	147/21	SPLEEN	0.9	0.13	40.9	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
PARATHYROID	Required protocol tissue is missing.
SALIVARY GLAND	INFLAMMATION, CHRONIC, Mild, Multifocal.
HEART	CHRONIC MYOFIBER DEGENERATION, Slight, Multifocal.
LIVER	INFLAMMATION, CHRONIC, MULTIFOCAL, Slight, Multifocal.
PITUITARY GLAND	Required protocol tissue is missing.

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00654 Sex: Male Group: 7 Dose level: 10. (MG/KG)/day
Day of death: 147 Status: Interim sacrifice 1 Terminal body weight (kms): 0.65

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	18.4	2.83	968.4	Low
05-May-87	147/21	KIDNEY	3.1	0.48	163.2	
05-May-87	147/21	HEART	1.6	0.25	84.2	Low
05-May-87	147/21	BRAIN	1.9	0.29	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.02	0.003	1.05	Low
05-May-87	147/21	TESTIS	2.96	0.455	155.79	
05-May-87	147/21	SPLEEN	0.7	0.11	36 8	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
ADRENAL GLANDS	RIGHT ADRENAL MISSING

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
SALIVARY GLAND	INFLAMMATION, CHRONIC, Mild, Focal.
LUNGS	HYPERPLASIA, BALT, Slight.
LIVER	INFLAMMATION, CHRONIC, MULTIFOCAL, Slight, Multifocal.
KIDNEY	CORTICAL LYMPHOCYTE AGGREGATES, Slight, Multifocal.

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00660 Sex: Male Group: 7 Dose level: 10. (MG/KG)/day
Day of death: 147 Status: Interim sacrifice 1 Terminal body weight (kms): 0.65

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	24.5	3.77	1065.2	
05-May-87	147/21	KIDNEY	4.1	0.63	178.3	High
05-May-87	147/21	HEART	1.8	0.28	78.3	Low
05-May-87	147/21	BRAIN	2.3	0.35	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.06	0.009	2.61	
05-May-87	147/21	TESTIS	3.74	0.575	162.61	
05-May-87	147/21	SPLEEN	0.8	0.12	34.8	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
SPLEEN	INCREASED BROWN PIGMENT IN MACROPHAGES, Slight.
LIVER	VACUOLIZATION, FOCAL, Mild, Focal.
CECUM	GRANULOMA(S), SUBMUCOSA, Moderate, Multifocal.
TURBINATES	INFLAMMATION, LYMPHOCYTIC, Slight, Multifocal.
CERVICAL LYMPH N	Miscellaneous. PLASMACYTOSIS, MEDULLARY, Mild.
MESENTERY	Miscellaneous. INFLAMMATION, GRANULOMATOUS, Moderate.

Appendix O (cont.): PATHOLOGY

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00660 Sex: Male Group: 7 Dose level: 10. (MG/KG)/day
Day of death: 147 Status: Interim sacrifice 1 Terminal body weight (kms): 0.65

<< P a t h o l o g y O b s e r v a t i o n s >>

Tissue	Histopathologic diagnoses / Special histological comments
MESENTERY	ARTERITIS, CHRONIC, Marked.

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00729 Sex: Male Group: 7 Dose level: 10. (MG/KG)/day
Day of death: 147 Status: Interim sacrifice 1 Terminal body weight (kms): 0.65

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	17.9	2.75	942.1	Low
05-May-87	147/21	KIDNEY	3.5	0.54	184.2	
05-May-87	147/21	HEART	1.7	0.26	89.5	Low
05-May-87	147/21	BRAIN	1.9	0.29	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.06	0.009	3.16	
05-May-87	147/21	TESTIS	3.41	0.525	179.47	
05-May-87	147/21	SPLEEN	0.7	0.11	36.8	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
THYROID GLAND	CYST(S), Slight, Focal.
SPLEEN	INCREASED BROWN PIGM[illegible] IN MACROPHAGES, Mild.

Appendix O (cont.): PATHOLOGY

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00559 Sex: Male Group: 8 Dose level: 10. (MG/KG)/day
Day of death: 175 Status: Final sacrifice Terminal body weight (kms): 0.66

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	18.4	2.79	876.2	Low
05-May-87	147/21	KIDNEY	3.5	0.53	166.7	
05-May-87	147/21	HEART	1.5	0.23	71.4	Low
05-May-87	147/21	BRAIN	2.1	0.32	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.07	0.011	3.33	
05-May-87	147/21	TESTIS	0.78	0.118	37.14	Low
05-May-87	147/21	SPLEEN	0.8	0.12	38.1	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
LIVER	ENLARGED, Trace ABNORMAL PIGMENTATION	ACCENTUATED ARCHITECTURE, ROUNDED EDGES. PALE
TESTIS	ATROPHIC/SMALL, BILATERALLY, Mild	1X1.5CM

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
THYROID GLAND	CYST(S), Mild, Multifocal.
SALIVARY GLAND	INFLAMMATION, CHRONIC, Mild, Focal.
LIVER	INFLAMMATION, CHRONIC, MULTIFOCAL, Slight, Multifocal.
KIDNEY	CORTICAL LYMPHOCYTE AGGREGATES, Slight, Multifocal.
TESTIS	DEGENERATION, SEMINIFEROUS EPITHELIUM, Marked, Diffuse.

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00559 Sex: Male Group: 8 Dose level: 10. (MG/KG)/day
Day of death: 175 Status: Final sacrifice Terminal body weight (kms): 0.66

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
PANCREAS	INFLAMMATION, CHRONIC, Slight, Multifocal.
EXTRAOCULAR MM	Miscellaneous. MYOPATHIC CHANGE, Slight.

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00571 Sex: Male Group: 8 Dose level: 10. (MG/KG)/day
Day of death: 175 Status: Final sacrifice Terminal body weight (kms): 0.70

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	17.7	2.53	842.9	Low
05-May-87	147/21	KIDNEY	3.3	0.47	157.1	
05-May-87	147/21	HEART	1.6	0.23	76.2	Low
05-May-87	147/21	BRAIN	2.1	0.30	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.06	0.009	2.86	
05-May-87	147/21	TESTIS	3.47	0.496	165.24	
05-May-87	147/21	SPLEEN	0.7	0.10	33.3	

<< Gross Observations >>

Tissue	Finding, severity	*Gross Free-Text Comments*
KIDNEY	DILATED RENAL PELVIS, Trace	THE PELVIS OF THE RIGHT KIDNEY IS 2 X 4 MM.

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
SALIVARY GLAND	INFLAMMATION, CHRONIC, Mild, Multifocal.
KIDNEY	PROGRESSIVE RENAL DISEASE, Slight. DILATED RENAL PELVIS, Present.
PANCREAS	INFLAMMATION, CHRONIC, Slight, Multifocal.

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00608 Sex: Male Group: 8 Dose level: 10. (MG/KG)/day
Day of death: 175 Status: Final sacrifice Terminal body weight (kms): 0.53

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	16.6	3.13	721.7	Low
05-May-87	147/21	KIDNEY	3.5	0.66	152.2	High
05-May-87	147/21	HEART	1.4	0.26	60.9	Low
05-May-87	147/21	BRAIN	2.3	0.43	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.08	0.015	3.48	
05-May-87	147/21	TESTIS	3.07	0.579	133.48	
05-May-87	147/21	SPLEEN	0.8	0.15	34.8	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
THYROID GLAND	CYST(S), Slight, Focal.
SPLEEN	INCREASED BROWN PIGMENT IN MACROPHAGES, Slight.
PANCREAS	INFLAMMATION, CHRONIC, Mild, Multifocal.

Appendix O (cont.): PATHOLOGY

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00622 Sex: Male Group: 8 Dose level: 10. (MG/KG)/day
Day of death: 175 Status: Final sacrifice Terminal body weight (kms): 0.69

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	23.7	3.43	1077.3	
05-May-87	147/21	KIDNEY	3.8	0.55	172.7	
05-May-87	147/21	HEART	1.8	0.26	81.8	Low
05-May-87	147/21	BRAIN	2.2	0.32	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.07	0.010	3.18	
05-May-87	147/21	TESTIS	3.79	0.549	172.27	
05-May-87	147/21	SPLEEN	0.8	0.12	36.4	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
THYROID GLAND	CYST(S), Slight, Focal.
HEART	INFLAMMATION, CHRONIC, Slight, Focal.
SPLEEN	INCREASED BROWN PIGMENT IN MACROPHAGES, Slight.
LIVER	INFLAMMATION, CHRONIC, MULTIFOCAL, Slight, Multifocal.
KIDNEY	CORTICAL LYMPHOCYTE AGGREGATES, Slight, Multifocal. PROGRESSIVE RENAL DISEASE, Slight, Multifocal.
PANCREAS	INFLAMMATION, CHRONIC, Moderate, Multifocal.

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00622 Sex: Male Group: 8 Dose level: 10. (MG/KG)/day
Day of death: 175 Status: Final sacrifice Terminal body weight (kms): 0.69

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
PITUITARY GLAND	CYST(S), PARS DISTALIS, Slight, Multifocal.

Appendix O (cont.): PATHOLOGY

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00651 Sex: Male Group: 8 Dose level: 10. (MG/KG)/day
Day of death: 175 Status: Final sacrifice Terminal body weight (kms): 0.67

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	18.7	2.79	850.0	Low
05-May-87	147/21	KIDNEY	3.4	0.51	154.5	
05-May-87	147/21	HEART	1.6	0.24	72.7	Low
05-May-87	147/21	BRAIN	2.2	0.33	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.06	0.009	2.73	
05-May-87	147/21	TESTIS	3.36	0.501	152.73	
05-May-87	147/21	SPLEEN	0.8	0.12	36.4	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
SALIVARY GLAND	INFLAMMATION, CHRONIC, Mild, Multifocal.
LIVER	INFLAMMATION, CHRONIC, MULTIFOCAL, Slight, Multifocal.
CERVICAL LYMPH N	Miscellaneous. PLASMACYTOSIS, MEDULLARY, Moderate.

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00524 Sex: Male Group: 9 Dose level: 10. (MG/KG)/day
Day of death: 175 Status: Final sacrifice Terminal body weight (kms): 0.60

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	16.5	2.77	835.9	Low
05-May-87	147/21	KIDNEY	2.6	0.44	131.6	
05-May-87	147/21	HEART	1.8	0.31	92.7	
05-May-87	147/21	BRAIN	2.0	0.33	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.05	0.009	2.68	
05-May-87	147/21	TESTIS	2.80	0.468	141.30	
05-May-87	147/21	SPLEEN	1.0	0.16	49.1	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
SALIVARY GLAND	INFLAMMATION, CHRONIC, Mild, Multifocal.
HEART	CHRONIC MYOFIBER DEGENERATION, Slight, Multifocal.
SPLEEN	INCREASED BROWN PIGMENT IN MACROPHAGES, Moderate.
LIVER	INFLAMMATION, CHRONIC, MULTIFOCAL, Slight, Multifocal.
KIDNEY	MINERALIZATION, PELVIS, Marked.
EPIDIDYMUS	MICROCYSTIC CHANGE, EPITHELIUM, Mild.
TURBINATES	INFLAMMATION, LYMPHOCYTIC, Mild.

Appendix O (cont.): PATHOLOGY

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00524 Sex: Male Group: 9 Dose level: 10. (MG/KG)/day
Day of death: 175 Status: Final sacrifice Terminal body weight (kms): 0.60

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
CERVICAL LYMPH N	Miscellaneous. PLASMACYTOSIS, MEDULLARY, Mild.

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00537 Sex: Male Group: 9 Dose level: 10. (MG/KG)/day
Day of death: 175 Status: Final sacrifice Terminal body weight (kms): 0.58

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	21.3	3.69	905.2	
05-May-87	147/21	KIDNEY	3.6	0.63	154.6	High
05-May-87	147/21	HEART	1.5	0.27	65.3	Low
05-May-87	147/21	BRAIN	2.4	0.41	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.07	0.012	2.85	
05-May-87	147/21	TESTIS	3.82	0.662	162.22	High
05-May-87	147/21	SPLEEN	1.0	0.17	40.8	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
SPLEEN	INCREASED BROWN PIGMENT IN MACROPHAGES, Mild.
KIDNEY	MINERALIZATION, PELVIS, Moderate.
PANCREAS	INFLAMMATION, CHRONIC, Slight, Focal.

Appendix O (cont.): PATHOLOGY

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00547 Sex: Male Group: 9 Dose level: 10. (MG/KG)/day
Day of death: 175 Status: Final sacrifice Terminal body weight (kms): 0.58

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	19.0	3.26	928.4	Low
05-May-87	147/21	KIDNEY	3.5	0.60	171.1	High
05-May-87	147/21	HEART	1.5	0.26	75.0	Low
05-May-87	147/21	BRAIN	2.0	0.35	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.06	0.011	3.12	
05-May-87	147/21	TESTIS	3.58	0.613	174.77	
05-May-87	147/21	SPLEEN	0.8	0.13	37.5	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
PARATHYROID	Required protocol tissue is missing.
SALIVARY GLAND	INFLAMMATION, CHRONIC, Mild.
SPLEEN	INCREASED BROWN PIGMENT IN MACROPHAGES, Moderate.
KIDNEY	PROGRESSIVE RENAL DISEASE, Slight.
EPIDIDYMUS	MICROCYSTIC CHANGE, EPITHELIUM, Mild, Focal.
PANCREATIC LN	Miscellaneous. BROWN PIGMENT IN MACROPHAGES, Moderate.

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00591 Sex: Male Group: 9 Dose level: 10. (MG/KG)/day
Day of death: 175 Status: Final sacrifice Terminal body weight (kms): 0.73

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
05-May-87	147/21	LIVER	24.3	3.32	1167.8	Low
05-May-87	147/21	KIDNEY	4.7	0.64	226.2	[illegible]gh
05-May-87	147/21	HEART	2.0	0.27	94.4	Low
05-May-87	147/21	BRAIN	2.1	0.28	100.0	Low
05-May-87	147/21	ADRENAL GLANDS	0.06	0.008	2.79	
05-May-87	147/21	TESTIS	3.59	0.490	172.60	
05-May-87	147/21	SPLEEN	0.4	0.06	19.7	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
KIDNEY	CYST(S)	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
SALIVARY GLAND	INFLAMMATION, CHRONIC, Slight, Multifocal.
LACRIMAL GLAND	INFLAMMATION, CHRONIC, Slight, Focal.
SPLEEN	INCREASED BROWN PIGMENT IN MACROPHAGES, Mild.
KIDNEY	PROGRESSIVE RENAL DISEASE, Mild.
PANCREAS	INFLAMMATION, CHRONIC, Mild, Multifocal.
PITUITARY GLAND	Required protocol tissue is missing.

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SUBCHRONIC/180 DAY FEEDING

Animal: 86D00518 Sex: Male Group: 9 Dose level: 10. (MG/KG)/day
Day of death: 175 Status: Final sacrifice Terminal body weight (kms): 0.70

<< Organ Weights >>

Date	Day/week of Study	Organ Name	Absolute Organ Weight (gms)	Relative % of Body Weight	Relative % of Brain Weight	Organ Status
02-Jun-87	175/25	LIVER	23.0	3.30	1123.0	Low
02-Jun-87	175/25	KIDNEY	4.0	0.57	195.1	High
02-Jun-87	175/25	HEART	1.8	0.25	86.3	Low
02-Jun-87	175/25	BRAIN	2.1	0.29	100.0	Low
02-Jun-87	175/25	ADRENAL GLANDS	0.06	0.008	2.88	
02-Jun-87	175/25	TESTIS	3.74	0.536	182.55	
02-Jun-87	175/25	SPLEEN	0.8	0.11	37.5	

<< Gross Observations >>

Tissue	Finding, severity	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED	

<< Necropsy Memos >>

Tissue	Necropsy memos
No necropsy memos	recorded on animal

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
THYROID GLAND	CYST(S), Slight, Focal.
SPLEEN	INCREASED BROWN PIGMENT IN MACROPHAGES, Slight.
KIDNEY	PROGRESSIVE RENAL DISEASE, Mild.
PANCREAS	INFLAMMATION, CHRONIC, Mild, Multifocal.
SKIN	INFLAMMATION, CHRONIC, Moderate.
EYES & OPTIC N.	Required protocol tissue not examined.
CERVICAL LYMPH N	Miscellaneous. PLASMACYTOSIS, MEDULLARY, Mild.

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Individual Animal Data Dump Table
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Study Start Date: 10-Dec-86

SUBCHRONIC/180 DAY FEEDING

Animal: 86D00518 Sex: Male Group: 9 Dose level: 10. (MG/KG)/day
Day of death: 175 Status: Final sacrifice Terminal body weight (kms): 0.70

<< Pathology Observations >>

Tissue	Histopathologic diagnoses / Special histological comments
PREPUTIAL GLAND	Miscellaneous. INFLAMMATION, CHRONIC, Mild, Multifocal.

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