

Summary of results (Triphenyltin chloride)

Generation			Dam: F0 Offspring: F1					
Dose(ppm)			0	0.015	0.15	1.5	5.0	15.0
Number of pregnant females			15	14	15	14	15	15
Found dead			0	0	0	0	0	0
F 0	Gestation period	Clinical findings	–	–	–	–	–	–
		Body weights (g)	Day0	243.7 ±10.6	242.7 ±8.4	242.3 ±10.7	242.8 ±11.1	243.7 ±9.0
	Day 7		284.9 ±11.8	284.6 ±8.8	287.9 ±11.6	282.0 ±14.4	282.4 ±10.1	280.3 ±11.9
	Day 14		326.8 ±14.1	326.5 ±9.9	326.4 ±14.5	322.2 ±16.0	321.1 ±12.0	319.7 ±13.3
	Day 20		406.6 ±21.8	406.7 ±12.4	409.7 ±19.1	403.7 ±23.5	400.3 ±12.5	400.1 ±21.7
	Body weight gains (g)	Day 0-7	41.2 ±7.9	41.9 ±5.7	45.5 ±5.4	39.2 ±6.3	38.7 ±3.8	36.5 ±5.2
		Day 7-14	121.7 ±20.0	122.1 ±9.6	121.8 ±13.7	121.7 ±12.4	117.8 ±7.9	119.9 ±13.0
	Food consumption (g)	Day 0-7	23.6 ±2.3	23.0 ±1.9	23.7 ±1.5	21.9 ±1.4	22.4 ±2.0	21.7 ±2.0
		Day 7-14	25.2 ±2.4	25.2 ±2.1	25.0 ±2.8	23.9 ±1.6	24.8 ±1.4	24.8 ±2.3
		Day 14-20	27.2 ±2.4	26.0 ±1.7	26.6 ±2.9	25.6 ±2.7	25.9 ±1.1	26.4 ±2.8
	Food efficiency	Day 0-7	1.76 ±0.36	1.82 ±0.20	1.93 ±0.21	1.79 ±0.26	1.74 ±0.19	1.69 ±0.22
		Day 7-14	1.64 ±0.26	1.66 ±0.19	1.54 ±0.18	1.68 ±0.20	1.56 ±0.23	1.58 ±0.24
		Day 14-20	2.94 ±0.42	3.08 ±0.26	3.15 ±0.30	3.19 ±0.31	3.06 ±0.16	3.06 ±0.33
	TPT intake (µg/kg)	Day 0-20	0.00 ±0.00	1.12 ±0.08	11.25 ±0.75	108.51 ±6.14	371.28 ±17.62	1110.11 ±82.46

H or **H** : Significantly higher than the control (p < 0.05 and p < 0.01, respectively).

L or **L** : Significantly lower than the control (p < 0.05 and p < 0.01, respectively).

–: No treatment-related alterations.

D or I : Decreasing or increasing tendency.

Summary of results (continued-1)

Generation			Dam: F0 Offspring: F1					
Dose(ppm)			0	0.015	0.15	1.5	5.0	15.0
Number of pregnant females			3	3	3	3	3	3
F 0	Absolute organ weights	Brain (g)	2.000 ±0.026	1.997 ±0.051	1.943 ±0.072	1.967 ±0.025	1.990 ±0.026	1.980 ±0.046
		Pituitary gland (mg)	11.60 ±0.26	13.30 ±0.44	11.73 ±0.59	11.57 ±1.19	11.10 ±1.21	11.57 ±0.76
		Thyroid (mg)	21.43 ±2.40	20.63 ±1.75	18.63 ±4.36	15.93 ±3.29	18.47 ±1.81	18.90 ±4.20
		Thymus (mg)	361.3 ±51.7	337.3 ±5.7	301.3 ±79.5	338.0 ±53.9	278.7 ±72.8	317.3 ±88.3
		Liver (g)	17.483 ±0.801	17.493 ±0.659	17.250 ±1.523	18.417 ±0.958	16.670 ±2.461	15.663 ±1.251
		Spleen (g)	0.790 ±0.044	0.857 ±0.101	0.767 ±0.065	0.897 ±0.078	0.737 ±0.168	0.817 ±0.068
		Adrenal (mg)	68.0 ±3.6	69.3 ±7.6	63.7 ±4.0	68.3 ±8.3	60.0 ±5.2	66.3 ±2.3
		Kidney (g)	2.020 ±0.072	2.037 ±0.177	2.007 ±0.163	2.030 ±0.061	1.927 ±0.237	1.850 ±0.072
		Ovary (mg)	142.0 ±5.2	133.7 ±18.9	136.3 ±7.2	147.3 ±26.4	145.0 ±17.0	146.0 ±7.5
		Uterus (g)	4.070 ±0.460	4.393 ±0.131	4.687 ±0.244	4.380 ±0.320	4.490 ±0.214	4.743 ±0.323
Relative organ weights	Brain (%)	0.507 ±0.006	0.483 ±0.021	0.463 L ±0.015	0.467 L ±0.015	0.490 ±0.017	0.473 ±0.015	
	Pituitary gland (10 ⁻³ %)	2.937 ±0.120	3.227 ±0.169	2.817 ±0.060	2.763 ±0.335	2.723 ±0.221	2.770 ±0.252	
	Thyroid (10 ⁻³ %)	5.423 ±0.527	5.003 ±0.504	4.463 ±0.913	3.813 ±0.872	4.530 ±0.318	4.520 ±1.004	
	Thymus (10 ⁻³ %)	91.567 ±13.889	81.747 ±0.229	72.677 ±20.443	80.897 ±15.088	68.117 ±15.284	76.330 ±23.585	
	Liver (%)	4.427 ±0.247	4.240 ±0.113	4.143 ±0.242	4.400 ±0.332	4.087 ±0.456	3.740 ±0.243	
	Spleen (%)	0.200 ±0.010	0.210 ±0.026	0.183 ±0.021	0.213 ±0.012	0.180 ±0.036	0.197 ±0.015	
	Adrenal (10 ⁻³ %)	17.220 ±0.968	16.787 ±1.595	15.307 ±0.856	16.367 ±2.585	14.723 ±0.763	15.867 ±0.674	
	Kidney (%)	0.510 ±0.026	0.493 ±0.042	0.483 ±0.029	0.487 ±0.032	0.473 ±0.040	0.440 ±0.026	
	Ovary (10 ⁻³ %)	35.973 ±1.874	32.437 ±5.019	32.773 ±1.465	35.127 ±6.187	35.567 ±3.073	34.903 ±1.562	
	Uterus (%)	1.030 ±0.095	1.067 ±0.032	1.127 ±0.057	1.043 ±0.046	1.103 ±0.021	1.130 ±0.044	
Observation at terminal sacrifice (GD 20)	Number of corpora lutea	15.0 ±2.6	19.3 ±2.5	18.3 ±1.2	19.0 ±3.0	18.7 ±0.6	18.7 ±1.5	
	Number of implants	15.0 ±2.6	17.0 ±0.0	18.3 ±1.2	16.7 ±2.3	18.0 ±1.0	18.7 ±1.5	
	Implantation index (%)	100.0 ±0.0	88.91 ±11.38	100.0 ±0.0	88.02 ±6.48	96.39 ±3.13	100.0 ±0.0	
	Fetal mortality (%)	15.73 ±3.59	7.84 ±6.79	5.47 ±5.28	4.23 ±3.75	7.12 ±8.01	5.09 ±5.00	
Gross findings			-	-	-	-	-	

H or H : Significantly higher than the control (p < 0.05 and p < 0.01, respectively).

L or L : Significantly lower than the control (p < 0.05 and p < 0.01, respectively).

-: No treatment-related alterations.

D or I : Decreasing or increasing tendency.

Summary of results (continued-2)

Generation			Dam: F0 Offspring: F1					
Dose(ppm)			0	0.015	0.15	1.5	5.0	15.0
Number of litters			3	3	3	3	3	3
F1	Fetal findings	Number of live male fetuses	6.3 ±0.6	7.3 ±0.6	10.3 ±2.3	8.7 ±3.1	7.0 ±2.0	8.3 ±1.2
		Number of live female fetuses	6.3 ±2.5	8.3 ±1.5	7.0 ±1.0	7.3 ±1.5	9.7 ±1.5	9.3 ±1.5
		Body weights of male fetuses (g)	3.94 ±0.26	3.85 ±0.14	3.81 ±0.03	3.48 ±0.06	3.79 ±0.33	3.88 ±0.11
		Body weights of female fetuses (g)	3.68 ±0.28	3.63 ±0.08	3.42 ±0.05	3.42 ±0.24	3.52 ±0.29	3.67 ±0.12
	Urovaginal septa length	Male (mm)	-0.61 ±0.12	-0.56 ±0.02	-0.55 ±0.03	-0.55 ±0.06	-0.64 ±0.05	-0.53 ±0.01
		Female (mm)	0.77 ±0.06	0.70 ±0.08	0.80 ±0.11	0.70 ±0.06	0.81 ±0.06	0.87 ±0.10
		Male (mm/body weight)	-0.16 ±0.04	-0.15 ±0.01	-0.14 ±0.01	-0.15 ±0.02	-0.17 ±0.03	-0.13 ±0.01
		Female (mm/body weight)	0.21 ±0.03	0.19 ±0.03	0.24 ±0.04	0.21 ±0.02	0.23 ±0.01	0.23 ±0.03

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-: No treatment-related alterations.

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Summary of results (continued-3)

Generation			Dam: F0 Offspring: F1						
Dose(ppm)			0	0.015	0.15	1.5	5.0	15.0	
Number of pregnant females			12	11	12	11	12	12	
Dead			0	0	0	0	0	0	
F 0	Lactation period	Clinical findings	-	-	-	-	-	-	
		Body weights (g)	Day 0	280.9 ±14.8	270.1 ±15.7	272.6 ±16.6	267.7 ±20.8	261.8 ±14.7	264.3 ±17.9
			Day 7	306.1 ±23.3	300.8 ±13.5	313.3 ±15.9	294.9 ±19.5	308.5 ±17.9	308.3 ±11.7
			Day 14	318.8 ±17.8	313.6 ±11.7	320.7 ±12.6	313.1 ±20.7	317.3 ±14.3	318.8 ±15.4
			Day 21	308.5 ±16.6	303.6 ±11.1	317.6 ±17.0	304.6 ±15.5	307.3 ±19.2	312.9 ±15.1
			Autopsy day	305.2 ±16.7	299.4 ±15.7	314.9 ±17.9	306.5 ±15.4	301.7 ±17.8	310.8 ±12.4
	Body weight gains (g)	Day 0-21	27.6 ±16.4	33.5 ±12.5	45.0 ±16.4	36.9 ±22.2	45.5 ±17.2	48.6 H ±15.2	
	Food consumption (g)	Day 0-7	32.2 ±5.1	35.1 ±3.8	34.6 ±4.3	32.5 ±4.7	35.1 ±6.1	32.1 ±2.8	
		Day 7-14	50.1 ±7.5	48.7 ±5.6	50.1 ±10.5	43.6 ±3.5	50.1 ±6.3	43.1 ±6.7	
		Day 14-21	68.2 ±11.9	65.7 ±11.0	66.9 ±11.5	56.2 ±8.0	65.3 ±12.3	54.0 L ±10.3	
	Food efficiency	Day 0-7	0.68 ±0.74	0.87 ±0.41	1.16 ±0.36	0.82 ±0.63	1.33 H ±0.39	1.37 H ±0.30	
		Day 7-14	0.25 ±0.32	0.25 ±0.29	0.15 ±0.22	0.40 ±0.42	0.17 ±0.27	0.25 ±0.17	
	TPT intake (µg/kg)	Day 0-21	0 ±0	2.45 ±0.27	23.88 ±3.69	217.68 ±23.43	809.60 ±119.62	2060.87 ±270.84	

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D or I : Decreasing or increasing tendency.

Summary of results (continued-4)

Generation			Dam: F0 Offspring: F1					
Dose(ppm)			0	0.015	0.15	1.5	5.0	15.0
Number of pregnant females			12	11	12	11	12	12
F0	Absolute organ weights	Brain (g)	1.928 ±0.076	1.888 ±0.087	1.945 ±0.045	1.923 ±0.039	1.948 ±0.040	1.943 ±0.073
		Pituitary gland (mg)	11.02 ±0.85	11.26 ±1.42	11.97 ±1.20	11.97 ±1.65	11.09 ±1.54	11.80 ±2.15
		Thyroid (mg)	16.24 ±2.77	16.33 ±1.78	17.64 ±2.57	18.60 ±2.88	16.12 ±2.05	16.54 ±2.10
		Thymus (mg)	182.4 ±59.3	206.8 ±66.6	227.2 ±82.8	245.3 ±54.0	209.1 ±62.7	253.6 ±76.6
		Liver (g)	13.878 ±0.922	13.205 ±0.625	14.255 ±1.277	12.935 ±0.805	13.532 ±1.490	14.079 ±1.803
		Spleen (g)	0.710 ±0.085	0.712 ±0.096	0.736 ±0.123	0.733 ±0.073	0.706 ±0.079	0.739 ±0.100
		Kidney (g)	2.215 ±0.164	2.224 ±0.103	2.299 ±0.155	2.255 ±0.118	2.213 ±0.124	2.267 ±0.147
		Adrenal (mg)	67.3 ±6.5	66.5 ±7.9	71.0 ±8.3	65.0 ±3.8	64.4 ±4.4	66.3 ±8.1
		Ovary (mg)	87.6 ±10.2	93.1 ±11.1	85.9 ±11.7	93.6 ±11.3	82.6 ±10.3	91.4 ±12.0
		Uterus (g)	0.354 ±0.150	0.363 ±0.131	0.400 ±0.138	0.375 ±0.059	0.332 ±0.109	0.391 ±0.134
	Relative organ weights	Brain (%)	0.633 ±0.041	0.631 ±0.034	0.619 ±0.040	0.629 ±0.034	0.648 ±0.040	0.626 ±0.030
		Pituitary gland (10 ⁻³ %)	3.618 ±0.320	3.758 ±0.370	3.804 ±0.360	3.914 ±0.553	3.696 ±0.610	3.794 ±0.650
		Thyroid (10 ⁻³ %)	5.319 ±0.820	5.466 ±0.650	5.610 ±0.790	6.060 ±0.812	5.348 ±0.680	5.328 ±0.700
		Thymus (10 ⁻³ %)	59.198 ±16.820	68.875 ±20.866	71.918 ±26.380	80.150 ±18.029	69.360 ±20.510	81.473 ±23.990
		Liver (%)	4.551 ±0.253	4.416 ±0.196	4.533 ±0.408	4.224 ±0.222	4.482 ±0.360	4.528 ±0.551
		Spleen (%)	0.233 ±0.021	0.237 ±0.022	0.233 ±0.036	0.239 ±0.019	0.234 ±0.025	0.238 ±0.028
		Kidney (%)	0.724 ±0.040	0.743 ±0.032	0.731 ±0.030	0.737 ±0.039	0.736 ±0.040	0.729 ±0.030
		Adrenal (10 ⁻³ %)	22.088 ±2.370	22.295 ±2.971	22.575 ±2.610	21.216 ±0.856	21.388 ±1.460	21.271 ±2.040
		Ovary (10 ⁻³ %)	28.715 ±3.120	31.176 ±4.065	27.316 ±3.590	30.700 ±4.669	27.408 ±3.258	29.405 ±3.545
Uterus (%)		0.115 ±0.046	0.122 ±0.045	0.126 ±0.042	0.122 ±0.017	0.111 ±0.039	0.125 ±0.042	
Gross findings			-	-	-	-	-	-

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-: No treatment-related alterations.

D or I : Decreasing or increasing tendency.

Summary of results (continued-5)

Generation			Dam: F0 Offspring: F1						
Dose(ppm)			0	0.015	0.15	1.5	5.0	15.0	
Number of litters			12	11	12	11	12	12	
F 0	Delivery and maternal behavior	Fertility index (%)	100.0	93.3	100.0	93.3	100.0	100.0	
		Delivery index (%)	100.0	91.7	100.0	91.7	100.0	100.0	
		Gestation length (day)	22.08 ±0.29	22.09 ±0.30	22.25 ±0.45	22.18 ±0.40	22.25 ±0.45	22.08 ±0.29	
		Number of implantation sites	16.83 ±2.12	17.18 ±1.08	16.33 ±1.30	17.73 ±1.10	16.75 ±1.66	17.33 ±1.78	
		Number of pups delivered	15.7 ±2.71	15.8 ±1.17	15.5 ±1.73	15.8 ±1.89	15.4 ±1.62	15.3 ±2.09	
Number of pups	LD 0	Male	92	95	88	86	95	93	
		Female	96	79	98	88	90	90	
Sex ratio(Male/male +female)			0.484	0.545	0.470	0.494	0.511	0.507	
Clinical findings		Male	-	-	-	-	-	-	
		Female	-	-	-	-	-	-	
Viability (%)	LD 0	Male	100.00	100.00	100.00	98.86	100.00	98.96	
		Female	100.00	100.00	98.81	100.00	98.96	99.07	
		Total	100.00	100.00	99.48	99.49	99.51	99.05	
	LD 4	Male	99.07	97.73	92.47	94.38	96.99	94.07	
		Female	98.03	92.27	87.85	93.03	95.77	89.15	
		Total	98.58	96.12	90.56	93.26	96.35	92.18	
	LD 22	Male	95.83	97.73	97.23	80.45	93.75	85.83	
		Female	97.92	92.43	100.00	91.67	100.00	78.47 • □	
		Total	96.88	95.45	97.62	86.36	96.88	82.29 • □	
Anogenital distances (mm)	LD 0	Male	2.72 ±0.17	2.66 ±0.11	2.73 ±0.20	2.70 ±0.15	2.71 ±0.17	2.79 ±0.19	
		Female	1.31 ±0.10	1.26 ±0.06	1.25 ±0.09	1.24 ±0.08	1.23 ±0.09	1.28 ±0.07	
	LD 4	Male	4.43 ±0.21	4.41 0.42	4.48 ±0.39	4.41 ±0.34	4.55 ±0.33	4.58 ±0.37	
		Female	2.25 ±0.18	2.27 ±0.26	2.41 ±0.26	2.33 ±0.25	2.31 ±0.14	2.35 ±0.18	
	Body weights (g)	Male	Day 0	6.0 ±0.5	5.8 ±0.3	5.6 ±0.5	5.4 ±0.6	5.6 ±0.7	5.4 ±0.7
			Day 4	9.0 ±1.1	8.2 ±0.5	8.2 ±1.0	7.8 • □ ±0.7	8.2 ±1.0	8.1 ±1.1
Day 21			42.7 ±2.6	43.6 ±4.1	41.3 ±4.3	41.6 ±5.2	42.3 ±3.9	44.4 ±5.3	
Female		Day 0	5.5 ±0.5	5.3 ±0.4	5.3 ±0.6	5.0 ±0.6	5.0 ±0.7	5.0 ±0.7	
		Day 4	8.4 ±1.2	7.4 ±0.5	7.9 ±0.8	7.5 ±0.8	7.9 ±0.9	7.2 ±1.2	
		Day 21	40.0 ±4.2	41.5 ±3.9	41.2 ±3.0	37.8 ±3.9	39.2 ±5.6	41.0 ±6.0	

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D or I : Decreasing or increasing tendency.

Summary of results (continued-6)

Generation				Dam: F0 Offspring: F1					
Dose(ppm)				0	0.015	0.15	1.5	5.0	15.0
Number of litters				12	11	12	11	12	12
F 1	Postnatal development (%)	Male	Pinna detachment (LD4)	100.00	98.99	98.33	98.86	99.08	97.62
			Incisor eruption (LD 14)	100.00	100.00	100.00	96.97	100.00	100.00
			Eye opening (LD 18)	100.00	100.00	100.00	93.94	100.00	100.00
			Descending of testis (LD 22)	100.00	100.00	100.00	96.97	100.00	100.00
		Female	Pinna detachment (LD 4)	100.00	96.97	100.00	100.00	100.00	96.03
			Incisor eruption (LD 14)	97.92	100.00	100.00	97.73	100.00	100.00
			Eye opening (LD 18)	95.83	100.00	100.00	100.00	100.00	100.00
			Reflex responses (%)	Male	Surface righting (LD 4)	100.00	100.00	91.67	100.00
	Negative geotaxis (LD 10)	91.67			100.00	91.67	100.00	100.00	100.0
	Mid-air righting (LD 17)	100.00			81.82	83.33	100.00	83.33	91.67
	Female	Surface righting (LD 4)		91.67	90.91	91.67	100.00	91.67	91.67
		Negative geotaxis (LD 10)		100.00	100.00	100.00	100.00	100.00	100.00
		Mid-air righting (LD 17)		91.67	90.91	100.00	100.00	91.67	91.67
	Gross findings		Male	-	-	-	-	-	-
			Female	-	-	-	-	-	-
	Histopathological findings		Male	-	-	-	-	-	-
			Female	-	-	-	-	-	-

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-: No treatment-related alterations.

D or I : Decreasing or increasing tendency.

Summary of results (continued-7)

Generation			Dam: F0 Offspring: F1						
Dose(ppm)			0	0.015	0.15	1.5	5.0	15.0	
Number of litters			6	5	6	5	6	6	
F 1	Male	Absolute organ weights	Brain (g)	1.409 ±0.077	1.386 ±0.056	1.369 ±0.067	1.406 ±0.069	1.380 ±0.069	1.390 ±0.070
			Pituitary gland (mg)	1.77 ±0.35	1.84 ±0.43	1.76 ±0.36	1.72 ±0.36	1.63 ±0.28	1.77 ±0.43
			Thyroid (mg)	4.65 ±0.88	5.46 ±0.87	4.83 ±0.94	5.62 ±0.79	5.04 ±0.90	4.98 ±0.91
			Thymus (mg)	167.0 ±29.2	172.5 ±29.9	156.5 ±38.6	167.9 ±33.7	160.9 ±38.8	154.4 ±33.5
			Liver (g)	1.981 ±0.304	1.949 ±0.381	1.747 ±0.294	1.954 ±0.414	1.881 ±0.317	1.894 ±0.366
			Spleen (g)	0.142 ±0.032	0.142 ±0.027	0.161 ±0.052	0.142 ±0.039	0.180 ±0.178	0.152 ±0.039
			Kidney (g)	0.552 ±0.072	0.560 ±0.081	0.484 ±0.082	0.548 ±0.094	0.531 ±0.072	0.547 ±0.082
			Adrenal (mg)	13.3 ±2.3	12.4 ±2.2	12.2 ±1.8	13.7 ±2.7	11.7 ±2.1	12.9 ±2.6
			Testis (g)	0.187 ±0.029	0.185 ±0.033	0.166 ±0.030	0.184 ±0.037	0.190 ±0.039	0.179 ±0.035
			Epididymis (mg)	35.4 ±3.4	35.0 ±4.4	32.5 ±4.1	34.6 ±4.1	33.9 ±6.4	33.9 ±3.8
			Seminal Vesicle (mg)	11.8 ±2.3	11.7 ±2.4	11.0 ±1.5	12.8 ±2.6	11.2 ±2.0	11.7 ±1.5
			Prostate (mg)	14.7 ±3.3	15.3 ±4.4	13.8 ±3.4	16.0 ±3.0	15.7 ±4.1	14.7 ±3.1
	Relative organ weights	Brain (%)	3.041 ±0.306	2.980 ±0.377	3.265 ±0.391	3.015 ±0.411	3.157 ±0.360	3.090 ±0.435	
		Pituitary gland (10 ⁻³ %)	3.833 ±0.824	3.924 ±0.989	4.197 ±0.973	3.626 ±0.604	3.737 ±0.855	3.928 ±1.127	
		Thyroid (10 ⁻³ %)	10.149 ±2.624	11.744 ±2.480	11.403 ±2.047	11.914 ±1.363	11.437 ±1.762	10.094 ±2.684	
		Thymus (10 ⁻³ %)	354.683 ±29.465	364.759 ±38.434	364.130 ±53.980	351.233 ±35.079	359.164 ±54.226	335.226 ±46.448	
		Liver (%)	4.220 ±0.303	4.095 ±0.325	4.092 ±0.290	4.082 ±0.275	4.232 ±0.273	4.106 ±0.221	
		Spleen (%)	0.302 ±0.047	0.298 ±0.027	0.376 ±0.095	0.297 ±0.063	0.415 ±0.466	0.327 ±0.046	
		Kidney (%)	1.179 ±0.086	1.185 ±0.069	1.136 ±0.069	1.149 ±0.066	1.200 ±0.066	1.196 ±0.071	
		Adrenal (10 ⁻³ %)	28.382 ±2.473	26.105 ±3.044	28.689 ±2.741	28.692 ±2.327	26.439 ±3.021	28.038 ±2.592	
		Testis (%)	0.397 ±0.033	0.393 ±0.046	0.390 ±0.034	0.389 ±0.050	0.424 ±0.035	0.388 ±0.037	
		Epididymis (10 ⁻³ %)	76.160 ±6.658	74.503 ±8.814	76.673 ±6.303	73.744 ±9.964	76.509 ±11.313	74.650 ±7.169	
		Seminal vesicle (10 ⁻³ %)	25.403 ±4.866	24.838 ±4.509	26.141 ±3.750	26.805 ±3.772	25.353 ±3.530	25.869 ±4.842	
		Prostate (10 ⁻³ %)	31.650 ±6.593	32.387 ±8.931	32.618 ±7.387	33.957 ±5.928	35.078 ±5.820	32.168 ±5.874	

H or **H** : Significantly higher than the control (p < 0.05 and p < 0.01, respectively).

L or **L** : Significantly lower than the control (p < 0.05 and p < 0.01, respectively).

-: No treatment-related alterations.

D or I : Decreasing or increasing tendency.

Summary of results (continued-8)

Generation			Dam: F0 Offspring: F1						
Dose(ppm)			0	0.015	0.15	1.5	5.0	15.0	
Number of litters			6	5	6	5	6	6	
F1	Female	Absolute organ weights	Brain (g)	1.354 ±0.064	1.320 ±0.073	1.339 ±0.037	1.324 ±0.093	1.319 ±0.098	1.291 ±0.092
			Pituitary gland (mg)	2.02 ±0.43	1.97 ±0.30	2.02 ±0.38	1.84 ±0.45	1.76 ±0.46	1.80 ±0.46
			Thyroid (mg)	5.64 ±0.96	5.06 ±0.64	5.29 ±0.66	5.39 ±1.07	5.18 ±1.1	4.83 ±0.77
			Thymus (mg)	164.7 ±33.1	161.4 ±26.9	167.8 ±28.8	154.1 ±44.6	152.4 ±48.8	147.1 ±41.3
			Liver (g)	1.905 ±0.336	1.766 ±0.284	1.836 ±0.204	1.735 ±0.408	1.729 ±0.390	1.685 ±0.342
			Spleen (g)	0.138 ±0.036	0.136 ±0.030	0.146 ±0.020	0.134 ±0.044	0.121 ±0.035	0.133 ±0.035
			Kidney (g)	0.533 ±0.081	0.538 ±0.076	0.506 ±0.055	0.495 ±0.102	0.475 ±0.096	0.501 ±0.087
			Adrenal (mg)	13.7 ±2.2	12.5 ±2.0	13.4 ±1.5	13.2 ±3.0	10.8 ±2.5	12.6 ±2.2
			Ovary (mg)	10.1 ±3.2	8.7 ±2.8	9.0 ±1.4	8.6 ±2.7	8.4 ±3.2	8.3 ±1.5
			Uterus (mg)	32.6 ±7.1	27.3 ±6.4	30.4 ±4.8	28.4 ±6.7	28.5 ±6.3	28.1 ±3.6
	Relative organ weights	Brain (%)	3.060 ±0.349	3.094 ±0.304	3.278 ±0.818	3.188 ±0.53	3.358 ±0.505	3.163 ±0.477	
		Pituitary gland (10 ⁻³ %)	4.601 ±1.276	4.610 ±0.784	4.902 ±1.220	4.347 ±0.887	4.383 ±0.814	4.308 ±0.744	
		Thyroid (10 ⁻³ %)	12.735 ±2.622	11.793 ±1.282	12.948 ±3.715	12.764 ±2.054	12.881 ±1.538	11.787 ±2.239	
		Thymus (10 ⁻³ %)	365.442 ±47.992	373.100 ±30.924	410.579 ±139.997	353.949 ±53.421	370.916 ±70.365	348.596 ±58.214	
		Liver (%)	4.228 ±0.335	4.083 ±0.228	4.440 ±0.923	4.032 ±0.235	4.274 ±0.442	4.015 ±0.265	
		Spleen (%)	0.305 ±0.051	0.313 ±0.038	0.355 ±0.090	0.309 ±0.061	0.296 ±0.050	0.317 ±0.059	
		Kidney (%)	1.187 ±0.092	1.248 ±0.078	1.226 ±0.283	1.158 ±0.066	1.183 ±0.104	1.202 ±0.057	
		Adrenal (10 ⁻³ %)	30.491 ±3.652	29.048 ±3.437	32.469 ±7.399	30.714 ±2.926	26.937 ±4.299	30.345 ±3.258	
		Ovary (10 ⁻³ %)	22.189 ±4.716	20.223 ±6.026	22.325 ±9.093	19.833 ±3.502	20.844 ±6.895	20.400 ±4.627	
		Uterus (10 ⁻³ %)	72.780 ±12.831	63.424 ±12.605	73.961 ±19.340	66.835 ±10.781	71.46 ±12.129	69.238 ±14.01	

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L or **L** : Significantly lower than the control (p < 0.05 and p < 0.01, respectively).

-: No treatment-related alterations.

D or I : Decreasing or increasing tendency.

Summary of results (continued-9)

Generation			Dam: F0 Offspring: F1						
Dose(ppm)			0	0.015	0.15	1.5	5.0	15.0	
Number of litters			6	6	6	6	6	6	
F1	Reflex responses (5 weeks old) (%)	Male	Pupillary reflex	100.0	100.0	100.0	100.0	100.0	100.0
			Touch reflex	100.0	100.0	100.0	100.0	100.0	100.0
			Auditory startle reflex	100.0	100.0	100.0	100.0	100.0	100.0
			Pain reflex	100.0	100.0	100.0	100.0	100.0	100.0
		Female	Pupillary reflex	100.0	100.0	100.0	100.0	100.0	100.0
			Touch reflex	100.0	100.0	100.0	100.0	100.0	100.0
			Auditory startle reflex	100.0	100.0	100.0	100.0	100.0	100.0
			Pain reflex	100.0	100.0	100.0	100.0	100.0	100.0
	Learning ability	Avoidance and escape index (%)	Male	71.67 ±37.51	87.50 ±24.03	96.67 ±2.58	86.67 ±13.66	75.83 ±20.84	57.50 ±35.32
			Female	85.83 ±20.10	77.50 ±25.64	80.83 ±33.68	86.67 ±18.89	90.00 ±22.14	85.83 ±30.07
	Sexual development (day)	Male	Preputial separation	51.2 ±1.2	53.3 ±2.1	51.2 ±1.7	51.0 ±2.6	51.5 ±1.6	51.7 ±2.7
		Female	Vaginal opening	37.5 ±1.5	35.8 ±2.8	35.3 ±2.1	37.0 ±4.5	36.5 ±3.6	35.3 ±2.3
	Body weights (g)	Male	Day 28	77.1 ±3.2	76.7 ±5.1	77.0 ±7.5	72.2 ±3.6	77.1 ±3.8	80.0 ±7.9
			Day 35	121.7 ±3.7	119.5 ±6.0	119.7 ±9.3	113.9 ±12.2	120.6 ±5.5	121.9 ±9.5
			Day 42	168.3 ±5.3	165.7 ±5.5	188.5 ±13.9	162.2 ±18.4	164.6 ±9.0	165.7 ±14.5
			Day 49	219.7 ±5.8	215.6 ±7.5	219.8 ±15.8	210.9 ±21.9	216.0 ±9.8	217.5 ±14.6
Day 56			277.8 ±11.3	274.5 ±8.4	277.7 ±19.7	268.5 ±27.5	272.2 ±13.5	271.5 ±6.5	
Day 63			316.1 ±15.0	313.8 ±6.3	321.9 ±18.9	316.3 ±18.4	314.4 ±12.0	312.3 ±11.9	
Day 70			331.2 ±24.0	328.2 ±12.4	338.9 ±14.9	343.8 ±25.2	339.5 ±7.7	332.3 ±19.8	
Female			Day 28	68.8 ±6.0	70.6 ±4.2	71.5 ±5.9	64.1 ±1.5	71.8 ±5.6	71.6 ±8.6
		Day 35	105.2 ±8.3	106.2 ±4.9	109.3 ±8.3	99.4 ±4.3	107.7 ±7.7	107.0 ±9.3	
		Day 42	137.8 ±8.5	139.0 ±2.6	140.7 ±10.4	132.5 ±6.6	137.8 ±9.6	137.4 ±7.8	
		Day 49	165.1 ±10.2	164.8 ±3.0	168.3 ±10.7	159.0 ±6.4	165.1 ±10.6	161.4 ±7.3	
		Day 56	190.3 ±7.6	190.4 ±3.7	192.9 ±12.0	186.4 ±6.4	189.7 ±13.1	186.7 ±8.7	
		Day 63	210.6 ±6.0	210.3 ±5.3	212.9 ±14.3	206.4 ±7.7	209.6 ±14.7	204.2 ±7.2	
Day 70		225.4 ±6.5	226.2 ±3.6	224.2 ±21.6	220.8 ±7.5	226.3 ±12.8	220.8 ±6.9		

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-: No treatment-related alterations.

D or I : Decreasing or increasing tendency.

Summary of results (continued-10)

Generation			Dam: F0 Offspring: F1						
Dose(ppm)			0	0.015	0.15	1.5	5.0	15.0	
Number of litters			6	6	6	6	6	6	
F 1	Sperm examination	Number of epidermal sperm (x 10 ⁶ /g cauda)	572.2 ±59.6	527.1 ±56.7	556.6 ±31.0	543.9 ±43.1	624.8 ±72.9	570.3 ±57.3	
		Motility (%)	49.32 ±12.51	49.35 ±10.52	47.00 ±13.01	45.53 ±18.76	46.21 ±12.73	45.91 ±5.37	
		Abnormal sperm index (%)	4.88 ±1.50	6.29 ±2.36	6.02 ±1.59	4.48 ±2.03	4.44 ±0.81	5.01 ±2.98	
	Estrus cycle	Normal estrus cycle index (%)	94.45 ±13.59	94.45 ±13.59	77.78 ±27.22	93.34 ±14.89	88.90 ±17.20	88.90 ±17.20	
		Estrus cycle length (day)	4.1 ±0.2	4.4 ±0.5	4.5 ±0.6	4.4 ±0.4	4.4 ±0.3	4.4 ±0.3	
	Hormone concentrations	Male	Testosterone (ng/mL)	0.53 ±0.25	0.48 ±0.16	0.55 ±0.15	0.83 ±0.47	0.65 ±0.48	0.61 ±0.47
			FSH(ng/mL)	13.24 ±2.49	12.75 ±2.34	14.15 ±0.95	16.17 ±2.22	14.11 ±1.22	13.84 ±2.19
			LH(ng/mL)	1.94 ±0.70	1.96 ±0.48	2.29 ±0.47	2.57 ±0.90	1.87 ±0.65	1.83 ±0.94
			TSH(ng/mL)	17.14 ±2.56	16.44 ±4.08	18.72 ±4.79	16.97 ±1.43	16.96 ±2.71	18.08 ±2.22
			T3(ng/mL)	0.58 ±0.03	0.63 ±0.07	0.59 ±0.07	0.64 ±0.09	0.61 ±0.10	0.71 ±0.25
			T4(ng/mL)	81.14 ±9.70	94.25 ±16.74	98.72 ±13.41	91.84 ±16.76	93.50 ±7.40	98.73 ±18.18
		Female	Estradiol (pg/mL)	78.65 ±14.56	68.90 ±13.81	53.63 ±14.94	71.03 ±16.64	72.10 ±32.15	65.77 ±32.61
			FSH(ng/mL)	5.02 ±1.04	5.35 ±1.30	4.16 ±1.19	4.02 ±1.41	3.60 ±0.36	5.01 ±1.45
			LH(ng/mL)	6.07 ±4.84	2.84 ±1.81	3.64 ±2.53	2.87 ±1.91	3.55 ±3.96	5.75 ±5.80
			TSH(ng/mL)	20.28 ±3.97	17.91 ±2.33	18.34 ±3.11	16.47 ±2.08	17.44 ±3.05	19.75 ±5.68
			T3(ng/mL)	0.71 ±0.06	0.65 ±0.10	0.72 ±0.08	0.78 ±0.10	0.56 • □ ±0.06	0.67 ±0.05
			T4(ng/mL)	115.19 ±18.01	114.25 ±9.57	114.37 ±22.76	102.59 ±3.07	106.03 ±4.90	116.48 ±13.24
	mRNA expression (%)	Prostate	AR	100.00 ±27.81	80.14 ±11.07	85.57 ±9.38	71.35 ±10.80	91.46 ±19.42	79.70 ±19.45
			Uterus	ER α	100.00 ±12.02	96.45 ±20.00	110.00 ±17.99	109.15 ±15.98	109.04 ±12.47
		ER β		97.23 ±37.62	76.67 ±18.66	102.78 ±47.82	53.89 ±16.99	87.22 ±66.91	71.11 ±37.10

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-: No treatment-related alterations.

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Summary of results (continued-11)

Generation				Dam: F0 Offspring: F1					
Dose(ppm)				0	0.015	0.15	1.5	5.0	15.0
Number of litters				6	6	6	6	6	6
F 1	Gross findings	Male	Kidney: Dilatation, renal pelvis	0	1	0	0	0	0
		Female	Kidney: Dilatation, renal pelvis	0	0	0	0	0	1
			Urinary bladder: Thickening, mucosa	0	2	0	0	0	1
			Urinary bladder: calculus	0	1	1	0	0	1
	Histo-pathological findings	Male	Pituitary gland: Cyst	3	#	#	#	#	4
			Pituitary gland: Remnant, Rathke's pouch	0	#	#	#	#	1
			Liver: Necrosis	2	#	#	#	#	0
		Female	Pituitary gland: Cyst	1	#	#	#	#	1
			Pituitary gland: Remnant, Rathke's pouch	0	#	#	#	#	1

#: Not examined.

Summary of results (continued-12)

Generation				Dam: F0 Offspring: F1						
Dose(ppm)				0	0.015	0.15	1.5	5.0	15.0	
Number of litters				6	6	6	6	6	6	
F 1	Male	Absolute organ weights	Brain (g)	1.938 ±0.054	1.897 ±0.062	1.923 ±0.075	1.893 ±0.112	1.950 ±0.057	1.923 ±0.067	
			Pituitary gland (mg)	9.64 ±1.14	8.94 ±0.85	9.46 ±0.86	9.94 ±0.87	9.49 ±0.82	9.15 ±0.90	
			Thyroid (mg)	17.62 ±1.68	17.67 ±2.15	18.32 ±2.31	18.91 ±2.77	18.30 ±1.54	18.92 ±2.06	
			Thymus (mg)	625.4 ±89.8	602.6 ±9.3	588.3 ±99.5	636.5 ±111.8	625.3 ±136.3	567.0 ±104.0	
			Liver (g)	13.710 ±3.389	14.152 ±2.469	14.389 ±2.899	14.396 ±2.167	14.522 ±1.809	13.197 ±2.691	
			Spleen (g)	0.712 ±0.099	0.714 ±0.063	0.731 ±0.065	0.776 ±0.080	0.785 ±0.094	0.789 ±0.071	
			Kidney (g)	2.761 ±0.279	2.748 ±0.224	2.786 ±0.228	2.772 ±0.186	2.717 ±0.224	2.826 ±0.225	
			Adrenal (mg)	48.7 ±4.7	50.1 ±5.7	50.3 ±5.8	49.3 ±5.0	48.0 ±5.5	50.7 ±4.0	
			Testis (g)	2.559 ±0.139	2.489 ±0.173	2.530 ±0.172	2.565 ±0.134	2.488 ±0.106	2.552 ±0.163	
			Epididymis (g)	0.749 ±0.060	0.713 ±0.06	0.737 ±0.067	0.740 ±0.060	0.722 ±0.060	0.737 ±0.066	
			Seminal vesicle (g)	1.351 ±0.219	1.275 ±0.203	1.422 ±0.171	1.475 ±0.219	1.400 ±0.219	1.445 ±0.258	
			Prostate (mg)	365.7 ±73.4	352.2 ±71.6	393.8 ±61.0	410.9 ±81.8	372.0 ±71.2	400.8 ±93.0	
			Relative organ weights	Brain (%)	0.591 ±0.048	0.580 ±0.040	0.570 ±0.031	0.561 ±0.025	0.577 ±0.029	0.580 ±0.036
				Pituitary gland (10 ⁻³ %)	2.912 ±0.189	2.722 ±0.204	2.793 ±0.213	2.946 ±0.234	2.803 ±0.222	2.759 ±0.249
	Thyroid (10 ⁻³ %)	5.354 ±0.567		5.390 ±0.655	5.429 ±0.767	5.592 ±0.735	5.413 ±0.527	5.703 ±0.547		
	Thymus (10 ⁻³ %)	189.542 ±24.730		184.680 ±34.462	175.263 ±36.507	189.499 ±41.125	185.107 ±41.927	172.294 ±38.286		
	Liver (%)	4.100 ±0.776		4.299 ±0.652	4.224 ±0.674	4.252 ±0.520	4.280 ±0.458	3.948 ±0.651		
	Spleen (%)	0.215 ±0.023		0.218 ±0.019	0.217 ±0.023	0.228 ±0.025	0.232 ±0.028	0.238 ±0.029		
	Kidney (%)	0.835 ±0.040		0.837 ±0.042	0.823 ±0.044	0.822 ±0.050	0.801 ±0.044	0.852 ±0.049		
	Adrenal (10 ⁻³ %)	14.783 ±1.623		15.285 ±1.684	14.845 ±1.392	14.589 ±1.296	14.153 ±1.509	15.306 ±1.497		
	Testis (%)	0.778 ±0.07		0.759 ±0.055	0.749 ±0.039	0.761 ±0.052	0.736 ±0.051	0.771 ±0.056		
	Epididymis (%)	0.228 ±0.021		0.217 ±0.014	0.217 ±0.011	0.219 ±0.014	0.212 ±0.017	0.223 ±0.018		
	Seminal vesicle(10 ⁻³ %)	0.409 ±0.062	0.388 ±0.051	0.421 ±0.056	0.435 ±0.056	0.411 ±0.054	0.438 ±0.093			
	Prostate (10 ⁻³ %)	110.589 ±20.047	107.117 ±20.131	116.799 ±19.972	121.366 ±21.471	109.676 ±20.186	121.080 ±28.741			

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L or **L** : Significantly lower than the control (p < 0.05 and p < 0.01, respectively).

-: No treatment-related alterations.

D or I : Decreasing or increasing tendency.

Summary of results (continued-13)

Generation			Dam: F0 Offspring: F1						
Dose(ppm)			0	0.015	0.15	1.5	5.0	15.0	
Number of litters			6	6	6	6	6	6	
F 1	Female	Absolute organ weights	Brain (g)	1.809 ±0.060	1.778 ±0.043	1.817 ±0.070	1.758 ±0.061	1.830 ±0.065	1.810 ±0.058
			Pituitary gland (mg)	8.90 ±1.01	8.48 ±1.00	9.05 ±1.40	8.99 ±0.70	8.92 ±0.92	8.84 ±1.22
			Thyroid (mg)	15.43 ±1.85	15.22 ±2.69	16.48 ±2.14	15.79 ±2.27	16.80 ±1.95	17.01 ±1.87
			Thymus (mg)	567.9 ±107.5	531.7 ±67.3	510.9 ±74.0	612.2 ±93.6	551.9 ±116.1	531.9 ±105.8
			Liver (g)	9.778 ±1.105	9.748 ±0.620	9.505 ±1.781	9.806 ±1.400	9.876 ±1.200	9.249 ±0.764
			Spleen (g)	0.660 ±0.084	0.639 ±0.075	0.660 ±0.097	0.658 ±0.079	0.660 ±0.076	0.690 ±0.081
			Kidney (g)	1.729 ±0.149	1.754 ±0.106	1.717 ±0.144	1.676 ±0.131	1.738 ±0.157	1.802 ±0.114
			Adrenal (mg)	63.5 ±9.6	65.1 ±5.4	67.6 ±9.8	62.2 ±6.4	62.8 ±7.5	65.4 ±7.4
			Ovary (mg)	97.7 ±11.0	92.4 ±14.1	100.5 ±15.8	91.7 ±9.5	92.3 ±13.9	102.4 ±12.9
			Uterus (g)	0.585 ±0.194	0.476 ±0.161	0.592 ±0.181	0.502 ±0.153	0.516 ±0.142	0.607 ±0.204
	Relative organ weights	Brain (%)	0.799 ±0.050	0.787 ±0.042	0.815 ±0.099	0.790 ±0.034	0.813 ±0.056	0.815 ±0.046	
		Pituitary gland (10 ⁻³ %)	3.930 ±0.471	3.742 ±0.42	4.032 ±0.629	4.045 ±0.373	3.963 ±0.468	3.966 ±0.454	
		Thyroid (10 ⁻³ %)	6.801 ±0.742	6.715 ±1.159	7.387 ±1.278	7.088 ±0.992	7.458 ±0.922	7.648 ±0.848	
		Thymus (10 ⁻³ %)	249.576 ±41.583	235.032 ±30.955	229.819 ±48.215	275.658 ±46.053	245.318 ±53.671	238.645 ±44.772	
		Liver (%)	4.297 ±0.388	4.302 ±0.211	4.205 ±0.597	4.388 ±0.493	4.369 ±0.405	4.155 ±0.262	
		Spleen (%)	0.293 ±0.032	0.284 ±0.034	0.296 ±0.051	0.295 ±0.025	0.293 ±0.033	0.311 ±0.038	
		Kidney (%)	0.761 ±0.041	0.775 ±0.045	0.766 ±0.075	0.752 ±0.034	0.769 ±0.043	0.809 H ±0.040	
		Adrenal (10 ⁻³ %)	27.914 ±3.765	28.720 ±1.985	30.200 ±5.087	27.863 ±2.076	27.790 ±2.661	29.403 ±3.229	
		Ovary (10 ⁻³ %)	42.585 ±4.502	40.749 ±5.966	44.908 ±7.965	41.147 ±3.822	40.904 ±5.931	45.972 ±5.002	
		Uterus (%)	0.257 ±0.090	0.210 ±0.07	0.263 ±0.083	0.225 ±0.067	0.230 ±0.069	0.270 ±0.081	

H or **H** : Significantly higher than the control (p < 0.05 and p < 0.01, respectively).

L or **L** : Significantly lower than the control (p < 0.05 and p < 0.01, respectively).

-: No treatment-related alterations.

D or I : Decreasing or increasing tendency.