Summary of results (Di-n-butyl phthalate)

Generation				Dam: F0	Offspring: F1					
Dose (mg/kg)				0	0.031	0.063	0.125	0.25	0.5	250
Number of pregnant females				12	12	12	12	12	12	12
F0	Gestation and lacta-tion period	Clinical findigs NAD		0/12	0/12	0/12	0/12	0/12	0/12	0/12
		Found dead		0/12	0/12	0/12	0/12	0/12	0/12	0/12
		Body weights (g)	GD 21	405 ±19.8	408 ±18.8	412 ±19.7	411 ±21.8	415 ±26.6	402 ±19.4	410 ±20.3
			LD 21	323 ±20.1	323 ±14.6	325 ±15.3	328 ±19.8	324 ±16.4	320 ±21.8	325 ±16.7
		Food consumption (g)	GD 0-4	20.3 ±7.73	19.2 ±1.12	20.3 ±1.27	21.4 ±4.67	20.5 ±2.08	19.0 ±1.77	20.2 ±2.36
			GD 4-7	21.3 ±1.63	20.7 ±2.10	21.4 ±16.8	22.5 ±0.91	21.7 ±1.92	21.0 ±1.63	20.7 ±2.41
			GD 7-10	23.2 ±2.73	23.6 ±1.40	24.0 ±1.70	23.2 ±2.34	23.5 ±2.47	22.1 ±1.12	23.5 ±2.69
			GD 10-14	21.8 ±1.54	22.7 ±1.18	22.5 ±2.62	22.4 ±1.65	23.3 ±1.53	23.2 ±3.79	22.9 ±2.16
			GD 14-17	23.3 ±2.96	24.4 ±3.59	26.1 ±4.57	25.5 ±1.87	26.2 ±2.31	24.5 ±3.07	25.4 ±2.43
			GD 17-21	25.1 ±1.49	26.5 ±1.85	24.8 ±1.69	25.7 ±2.68	25.8 ±2.69	25.8 ±4.86	27.0 ±2.51
			LD 0-4	29.8 ±4.77	32.3 ±3.26	31.9 ±4.58	31.2 ±3.31	31 ±4.54	31.7 ±4.00	26.7 ±8.61
			LD 4-7	46.4 ±3.79	47.1 ±6.75	46.8 ±4.27	47.6 ±4.57	50.0 ±7.74	46.2 ±2.36	48.0 ±4.76
			LD 7-10	56.4 ±4.61	57.6 ±4.62	55.8 ±6.67	55.9 ±4.21	55.1 ±6.21	55.5 ±5.26	54.0 ±3.20
			LD 10-14	62.6 ±4.89	62.2 ±5.69	62.9 ±5.45	65.7 ±8.82	65.6 ±3.82	63.4 ±5.18	64.2 ±4.53
			LD 14-17	65.6 ±5.76	69.4 ±10.0	67.5 ±4.73	68.7 ±8.15	69.6 ±3.67	65.7 ±4.27	68.6 ±3.82
			LD 17-21	68.2 ±8.45	71.2 ±7.31	71.8 ±3.60	72.6 ±6.88	72.5 ±4.46	69.1 ±11.2	72.3 ±4.46

Summary of results (continued-1)

Generation				Dam: F0			Offspring: F1			
Dose (mg/kg)				0	0.031	0.063	0.125	0.25	0.5	250
Number of pregnant females				12	12	12	12	12	12	12
F0	Gestation and lacta-tion period	Water consumption (g)	GD 0-4	35.9 ±3.53	33.7 ±4.15	37.1 ±4.67	36.2 ±3.86	33.3 ±2.45	33.2 ±5.17	37.4 ±4.21
			GD 4-7	41.9 ±6.26	42.0 ±3.44	41.5 ±5.09	41.3 ±4.58	37.7 ±5.43	41.8 ±4.78	42.9 ±5.74
			GD 7-10	44.7 ±6.67	43.0 ±5.85	44.3 ±4.24	42.5 ±6.33	42.0 ±4.53	44.6 ±5.41	50.4 ±5.43
			GD 10-14	50.6 ±6.27	50.2 ±6.91	50.6 ±7.14	51.3 ±7.01	48.5 ±4.92	51.5 ±6.12	55.9 ±4.19
			GD 14-17	54.8 ±7.91	50.1 ±14.1	53.8 ±10.3	53.1 ±7.16	51.6 ±5.30	55 ±7.28	58.3 ±5.78
			GD 17-21	53.7 ±9.65	56.0 ±8.83	55.9 ±9.18	52.1 ±5.84	54.4 ±9.50	53.1 ±6.78	58.2 ±5.78
			LD 0-4	51.0 ±8.44	53.6 ±6.66	53.7 ±7.42	53.0 ±7.85	53.4 ±8.85	54.2 ±7.21	46.4 ±8.29
			LD 4-7	70.3 ±6.23	72.3 ±9.40	68.3 ±7.38	71.3 ±6.39	73.3 ±10.2	70.1 ±6.54	73.7 ±7.03
			LD 7-10	78.3 ±9.64	81.2 ±9.18	77.2 ±6.61	79.8 ±7.33	82.3 ±9.81	80.4 ±8.65	83.9 ±9.33
			LD 10-14	94.6 ±9.46	96.4 ±9.90	97.2 ±11.6	98.2 ±11.4	101 ±9.13	98.1 ±9.68	106 ±8.73
			LD 14-17	109 ±12.1	110 ±11.9	111 ±10.2	113 ±10.0	114 ±10.3	110 ±10.8	122 ±9.63
			LD 17-21	130 ±11.8	135 ±19.4	134 ±10.9	134 ±14.2	134 ±10.9	127 ±15.8	146 ±17.6

Summary of results (continued-2)

Generation			Dam: F0			Offspring: F1			
Dose (mg/kg)			0	0.031	0.063	0.125	0.25	0.5	250
Number of pregnant females			12	12	12	12	12	12	12
F0	Delivery and maternal behavior	Number of dams, delivered live pups	12	12	12	12	12	12	12
		Delivery index (%)	100	100	100	100	100	100	100
		Gestation length (day)	22.1	22.0	22.0	22.1	22.0	22.0	22.1
		Number of implantaion sites	15.6 ±2.39	15.5 ±1.98	17.2 ±1.59	16.3 ±2.01	16.6 ±2.47	16.5 ±1.09	16.7 ±1.87
		Number of live pups	14.5 ±2.94	13.7 ±1.72	15.5 ±1.88	14.6 ±2.39	15.5 ±2.32	15.3 ±1.22	15.1 ±1.93
	Gross findings		NAD	NAD	NAD	NAD	NAD	NAD	NAD

Summary of results (continued-3)

Generation				Dam: F0	Offspring: F1					
Dose (mg/kg)				0	0.031	0.063	0.125	0.25	0.5	250
Number of pregnant females				12	12	12	12	12	12	12
F1	Fetal Findings	Sex ratio		0.87	1.05	1.07	0.82	1.06	0.87	0.89
		Day 0 viability index (%)		98.5	98.8	100	99.3	99.5	100	99.5
		Day 4 viability index (%)		97.5	89.6 **L**	98.6	94.2	97.4	98	88.4 **L**
		Day 21 viability index (%)		100	100	99.2	100	98.3	100	98.3
	Body weights (g)	Male	day 0	6.2 ±0.46	6.1 ±0.33	6.2 ±0.26	6.3 ±0.62	6.2 ±0.38	6.2 ±0.39	6.0 ±0.36
			day 21	46.2 ±2.92	47.6 ±3.11	45.0 ±2.05	46.8 ±4.52	46.9 ±2.27	44.0 ±3.13	44.9 ±2.75
			day 42	189 ±10.8	189 ±12.3	179 ±13.7	185 ±16.2	190 ±13.6	182 ±10.4	183 ±11.8
			day 70	384 ±16.8	367 ±43.2	367 ±21.2	374 ±18.6	383 ±23.2	377 ±15.1	378 ±18.3
		Female	day 0	5.8 ±0.44	5.7 ±0.34	5.8 ±0.25	5.9 ±0.52	5.7 ±0.34	5.7 ±0.34	5.6 ±0.27
			day 21	44.0 ±2.36	44.7 ±3.29	43.7 ±0.98	44.1 ±4.19	44.5 ±2.30	41.2 ±2.68	42.1 ±1.93
			day 42	155 ±8.12	149 ±8.16	151 ±4.33	156 ±8.82	153 ±11.5	145 ±8.66	147 L ±7.73
			day 70	246 ±13.4	231 L ±15.3	240 ±7.32	248 ±11.4	248 ±16.6	233 ±9.18	241 ±15.8
	Anogenital distance (mm) Male		LD 0	4.22 ±0.31	4.13 ±0.17	4.07 ±0.21	4.15 ±0.30	4.06 ±0.19	4.02 ±0.13	3.76 **L** ±0.20
			Ratio	2.29 ±0.12	2.26 ±0.09	2.22 ±0.12	2.24 ±0.11	2.22 ±0.10	2.19 ±0.06	2.06 **L** ±0.09
	Residual nipples (%)				NS	NS	NS	NS	NS	NS
	Physical development		Incior eruption(day)		NS	NS	NS	NS	NS	NS
			Eyelied opning(day)		NS	NS	NS	NS	NS	NS

Summary of results (continued-4)

Generation				Dam: F0	Offspring: F1					
Dose (mg/kg)				0	0.031	0.063	0.125	0.25	0.5	250
Number of litters				12	12	12	12	12	12	12
F1	Sexual develop-ment	Male	Preputial separation (day)	38.8 ±0.39	39.4 L ±0.70	39.3 ±1.07	38.6 ±0.67	39.2 ±0.83	38.9 ±0.67	39.3 ±0.78
		Female	Vaginal opning (day)	32.9 ±0.67	31.6 **H** ±1.12	31.3 ±1.22	32.1 ±1.73	32.6 ±2.07	31.4 **H** ±1.98	31.6 **H** ±1.51
			Estrus cycle: reguler	100	90.9	100	100	100	100	100
	Mating and fertility	Mating index (%)	Male	100	100	100	100	100	100	100
			Female	100	100	100	100	100	100	100
		Fertility (%)	Male	100	100	100	100	100	100	91.7
			Female	100	100	100	100	100	100	100
	Observations at terminal sacrifice		Number of Corpora Lutea	17.5 ±2.1	16.3 ±2.3	17.3 ±2.5	16.1 ±1.1	17.4 ±2.5	16.7 ±1.8	14.7 ±2.7
			Number of implants	15.3 ±2.0	14.9 ±1.8	15.4 ±1.6	15.2 ±1.5	15.3 ±2.0	14.3 ±1.8	12.3 ±3.5
			Implantation rate(%)	87.6	92.1	90.2	94.3	87.9	86.2	85.1
			No. of deaths and resorption	8	11	14	5	15	8	7
			Fetal mortality	4.5	6.4	7.6	2.7	8.2	4.6	4.6
	Fetal Findings		Number of live fetuses	14.6 ±2.1	13.9 ±1.8	14.3 ±1.8	14.8 ±1.5	14.0 ±2.3	13.7 ±1.8	11.6 L ±3.3

		Sex ratio (male/male+female)	1.16	1.35	1.48	1.08	1.18	1.02	10.6
		F2 male fetal body weights	5.5 ±0.2	5.5 ±0.2	5.6 ±0.2	5.6 ±0.2	5.4 ±0.2	5.7 ±0.2	5.8 ±0.2
		F2 female fetal body weights	5.2 ±0.1	5.1 ±0.3	5.3 ±0.1	5.2 ±0.2	5.1 ±0.2	5.3 ±0.2	5.3 ±0.2
		Exernal abnormalities	0	0	0	0	0	0	0

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)

Summary of results (continued-5)

Generation				Dam: F0	Offspring: F1					
Dose (mg/kg)				0	0.031	0.063	0.125	0.25	0.5	250
Number of litters				12	12	12	12	12	12	12
F1	Sperm exami-nation	Motility		NS	NS	NS	NS	NS	NS	NS
		Number of epidermal sperm (×106/epididymis)		31.8 ±5.61	34.5 ±6.97	32.2 ±2.39	39.1 ±5.49	32.1 ±4.17	29.3 ±6.41	33.9 ±5.18
		Abnormal sperm index (%)		3.20 ±1.11	2.83 ±1.01	2.53 ±1.07	3.53 ±1.66	2.30 ±0.81	2.23 ±0.70	2.16 ±0.62
	Copulatory behavior		Number of mount (Mf)	15.9 ±14.7	14.7 ±11.9	15.6 ±8.67	10.0 ±5.95	16.5 ±8.85	14.4 ±6.87	14.3 ±11.3
			Number of intromission (If)	16.8 ±3.86	17.5 ±5.32	16.0 ±4.29	17.7 ±3.87	15.7 ±3.34	15.9 ±3.42	14.3 ±8.08
			Number of ejaculatoon (Ef)	2.17 ±0.80	2.60 ±0.70	2.83 1.03	2.50 ±1.00	2.17 ±0.94	2.27 ±0.65	1.75 ±1.22
			Mount latency (ML)	265 ±195	173 ±193	91.8 ±67.3	133 ±111	98.0 ±115	145 ±184	288 ±254
			Intromission latency (IL)	93.3 ±93.4	98.4 ±83.7	85.0 ±93.8	65.7 ±67.3	116.0 ±141	63.6 ±59.1	224.0 ±314
			Ejaculation latency (EL)	706 ±404	543 ±321	507 ±474	596 ±374	683 ±405	640 ±196	809 ±479
			Post ejaculation Int. (PEI)	385 ±67.6	384 ±71.0	328 ±39.6	380 ±59.6	380 ±59.6	385 ±67.3	410 ±60.8
			Fertility	12/12	10/11	12/12	12/12	10/12	11/12	8/12

Summary of results (continued-6)

Generation				Dam: F0	Offspring: F1					
Dose (mg/kg)				0	0.031	0.063	0.125	0.25	0.5	250
Number of litters				12	12	12	12	12	12	12
F1	Gross findings	3 weeks old	Male	NAD	NAD	NAD	NAD	NAD	NAD	3
			Female	NAD	NAD	NAD	NAD	NAD	NAD	NAD
		6 weeks old	Male	NAD	NAD	1	NAD	1	NAD	4
			Female	NAD	NAD	NAD	NAD	NAD	NAD	NAD
		10 weeks old	Male	NAD	NAD	NAD	NAD	NAD	NAD	2
			Female	NAD	NAD	NAD	NAD	NAD	NAD	NAD
		Repro. Group	Male	NAD	NAD	NAD	NAD	NAD	NAD	3
			Female	NAD	NAD	NAD	NAD	NAD	NAD	NAD
		Findings at 3 weeks old		Defect of epdidymis and deferent duct, atrophy of epid..						
		Findings at 6 weeks old		Defect of epdidymis, deferent duct andampullar,						
				atrophy of epid.,def. Duct, edema of testes.						
		Findings at 10 weeks old		Atrophy of testis, defect of epididymis and deferent duct.						

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)

Summary of results (continued-7)

Generation				Dam: F0	Offspring: F1					
Dose (mg/kg)				0	0.031	0.063	0.125	0.25	0.5	250
Number of litters				12	12	12	12	12	12	12
F1	Absolute organ weights 3 weeks old	Male	Liver(g)	1.97 ±0.211	2.18 ±0.270	1.81 ±0.074	2.07 ±0.340	2.13 ±0.189	1.89 ±0.335	1.88 ±0.140
			Brain(mg)	1392 ±57.0	1387 ±73.8	1360 ±65.2	1394 ±52.6	1371 ±48.2	1421 ±186	1380 ±36.6
			Pituiary(mg)	1.58 ±0.322	1.44 ±0.280	1.75 ±0.288	1.72 ±0.570	2.15 ±1.48	1.30 ±0.365	1.60 ±0.330
			Thyroid(mg)	4.50 ±1.22	4.92 ±1.20	4.96 ±0.882	5.46 ±1.15	5.57 **H** ±2.21 **H**	4.80 ±0.898	5.19 ±1.11
			Adrenals(mg)	14.3 ±1.83	14.8 ±2.32	13.3 ±2.24	16.6 ±2.83	14.5 ±2.30	14.6 ±2.79	16.0 ±2.15
			Kidneys(mg)	566 ±52.7	624 66.8	528 ±38.0	604 ±83.0	621 62.6	567 ±68.5	549 ±34.3
			Testes(mg)	165 ±14.2	177 ±19.3	165 ±20.5	173 ±23.0	179 ±20.4	159 ±25.7	160 ±17.2
			Epididymis(mg)	28.7 ±3.76	30.4 ±8.25	27.9 ±2.34	28.1 ±5.80	26.4 ±4.15	28.4 ±4.53	27.2 ±9.75
			Prostate Dorso-laterl lobe(mg)	14.0 ±5.85	13.1 ±1.64	10.6 ±1.54	12.3 ±3.58	12.5 ±2.30	12.3 ±2.58	10.6 ±3.37
			Prostate Ventral lobe(mg)	6.08 ±1.54	5.96 ±1.97	6.21 ±1.31	6.44 ±2.36	6.04 ±2.24	5.53 ±1.16	6.67 ±2.66
			Seminal vesicle 1) (mg)	8.79 ±2.35	10.4 ±5.22	8.32 ±1.36	8.72 ±2.11	9.01 ±2.39	8.69 ±2.23	10.0 ±2.60
			Ductus deferens(mg)	12.9 ±2.31	13.9 ±2.19	12.8 ±1.51	13.4 ±1.96	13.0 ±2.65	13.1 ±2.16	13.4 ±4.40
			Penis(mg)	36.8 ±2.41	39.8 ±7.75	36.4 ±3.11	39.0 ±3.82	35.9 ±5.37	36.6 ±4.86	34.3 ±5.08
			Penis Length(cm)	1.25 ±0.135	1.34 ±0.135	1.17 ±0.082	1.18 ±0.075	1.23 ±0.095	1.20 ±0.133	1.11 L ±0.088
		Female	Liver(g)	1.93 ±0.191	2.24 ±0.573	1.93 ±0.144	1.96 ±0.394	1.98 ±0.214	1.67 ±0.320	1.82 ±0.217
			Brain(mg)	1324 ±52.9	1322 ±78.2	1296 ±46.8	1316 ±93.8	1313 58.7	1289 78.3	1304 42.7
			Pituitary(mg)	2.07 ±0.640	1.82 ±0.547	1.81 ±0.563	1.84 ±0.432	1.63 ±0.576	1.47 L ±0.623	1.40 L ±0.273
			Thyroid(mg)	4.55 ±0.843	4.91 ±0.851	4.93 ±1.14	5.49 ±1.96	4.66 ±1.15	5.06 ±1.08	4.50 ±1.17
			Adrenals(mg)	13.1 ±2.66	14.4 ±1.45	13.0 ±2.23	13.9 ±3.08	14.2 ±2.91	12.6 ±2.26	15.3 ±2.45
			Kidneys(mg)	565 ±64.3	608 ±56.0	545 ±52.6	576 ±91.4	576 ±55.9	520 ±70.1	531 ±46.7
			Ovarys(mg)	5.12 ±1.38	5.33 ±1.86	6.24 ±2.21	6.10 ±2.09	5.78 ±1.63	5.12 ±1.89	5.89 ±1.81
			Uterus(mg)	23.7 ±4.13	26.2 ±4.00	26.0 ±4.38	27.2 ±3.68	28.0 ±8.08	25.6 ±3.88	29.0 ±7.42

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)

1) : Including coagulating glands

Summary of results (continued-8)

Generation				Dam: F0	Offspring: F1					
Dose (mg/kg)				0	0.031	0.063	0.125	0.25	0.5	250
Number of litters				12	12	12	12	12	12	12
F1	Relative organ weights 3 weeks old	Male	Liver(%)	4.39 ±0.335	4.62 ±0.298	4.28 ±0.308	4.51 ±0.379	4.56 ±0.355	4.39 ±0.335	4.21 ±0.300
			Brain(%×10^3)	3114 ±216	2951 ±160	3210 ±208	3072 ±277	2943 ±198	3303 ±348	3094 ±122
			Pituitary(%×10^3)	3.54 ±0.80	3.05 ±0.54	4.14 ±0.76	3.76 ±1.20	4.59 ±3.10	3.00 ±0.73	3.61 ±0.83
			Thyroid(%×10^3)	10.0 ±2.43	10.4 ±2.06	11.7 ±2.11	12.0 ±2.45	11.9 **H** ±4.55	11.4 ±2.98	11.6 ±2.31
			Adrenals(%×10^3)	31.9 ±4.36	31.5 ±4.51	31.2 ±5.05	36.4 ±6.25	30.9 ±3.74	34.3 ±7.71	35.8 ±5.09
			Kidneys(%×10^3)	1263 ±103.9	1322 ±54.7	1245 ±84.3	1318 ±92.8	1327 ±58.4	1315 ±107.9	1233 ±111.0
			Testes(%×10^3)	368 ±24.3	376 ±15.6	387 ±31.4	378 ±35.9	383 ±28.2	367 ±26.5	358 ±31.9
			Epididymis(%×10^3)	64.2 ±8.6	64.3 ±14.3	65.9 ±6.2	61.3 ±11.3	56.3 ±5.6	66.3 ±12.2	61.5 ±23.2
			Prostate Dorso-laterl lobe(%×10^3)	31.2 ±12.7	27.9 ±4.01	24.9 ±3.46	26.9 ±7.43	26.8 ±5.19	29.0 ±6.99	23.8 ±7.80
			Prostate Ventral lobe(%×10^3)	13.5 ±3.32	12.7 ±4.71	14.6 ±2.99	13.9 ±4.57	13.1 ±5.36	13.0 ±3.43	15.1 ±6.36
			Seminal vesicle 1) (%×10^3)	19.5 ±4.45	22.1 ±11.0	19.6 ±2.93	19.0 ±4.14	19.2 ±4.53	20.2 ±5.31	22.5 ±6.23
			ductus deferens (%×10^3)	28.6 ±4.48	29.5 ±4.45	30.3 ±4.31	29.5 ±4.36	27.8 ±5.82	30.7 ±5.97	30.1 ±10.1
			Penis(%×10^3)	82.3 ±9.06	84.3 ±13.5	85.8 ±7.29	85.8 ±10.5	76.8 ±11.0	86.0 ±17.6	77.0 ±12.0
		Female	Liver(%)	4.40 ±0.383	4.81 ±1.068	4.40 ±0.254	4.40 ±0.444	4.50 ±0.369	4.07 ±0.728	4.30 ±0.378
			Brain(%×10^3)	3012 ±194	2867 ±203	2980 ±179	3047 ±623	3027 ±182	3139 ±164	3109 ±253
			Pituiary(%×10^3)	4.68 ±1.42	3.88 ±0.99	4.17 ±1.37	4.19 ±0.88	3.75 ±1.21	3.56 ±1.41	3.32 L ±0.597
			Thyroid(%×10^3)	10.3 ±1.72	10.6 ±1.53	11.3 ±2.53	12.6 ±4.65	10.7 ±2.44	12.3 ±2.46	10.8 ±2.97
			Adrenals(%×10^3)	29.5 ±5.30	31.1 ±2.64	30.0 ±5.63	31.5 ±6.10	32.6 ±6.42	30.7 ±4.82	36.4 H ±6.59
			Kidneys(%×10^3)	1279 ±94.6	1316 ±97.8	1253 ±122	1305 ±110	1323 ±77.5	1261 ±127	1263 ±105
			Ovary(%×10^3)	11.5 ±2.80	11.3 ±3.30	14.3 ±5.09	13.8 ±4.20	13.3 ±3.50	12.4 ±4.45	14.0 ±4.25
			Uterus(%×10^3)	54.0 ±8.67	56.9 ±9.67	60.0 ±9.69	62.0 ±9.57	65.0 ±18.6	62.3 ±8.21	69.0 ±18.7

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)

1) : Including coagulating glands

Summary of results (continued-9)

Generation				Dam: F0	Offspring: F1					
Dose (mg/kg)				0	0.031	0.063	0.125	0.25	0.5	250
Number of litters				12	12	12	12	12	12	12
F1	Absolute organ weights 6 weeks old	Male	Liver(g)	12.7 ±1.54	13.3 ±1.50	11.6 ±1.56	11.9 ±1.23	13.0 ±1.28	12.4 ±2.15	12.0 ±1.35
			Brain(mg)	1704 ±57.2	1663 ±89.5	1683 ±65.1	1712 ±63.3	1706 ±75.6	1690 ±89.2	1675 ±55.3
			Pituiary(mg)	7.10 ±1.64	5.90 ±0.556	5.62 L ±0.502	5.65 ±1.12	6.23 ±0.895	5.34 **L** ±1.08	5.88 ±0.970
			Thyroid(mg)	14.3 ±7.42	14.4 ±1.22	12.3 ±1.49	13.8 ±2.13	14.7 ±2.75	12.7 ±2.19	12.3 ±1.16
			Adrenals(mg)	47.2 ±7.11	44.3 ±3.62	43.8 ±5.27	47.0 ±5.59	46.4 ±6.83	41.5 ±5.10	42.8 ±4.03
			Kidneys(mg)	2173 ±2.16	2282 ±152	2129 ±186	2241 ±195	2295 ±215	2183 ±206	2084 ±194
			Testes(mg)	1400 ±86.0	1456 ±65.1	1411 ±65.4	1467 ±115	1468 ±97.5	1352 ±106	1478 ±296
			Epididymis(mg)	191 ±25.1	209 ±17.8	206 ±15.3	209 ±11.5	227 H ±22.7	196 ±14.5	178 ±42.6
			Prostate Dorso-laterl lobe(mg)	69.4 ±13.8	82.9 ±16.6	74.0 ±18.4	79.6 ±8.94	86.5 ±24.2	63.0 ±15.8	69.1 ±12.7
			Prostate Ventral lobe(mg)	30.1 ±10.1	54.2 **H** ±13.2	47.2 **H** ±17.6	39.2 ±8.93	53.1 **H** ±16.2	35.7 ±6.39	41.5 ±11.2
			Seminal vesicle (mg)	61.1 ±15.6	72.3 ±25.0	60.6 ±21.2	55.6 ±10.4	74.0 ±22.4	46.9 ±11.2	54.5 ±15.6
			Ductus deferens(mg)	48.5 ±6.93	57.0 ±10.4	54.7 ±7.42	55.0 ±7.14	59.2 ±10.3	49.8 ±4.87	52.5 ±9.62
			Penis(mg)	117 ±13.0	129 ±12.9	123 ±12.7	125 ±11.8	135 **H** ±14.1	117 ±11.4	118 ±12.2
			Penis Length(cm)	1.76 ±0.150	1.73 ±0.08	1.66 ±0.08	1.77 ±0.16	1.78 ±0.119	1.75 ±0.121	1.72 ±0.153
		Female	Liver(g)	9.04 ±0.733	9.05 ±1.11	9.02 ±1.30	9.20 ±0.916	9.38 ±1.23	8.84 ±0.889	8.57 ±0.780
			Brain(mg)	1576 ±60.6	1637 ±53.6	1597 ±84.5	1568 ±44.2	1519 ±71.5	1570 ±75.6	1582 ±65.1
			Pituitary(mg)	6.27 ±1.30	5.57 ±0.82	5.91 ±0.87	5.64 ±0.82	5.77 ±0.94	5.95 ±0.53	5.41 ±1.13
			Thyroid(mg)	13.8 ±1.61	12.7 ±2.14	11.8 ±1.28	11.7 L ±2.28	11.4 **L** ±1.18	12.0 ±1.52	11.4 **L** ±1.79
			Adrenals(mg)	47.8 ±3.25	47.6 ±4.18	48.9 ±4.13	53.7 ±8.83	49.9 ±6.77	47.4 ±4.62	47.0 ±7.09
			Kidneys(mg)	1629 ±97.7	1625 ±108	1602 ±90.4	1657 ±131	1603 ±212	1454 ±445	1306 ±579
			Ovarys(mg)	64.3 ±12.5	62.9 ±9.96	67.7 ±5.39	65.8 ±5.30	61.8 ±12.1	69.8 ±12.6	57.3 ±7.32
			Uterus(mg)	363 ±155	360 ±113	270 ±43.9	288 ±86.5	254 ±51.6	332 ±126	382 ±142

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)

Summary of results (continued-10)

Generation				Dam: F0		Offspring: F1				
Dose (mg/kg)				0	0.031	0.063	0.125	0.25	0.5	250
Number of litters				12	12	12	12	12	12	12
F1	Relative organ weights 6 weeks old	Male	Liver(%)	6.69 ±0.659	6.87 ±0.558	6.29 ±0.858	6.33 ±0.417	6.65 ±0.408	6.83 ±0.815	6.52 ±0.478
			Brain(%×10^3)	904 ±65.9	864 ±58.5	911 ±60.9	914 ±74.7	876 ±33.9	941 ±54.2	912 ±46.1
			Pituitary(%×10^3)	3.76 ±0.83	3.06 ±0.29	3.04 L ±0.31	3.01 ±0.57	3.20 ±0.42	2.96 L ±0.50	3.20 ±0.50
			Thyroid(%×10^3)	7.56 ±3.78	7.48 ±0.56	6.63 ±0.76	7.35 ±1.13	7.55 ±1.35	7.01 ±1.00	6.70 ±0.69
			Adrenals(%×10^3)	25.0 ±4.34	23.0 ±2.28	23.7 ±3.31	24.9 ±1.35	23.8 ±3.17	23.1 ±2.33	23.3 ±2.36
			Kidneys(%×10^3)	1148 ±76.0	1184 ±53.6	1151 ±103	1191 ±63.9	1176 ±63.7	1212 ±65.7	1130 ±59.8
			Testes(%×10^3)	741 ±36.4	756 ±34.8	763 ±52.2	780 ±38.2	754 ±42.6	752 ±38.3	801 ±144
			Epididymis(%×10^3)	101 ±10.7	108 ±4.56	111 ±10.2	111 ±11.9	116 **H** ±10.3	109 ±5.23	97 ±24.0
			Prostate Dorsolaterl lobe(%×10^3)	36.6 ±6.18	42.7 ±6.40	39.9 ±9.92	42.5 ±5.42	44.2 ±11.2	35.0 ±8.33	37.4 ±5.58
			Prostate Ventral lobe(%×10^3)	15.9 ±5.26	27.9 H ±5.85	25.5 H ±9.46	21.0 ±5.56	27.1 **H** ±7.81	20.0 ±4.15	22.6 ±5.97
			Semimal vesicle (%×10^3)	32.1 ±7.31	37 ±10.8	32.8 ±11.7	29.5 ±4.53	37.6 ±10.0	25.9 ±5.34	29.4 ±7.30
			ductus deferens (%×10^3)	25.6 ±2.84	29.4 ±4.34	29.6 ±4.44	29.5 ±5.11	30.2 ±3.93	27.8 ±2.93	28.6 ±5.33
			Penis(%×10^3)	61.7 ±5.40	66.8 ±4.74	66.5 ±6.40	66.3 ±3.73	69.2 **H** ±5.15	65.4 ±5.82	63.9 ±4.21
		Female	Liver(%)	6.10 ±0.565	6.09 ±0.517	6.08 ±0.818	6.00 ±0569	6.10 ±0.593	5.96 ±0.535	5.80 ±0.388
			Brain(%×10^3)	1065 ±61.3	1106 ±64.9	1079 ±74.6	1030 ±73.0	997 ±94.6	1059 ±49.4	1074 ±86.7
			Pituitary(%×10^3)	4.23 ±0.867	3.75 ±0.460	3.98 ±0.545	3.70 ±0.519	3.76 ±0.529	4.01 ±0.296	3.65 ±0.683
			Thyroid(%×10^3)	9.30 ±1.17	8.57 ±1.29	7.99 ±0.950	7.65 **L** ±1.518	7.44 **L** ±0.870	8.15 ±1.17	7.75 L ±1.35
			Adrenals(%×10^3)	32.3 ±2.64	32.2 ±2.78	33.0 ±2.69	35.1 ±5.46	32.6 ±3.88	32.0 ±3.05	31.7 ±3.89
			Kidneys(%×10^3)	1099 ±48.4	1095 ±31.5	1081 ±56.3	1085 ±78.9	1046 ±112	978 ±293	884 ±386
			Ovary(%×10^3)	43.5 ±8.75	42.3 ±5.82	45.7 ±4.28	43.2 ±3.95	40.2 ±6.46	46.9 ±7.14	38.8 ±5.02
			Uterus(%×10^3)	245 ±104	242 ±72.3	182 ±28.4	187 ±50.6	166 ±33.7	224 ±87.6	257 ±90.6

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)

Summary of results (continued-11)

Generation				Dam: F0	Offspring: F1					
Dose (mg/kg)				0	0.031	0.063	0.125	0.25	0.5	250
Number of litters				12	12	12	12	12	12	12
F1	Absolute organ weights 10 weeks old	Male	Liver(g)	17.3 ±1.39	17.2 ±1.37	16.4 ±1.66	17 ±1.50	16.9 ±1.53	16.5 ±1.21	16.1 ±1.48
			Brain(mg)	1897 ±89.6	1903 ±61.8	1906 ±89.7	1902 ±82.3	1928 ±84.6	1948 ±120	1920 ±66.6
			Pituiary(mg)	9.51 ±1.70	9.82 ±1.96	9.98 ±1.25	9.49 ±1.45	9.89 ±1.14	9.59 ±1.07	9.60 ±1.08
			Thyroid(mg)	21.2 ±3.66	19.5 ±3.60	19.5 ±4.60	19.9 ±3.87	19.5 ±4.06	20.9 ±3.15	21.2 ±2.42
			Adrenals(mg)	55.5 ±3.51	53.8 ±5.37	52.5 ±4.91	57.3 ±5.71	55.7 ±7.66	57.8 ±4.11	57.3 ±4.56
			Kidneys(mg)	3059 ±299	3060 ±232	2953 ±230	3102 ±272	3056 ±256	3058 ±279	3025 ±319
			Testes(mg)	2705 ±159	2771 ±235	2734 ±118	2712 ±88.5	2697 ±159	2733 ±125	2599 ±509
			Epididymis(mg)	764 ±61.8	750 ±90.9	746 ±55.5	754 ±35.7	742 ±57.5	744 ±49.2	680 ±166
			Prostate Dorso-laterl lobe(mg)	391 ±44.9	385 ±64.4	348 ±61.2	370 ±48.8	361 ±80.7	389 ±93.7	333 ±56.6
			Prostate Ventral lobe(mg)	243 ±52.4	231 ±80.8	203 ±43.5	222 ±47.1	214 ±68.3	247 ±77.4	221 ±49.8
			Seminal vesicle (mg)	1155 ±128	1180 ±146	1075 ±132	1178 ±117	1255 ±123	1148 ±141	1130 ±107
			Ductus deferens(mg)	130 ±22.8	129 ±24.5	127 ±26.4	142 ±6.57	136 ±16.5	139 ±10.2	136 ±24.8
			Penis(mg)	295 ±19.9	284 ±35.1	290 ±18.3	287 ±24.4	285 ±45.2	285 ±25.8	285 ±27.9
			Penis Length(cm)	2.52 ±0.134	2.45 ±0.118	2.43 ±0.166	2.43 ±0.192	2.40 ±0.266	2.41 ±0.124	2.48 ±0.255
		Female	Liver(g)	10.6 ±0.980	9.9 ±0.892	10.0 ±1.06	10.9 ±0.653	10.9 ±1.14	9.9 ±0.68	10.3 ±0.98
			Brain(mg)	1751 ±60.3	1753 ±96.8	1781 ±74.0	1746 ±49.0	1730 ±73.6	1709 ±82.9	1735 ±71.3
			Pituitary(mg)	8.94 ±1.42	8.48 ±0.68	9.01 ±1.17±	8.37 ±1.21	8.63 ±1.22	8.4 ±1.31	8.71 ±1.54
			Thyroid(mg)	16.8 ±2.47	15.8 ±3.21	15.7 ±3.05	16.6 ±2.76	15.5 ±2.88	16.6 ±1.78	17.9 ±3.29
			Adrenals(mg)	69 ±7.65	65.5 ±8.70	70.1 ±6.08	74.3 ±6.75	67.5 ±7.49	64.6 ±10.9	72.2 ±7.26
			Kidneys(mg)	1851 ±140	1738 ±131	1778 ±114	1890 ±129	1829 ±94	1763 ±113	1790 ±122
			Ovarys(mg)	101 ±10.2	100 ±20.4	97.4 ±11.5	99.1 ±21.7	101 ±12.3	97.9 ±11.3	108 ±16.4
			Uterus(mg)	724 ±87.5	746 ±54.3	815 **H** ±59.6	758 ±80.1	771 ±80.7	784 ±98.9	775 ±79.3

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)

Summary of results (continued-12)

Generation				Dam: F0	Offspring: F1					
Dose (mg/kg)				0	0.031	0.063	0.125	0.25	0.5	250
Number of litters				12	12	12	12	12	12	12
F1	Relative organ weights 6 weeks old	Male	Liver(%)	4.51 ±0.263	4.56 ±0.202	4.45 ±0.291	4.54 ±0.287	4.41 ±0.252	4.38 ±0.278	4.25 ±0.251
			Brain(%×10^3)	495 ±30.5	506 ±25.1	520 ±23.1	509 ±20.1	505 ±35.5	517 ±35.5	509 ±26.8
			Pituitary(%×10^3)	2.49 ±0460	2.60 ±0.517	2.72 ±0.330	2.54 ±0.376	2.58 ±0.236	2.54 ±0.288	2.54 ±0.261
			Thyroid(%×10^3)	5.53 ±0.958	5.17 ±0.879	5.34 ±1.32	5.33 ±1.04	5.08 ±0.984	5.53 ±0.79	5.63 ±0.677
			Adrenals(%×10^3)	14.5 ±1.07	14.3 ±1.26	14.4 ±1.65	15.4 ±1.44	14.5 ±1.38	15.3 ±1.08	15.2 ±1.14
			Kidneys(%×10^3)	798 ±69.8	812 ±53.9	805 ±44.4	830 ±60.4	797 ±33.7	810 ±54.5	800 ±65.3
			Testes(%×10^3)	706 ±44.1	735 ±57.4	747 ±26.1	727 ±41.6	705 ±36.9	725 ±46.2	687 ±126
			Epididymis(%×10^3)	200 ±20.6	199 ±22.6	204 ±12.8	202 ±6.74	194 ±13.3	197 ±13.0	180 ±42.6
			Prostate Dorsolaterl lobe(%×10^3)	102 ±14.4	102 ±18.1	94.6 ±15.1	99.1 ±12.6	94.3 ±20.2	103 ±22.9	88.3 ±15.1
			Prostate Ventral lobe(%×10^3)	63.7 ±14.8	61.3 ±21.7	55.4 ±10.7	59.7 ±12.9	55.8 ±17.2	65.4 ±20.8	59 ±15.0
			Semimal vesicle (%×10^3)	301 ±34.0	314 ±45.1	294 ±36.1	316 ±36.2	327 ±23.2	304 ±35.2	300 ±29.6
			ductus deferens (%×10^3)	34.2 ±6.57	34.2 ±6.83	34.8 ±7.59	38.0 ±2.52	35.5 ±3.63	36.9 ±3.02	36.0 ±6.49
			Penis(%×10^3)	77.1 ±5.88	75.5 ±10.3	79.1 ±5.84	76.8 ±6.07	74.5 ±12.2	75.6 ±8.27	75.7 ±7.48
		Female	Liver(%)	4.20 ±0271	4.19 ±0.238	4.16 ±0.372	4.26 ±0.231	4.25 ±0.329	4.16 ±0.204	4.20 ±0.340
			Brain(%×10^3)	687 ±26.7	745 H ±51.7	739 H ±46.4	681 ±43.8	678 ±51.5	722 ±41.5	707 ±42.9
			Pituiary(%×10^3)	3.49 ±0.465	3.60 ±0.275	3.73 ±0.443	3.26 ±0.470	3.37 ±0.455	3.55 ±0.585	3.55 ±0.665
			Thyroid(%×10^3)	6.59 ±0.975	6.67 ±1.14	6.51 ±1.32	6.45 ±1.07	6.12 ±1.36	7.00 ±0.736	7.33 ±1.57
			Adrenals(%×10^3)	27.0 ±2.44	27.8 ±2.76	29.0 ±2.42	29.0 ±2.76	26.4 ±2.52	27.3 ±4.37	29.4 ±3.32
			Kidneys(%×10^3)	725 ±39.0	737 ±36.5	736 ±32.6	735 ±36.1	715 ±28.5	744 ±24.8	729 ±47.4
			Ovary(%×10^3)	39.6 ±3.75	42.3 ±6.91	40.4 ±5.11	38.5 ±8.04	39.6 ±4.61	41.4 ±4.79	44.1 ±7.51
			Uterus(%×10^3)	284 ±35.2	317 ±30.1	338 ±23.8	295 ±26.9	301 ±29.5	332 ±46.9	317 ±41.5

Summary of results (continued-13)

Generation				Dam: F0	Offspring: F1					
Dose (mg/kg)				0	0.031	0.063	0.125	0.25	0.5	250
Number of litters				12	12	12	12	12	12	12
F1	Histo-patho-logical findings 10 findings weeks old	Male	Liver: Vaciolation of hepatocyte	8	6	7	7	5	7	5
			Extramedullary hematopoiesis	3	4	3	1	1	4	3
			Proliferation of bile ductule	0	3	1	2	4	1	2
			Testis: Seminiferous epithelium degeneration	0	0	0	0	0	0	1
			Interstitial cell hyperplasia	0	0	0	0	0	0	1
			Interstitial edema	3	4	3	4	4	3	5
			Prostate: Degenera-tion and desquamation of epithelium	1	1	1	1	2	0	1
			Interstitial edema	0	0	0	1	1	2	0
		Female	Liver: Vaciolation of hepatocyte	0	0	0	1	1	0	0
			Extramedullary hematopoiesis	5	2	2	4	1	3	4
			Proliferation of bile ductule	0	0	1	0	0	1	1
			Uterus	NAD	NAD	NAD	NAD	NAD	NAD	NAD

Summary of results (continued-13)

Generation				Dam: F0	Offspring: F1					
Dose (mg/kg)				0	0.031	0.063	0.125	0.25	0.5	250
Number of litters				12	12	12	12	12	12	12
F1	Hormone concent-rations 10 findings weeks old	Male	Testosterone (ng/mL)	2.32 ±1.02	1.80 ±0.73	1.76 ±0.66	2.28 ±.75	2.18 ±0.84	2.87 ±1.60	3.77 ±1.84
			Estradiol (pg/mL)	7.67 ±4.36	8.62 ±4.36	8.48 ±5.18	9.58 ±5.07	10.19 ±3.29	9.37 ±3.47	8.23 ±4.49
			LOQ	1	1	0	0	1	2	1
			FSH(ng/mL)	12.91 ±1.87	12.87 ±1.10	12.94 ±1.67	12.28 ±1.71	14.65 ±1.77	14.82 ±2.39	13.50 ±2.40
			LH (ng/mL)	1.90 ±0.18	2.06 ±0.36	1.63 ±0.37	1.83 ±0.23	2.19 ±0.43	2.09 ±0.40	2.15 ±0.56
		Female	Testosterone (ng/mL)	0.15 ±0.07	0.14 ±0.04	0.21 ±0.09	0.11 ±0.05	0.17 ±0.09	0.16 ±0.09	0.13 ±0.04
			LOQ	6	2	1	2	1	0	0
			Estradiol (pg/mL)	77.46 ±15.80	90.31 ±13.91	90.73 ±30.90	82.08 ±25.35	87.70 ±24.65	70.30 ±23.37	64.80 ±23.61
			FSH(ng/mL)	5.30 ±0.76	5.11 ±0.76	7.26 ±4.25	5.24 ±2.46	9.46 ±5.87	11.84 H ±5.85	9.77 ±6.55
			LH (ng/mL)	1.75 ±0.52	2.09 ±0.73	14.00 ±21.73	6.37 ±13.33	17.15 ±24.52	24.61 ±24.72	21.26 ±23.38
	m-RNA express-ion	Male	ER alpha	0.0021 ±0.0007	0.0013 L ±0.0003	0.0020 ±0.0003	0.0019 ±0.0005	0.0014 ±0.0007	0.0013 L ±0.0006	0.0012 **L** ±0.0009
			ER beta	0.201 ±0.051	0.178 ±0.037	0.213 ±0.057	0.225 ±0.033	0.171 ±0.066	0.200 ±0.051	0.173 ±0.039
			AR	0.169 ±0.049	0.164 ±0.038	0.160 ±0.023	0.180 ±0.022	0.163 ±0.035	0.164 ±0.035	0.149 ±0.020
			IGF-1	0.0262 ±0.0047	0.0259 ±0.0057	0.0273 ±0.0041	0.0274 ±0.0054	0.0228 ±0.0078	0.0229 ±0.0052	0.0229 ±0.0038
		Female	ER alpha	0.280 ±0.083	0.265 ±0.062	0.274 ±0.064	0.292 ±0.052	0.232 ±0.094	0.206 ±0.051	0.187 L ±0.086
			ER beta	0.0013 ±0.0007	0.0009 ±0.0005	0.0014 ±0.0008	0.0017 ±0.0013	0.0016 ±0.0010	0.0009 ±0.0008	0.0024 ±0.0018
			AR	0.0219 ±0.0056	0.0251 ±0.0047	0.160 ±0.0093	0.0290 ±0.0074	0.0290 ±0.0112	0.0237 ±0.0070	0.0246 ±0.0108
			IGF-1	0.0207 ±0.0088	0.0216 ±0.0040	0.0289 ±0.0185	0.0306 ±0.0158	0.0233 ±0.0215	0.0213 ±0.0140	0.0260 ±0.0247

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)

LOQ: Below the limit of quantitation (<5.00 pg/mL)