

Summary of results (Butylbenzyl phthalate)

Generation			Dam: F0 Offspring: F1						
Dose			0 µg/kg	2 µg/kg	12 µg/kg	60 µg/kg	300 µg/kg	500 mg/kg	
F 0	Number of mated females		14	14	14	14	13 a	14	
	Number of pregnant females		13	12	14	14	13	12	
	Found dead		0	0	0	0	0	0	
	Clinical findings	Salivation (Lact. Day 12-)	-	-	-	-	-	6/12	
	Body weights (g)	Gestation	Day 0	251.7 ±9.6	253.0 ±10.9	254.7 ±13.1	251.9 ±8.3	254.5 ±12.1	252.5 ±12.7
			Day 20	411.2 ±26.7	404.3 ±17.3	416.9 ±19.2	405.4 ±14.2	407.9 ±17.1	405.5 ±17.6
		Lactation	Day 0	292.3 ±21.8	286.8 ±30.9	295.7 ±24.1	294.3 ±16.7	302.6 ±28.4	303.3 ±19.0
			Day 21	339.7 ±16.3	344.8 ±17.6	339.9 ±17.6	338.9 ±11.7	345.0 ±12.3	347.5 ±15.9
	Body weight gains (g)	Gestation	Day 0 - 20	159.5 ±23.3	151.3 ±10.7	162.1 ±12.2	153.5 ±8.5	153.5 ±12.7	153.0 ±15.3
		Lactation	Day 0 - 21	47.4 ±23.6	58.0 ±21.3	44.1 ±16.3	44.6 ±18.3	42.4 ±22.1	44.2 ±15.3
	Food consumption (g)	Gestation	Day 20	30.4 ±2.1	28.6 ±1.4	30.0 ±1.9	29.1 ±1.6	29.9 ±2.4	28.8 ±1.7
			Lactation	Day 14	56.8 ±8.8	59.0 ±4.3	54.3 ±9.5	55.9 ±2.7	56.9 ±2.3
				Day 21	71.2 ±11.0	73.3 ±3.8	68.6 ±11.7	71.7 ±3.0	73.6 ±4.1
	Gestation length (day)			21.9 ±0.5	21.8 ±0.6	21.7 ±0.5	21.6 ±0.5	21.6 ±0.5	22.0 ±0.0
	Number of implantation sites			16.7 ±4.1	17.3 ±3.2	17.8 ±1.4	16.1 ±1.5	15.9 ±1.1	17.3 ±1.4
	Birth index (%)			86.67 ±10.70	85.10 ±13.86	91.45 ±7.05	96.06 ±3.86	94.22 ±7.38	77.52 D ±13.65
	Gestation index (%)			13/13(100.0)	12/12 (100.0)	14/14 (100.0)	14/14 (100.0)	13/13 (100.0)	12/12 (100.0)
	Abnormal delivery	Dystocia		1/13	1/12	1/14 b	0/14	0/13	0/12
	Abnormal maternal behavior	Loss of suckling		0/13	0/12	1/14 b	0/14	0/13	0/12
		Total litter loss		0/13	0/12	0/14	0/14	0/13	0/12
	Absolute organ weights	Final body weights (g)		339.7 ±16.3	344.8 ±17.6	339.9 ±17.6	338.9 ±11.7	345.0 ±12.3	347.5 ±15.9
		Pituitary (mg)		11.92 ±0.95	11.79 ±1.60	12.31 ±1.05	12.33 ±1.07	11.68 ±0.84	11.78 ±1.06
		Thyroid (mg)		17.79 ±2.43	17.27 ±2.98	18.91 ±2.87	18.28 ±1.51	18.83 ±2.66	18.82 ±1.84
		Liver (g)		16.753 ±1.455	16.634 ±1.592	16.154 ±1.282	16.175 ±1.086	16.672 ±1.237	18.195 I ±1.896
		Adrenal (mg)		74.56 ±13.22	77.11 ±9.28	76.48 ±7.36	74.97 ±8.95	69.62 ±7.99	77.04 ±8.00
		Ovary (mg)		96.64 ±10.52	88.09 ±7.26	99.64 ±13.72	88.71 ±5.27	88.08 ±10.07	88.91 ±12.00
		Uterus (g)		0.380 ±0.079	0.338 ±0.080	0.368 ±0.071	0.358 ±0.090	0.367 ±0.105	0.388 ±0.056
	Relative organ weights	Final body weight (%)		339.7 ±16.3	344.8 ±17.6	339.9 ±17.6	338.9 ±11.7	345.0 ±12.3	347.5 ±15.9
		Pituitary (10 ⁻³ %)		3.50 ±0.20	3.43 ±0.44	3.64 ±0.29	3.64 ±0.28	3.39 ±0.26	3.40 ±0.34
		Thyroid (10 ⁻³ %)		5.26 ±0.88	5.03 ±0.95	5.55 ±0.83	5.40 ±0.41	5.45 ±0.74	5.43 ±0.61
Liver (%)		4.930 ±0.322	4.819 ±0.322	4.749 ±0.230	4.772 ±0.256	4.832 ±0.292	5.226 I ±0.362		
Adrenal (10 ⁻³ %)		21.96 ±3.79	22.34 ±2.18	22.51 ±1.91	22.10 ±2.21	20.18 ±2.12	22.16 ±1.80		
Ovary (10 ⁻³ %)		28.50 ±3.31	25.56 ±1.64	29.31 ±3.51	26.19 ±1.55	25.50 L ±2.28	25.56 ±3.02		
Uterus (%)		0.112 ±0.026	0.098 ±0.022	0.108 ±0.020	0.106 ±0.027	0.107 ±0.029	0.112 ±0.015		
Gross findings	Uterus: Mass		-	-	1/14	-	1/13	-	

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.

#: Not examined.

a: One animal was excluded from the study due to treatment error, b: Same animal.

Summary of results (continued-1)

Generation		Dam: F0 Offspring: F1							
Dose		0 µg/kg	2 µg/kg	12 µg/kg	60 µg/kg	300 µg/kg	500 mg/kg		
F1	Number of litters		13	12	14	14	13	12	
	Number of offspring at birth		14.8 ±4.0	15.1 ±2.7	16.3 ±1.3	15.4 ±1.5	15.0 ±1.6	14.3 ±2.5	
	Number of live offspring at birth		14.5 ±3.9	14.7 ±3.3	16.2 ±1.3	15.4 ±1.5	15.0 ±1.6	13.4 D ±2.7	
	Number of live offspring on day 4		14.3 ±3.9	14.2 ±3.2	14.1 ±4.4	14.9 ±1.8	14.8 ±1.5	9.5 L ±3.8	
	Sex ratio (male/female)	Day 0	0.99 (95/96)	1.18 (97/82)	0.87 (106/122)	1.18 (117/99)	1.05 (100/95)	1.15 (91/79)	
		Day 4	1.00 (93/93)	1.18 (92/78)	0.92 (95/103)	1.21 (114/94)	1.08 (100/93)	1.28 (64/50)	
	Viability (%)	Day 0	98.52 ±2.84	96.43 ±7.63	99.58 ±1.58	100.00 ±0.00	100.00 ±0.00	94.08 ±9.92	
		Day 4	98.41 ±3.07	96.57 ±3.88	87.86 ±26.54	96.24 ±6.16	99.03 ±2.37	68.86 D ±19.90	
		Day 21	100.00 ±0.00	100.00 ±0.00	100.00 ±0.00	100.00 ±0.00	100.00 ±0.00	100.00 ±0.00	
	External abnormality	Vaginal atresia	-	-	-	-	-	1/30 a	
	Clinical findings		-	-	-	-	-	-	
	Body weights (g)	Male	Day 0	6.1 ±0.5	5.8 ±0.4	5.9 ±0.3	5.9 ±0.4	6.0 ±0.4	5.6 L ±0.2
			Day 4	9.2 ±1.2	9.2 ±1.2	8.6 ±1.4	9.0 ±0.9	9.1 ±0.7	9.3 ±0.9
			Day 21	50.6 ±4.1	49.6 ±3.7	46.6 ±8.2	48.3 ±3.7	49.5 ±3.5	44.2 L ±4.8
			Day 42	196.7 ±18.1	189.6 ±10.7	190.2 ±13.7	187.6 ±14.7	186.7 ±10.1	184.0 ±10.9
Day 70			405.3 ±34.1	404.1 ±14.7	398.0 ±26.2	399.8 ±21.9	392.2 ±18.0	389.7 ±20.5	
Female		Day 0	5.7 ±0.4	5.5 ±0.4	5.5 ±0.3	5.5 ±0.3	5.7 ±0.4	5.3 L ±0.2	
		Day 4	8.8 ±1.3	8.6 ±1.2	8.0 ±1.4	8.4 ±0.8	8.6 ±0.9	8.7 ±0.8	
		Day 21	48.2 ±4.8	45.9 ±3.4	44.2 ±8.7	45.3 ±3.1	47.5 ±3.2	41.2 L ±4.7	
		Day 42	159.1 ±10.2	155.0 ±11.3	160.6 ±11.8	156.6 ±10.2	160.7 ±9.1	147.3 L ±10.0	
		Day 70	247.5 ±19.6	246.7 ±14.6	257.3 ±13.7	248.3 ±12.8	255.3 ±18.1	249.3 ±13.7	
Body weight gains (g)	Male	Day 0 - 4	3.1 ±1.0	3.4 ±1.0	2.7 ±1.3	3.1 ±0.7	3.1 ±0.5	3.7 ±0.9	
		Day 4 - 21	41.2 ±3.4	40.4 ±3.1	37.8 ±6.9	39.3 ±3.2	40.5 ±3.3	34.8 L ±4.3	
		Day 21 - 42	145.9 ±14.6	139.9 ±9.2	141.1 ±12.5	139.3 ±11.9	137.2 ±10.1	139.3 ±8.5	
		Day 21 - 70	354.5 ±30.8	354.4 ±15.1	348.9 ±24.8	351.4 ±19.4	342.7 ±17.5	345.0 ±18.8	
	Female	Day 0 - 4	3.1 ±1.0	3.1 ±1.0	2.6 ±1.3	2.9 ±0.6	3.0 ±0.6	3.5 ±0.8	
		Day 4 - 21	39.4 ±4.0	37.3 ±2.8	36.0 ±7.5	36.8 ±2.7	38.7 ±2.7	32.4 L ±4.2	
		Day 21 - 42	111.2 ±10.5	109.2 ±9.8	113.9 ±8.9	110.3 ±8.6	113.8 ±6.6	105.7 ±8.4	
		Day 21 - 70	199.6 ±20.2	200.8 ±13.6	210.6 ±10.8	202.0 ±10.6	208.3 ±16.1	207.7 ±13.3	

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).

- : No treatment-related alterations.

D or I : Decreasing or increasing tendency.

a: Animals for post-weaning examination.

Summary of results (continued-2)

Generation				Dam: F0 Offspring: F1					
Dose				0 µg/kg	2 µg/kg	12 µg/kg	60 µg/kg	300 µg/kg	500 mg/kg
F1	Anogenital distances (AGD) (mm)	Male	Day 0	2.59 ±0.22	2.48 ±0.21	2.61 ±0.20	2.50 ±0.16	2.63 ±0.17	2.28 <u>L</u> ±0.19
			Day 4	4.00 ±0.41	3.82 ±0.35	3.76 ±0.36	3.73 ±0.19	3.88 ±0.20	3.42 <u>L</u> ±0.27
		Female	Day 0	1.11 ±0.11	1.16 ±0.17	1.17 ±0.12	1.13 ±0.09	1.15 ±0.16	1.30 <u>H</u> ±0.19
			Day 4	1.75 ±0.20	1.73 ±0.15	1.68 ±0.16	1.72 ±0.09	1.80 ±0.19	1.75 ±0.13
	AGD/ ³ vBW	Male	Day 0	1.42 ±0.14	1.38 ±0.13	1.45 ±0.11	1.38 ±0.09	1.45 ±0.09	1.29 L ±0.10
			Day 4	1.91 ±0.16	1.82 ±0.13	1.83 ±0.09	1.80 ±0.07	1.86 ±0.08	1.62 <u>L</u> ±0.09
		Female	Day 0	0.62 ±0.06	0.66 ±0.10	0.66 ±0.07	0.64 ±0.05	0.65 ±0.08	0.74 <u>H</u> ±0.10
			Day 4	0.85 ±0.07	0.85 ±0.07	0.84 ±0.07	0.84 ±0.03	0.87 ±0.08	0.85 ±0.05
	Nipple development on day 12	Male	Presence of nipple	-	-	--	-	-	-
		Female	Absence of nipple	-	-	-	-	-	-
	Sexual development (day)	Male	Preputial	45.2 ±1.6	45.9 ±0.6	45.2 ±1.1	45.5 ±1.1	45.5 ±1.2	43.9 ±0.8
			separation	[219.6] ±11.5	[217.0] ±8.2	[217.9] ±14.5	[217.2] ±8.9	[214.4] ±14.6	[196.8 <u>L</u>] ±13.1
	[Body weights (g)]	Female	Vaginal opening	30.8 ±0.9	31.2 ±1.2	31.4 ±1.1	30.8 ±1.5	31.3 ±1.6	31.4 ±1.7
				[94.0] ±5.6	[93.5] ±9.2	[96.0] ±8.4	[92.7] ±9.8	[95.5] ±10.3	[86.3] ±9.9
	Estrus cycle	Mean estrus cycle (day)		4.00	4.00	4.00	4.00	4.00	4.00
		Irregular estrus cycle		-	-	-	-	-	-
Reproductive performance	Days until copulation		2.6 ±1.0	2.1 ±1.2	2.5 ±1.3	2.3 ±1.2	2.4 ±1.2	2.8 ±1.8	
	Number of estrus stages without copulation		0.0 ±0.0	0.0 ±0.0	0.0 ±0.0	0.0 ±0.0	0.0 ±0.0	0.1 ±0.3	
	Copulation index (%)		12/12 (100.0)	12/12 (100.0)	12/12 (100.0)	12/12 (100.0)	12/12 (100.0)	12/12 (100.0)	
	Fertility index (%)		11/12 (91.7)	12/12 (100.0)	12/12 (100.0)	11/12 (91.7)	12/12 (100.0)	1/12 (8.3) <u>L</u>	
Sperm examination	Number of epidermal sperm (x 10 ⁶ /g cauda)		105.2 ±15.4	111.0 ±8.7	119.4 ±40.4	89.7 ±31.1	97.9 ±11.5	19.6 <u>L</u> ±24.3	
	Sperm count (x 10 ⁶ /g)		534.0 ±138.2	513.9 ±122.8	592.5 ±139.8	517.4 ±207.2	674.0 ±196.1	102.4 <u>L</u> ±215.9	
	Motility (%)		84.3 ±27.4	88.3 ±6.8	92.8 ±5.3	90.2 ±5.5	90.4 ±5.7	6.1 <u>L</u> ±21.1	
	Abnormal sperm index (%)		2.04 ±2.77	1.17 ±0.69	1.29 ±0.86	1.36 ±1.66	1.42 ±1.78	0.00 a	
	Tailless sperm index (%)		11.58 ±27.98	1.75 ±0.87	3.08 ±5.23	2.27 ±1.42	2.83 ±3.64	1.00 a	
Gestation length (day)			21.7 ±0.5	21.6 ±0.5	21.9 ±0.5	21.8 ±0.4	21.5 ±0.5	21.0	
Number of corpora lutea			15.9 ±1.8	16.5 ±1.8	16.5 ±1.4	15.8 ±3.0	16.0 ±2.2	15.0	
Number of implantation sites			15.1 ±2.2	16.2 ±1.8	15.9 ±1.5	15.3 ±3.1	15.1 ±2.3	14.0	
Implantation index (%)			94.64 ±6.33	98.37 ±2.80	95.21 ±6.60	96.44 ±6.30	94.61 ±4.81	93.30	
Birth index (%)			94.05 ±4.69	88.97 ±11.20	84.68 ±12.59	93.03 ±7.84	91.57 ±7.90	100.00	
Gestation index (%)			11/11 (100.0)	12/12 (100.0)	12/12 (100.0)	11/11 (100.0)	12/12 (100.0)	1/1 (100.0)	
Abnormal delivery	Dystocia		0/11	0/12	1/12	0/11	0/12	0/1	
Abnormal maternal behavior	Loss of suckling		0/11	0/12	0/12	1/11 b	0/12	0/1	
	Loss of retrieving		0/11	0/12	0/12	1/11 b	0/12	0/1	
	Total litter loss		0/11	0/12	0/12	1/11 b	0/12	0/1	

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.

a: 11 out of 12 males were not examined because no sperm samples were obtained, b: Same animal.

Summary of results (continued-3: F2 offspring)

Generation		Dam: F1 Offspring: F2							
Dose		0 µg/kg	2 µg/kg	12 µg/kg	60 µg/kg	300 µg/kg	500 mg/kg		
F 2	Number of litters		11	12	12	11	12	1	
	Number of offspring at birth		14.2 ±2.2	14.9 ±2.0	13.6 ±1.7	14.2 ±2.7	14.0 ±2.3	14.0	
	Number of live offspring at birth		14.2 ±2.2	14.5 ±2.7	13.4 ±1.9	14.1 ±2.6	13.8 ±2.0	14.0	
	Number of live offspring on Day 4		13.7 ±1.9	13.5 ±2.3	12.5 ±2.8	14.0 ±2.5	13.3 ±1.8	14.0	
	Sex ratio (Male/Female)	Day 0	0.95 (76/80)	0.84 (75/89)	1.14 (87/76)	1.42 (91/64)	0.91 (80/88)	1.33 (8/6)	
	Viability index (%)	Day 0	100.0 ±0.00	96.75 ±10.76	98.61 ±4.82	99.44 ±1.87	98.53 ±3.67	100.00	
	Viability index (%)	Day 4	97.03 ±3.48	94.86 ±12.38	92.28 ±14.17	99.49 ±1.69	97.20 ±4.38	100.00	
	External abnormality		-	-	-	-	-	-	
	Clinical findings (litter)		Hypothermia	0/11	0/12	0/12	a 1/11	0/12	0/1
			Tail, trauma	2/11	2/12	1/12	0/11	0/12	0/1
	Body weights (g)	Male	Day 0	5.9 ±0.4	5.8 ±0.4	6.0 ±0.5	6.0 ±0.3	5.9 ±0.6	5.4
			Day 4	9.0 ±0.8	9.0 ±1.2	9.3 ±1.0	9.0 ±1.0	8.9 ±0.8	7.8
		Female	Day 0	5.4 ±0.3	5.3 ±0.3	5.5 ±0.5	5.6 ±0.3	5.4 ±0.5	5.4
			Day 4	8.4 ±0.8	8.3 ±1.3	8.7 ±0.9	8.2 ±0.9	8.1 ±0.7	7.4
Body weight gains (g)	Male	Day 0 - 4	3.1 ±0.7	3.2 ±1.1	3.4 ±1.0	3.0 ±0.9	3.0 ±0.8	2.4	
	Female	Day 0 - 4	3.0 ±0.6	3.0 ±1.1	3.2 ±0.9	2.7 ±0.9	2.7 ±0.7	2.1	

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.

a: All offspring of the litter died due to loss of maternal behavior.

Summary of results (continued-4: 2nd mating with non-treated animals)

Generation			Dam: F1 Offspring: F2		
Dose			500 mg/kg		
Sex			Male	Female	
Number of litters			12	11	
F1	Days until copulation		2.1 ±1.0	2.2 ±1.7	
	Number of estrus cycle without copulation		0.0 ±0.0	0.1 ±0.3	
	Copulation index (%)		12/12 (100.0)	11/11 (100.0)	
	Fertility index (%)		1/12 (8.3) <u>L</u>	11/11 (100.0)	
	Gestation length (day)		22.0	22.0 ±0.0	
	Number of corpora lutea		17.0	14.4 ±3.1	
	Number of implantation sites		16.0	9.1 <u>L</u> ±4.3	
	Implantation index (%)		94.10	62.61 <u>L</u> ±25.14	
	Birth index (%)		81.30	87.00 ±11.57	
	Gestation index (%)		1/1 (100.0)	11/11 (100.0)	
	Abnormal delivery		-	-	
	Abnormal maternal behavior	Total litter loss	-	1/11	
	F2	Number of offspring at birth		13.0	7.8 <u>L</u> ±3.8
Number of live offspring at birth		13.0	7.8 <u>L</u> ±3.8		
Number of live offspring on Day 4		13.0	7.3 <u>L</u> ±4.4		
Sex ratio (Male/Female)		Day 0	0.30 (3/10)	0.76 (37/49)	
Viability (%)		Day 0	100.00	100.00 ±0.00	
		Day 4	100.00	90.91 ±30.15	
External abnormality		-	-		
Clinical findings		-	-		
Body weights (g)		Male	Day 0	5.9	6.8 <u>H</u> ±0.4
			Day 4	9.6	8.9 ±1.1
		Female	Day 0	5.4	6.3 <u>H</u> ±0.3
			Day 4	9.2	8.3 ±1.0
Body weight gains (g)		Male	Day 0 - 4	3.7	2.2 <u>L</u> ±0.9
	Female	Day 0 - 4	3.8	2.1 <u>L</u> ±0.9	

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-5: Organ weights-Day 21)

Generation				Dam: F0 Offspring: F1					
Dose				0 µg/kg	2 µg/kg	12 µg/kg	60 µg/kg	300 µg/kg	500 mg/kg
F1	Day 21 Absolute Organ weights	Male	Final body weights (g)	50.63 ±4.11	48.91 ±5.29	45.60 ±8.96	48.03 ±4.54	50.44 ±3.59	42.19 <u>L</u> ±6.83
			Liver (g)	1.725 ±0.189	1.683 ±0.186	1.578 ±0.348	1.631 ±0.191	1.722 ±0.160	1.461 ±0.258
			Testis (mg)	191.17 ±31.51	189.77 ±31.79	181.86 ±36.27	186.39 ±22.59	192.93 ±16.72	153.36 ±34.40
			Epididymis (mg)	36.23 ±5.89	36.44 ±5.11	35.75 ±3.77	34.75 ±3.47	36.35 ±3.02	17.86 <u>L</u> ±9.74
			Prostate (mg)	15.92 ±4.36	13.39 ±3.11	14.17 ±2.71	13.80 ±3.20	15.00 ±2.76	11.58 ±4.17
		Female	Final body weights (g)	48.96 ±5.75	45.63 ±4.92	43.69 ±9.34	45.11 ±3.85	48.81 ±4.06	42.05 ±4.71
			Liver (g)	1.698 ±0.261	1.565 ±0.173	1.518 ±0.340	1.546 ±0.150	1.691 ±0.148	1.484 ±0.114
			Ovary (mg)	8.88 ±3.05	7.57 ±2.13	7.13 ±1.96	7.21 ±2.42	8.46 ±2.04	7.21 ±2.60
			Uterus (mg)	36.75 ±4.81	33.51 ±5.49	36.18 ±10.00	34.42 ±6.44	36.41 ±7.79	36.95 ±5.59
	Day 21 Relative organ weights	Male	Final body weights (g)	50.63 ±4.11	48.91 ±5.29	45.60 ±8.96	48.03 ±4.54	50.44 ±3.59	42.19 <u>L</u> ±6.83
			Liver (%)	3.415 ±0.365	3.442 ±0.149	3.445 ±0.175	3.392 ±0.188	3.412 ±0.156	3.459 ±0.204
			Testis (10 ⁻³ %)	376.55 ±45.35	386.61 ±31.25	402.22 ±40.58	388.24 ±30.80	382.85 ±24.55	359.91 ±33.16
			Epididymis (10 ⁻³ %)	71.60 ±10.30	75.17 ±12.73	82.50 ±24.56	72.63 ±6.60	72.26 ±6.30	41.28 <u>L</u> ±19.53
Prostate (10 ⁻³ %)			31.55 ±8.75	27.62 ±6.71	31.55 ±4.56	28.65 ±5.91	29.77 ±5.11	26.55 ±7.92	
Female		Final body weights (g)	48.96 ±5.75	45.63 ±4.92	43.69 ±9.34	45.11 ±3.85	48.81 ±4.06	42.05 ±4.71	
		Liver (%)	3.462 ±0.224	3.430 ±0.129	3.461 ±0.120	3.427 ±0.158	3.500 ±0.100	3.543 ±0.196	
		Ovary (10 ⁻³ %)	17.79 ±4.03	16.57 ±4.13	16.53 ±3.12	16.12 ±5.61	17.43 ±4.42	16.85 ±4.25	
		Uterus (10 ⁻³ %)	75.14 ±5.31	73.77 ±11.10	85.14 ±21.43	76.35 ±13.39	74.75 ±14.91	87.93 ±10.44	

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-6: Organ weights-6 weeks)

Generation			Dam: F0 Offspring: F1						
Dose			0 µg/kg	2 µg/kg	12 µg/kg	60 µg/kg	300 µg/kg	500 mg/kg	
F 1	6 weeks Absolute organ weights	Male	Final body weights(g)	190.5 ±16.7	189.6 ±14.9	183.6 ±16.3	188.5 ±5.0	185.7 ±16.3	175.8 ±10.8
			Testis (g)	1.554 ±0.144	1.493 ±0.100	1.516 ±0.099	1.540 ±0.068	1.488 ±0.092	1.863 I ±0.232
			Epididymis (g)	0.255 ±0.046	0.241 ±0.045	0.281 ±0.096	0.263 ±0.064	0.263 ±0.048	0.106 L ±0.101
			Seminal vesicle (g)	0.205 ±0.062	0.197 ±0.047	0.200 ±0.032	0.204 ±0.046	0.196 ±0.047	0.209 ±0.033
			Prostate (g)	0.073 ±0.023	0.074 ±0.032	0.073 ±0.024	0.074 ±0.019	0.080 ±0.023	0.085 ±0.012
			Deferent duct (mg)	68.10 ±13.96	65.99 ±10.49	65.42 ±10.37	61.01 ±4.94	62.33 ±10.45	28.66 L ±17.27
			Levator ani (mg)	69.46 ±18.32	65.39 ±12.53	65.68 ±11.38	68.52 ±7.16	71.34 ±11.59	57.10 ±7.69
	Female	Final body weights (g)	178.4 ±31.1	160.5 ±13.9	158.3 ±10.8	163.3 ±15.7	174.7 ±8.2	165.7 ±19.8	
		Ovary (mg)	82.35 ±9.84	73.72 ±16.65	75.21 ±7.50	80.56 ±12.40	81.02 ±14.07	78.33 ±23.71	
		Uterus (g)	0.458 ±0.131	0.437 ±0.139	0.413 ±0.158	0.453 ±0.180	0.433 ±0.164	0.470 ±0.165	
	6 weeks Relative organ weights	Male	Final body weights (g)	190.5 ±16.7	189.6 ±14.9	183.6 ±16.3	188.5 ±5.0	185.7 ±16.3	175.8 ±10.8
			Testis (%)	0.819 ±0.073	0.788 ±0.041	0.828 ±0.059	0.818 ±0.032	0.805 ±0.051	1.060 H ±0.111
			Epididymis (%)	0.136 ±0.030	0.127 ±0.024	0.151 ±0.040	0.140 ±0.034	0.143 ±0.027	0.061 L ±0.062
			Seminal vesicle (%)	0.105 ±0.027	0.102 ±0.019	0.108 ±0.013	0.108 ±0.023	0.103 ±0.020	0.119 ±0.016
Prostate (%)			0.039 ±0.011	0.037 ±0.017	0.040 ±0.011	0.038 ±0.009	0.043 ±0.011	0.046 ±0.005	
Deferent duct (10 ⁻³ %)			35.57 ±5.49	34.74 ±4.42	35.85 ±6.12	32.40 ±3.04	33.51 ±4.40	16.59 L ±10.79	
Levator ani (10 ⁻³ %)		36.45 ±9.29	34.44 ±5.80	35.68 ±4.47	36.47 ±3.83	38.42 ±5.21	32.60 ±4.76		
Female		Final body weights (g)	178.4 ±31.1	160.5 ±13.9	158.3 ±10.8	163.3 ±15.7	174.7 ±8.2	165.7 ±19.8	
		Ovary (10 ⁻³ %)	46.99 ±7.81	45.66 ±7.78	47.56 ±4.00	49.48 ±7.20	46.33 ±7.37	46.67 ±10.21	
	Uterus (%)	0.258 ±0.079	0.272 ±0.083	0.257 ±0.089	0.282 ±0.119	0.249 ±0.095	0.290 ±0.108		

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-7: Organ weights-10 weeks)

Generation			Dam: F0 Offspring: F1							
Dose			0 µg/kg	2 µg/kg	12 µg/kg	60 µg/kg	300 µg/kg	500 mg/kg		
F1	10 weeks Absolute organ weights	Male	Final body weights (g)	397.1 ±31.5	390.3 ±22.7	405.8 ±20.3	403.8 ±17.8	391.2 ±37.7	372.5 ±27.6	
			Brain (g)	1.956 ±0.086	1.931 ±0.089	1.979 ±0.049	1.961 ±0.056	1.948 ±0.074	1.908 ±0.068	
			Pituitary (mg)	10.33 ±0.86	9.95 ±0.77	10.78 ±0.77	10.44 ±1.19	10.38 ±1.34	10.32 ±0.68	
			Thyroid (mg)	26.27 ±5.67	23.51 ±2.54	25.29 ±5.61	24.67 ±2.51	23.57 ±4.56	24.03 ±8.30	
			Thymus (mg)	709.8 ±99.7	714.0 ±128.1	709.4 ±116.2	762.3 ±109.4	760.1 ±180.0	717.5 ±190.3	
			Liver (g)	17.689 ±1.842	17.435 ±1.629	17.846 ±1.883	17.802 ±1.373	17.776 ±2.797	16.803 ±2.302	
			Kidney (g)	3.293 ±0.385	3.306 ±0.304	3.495 ±0.331	3.437 ±0.296	3.347 ±0.464	2.955 ±0.246	
			Adrenal (mg)	58.05 ±6.39	54.04 ±7.24	56.43 ±4.28	55.16 ±3.13	55.85 ±7.28	55.75 ±8.82	
			Spleen (g)	0.948 ±0.140	0.898 ±0.131	0.918 ±0.105	0.846 ±0.075	0.979 ±0.124	0.860 ±0.104	
			Testis (g)	2.845 ±0.164	2.778 ±0.144	2.793 ±0.142	2.794 ±0.080	2.792 ±0.108	1.592 <u>L</u> ±0.443	
			Epididymis (g)	0.851 ±0.061	0.820 ±0.032	0.829 ±0.044	0.813 ±0.027	0.815 ±0.055	0.386 <u>L</u> ±0.181	
			Seminal vesicle (g)	1.855 ±0.250	1.706 ±0.190	1.923 ±0.128	1.851 ±0.211	1.805 ±0.209	1.409 <u>L</u> ±0.310	
			Prostate (g)	0.495 ±0.077	0.489 ±0.101	0.495 ±0.053	0.505 ±0.066	0.444 ±0.071	0.393 <u>L</u> ±0.067	
			Deferent duct (g)	0.168 ±0.020	0.164 ±0.017	0.173 ±0.019	0.169 ±0.020	0.168 ±0.022	0.104 <u>L</u> ±0.043	
	Levator ani (mg)	250.72 ±42.50	233.78 ±39.63	249.08 ±41.01	238.09 ±48.55	249.28 ±39.56	232.60 ±37.21			
	Female		Final body weights (g)	254.9 ±20.0	254.8 ±14.3	259.6 ±15.1	262.6 ±12.6	260.2 ±11.5	248.7 ±14.3	
			Brain (g)	1.778 ±0.110	1.774 ±0.073	1.776 ±0.056	1.786 ±0.039	1.791 ±0.036	1.783 ±0.068	
			Pituitary (mg)	9.83 ±1.12	9.37 ±1.18	9.63 ±1.09	9.27 ±1.03	9.55 ±0.85	9.14 ±0.80	
			Thyroid (mg)	18.45 ±3.21	19.35 ±3.71	22.58 ±4.02	19.63 ±4.95	21.65 ±4.12	22.25 ±4.72	
			Thymus (mg)	580.7 ±80.8	555.8 ±54.5	555.8 ±76.6	609.2 ±103.0	599.5 ±134.6	529.3 ±101.7	
			Liver (g)	11.724 ±1.374	11.991 ±0.943	12.437 ±0.861	12.567 ±1.057	12.442 ±0.605	11.720 ±0.940	
			Kidney (g)	1.966 ±0.178	1.931 ±0.135	2.038 ±0.110	2.030 ±0.159	1.996 ±0.111	1.821 ±0.122	
			Adrenal (mg)	72.66 ±4.99	72.95 ±8.44	71.63 ±7.09	75.53 ±7.88	70.69 ±8.30	71.32 ±8.30	
			Spleen (g)	0.748 ±0.137	0.757 ±0.111	0.767 ±0.111	0.749 ±0.049	0.798 ±0.111	0.752 ±0.087	
			Ovary (mg)	115.93 ±16.24	122.03 ±14.74	121.18 ±21.00	119.43 ±13.61	126.02 ±10.83	112.38 ±19.05	
			Uterus (g)	All	0.585 ±0.215	0.613 ±0.220	0.588 ±0.217	0.523 ±0.181	0.577 ±0.193	0.696 ±0.248
				Proestrus	0.765 ±0.147	0.810 ±0.098	0.772 ±0.127	0.665 ±0.153	0.752 ±0.075	0.884 ±0.054
Metestrus or diestrus				0.405 ±0.051	0.415 ±0.056	0.403 ±0.080	0.382 ±0.018	0.402 ±0.049	0.444 ±0.040	

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: Organ weights-10 weeks)

Generation			Parental: F0 Offspring: F1							
Dose			0 µg/kg	2 µg/kg	12 µg/kg	60 µg/kg	300 µg/kg	500 mg/kg		
F1	10 weeks Relative organ weights	Male	Final body weights (g)	397.1 ±31.5	390.3 ±22.7	405.8 ±20.3	403.8 ±17.8	391.2 ±37.7	372.5 ±27.6	
			Brain (%)	0.494 ±0.024	0.496 ±0.020	0.490 ±0.023	0.485 ±0.019	0.500 ±0.036	0.515 ±0.029	
			Pituitary (10 ⁻³ %)	2.61 ±0.17	2.55 ±0.16	2.67 ±0.20	2.61 ±0.28	2.65 ±0.21	2.79 ±0.25	
			Thyroid (10 ⁻³ %)	6.61 ±1.28	6.05 ±0.73	6.23 ±1.26	6.10 ±0.61	6.07 ±1.18	6.44 ±2.16	
			Thymus (10 ⁻³ %)	179.36 ±25.67	182.98 ±31.35	174.33 ±22.60	189.19 ±29.28	196.28 ±54.17	191.65 ±43.39	
			Liver (%)	4.480 ±0.628	4.463 ±0.237	4.391 ±0.277	4.406 ±0.228	4.544 ±0.587	4.496 ±0.364	
			Kidney (%)	0.826 ±0.050	0.847 ±0.055	0.862 ±0.064	0.853 ±0.079	0.855 ±0.068	0.794 ±0.031	
			Adrenal (10 ⁻³ %)	14.61 ±0.95	13.90 ±1.87	13.95 ±1.45	13.67 ±0.54	14.30 ±1.30	14.90 ±1.48	
			Spleen (%)	0.239 ±0.035	0.230 ±0.030	0.228 ±0.029	0.211 ±0.016	0.251 ±0.030	0.232 ±0.030	
			Testis (%)	0.719 ±0.050	0.713 ±0.047	0.689 ±0.044	0.693 ±0.035	0.718 ±0.054	0.431 <u>L</u> ±0.140	
			Epididymis (%)	0.215 ±0.014	0.211 ±0.010	0.206 ±0.014	0.203 ±0.009	0.208 ±0.013	0.106 <u>L</u> ±0.057	
			Seminal vesicle (%)	0.469 ±0.066	0.438 ±0.042	0.474 ±0.020	0.458 ±0.053	0.465 ±0.058	0.382 <u>L</u> ±0.100	
			Prostate (%)	0.126 ±0.023	0.127 ±0.025	0.123 ±0.014	0.126 ±0.017	0.114 ±0.016	0.107 <u>D</u> ±0.025	
			Deferent duct (%)	0.043 ±0.006	0.043 ±0.005	0.043 ±0.006	0.042 ±0.006	0.043 ±0.007	0.029 <u>L</u> ±0.011	
			Levator ani (10 ⁻³ %)	63.25 ±9.94	59.92 ±9.21	61.51 ±10.58	58.77 ±10.61	63.61 ±6.85	62.71 ±10.71	
		Female	Final body weights (g)	254.9 ±20.0	254.8 ±14.3	259.6 ±15.1	262.6 ±12.6	260.2 ±11.5	248.7 ±14.3	
			Brain (%)	0.698 ±0.034	0.698 ±0.027	0.685 ±0.028	0.683 ±0.035	0.688 ±0.026	0.720 ±0.035	
			Pituitary (10 ⁻³ %)	3.86 ±0.42	3.67 ±0.31	3.72 ±0.26	3.53 ±0.42	3.66 ±0.26	3.69 ±0.35	
			Thyroid (10 ⁻³ %)	7.31 ±1.59	7.65 ±1.65	8.79 ±1.87	7.51 ±2.00	8.38 ±1.93	8.98 ±2.05	
			Thymus (10 ⁻³ %)	228.06 ±28.62	218.88 ±26.37	214.03 ±26.39	232.16 ±37.27	229.76 ±46.45	212.30 ±37.73	
			Liver (%)	4.591 ±0.247	4.706 ±0.307	4.790 ±0.156	4.783 ±0.237	4.785 ±0.188	4.712 ±0.273	
			Kidney (%)	0.772 ±0.034	0.759 ±0.042	0.788 ±0.048	0.773 ±0.048	0.768 ±0.049	0.734 ±0.048	
			Adrenal (10 ⁻³ %)	28.57 ±1.79	28.60 ±2.40	27.64 ±3.03	28.78 ±2.77	27.15 ±2.76	28.72 ±3.50	
			Spleen (%)	0.294 ±0.051	0.295 ±0.037	0.297 ±0.046	0.287 ±0.021	0.306 ±0.042	0.305 ±0.034	
			Ovary (10 ⁻³ %)	45.50 ±5.57	47.85 ±4.67	46.76 ±8.08	45.44 ±4.25	48.44 ±3.67	45.26 ±7.92	
			Uterus (%)	All	0.229 ±0.077	0.242 ±0.088	0.224 ±0.077	0.199 ±0.070	0.221 ±0.071	0.279 ±0.096
				Proestrus	0.297 ±0.039	0.317 ±0.055	0.292 ±0.038	0.255 ±0.056	0.285 ±0.029	0.350 ±0.007
		Metestrus or diestrus		0.162 ±0.026	0.167 ±0.020	0.157 ±0.024	0.143 ±0.010	0.157 ±0.023	0.182 ±0.023	

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-9: Gross findings)

Generation			Dam: F0 Offspring: F1						
Dose			0 µg/kg	2 µg/kg	12 µg/kg	60 µg/kg	300 µg/kg	500 mg/kg	
F1	Day 21	Male		-	-	-	-	-	-
		Female		-	-	-	-	-	-
	6 weeks	Male	Epididymis: Small	-	-	-	-	-	7/8
			Deferent duct: Small	-	-	-	-	-	7/8
			Kidney: Dilatation, pelvis	-	-	-	1/12	-	1/8
		Female	Kidney: Cyst	-	-	1/12	-	-	-
	10 weeks	Male	Testis: Small	-	-	-	-	-	7/11
			Soft	-	-	-	-	-	5/11
			Epididymis: Small	-	-	-	-	-	7/11
			Deferent duct: Small	-	-	-	-	-	5/11
			Kidney: Dilatation, pelvis	-	-	-	-	1/12	-
		Female	Uterus: Atrophy	-	-	-	1/12	-	-
			Distention	-	-	-	-	-	1/11 a
			Vagina: Vaginal atresia	-	-	-	-	-	1/11 a
			Ureter: Dilatation	-	-	-	-	-	1/11 a
			Tortuosity	-	-	-	-	-	1/11 a
			Kidney: Cyst	-	-	-	-	-	1/11 a
			Scar	-	-	-	-	-	1/11
			Parent	Male	Testis: Small	-	-	-	1/12 a
	Male: 22-23 weeks Female: Lactation on Day4	Male	Soft	-	-	-	-	-	1/12
			Epididymis: Small	1/12	-	-	1/12 a	-	12/12
			Seminal vesicle: Deformation	-	-	-	-	-	1/12
			Small	-	-	-	-	-	1/12
			Prostate: Small	-	-	-	-	-	2/12
			Deferent duct: Small	-	-	-	-	-	12/12
			Thoracic cavity: Diaphragmatic hernia	-	1/12	-	-	-	-
			Female	Ovary: Cyst	-	1/12	-	-	-
Uterus: Atrophy				-	-	-	-	-	1/12
Brain: Dilatation, cerebral ventricle				-	-	-	-	-	1/12

- : No treatment-related alterations.

a: Same animal.

Summary of results (continued-10: Histopathological findings-10 weeks)

Generation		S	Dam: F0 Offspring: F1							
Dose			0 µg/kg	2 µg/kg	12 µg/kg	60 µg/kg	300 µg/kg	500 mg/kg		
F 1	Male	Pituitary: Cyst, anterior lobe	1	<12> #	<12>	<12>	<12>	<12>	<11>	
			2	2	1	3	2	1	3	
			3	0	0	0	0	0	0	
		Testis: Atrophy, seminiferous tubule, diffuse	1	<12>	<12>	<12>	<12>	<12>	<11>	
			2	0	0	0	0	0	0	
			3	0	0	0	0	0	10	
			Multinucleated giant cell, seminiferous tubule	1	0	0	0	0	0	1
				2	0	0	0	0	0	0
				3	0	0	0	0	0	0
		Epididymis: Decrease in sperm	1	<12>	<12>	<12>	<12>	<12>	<8>	
	2		0	0	0	0	0	0		
	3		0	0	0	0	0	7		
	Inflammatory cell infiltration, lymphocyte, focal		1	5	4	3	6	6	2	
			2	0	0	0	0	0	0	
			3	0	0	0	0	0	0	
	Seminal vesicle: Inflammatory cell infiltration, diffuse	1	<12>	<12>	<12>	<12>	<12>	<11>		
		2	0	0	0	0	0	1		
		3	0	0	0	0	0	0		
	Prostate		<12>	<12>	<12>	<12>	<12>	<11>		
	Coagulating gland: Inflammatory cell infiltration, lymphocyte, diffuse	1	<12>	<12>	<12>	<12>	<12>	<11>		
2		7	6	0	2	5	0			
3		0	0	0	0	0	0			
Deferent duct		<12>	<12>	<12>	<12>	<12>	<7>			
Female	Pituitary: Cyst, anterior lobe	1	<12>	<11>	<12>	<12>	<12>	<11>		
		2	0	1	1	0	2	1		
		3	0	0	0	0	0	0		
	Ovary		<12>	<12>	<12>	<12>	<12>	<11>		
	Uterus: Maturation arrest	1	<12>	<12>	<12>	<12>	<12>	<11>		
		2	0	0	0	0	0	1 a		
		3	0	0	0	0	0	0		
	Vagina		<12>	<12>	<12>	<12>	<12>	<11>		
	Oviduct		<12>	<12>	<12>	<12>	<12>	<11>		
			-	-	-	-	-	-		

- : No treatment-related alterations.

#: Number of examined, S: 1, slight; 2, moderate; 3, severe, - : no abnormality.

a: The animal showed vaginal atresia.

Summary of results (continued-11: Hormone concentrations and mRNA expression-10 weeks)

Generation				Dam: F0 Offspring: F1							
Dose				0 µg/kg	2 µg/kg	12 µg/kg	60 µg/kg	300 µg/kg	500 mg/kg		
F 1	Hormone concentrations	Male	LH (ng/mL)	2.05 ±0.27	2.23 ±0.17	2.29 ±0.35	2.38 ±0.36	2.48 ±0.43	2.85 <u>H</u> ±0.58		
			FSH (ng/mL)	12.02 ±1.60	12.76 ±1.40	13.11 ±1.00	13.22 ±2.03	14.24 ±2.42	16.32 <u>H</u> ±1.61		
			Testosterone (ng/mL)	4.03 ±0.91	3.83 ±1.82	3.80 ±1.58	3.15 ±0.73	4.70 ±2.87	2.94 ±1.14		
		Female	DHT (pg/mL)	345 ±145	249 ±74	275 ±108	194 ±49	290 ±162	196 ±122		
			LH (ng/mL)	1.88 ±0.21	1.98 ±0.43	1.87 ±0.14	1.87 ±0.21	2.09 ±0.16	1.98 ±0.11		
			FSH (ng/mL)	4.22 ±0.70	3.74 ±0.58	3.55 ±0.71	3.56 ±1.00	3.85 ±0.42	4.11 ±0.05		
		mRNA expression (%)	Male	Testis	AR	0.640 ±0.190	0.493 ±0.183	0.597 ±0.117	0.660 ±0.095	0.666 ±0.108	0.752 ±0.162
					ERα	0.096 ±0.025	0.095 ±0.019	0.071 ±0.011	0.109 ±0.012	0.115 ±0.022	0.070 ±0.018
					ERβ	0.0698 ±0.0203	0.0646 ±0.0323	0.0545 ±0.0231	0.0737 ±0.0176	0.0612 ±0.0070	0.0086 <u>L</u> ±0.0026
	Epididymis			AR	9.12 ±1.37	7.00 ±2.13	6.85 ±1.08	6.09 L ±1.78	6.78 ±1.52	6.39 ±0.26	
				ERα	0.0149 ±0.0036	0.0160 ±0.0030	0.0109 ±0.0030	0.0136 ±0.0081	0.0120 ±0.0023	0.0176 ±0.0028	
				ERβ	0.0475 ±0.0133	0.0494 ±0.0194	0.0524 ±0.0093	0.0474 ±0.0179	0.0507 ±0.0151	0.0559 ±0.0240	
	Prostate			AR	5.18 ±1.17	3.77 ±0.64	4.66 ±1.55	3.15 L ±1.05	3.75 ±0.58	3.32 L ±0.31	
				ERα	0.0372 ±0.0451	0.0306 ±0.0096	0.0312 ±0.0213	0.0484 ±0.0440	0.0336 ±0.0362	0.0312 ±0.0125	
				ERβ	7.01 ±1.72	6.35 ±1.00	8.03 ±1.33	7.28 ±2.03	6.25 ±0.92	7.59 ±1.40	
	Female		Ovary	AR	1.84 ±0.67	1.44 ±0.50	1.56 ±0.49	1.07 L ±0.13	1.69 ±0.38	0.98 L ±0.26	
				ERα	0.253 ±0.070	0.375 ±0.176	0.276 ±0.071	0.239 ±0.070	0.240 ±0.084	0.293 ±0.087	
				ERβ	1.545 ±1.158	1.689 ±1.169	1.517 ±0.520	0.858 ±0.265	0.867 ±0.198	0.795 ±0.348	
			Uterus	AR	1.74 ±0.56	1.45 ±0.21	1.46 ±0.56	2.15 ±0.39	1.58 ±0.38	1.12 ±0.48	
				ERα	0.739 ±0.126	0.597 ±0.089	0.710 ±0.177	0.725 ±0.128	0.738 ±0.073	0.627 ±0.130	
				ERβ	0.0122 ±0.0040	0.0148 ±0.0030	0.0141 ±0.0021	0.0189 ±0.0051	0.0232 <u>H</u> ±0.0027	0.0198 ±0.0087	

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.