p-ジクロロベンゼンのラット及びマウスを用いた
吸 入 に よ る が ん 原 性 試 験 報 告 書

APPENDIX

（D1～I４）

APPENDIXES (CONTINUED)

APPENDIXES (CONTINUED)

APPENDIX D 1

HEMATOLOGY : SUMMARY, RAT : MALE

(2-YEAR STUDY)

STUDY NO. : 0158
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

HEMATOLOGY(1) (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	RED BLOOD CELL $10^6/\mu\ell$	HEMOGLOBIN g/dℓ	HEMATOCRIT %	MCV f ℓ	MCH p g	MCHC g/dℓ	PLATELET $10^3/\mu\ell$
Control	32	6.98± 1.52	11.9± 3.1	36.3± 7.6	52.3± 5.6	17.0± 2.1	32.6± 2.4	1241± 432
20 ppm	34	7.60± 1.85	13.4± 3.0	40.0± 7.9	53.7± 7.4	17.8± 1.8	33.3± 2.3	989± 325
75 ppm	28	7.30± 1.40	12.7± 2.7	37.8± 7.0	52.0± 4.1	17.4± 1.6	33.5± 1.9	1093± 302
300 ppm	18	7.98± 1.44	13.5± 2.5	39.7± 6.6	49.9± 2.3**	16.9± 0.8	33.9± 0.9	1098± 401

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

STUDY NO. : 0158
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

HEMATOLOGY(2) (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	WBC $10^3/\mu\ell$	Differential WBC (%) N-BAND	N-SEG	EOSINO	BASO	MONO	LYMPHO	OTHER
Control	32	6.71± 2.24	1± 2	56± 10	1± 1	0± 0	4± 2	32± 9	6± 4
20 ppm	34	8.53± 12.11	1± 2	52± 13	1± 1	0± 0	4± 2	33± 9	8± 14
75 ppm	28	14.65± 39.36	1± 1	58± 14	1± 1	0± 0	4± 2	29± 11	8± 16
300 ppm	18	7.56± 2.05	1± 1	53± 9	1± 1	0± 0	4± 1	34± 7	7± 6

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

(JCL71A)

BAIS2

APPENDIX D 2

HEMATOLOGY : SUMMARY, RAT : FEMALE

(2-YEAR STUDY)

STUDY NO. : 0158
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

HEMATOLOGY(1) (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	RED BLOOD CELL $10^6/\mu\ell$	HEMOGLOBIN g/dℓ	HEMATOCRIT %	MCV fℓ	MCH pg	MCHC g/dℓ	PLATELET $10^3/\mu\ell$
Control	38	7.89± 0.83	14.7± 1.3	42.8± 3.1	54.5± 3.1	18.6± 0.8	34.3± 1.1	735± 122
20 ppm	34	8.04± 1.02	14.9± 1.8	43.1± 4.8	53.9± 3.0	18.5± 0.9	34.4± 1.4	720± 94
75 ppm	37	8.18± 0.64	15.0± 1.1	43.8± 2.8	53.6± 2.2	18.4± 0.7	34.3± 1.0	701± 133
300 ppm	36	7.59± 1.53	14.1± 2.5	41.1± 6.7	55.2± 6.8	18.8± 1.9	34.2± 1.1	673± 158

Significant difference : * : $P \leq 0.05$ ** : $P \leq 0.01$ Test of Dunnett

(HCL070)

STUDY NO. : 0158
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

HEMATOLOGY(2) (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	WBC $10^3/\mu\ell$		Differential WBC (%) N-BAND		N-SEG		EOSINO		BASO		MONO		LYMPHO		OTHER	
Control	38	4.02±	1.61	2±	2	51±	10	1±	1	0±	0	4±	2	40±	11	3±	3
20 ppm	34	3.54±	1.24	1±	1	51±	9	2±	1	0±	0	4±	2	39±	10	3±	3
75 ppm	37	4.10±	3.40	1±	2	48±	13	2±	1	0±	0	4±	2	40±	11	5±	14
300 ppm	36	26.08±	115.15	2±	4	45±	17	2±	1	0±	0	4±	2	36±	13	11±	22

Significant difference : * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

APPENDIX D 3

HEMATOLOGY : SUMMARY, MOSUE : MALE

(2-YEAR STUDY)

STUDY NO. : 0159
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

HEMATOLOGY(1) (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	RED BLOOD CELL $10^6/\mu\ell$	HEMOGLOBIN g/dℓ	HEMATOCRIT %	MCV fℓ	MCH pg	MCHC g/dℓ	PLATELET $10^3/\mu\ell$
Control	36	9.72± 1.55	13.7± 1.7	42.5± 5.2	44.0± 2.4	14.2± 0.7	32.2± 1.4	2070± 532
20ppm	28	8.98± 1.92	12.6± 2.6	39.4± 6.8	44.5± 3.5	14.1± 0.8	31.7± 2.3	2023± 619
75ppm	31	9.26± 1.54	13.3± 2.1	41.0± 5.6	44.6± 3.2	14.4± 0.7	32.3± 1.5	1977± 570
300ppm	30	9.69± 1.79	13.5± 2.0	42.1± 5.8	43.9± 4.0	14.1± 1.1	32.1± 1.0	2156± 468

Significant difference : * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

STUDY NO. : 0159
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

HEMATOLOGY(2) (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	WBC $10^3/\mu\ell$	Differential WBC (%) N-BAND	N-SEG	EOSINO	BASO	MONO	LYMPHO	OTHERS
Control	36	2.91± 1.92	1± 2	36± 14	1± 2	0± 0	3± 1	57± 15	2± 3
20ppm	28	5.13± 11.50	2± 2	43± 20	1± 1	0± 0	3± 1	50± 20	2± 2
75ppm	31	16.79± 79.26	2± 3	42± 15	1± 1	0± 0	4± 2	48± 14	3± 7
300ppm	30	3.28± 1.82	1± 1	38± 12	1± 1	0± 0	3± 1	55± 13	2± 2

Significant difference ; * : $P \leqq 0.05$ ** : $P \leqq 0.01$ Test of Dunnett

(HCL071)

APPENDIX D 4

HEMATOLOGY : SUMMARY, MOSUE : FEMALE

(2-YEAR STUDY)

STUDY NO. : 0159
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

HEMATOLOGY(1) (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	RED BLOOD CELL $10^6/\mu\ell$	HEMOGLOBIN g/dℓ	HEMATOCRIT %	MCV f ℓ	MCH p g	MCHC g/dℓ	PLATELET $10^3/\mu\ell$
Control	27	9.46± 1.22	13.8± 1.7	42.2± 4.5	44.8± 3.1	14.6± 0.7	32.6± 1.4	1229± 300
20ppm	23	9.28± 1.26	13.4± 1.8	41.2± 4.6	44.6± 2.4	14.5± 0.5	32.5± 1.2	1159± 361
75ppm	20	9.44± 0.89	13.8± 1.1	42.1± 3.2	44.8± 2.4	14.6± 0.6	32.7± 0.8	1164± 335
300ppm	26	10.23± 2.76	14.1± 3.1	44.5± 8.7	44.8± 6.2	14.1± 1.5*	31.5± 1.8	1542± 597*

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

STUDY NO. : 0159
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

HEMATOLOGY(2) (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	WBC $10^3/\mu\ell$	Differential WBC (%) N-BAND	N-SEG	EOSINO	BASO	MONO	LYMPHO	OTHERS
Control	27	3.27± 4.21	1± 2	35± 15	3± 4	0± 0	4± 2	54± 16	4± 7
20ppm	23	2.38± 1.51	1± 2	32± 9	2± 1	0± 0	4± 2	57± 11	4± 8
75ppm	20	2.53± 1.74	1± 2	32± 13	2± 1	0± 0	4± 3	59± 15	3± 3
300ppm	26	3.96± 5.94	1± 1	41± 16	1± 2*	0± 0	4± 3	47± 16	5± 8

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

APPENDIX E 1

BIOCHEMISTRY : SUMMARY, RAT : MALE

(2-YEAR STUDY)

STUDY NO. : 0158
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	TOTAL PROTEIN g/dℓ	ALBUMIN g/dℓ	A/G RATIO	T-BILIRUBIN mg/dℓ	GLUCOSE mg/dℓ	T-CHOLESTEROL mg/dℓ	TRIGLYCERIDE mg/dℓ
Control	32	6.6± 0.5	3.0± 0.2	0.8± 0.1	0.24± 0.12	156± 23	183± 49	220± 130
20 ppm	34	6.8± 0.7	3.0± 0.3	0.8± 0.2	0.31± 0.33	146± 24	188± 66	232± 134
75 ppm	29	6.7± 0.6	2.9± 0.3	0.8± 0.1	0.26± 0.17	139± 24*	207± 53	223± 116
300 ppm	18	6.9± 0.3	3.1± 0.1	0.8± 0.1	0.26± 0.09	160± 22	229± 40*	323± 186

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

STUDY NO. : 0158
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	PHOSPHOLIPID mg/dℓ	GOT IU/ℓ	GPT IU/ℓ	LDH IU/ℓ	ALP IU/ℓ	G-GTP IU/ℓ	CPK IU/ℓ
Control	32	298± 81	73± 57	23± 11	199± 87	182± 60	5± 2	92± 28
20 ppm	34	302± 109	82± 85	21± 10	207± 88	173± 83	6± 3	87± 29
75 ppm	29	335± 102	68± 43	24± 12	218± 110	218± 304	5± 3	104± 60
300 ppm	18	367± 67*	58± 31	22± 9	221± 209	146± 50	6± 3	86± 25

Significant difference : * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

STUDY NO. : 0158
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	UREA NITROGEN mg/dℓ	CREATININE mg/dℓ	SODIUM mEq/ℓ	POTASSIUM mEq/ℓ	CHLORIDE mEq/ℓ	CALCIUM mg/dℓ	INORGANIC PHOSPHORUS mg/dℓ
Control	32	26.4± 7.2	0.7± 0.2	142± 1	3.6± 0.4	106± 2	11.0± 0.5	4.7± 0.9
20 ppm	34	36.5± 32.7	1.1± 1.3	143± 2	3.7± 0.4	105± 3	11.3± 1.1	5.6± 3.2
75 ppm	29	39.8± 27.6	1.1± 0.9	142± 2	3.7± 0.4	105± 3	11.8± 1.8	6.2± 3.8
300 ppm	18	39.4± 15.8**	1.1± 0.4**	142± 2	3.6± 0.3	105± 3	11.8± 0.9**	5.8± 1.8

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

APPENDIX E 2

BIOCHEMISTRY : SUMMARY, RAT : FEMALE

(2-YEAR STUDY)

STUDY NO. : 0158
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	TOTAL PROTEIN g/dℓ	ALBUMIN g/dℓ	A/G RATIO	T-BILIRUBIN mg/dℓ	GLUCOSE mg/dℓ	T-CHOLESTEROL mg/dℓ	TRIGLYCERIDE mg/dℓ
Control	38	7.3± 0.4	3.7± 0.3	1.1± 0.1	0.24± 0.07	148± 18	165± 56	179± 152
20 ppm	34	6.9± 0.4*	3.7± 0.3	1.1± 0.1	0.22± 0.04	158± 19	146± 30	146± 62
75 ppm	37	7.1± 0.4	3.7± 0.2	1.1± 0.1	0.24± 0.04	155± 28	153± 33	162± 101
300 ppm	36	6.9± 0.5**	3.6± 0.3	1.1± 0.1	0.47± 1.18*	150± 26	168± 56	204± 138

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

STUDY NO. : 0158
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	PHOSPHOLIPID mg/dℓ	GOT IU/ℓ	GPT IU/ℓ	LDH IU/ℓ	ALP IU/ℓ	G-GTP IU/ℓ	CPK IU/ℓ
Control	38	312± 112	97± 44	32± 13	217± 80	131± 61	4± 3	84± 17
20 ppm	34	274± 60	96± 45	32± 17	215± 72	127± 60	4± 3	81± 14
75 ppm	37	288± 73	116± 88	41± 36	289± 371	131± 62	4± 2	86± 26
300 ppm	36	318± 112	240± 558	50± 71	276± 217	198± 197	4± 2	158± 355

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

(HCL074)

STUDY NO. : 0158
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	UREA NITROGEN mg/dℓ	CREATININE mg/dℓ	SODIUM mEq/ℓ	POTASSIUM mEq/ℓ	CHLORIDE mEq/ℓ	CALCIUM mg/dℓ	INORGANIC PHOSPHORUS mg/dℓ
Control	38	17.0± 2.1	0.5± 0.1	141± 1	3.4± 0.3	104± 2	10.8± 0.5	3.7± 0.7
20 ppm	34	16.7± 2.3	0.5± 0.1	141± 2	3.5± 0.3	104± 2	10.7± 0.4	3.7± 0.8
75 ppm	37	16.8± 2.1	0.5± 0.1	141± 1	3.5± 0.3	103± 2	10.8± 0.4	3.9± 1.0
300 ppm	36	19.0± 2.5**	0.4± 0.1	141± 2	3.7± 0.4**	104± 2	10.8± 0.5	4.1± 1.0

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

APPENDIX E 3

BIOCHEMISTRY : SUMMARY, MOSUE : MALE

(2-YEAR STUDY)

STUDY NO. : 0159
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	TOTAL PROTEIN g/dℓ	ALBUMIN g/dℓ	A/G RATIO	T-BILIRUBIN mg/dℓ	GLUCOSE mg/dℓ	T-CHOLESTEROL mg/dℓ	TRIGLYCERIDE mg/dℓ
Control	36	5.4± 0.7	2.7± 0.4	1.0± 0.1	0.30± 0.18	193± 57	110± 52	64± 23
20ppm	28	5.7± 1.1	2.7± 0.5	1.0± 0.2	0.32± 0.23	170± 79	134± 75	69± 25
75ppm	32	5.4± 0.7	2.7± 0.4	1.0± 0.2	0.29± 0.09	186± 51	112± 35	67± 27
300ppm	30	5.5± 0.5	2.8± 0.2	1.0± 0.1	0.30± 0.08	201± 48	157± 51**	54± 17

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

STUDY NO. : 0159
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	GOT IU/ℓ	GPT IU/ℓ	LDH IU/ℓ	ALP IU/ℓ	CPK IU/ℓ	UREA NITROGEN mg/dℓ	SODIUM mEq/ℓ
Control	36	232± 573	72± 152	596± 1205	235± 243	67± 36	26.1± 10.2	155± 3
20ppm	28	645± 1967	181± 592	3686± 12061	205± 110	303± 1135	42.1± 52.6	155± 3
75ppm	32	121± 130	40± 40	578± 1113	227± 211	55± 38*	26.7± 12.4	155± 2
300ppm	30	505± 635**	227± 252**	1925± 2189**	898± 1048**	55± 19	24.0± 2.8	154± 2

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

STUDY NO. : 0159
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	POTASSIUM mEq／ℓ	CHLORIDE mEq／ℓ	CALCIUM mg／dℓ	INORGANIC PHOSPHORUS mg／dℓ
Control	36	4.3± 0.4	122± 3	9.1± 0.6	7.0± 1.2
20ppm	28	4.6± 1.0	121± 4	9.4± 0.8	8.4± 4.3
75ppm	32	4.3± 0.4	123± 3	9.3± 0.5	6.9± 1.3
300ppm	30	4.2± 0.3	122± 3	9.3± 0.4	6.9± 0.8

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

APPENDIX E 4

BIOCHEMISTRY : SUMMARY, MOSUE : FEMALE

(2-YEAR STUDY)

STUDY NO. : 0159
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	TOTAL PROTEIN g/dℓ	ALBUMIN g/dℓ	A/G RATIO	T-BILIRUBIN mg/dℓ	GLUCOSE mg/dℓ	T-CHOLESTEROL mg/dℓ	TRIGLYCERIDE mg/dℓ
Control	27	5.2± 0.7	2.6± 0.3	1.1± 0.2	0.30± 0.11	143± 33	79± 33	64± 24
20ppm	23	5.2± 0.4	2.6± 0.2	1.1± 0.2	0.31± 0.17	138± 39	79± 22	69± 20
75ppm	20	5.3± 0.5	2.7± 0.2	1.1± 0.2	0.26± 0.07	153± 32	83± 41	60± 17
300ppm	26	6.1± 1.0**	3.1± 0.4**	1.1± 0.2	0.47± 0.24**	159± 35	234± 159**	64± 41

Significant difference : * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

STUDY NO. : 0159
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	GOT IU/ℓ	GPT IU/ℓ	LDH IU/ℓ	ALP IU/ℓ	CPK IU/ℓ	UREA NITROGEN mg/dℓ	SODIUM mEq/ℓ
Control	27	130± 143	37± 49	455± 579	368± 409	64± 37	19.6± 12.8	153± 2
20ppm	23	249± 579	82± 216	1431± 5149	309± 339	107± 217	18.1± 11.4	153± 2
75ppm	20	135± 135	33± 27	732± 1631	261± 116	60± 17	16.1± 2.3	153± 2
300ppm	26	1448± 1960**	820± 1221**	6741± 8095**	2135± 1748**	97± 81	26.4± 7.7**	155± 2

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

(HCL074)

STUDY NO. : 0159
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	POTASSIUM mEq／ℓ		CHLORIDE mEq／ℓ		CALCIUM mg／dℓ		INORGANIC PHOSPHORUS mg／dℓ	
Control	27	4.1±	0.5	121±	3	9.3±	0.7	6.5±	0.9
20ppm	23	4.3±	0.8	122±	2	9.3±	0.3	6.8±	1.1
75ppm	20	4.1±	0.4	122±	2	9.2±	0.5	6.4±	0.9
300ppm	26	4.2±	0.5	120±	3	10.3±	0.9**	7.4±	1.7

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

APPENDIX F 1

URINALYSIS : SUMMARY, RAT : MALE

(2-YEAR STUDY)

STUDY NO. : 0158
ANIMAL : RAT F344
SAMPLING DATE : 104-5
SEX : MALE REPORT TYPE : A1

URINALYSIS

Group Name	NO. of Animals	pH 5.0	6.0	6.5	7.0	7.5	8.0	8.5	CHI	Protein −	±	+	2+	3+	4+	CHI	Glucose −	±	+	2+	3+	4+	CHI	Ketone body −	±	+	2+	3+	4+	CHI	Bilirubin −	+	2+	3+	CHI
Control	35	0	4	7	10	9	5	0		0	0	0	1	12	22		35	0	0	0	0	0		33	1	0	0	0	1		33	1	1	0	
20 ppm	34	0	3	7	12	10	2	0		0	0	0	0	10	24		34	0	0	0	0	0		33	1	0	0	0	0		33	1	0	0	
75 ppm	31	0	3	15	5	7	1	0		0	0	0	0	14	17		31	0	0	0	0	0		31	0	0	0	0	0		31	0	0	0	
300 ppm	18	0	2	2	8	4	2	0		0	0	0	0	8	10		18	0	0	0	0	0		18	0	0	0	0	0		18	0	0	0	

Significent difference ; * : P ≦ 0.05 ** : P ≦ 0.01

Test of CHI SQUARE

STUDY NO. : 0158
ANIMAL : RAT F344
SAMPLING DATE : 104-5
SEX : MALE REPORT TYPE : A1

URINALYSIS

Group Name	NO. of Animals	Occult blood −	±	+	2+	3+	CHI	Urobilinogen ±	+	2+	3+	4+	CHI
Control	35	34	0	0	0	1		35	0	0	0	0	
20 ppm	34	34	0	0	0	0		34	0	0	0	0	
75 ppm	31	31	0	0	0	0		31	0	0	0	0	
300 ppm	18	18	0	0	0	0		18	0	0	0	0	

Significent difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of CHI SQUARE

APPENDIX F 2

URINALYSIS : SUMMARY, RAT : FEMALE

(2-YEAR STUDY)

STUDY NO. : 0158
ANIMAL : RAT F344
SAMPLING DATE : 104-5
SEX : FEMALE REPORT TYPE : A1

URINALYSIS

Group Name	NO. of Animals	pH 5.0	6.0	6.5	7.0	7.5	8.0	8.5	CHI	Protein −	±	+	2+	3+	4+	CHI	Glucose −	±	+	2+	3+	4+	CHI	Ketone body −	±	+	2+	3+	4+	CHI	Bilirubin −	+	2+	3+	CHI
Control	38	0	0	5	15	10	6	2		0	0	3	7	21	7		38	0	0	0	0	0		37	1	0	0	0	0		38	0	0	0	
20 ppm	35	0	0	3	13	8	8	3		0	0	3	4	18	10		35	0	0	0	0	0		34	1	0	0	0	0		35	0	0	0	
75 ppm	39	0	3	7	15	7	5	2		0	1	0	5	19	14		39	0	0	0	0	0		36	3	0	0	0	0		39	0	0	0	
300 ppm	39	0	2	7	8	9	11	2		0	0	5	11	21	2		39	0	0	0	0	0		36	2	0	1	0	0		38	1	0	0	

Significent difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of CHI SQUARE

(JCL101)

STUDY NO. : 0158
ANIMAL : RAT F344
SAMPLING DATE : 104-5
SEX : FEMALE REPORT TYPE : A1

URINALYSIS

Group Name	NO. of Animals	Occult blood −	±	+	2+	3+	CHI	Urobilinogen ±	+	2+	3+	4+	CHI
Control	38	37	0	1	0	0		38	0	0	0	0	
20 ppm	35	34	0	0	1	0		35	0	0	0	0	
75 ppm	39	38	0	1	0	0		39	0	0	0	0	
300 ppm	39	38	0	0	0	1		38	1	0	0	0	

Significent difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of CHI SQUARE

APPENDIX F 3

URINALYSIS : SUMMARY, MOSUE : MALE

(2-YEAR STUDY)

STUDY NO. : 0159
ANIMAL : MOUSE BDF1
SAMPLING DATE : 104-5
SEX : MALE REPORT TYPE : A1

URINALYSIS

Group Name	NO. of Animals	pH 5.0	6.0	6.5	7.0	7.5	8.0	8.5	CHI	Protein −	±	+	2+	3+	4+	CHI	Glucose −	±	+	2+	3+	4+	CHI	Ketone body −	±	+	2+	3+	4+	CHI	Occult blood −	±	+	2+	3+	CHI
Control	40	0	8	11	8	12	1	0		0	3	28	9	0	0		40	0	0	0	0	0		30	9	1	0	0	0		37	1	1	0	1	
20ppm	33	0	8	8	13	3	1	0		0	1	21	11	0	0		33	0	0	0	0	0		24	9	0	0	0	0		30	1	0	1	1	
75ppm	32	0	3	8	14	7	0	0		0	3	23	5	1	0		32	0	0	0	0	0		21	11	0	0	0	0		26	0	2	1	3	
300ppm	30	0	2	7	7	12	2	0		0	6	18	6	0	0		30	0	0	0	0	0		22	8	0	0	0	0		30	0	0	0	0	

Significent difference ; * : P ≦ 0.05 ** : P ≦ 0.01

Test of CHI SQUARE

STUDY NO. : 0159
ANIMAL : MOUSE BDF1
SAMPLING DATE : 104-5
SEX : MALE REPORT TYPE : A1

URINALYSIS

Group Name	NO. of Animals	Urobilinogen ±	+	2+	3+	4+	CHI
Control	40	40	0	0	0	0	
20ppm	33	33	0	0	0	0	
75ppm	32	32	0	0	0	0	
300ppm	30	30	0	0	0	0	

Significent difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of CHI SQUARE

APPENDIX F 4

URINALYSIS : SUMMARY, MOSUE : FEMALE

(2-YEAR STUDY)

STUDY NO. : 0159
ANIMAL : MOUSE BDF1
SAMPLING DATE : 104-5
SEX : FEMALE REPORT TYPE : A1

URINALYSIS

Group Name	NO. of Animals	pH 5.0	6.0	6.5	7.0	7.5	8.0	8.5	CHI	Protein −	±	+	2+	3+	4+	CHI	Glucose −	±	+	2+	3+	4+	CHI	Ketone body −	±	+	2+	3+	4+	CHI	Occult blood −	±	+	2+	3+	CHI
Control	29	0	0	7	9	7	4	2		0	7	16	6	0	0		29	0	0	0	0	0		20	8	1	0	0	0		28	1	0	0	0	
20ppm	25	0	0	3	11	4	7	0		0	9	14	2	0	0		25	0	0	0	0	0		16	8	1	0	0	0		23	1	0	1	0	
75ppm	23	0	0	4	4	9	4	2		0	7	10	6	0	0		23	0	0	0	0	0		14	8	1	0	0	0		17	2	3	0	1	
300ppm	26	0	0	5	8	8	5	0		2	10	10	4	0	0		26	0	0	0	0	0		23	1	2	0	0	0		24	1	1	0	0	

Significent difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of CHI SQUARE

STUDY NO. : 0159
ANIMAL : MOUSE BDF1
SAMPLING DATE : 104-5
SEX : FEMALE REPORT TYPE : A1

URINALYSIS

Group Name	NO. of Animals	Urobilinogen ±	+	2+	3+	4+	CHI
Control	29	29	0	0	0	0	
20ppm	25	25	0	0	0	0	
75ppm	23	23	0	0	0	0	
300ppm	26	26	0	0	0	0	

Significent difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of CHI SQUARE

APPENDIX G 1

GROSS FINDINGS : SUMMARY, RAT : MALE : DEAD AND MORIBUND ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0158
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

Organ	Findings	Group Name NO. of Animals	Control 17 (%)	20 ppm 16 (%)	75 ppm 21 (%)	300 ppm 32 (%)
skin/app	nodule		0 (0)	1 (6)	0 (0)	0 (0)
subcutis	edema		0 (0)	0 (0)	0 (0)	1 (3)
	jaundice		1 (6)	1 (6)	1 (5)	3 (9)
	nodule		0 (0)	1 (6)	0 (0)	1 (3)
	mass		3 (18)	0 (0)	0 (0)	12 (38)
lung	red		0 (0)	1 (6)	2 (10)	5 (16)
	white zone		1 (6)	0 (0)	0 (0)	0 (0)
	yellow zone		1 (6)	0 (0)	0 (0)	0 (0)
	edema		0 (0)	1 (6)	0 (0)	1 (3)
	nodule		0 (0)	1 (6)	1 (5)	1 (3)
lymph node	enlarged		1 (6)	1 (6)	0 (0)	2 (6)
thymus	enlarged		0 (0)	1 (6)	0 (0)	0 (0)
spleen	enlarged		5 (29)	6 (38)	5 (24)	8 (25)
	white zone		0 (0)	0 (0)	0 (0)	1 (3)
	nodule		2 (12)	0 (0)	0 (0)	1 (3)
heart	enlarged		0 (0)	0 (0)	0 (0)	1 (3)
	white zone		2 (12)	0 (0)	1 (5)	1 (3)
oral cavity	nodule		0 (0)	0 (0)	0 (0)	1 (3)
forestomach	white zone		0 (0)	1 (6)	0 (0)	0 (0)
	nodule		3 (18)	0 (0)	0 (0)	0 (0)
	rupture		0 (0)	1 (6)	0 (0)	0 (0)
	ulcer		3 (18)	0 (0)	1 (5)	6 (19)

STUDY NO. : 0158
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

Organ	Findings	Group Name NO. of Animals	Control 17 (%)	20 ppm 16 (%)	75 ppm 21 (%)	300 ppm 32 (%)
forestomach	thick		1 (6)	0 (0)	0 (0)	1 (3)
gl stomach	red zone		0 (0)	0 (0)	0 (0)	1 (3)
	red patch		0 (0)	0 (0)	0 (0)	1 (3)
	nodule		1 (6)	1 (6)	0 (0)	0 (0)
	ulcer		2 (12)	1 (6)	1 (5)	7 (22)
small intes	nodule		0 (0)	1 (6)	0 (0)	0 (0)
liver	enlarged		0 (0)	2 (13)	0 (0)	1 (3)
	swollen		0 (0)	0 (0)	0 (0)	1 (3)
	pale		0 (0)	0 (0)	0 (0)	1 (3)
	white zone		0 (0)	0 (0)	0 (0)	1 (3)
	red zone		0 (0)	1 (6)	0 (0)	0 (0)
	black zone		0 (0)	1 (6)	0 (0)	0 (0)
	nodule		0 (0)	1 (6)	0 (0)	0 (0)
	rough		1 (6)	1 (6)	1 (5)	4 (13)
	herniation		1 (6)	1 (6)	0 (0)	3 (9)
pancreas	nodule		0 (0)	0 (0)	1 (5)	1 (3)
kidney	white zone		0 (0)	1 (6)	1 (5)	0 (0)
	red zone		0 (0)	1 (6)	0 (0)	0 (0)
	cyst		0 (0)	0 (0)	0 (0)	2 (6)
	granular		9 (53)	6 (38)	10 (48)	22 (69)
urin bladd	red zone		0 (0)	0 (0)	0 (0)	1 (3)
	urine:marked retention		0 (0)	2 (13)	1 (5)	2 (6)

STUDY NO. : 0158
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

Organ	Findings	Group Name NO. of Animals	Control 17 (%)	20 ppm 16 (%)	75 ppm 21 (%)	300 ppm 32 (%)
urin bladd	urine:red		1 (6)	0 (0)	0 (0)	0 (0)
pituitary	enlarged		4 (24)	4 (25)	9 (43)	4 (13)
	red zone		1 (6)	1 (6)	2 (10)	2 (6)
	black zone		0 (0)	0 (0)	0 (0)	2 (6)
	nodule		0 (0)	1 (6)	1 (5)	3 (9)
thyroid	enlarged		1 (6)	0 (0)	1 (5)	1 (3)
adrenal	enlarged		2 (12)	1 (6)	0 (0)	1 (3)
testis	atrophic		3 (18)	0 (0)	2 (10)	2 (6)
	white		0 (0)	0 (0)	1 (5)	0 (0)
	red		0 (0)	0 (0)	0 (0)	1 (3)
	nodule		10 (59)	9 (56)	8 (38)	27 (84)
semin ves	red		0 (0)	0 (0)	0 (0)	1 (3)
brain	red zone		0 (0)	0 (0)	1 (5)	1 (3)
	hemorrhage		0 (0)	1 (6)	0 (0)	0 (0)
spinal cord	red zone		0 (0)	1 (6)	0 (0)	0 (0)
	black zone		1 (6)	0 (0)	0 (0)	0 (0)
	hemorrhage		1 (6)	0 (0)	0 (0)	0 (0)
eye	turbid		1 (6)	0 (0)	0 (0)	1 (3)
	white		2 (12)	0 (0)	0 (0)	1 (3)
Zymbal gl	nodule		0 (0)	1 (6)	0 (0)	1 (3)
muscle	mass		0 (0)	0 (0)	0 (0)	1 (3)
bone	nodule		0 (0)	0 (0)	1 (5)	0 (0)

STUDY NO. : 0158
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

Organ	Findings	Group Name NO. of Animals	Control 17 (%)	20 ppm 16 (%)	75 ppm 21 (%)	300 ppm 32 (%)
pleura	red zone		0 (0)	1 (6)	0 (0)	0 (0)
peritoneum	nodule		0 (0)	0 (0)	3 (14)	1 (3)
	granular		0 (0)	0 (0)	0 (0)	1 (3)
retroperit	mass		0 (0)	0 (0)	1 (5)	0 (0)
abdominal c	hemorrhage		0 (0)	0 (0)	0 (0)	1 (3)
	ascites		2 (12)	2 (13)	3 (14)	3 (9)
thoracic ca	pleural fluid		5 (29)	3 (19)	2 (10)	6 (19)
other	tail:nodule		1 (6)	0 (0)	0 (0)	0 (0)

APPENDIX G 2

GROSS FINDINGS : SUMMARY, RAT : FEMALE : DEAD AND MORIBUND ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0158
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

Organ	Findings	Group Name NO. of Animals	Control 12 (%)	20 ppm 16 (%)	75 ppm 12 (%)	300 ppm 14 (%)
skin/app	nodule		1 (8)	0 (0)	1 (8)	0 (0)
subcutis	jaundice		1 (8)	2 (13)	1 (8)	0 (0)
	mass		1 (8)	1 (6)	0 (0)	2 (14)
lung	red		0 (0)	1 (6)	0 (0)	1 (7)
	nodule		0 (0)	0 (0)	0 (0)	1 (7)
lymph node	enlarged		0 (0)	3 (19)	1 (8)	0 (0)
	red		0 (0)	0 (0)	1 (8)	0 (0)
thymus	white		0 (0)	1 (6)	0 (0)	0 (0)
	red zone		0 (0)	0 (0)	0 (0)	1 (7)
spleen	enlarged		2 (17)	4 (25)	4 (33)	1 (7)
	nodule		0 (0)	0 (0)	1 (8)	1 (7)
heart	white zone		0 (0)	0 (0)	1 (8)	1 (7)
oral cavity	nodule		0 (0)	1 (6)	0 (0)	0 (0)
forestomach	adhesion		0 (0)	0 (0)	0 (0)	1 (7)
gl stomach	red patch		0 (0)	0 (0)	0 (0)	1 (7)
	nodule		0 (0)	0 (0)	0 (0)	1 (7)
	erosion		0 (0)	0 (0)	0 (0)	1 (7)
small intes	nodule		0 (0)	1 (6)	0 (0)	0 (0)
liver	nodule		0 (0)	1 (6)	0 (0)	0 (0)
	rough		1 (8)	1 (6)	2 (17)	0 (0)
	granular		1 (8)	0 (0)	1 (8)	1 (7)
	herniation		3 (25)	3 (19)	2 (17)	1 (7)

STUDY NO. : 0158
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

Organ	Findings	Group Name NO. of Animals	Control 12 (%)	20 ppm 16 (%)	75 ppm 12 (%)	300 ppm 14 (%)
liver	accentuation of lobular structure		0 (0)	0 (0)	1 (8)	0 (0)
pancreas	nodule		0 (0)	0 (0)	0 (0)	1 (7)
kidney	enlarged		0 (0)	0 (0)	1 (8)	0 (0)
	granular		1 (8)	1 (6)	1 (8)	3 (21)
urin bladd	red zone		0 (0)	1 (6)	0 (0)	0 (0)
	urine:marked retention		0 (0)	0 (0)	1 (8)	0 (0)
	urine:red		0 (0)	1 (6)	0 (0)	0 (0)
pituitary	enlarged		7 (58)	6 (38)	4 (33)	7 (50)
	white zone		1 (8)	0 (0)	0 (0)	0 (0)
	red zone		1 (8)	1 (6)	1 (8)	0 (0)
	black zone		1 (8)	0 (0)	1 (8)	0 (0)
	nodule		1 (8)	0 (0)	2 (17)	2 (14)
thyroid	enlarged		0 (0)	0 (0)	1 (8)	1 (7)
	red		0 (0)	0 (0)	1 (8)	0 (0)
ovary	cyst		1 (8)	1 (6)	1 (8)	1 (7)
uterus	nodule		2 (17)	2 (13)	3 (25)	0 (0)
vagina	nodule		0 (0)	1 (6)	1 (8)	0 (0)
brain	red zone		0 (0)	1 (6)	0 (0)	1 (7)
spinal cord	nodule		0 (0)	1 (6)	1 (8)	0 (0)
eye	turbid		0 (0)	2 (13)	0 (0)	0 (0)
	red		0 (0)	1 (6)	0 (0)	0 (0)
pleura	nodule		0 (0)	0 (0)	0 (0)	1 (7)

STUDY NO. : 0158
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

Organ	Findings	Group Name NO. of Animals	Control 12 (%)	20 ppm 16 (%)	75 ppm 12 (%)	300 ppm 14 (%)
abdominal c	mass		0 (0)	0 (0)	0 (0)	1 (7)
mesenterium	nodule		0 (0)	0 (0)	0 (0)	1 (7)
thoracic ca	hemorrhage		0 (0)	0 (0)	0 (0)	1 (7)
	pleural fluid		2 (17)	0 (0)	2 (17)	2 (14)
whole body	anemic		0 (0)	0 (0)	1 (8)	0 (0)

APPENDIX G 3

GROSS FINDINGS : SUMMARY, RAT : MALE : SACRIFICED ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0158
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (105W)

Organ	Findings	Group Name / NO. of Animals	Control 33	(%)	20 ppm 34	(%)	75 ppm 29	(%)	300 ppm 18	(%)
skin/app	nodule		3	(9)	5	(15)	1	(3)	2	(11)
subcutis	nodule		0	(0)	1	(3)	0	(0)	0	(0)
	mass		6	(18)	8	(24)	8	(28)	3	(17)
lung	nodule		2	(6)	0	(0)	1	(3)	1	(6)
lymph node	enlarged		1	(3)	0	(0)	0	(0)	0	(0)
spleen	enlarged		2	(6)	4	(12)	1	(3)	1	(6)
	nodule		0	(0)	0	(0)	0	(0)	1	(6)
	deformed		2	(6)	1	(3)	0	(0)	3	(17)
oral cavity	nodule		0	(0)	0	(0)	1	(3)	0	(0)
tongue	nodule		1	(3)	0	(0)	0	(0)	0	(0)
cecum	nodule		1	(3)	0	(0)	0	(0)	0	(0)
liver	enlarged		1	(3)	2	(6)	0	(0)	0	(0)
	white zone		1	(3)	0	(0)	0	(0)	1	(6)
	red zone		1	(3)	2	(6)	1	(3)	0	(0)
	nodule		0	(0)	2	(6)	0	(0)	0	(0)
	rough		1	(3)	2	(6)	3	(10)	1	(6)
	herniation		4	(12)	2	(6)	0	(0)	1	(6)
pancreas	nodule		0	(0)	0	(0)	1	(3)	0	(0)
kidney	granular		28	(85)	28	(82)	28	(97)	17	(94)
	nodular		0	(0)	0	(0)	1	(3)	0	(0)
pituitary	enlarged		1	(3)	4	(12)	3	(10)	1	(6)
	red zone		1	(3)	1	(3)	1	(3)	0	(0)

STUDY NO. : 0158
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (105W)

Organ	Findings	Group Name NO. of Animals	Control 33 (%)	20 ppm 34 (%)	75 ppm 29 (%)	300 ppm 18 (%)
pituitary	black zone		4 (12)	5 (15)	4 (14)	5 (28)
	nodule		3 (9)	4 (12)	3 (10)	3 (17)
thyroid	enlarged		3 (9)	0 (0)	1 (3)	2 (11)
	nodule		1 (3)	1 (3)	3 (10)	0 (0)
adrenal	enlarged		2 (6)	0 (0)	3 (10)	3 (17)
testis	atrophic		0 (0)	1 (3)	0 (0)	1 (6)
	nodule		30 (91)	32 (94)	28 (97)	18 (100)
prostate	nodule		0 (0)	0 (0)	0 (0)	1 (6)
eye	turbid		0 (0)	0 (0)	1 (3)	0 (0)
	white		3 (9)	3 (9)	0 (0)	1 (6)
Zymbal gl	nodule		1 (3)	0 (0)	0 (0)	0 (0)
muscle	nodule		0 (0)	0 (0)	1 (3)	0 (0)
peritoneum	nodule		2 (6)	1 (3)	0 (0)	0 (0)
	cyst		0 (0)	0 (0)	0 (0)	1 (6)
abdominal c	ascites		0 (0)	1 (3)	1 (3)	0 (0)
thoracic ca	pleural fluid		1 (3)	0 (0)	1 (3)	0 (0)
uther	tail:nodule		0 (0)	0 (0)	1 (3)	0 (0)

APPENDIX G 4

GROSS FINDINGS : SUMMARY, RAT : FEMALE : SACRIFICED ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0158
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (105W)

Organ	Findings	Group Name NO. of Animals	Control 38 (%)	20 ppm 34 (%)	75 ppm 38 (%)	300 ppm 36 (%)
skin/app	nodule		1 (3)	1 (3)	0 (0)	0 (0)
	scab		1 (3)	0 (0)	0 (0)	0 (0)
subcutis	jaundice		0 (0)	0 (0)	0 (0)	1 (3)
	mass		6 (16)	9 (26)	8 (21)	12 (33)
lung	nodule		1 (3)	0 (0)	0 (0)	0 (0)
spleen	enlarged		1 (3)	0 (0)	2 (5)	4 (11)
	nodule		1 (3)	0 (0)	0 (0)	0 (0)
	deformed		0 (0)	0 (0)	0 (0)	1 (3)
large intes	dilated		0 (0)	1 (3)	0 (0)	0 (0)
liver	white zone		0 (0)	1 (3)	1 (3)	0 (0)
	red zone		3 (8)	1 (3)	1 (3)	1 (3)
	nodule		0 (0)	2 (6)	2 (5)	3 (8)
	rough		2 (5)	0 (0)	1 (3)	2 (6)
	herniation		4 (11)	0 (0)	2 (5)	2 (6)
kidney	white zone		0 (0)	0 (0)	0 (0)	1 (3)
	granular		10 (26)	11 (32)	10 (26)	15 (42)
pituitary	enlarged		7 (18)	4 (12)	8 (21)	8 (22)
	red zone		3 (8)	2 (6)	4 (11)	1 (3)
	black zone		12 (32)	11 (32)	9 (24)	8 (22)
	nodule		4 (11)	3 (9)	6 (16)	0 (0)
	cyst		0 (0)	1 (3)	0 (0)	0 (0)
thyroid	enlarged		1 (3)	0 (0)	1 (3)	1 (3)

Organ	Findings	Group Name / NO. of Animals	Control 38	(%)	20 ppm 34	(%)	75 ppm 38	(%)	300 ppm 36	(%)
thyroid	nodule		0	(0)	2	(6)	0	(0)	0	(0)
adrenal	enlarged		0	(0)	1	(3)	0	(0)	0	(0)
ovary	enlarged		1	(3)	0	(0)	1	(3)	1	(3)
	cyst		3	(8)	2	(6)	0	(0)	3	(8)
uterus	nodule		3	(8)	0	(0)	4	(11)	1	(3)
	invagination		0	(0)	0	(0)	0	(0)	1	(3)
prep/cli gl	enlarged		0	(0)	0	(0)	0	(0)	1	(3)
brain	white zone		0	(0)	0	(0)	1	(3)	0	(0)
	black zone		0	(0)	0	(0)	0	(0)	1	(3)
periph nerv	nodule		0	(0)	0	(0)	1	(3)	0	(0)
eye	turbid		3	(8)	0	(0)	0	(0)	0	(0)
	white		0	(0)	1	(3)	4	(11)	3	(8)
muscle	nodule		0	(0)	0	(0)	1	(3)	0	(0)
other	tail:nodule		0	(0)	1	(3)	0	(0)	0	(0)

APPENDIX G 5

GROSS FINDINGS : SUMMARY, MOSUE : MALE : DEAD AND MORIBUND ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0159
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

Organ	Findings	Group Name / NO. of Animals	Control 10 (%)	20ppm 18 (%)	75ppm 18 (%)	300ppm 19 (%)
skin/app	ulcer		0 (0)	0 (0)	0 (0)	1 (5)
	erosion		1 (10)	0 (0)	0 (0)	1 (5)
subcutis	edema		1 (10)	1 (6)	0 (0)	1 (5)
	jaundice		0 (0)	1 (6)	0 (0)	0 (0)
	nodule		0 (0)	0 (0)	1 (6)	0 (0)
	mass		1 (10)	0 (0)	0 (0)	0 (0)
lung	nodule		1 (10)	4 (22)	1 (6)	3 (16)
lymph node	enlarged		1 (10)	2 (11)	3 (17)	2 (11)
thymus	enlarged		0 (0)	0 (0)	0 (0)	1 (5)
spleen	enlarged		0 (0)	4 (22)	3 (17)	2 (11)
	atrophic		0 (0)	0 (0)	1 (6)	0 (0)
	nodule		0 (0)	3 (17)	3 (17)	0 (0)
	deformed		0 (0)	0 (0)	0 (0)	1 (5)
heart	white		0 (0)	0 (0)	1 (6)	0 (0)
gl stomach	thick		0 (0)	1 (6)	0 (0)	0 (0)
jejunum	nodule		0 (0)	0 (0)	1 (6)	0 (0)
small intes	nodule		0 (0)	0 (0)	1 (6)	1 (5)
liver	enlarged		0 (0)	1 (6)	0 (0)	1 (5)
	white zone		1 (10)	3 (17)	4 (22)	0 (0)
	nodule		4 (40)	6 (33)	8 (44)	14 (74)
	nodular		0 (0)	0 (0)	0 (0)	1 (5)
pancreas	nodule		1 (10)	1 (6)	1 (6)	0 (0)

Organ	Findings	Group Name NO. of Animals	Control 10 (%)	20ppm 18 (%)	75ppm 18 (%)	300ppm 19 (%)
kidney	enlarged		1 (10)	0 (0)	0 (0)	0 (0)
	pale		0 (0)	0 (0)	1 (6)	0 (0)
	nodule		0 (0)	1 (6)	1 (6)	1 (5)
	adhesion		0 (0)	1 (6)	0 (0)	0 (0)
	hydronephrosis		1 (10)	1 (6)	0 (0)	1 (5)
urin bladd	enlarged		0 (0)	1 (6)	0 (0)	0 (0)
	nodule		0 (0)	0 (0)	0 (0)	1 (5)
	urine:marked retention		3 (30)	0 (0)	2 (11)	5 (26)
	urine:red		0 (0)	0 (0)	1 (6)	0 (0)
	urine:black		0 (0)	1 (6)	0 (0)	0 (0)
	urine:turbid		1 (10)	0 (0)	0 (0)	0 (0)
pituitary	enlarged		1 (10)	0 (0)	1 (6)	1 (5)
testis	atrophic		0 (0)	0 (0)	0 (0)	1 (5)
epididymis	nodule		0 (0)	0 (0)	1 (6)	2 (11)
semin ves	enlarged		2 (20)	0 (0)	5 (28)	0 (0)
	black		0 (0)	0 (0)	1 (6)	0 (0)
	rupture		0 (0)	0 (0)	0 (0)	1 (5)
ovi d/u def	nodule		0 (0)	0 (0)	0 (0)	1 (5)
uterus	nodule		0 (0)	1 (6)	0 (0)	0 (0)
prep/cli gl	enlarged		1 (10)	0 (0)	0 (0)	0 (0)
	nodule		0 (0)	0 (0)	1 (6)	1 (5)
	cyst		0 (0)	0 (0)	1 (6)	0 (0)

STUDY NO. : 0159
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

Organ	Findings	Group Name NO. of Animals	Control 10 (%)	20ppm 18 (%)	75ppm 18 (%)	300ppm 19 (%)
periph nerv	nodule		0 (0)	1 (6)	1 (6)	0 (0)
Harder gl	nodule		0 (0)	1 (6)	0 (0)	0 (0)
bone	nodule		0 (0)	0 (0)	1 (6)	0 (0)
peritoneum	nodule		0 (0)	0 (0)	1 (6)	0 (0)
	adhesion		0 (0)	0 (0)	1 (6)	0 (0)
retroperit	mass		1 (10)	1 (6)	0 (0)	0 (0)
abdominal c	hemorrhage		0 (0)	0 (0)	2 (11)	2 (11)
	mass		0 (0)	0 (0)	1 (6)	0 (0)
	pleural fluid		0 (0)	0 (0)	1 (6)	0 (0)
	ascites		0 (0)	5 (28)	2 (11)	2 (11)
mesenterium	nodule		1 (10)	1 (6)	1 (6)	0 (0)
	adhesion		0 (0)	1 (6)	0 (0)	0 (0)
thoracic ca	hemorrhage		0 (0)	1 (6)	0 (0)	0 (0)
	pleural fluid		1 (10)	2 (11)	0 (0)	3 (16)
other	red		0 (0)	1 (6)	0 (0)	0 (0)
	nodule		1 (10)	0 (0)	0 (0)	1 (5)
	tail:nodule		0 (0)	0 (0)	0 (0)	2 (11)
whole body	anemic		1 (10)	0 (0)	0 (0)	1 (5)

APPENDIX G 6

GROSS FINDINGS : SUMMARY, MOSUE : FEMALE : DEAD AND MORIBUND ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0159
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

Organ	Findings	Group Name NO. of Animals	Control 22 (%)	20ppm 25 (%)	75ppm 26 (%)	300ppm 24 (%)
skin/app	nodule		0 (0)	1 (4)	0 (0)	0 (0)
subcutis	edema		4 (18)	1 (4)	5 (19)	2 (8)
	nodule		0 (0)	1 (4)	0 (0)	0 (0)
	mass		1 (5)	2 (8)	0 (0)	1 (4)
lung	red		0 (0)	2 (8)	2 (8)	0 (0)
	nodule		0 (0)	1 (4)	2 (8)	4 (17)
lymph node	enlarged		7 (32)	5 (20)	6 (23)	9 (38)
thymus	enlarged		0 (0)	0 (0)	0 (0)	1 (4)
spleen	enlarged		5 (23)	7 (28)	8 (31)	6 (25)
	nodule		0 (0)	2 (8)	3 (12)	2 (8)
heart	enlarged		0 (0)	1 (4)	0 (0)	0 (0)
	adhesion		1 (5)	0 (0)	0 (0)	0 (0)
forestomach	nodule		0 (0)	0 (0)	0 (0)	1 (4)
gl stomach	ulcer		1 (5)	1 (4)	1 (4)	0 (0)
	thick		0 (0)	0 (0)	1 (4)	0 (0)
anus	nodule		0 (0)	1 (4)	0 (0)	0 (0)
liver	enlarged		4 (18)	2 (8)	2 (8)	5 (21)
	pale		1 (5)	0 (0)	0 (0)	0 (0)
	white zone		5 (23)	0 (0)	6 (23)	3 (13)
	red zone		1 (5)	2 (8)	0 (0)	0 (0)
	nodule		5 (23)	7 (28)	9 (35)	16 (67)
	nodular		0 (0)	0 (0)	0 (0)	1 (4)

STUDY NO. : 0159
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

Organ	Findings	Group Name NO. of Animals	Control 22 (%)	20ppm 25 (%)	75ppm 26 (%)	300ppm 24 (%)
pancreas	nodule		1 (5)	3 (12)	2 (8)	1 (4)
	nodular		1 (5)	0 (0)	0 (0)	0 (0)
kidney	enlarged		2 (9)	1 (4)	2 (8)	0 (0)
	atrophic		1 (5)	0 (0)	1 (4)	0 (0)
	pale		1 (5)	0 (0)	1 (4)	0 (0)
	white zone		0 (0)	0 (0)	1 (4)	0 (0)
	nodule		0 (0)	0 (0)	0 (0)	2 (8)
	hydronephrosis		2 (9)	2 (8)	0 (0)	0 (0)
urin bladd	white		0 (0)	1 (4)	0 (0)	0 (0)
	rupture		0 (0)	1 (4)	0 (0)	0 (0)
	thick		0 (0)	1 (4)	0 (0)	1 (4)
	urine:marked retention		2 (9)	2 (8)	0 (0)	0 (0)
	urine:red		1 (5)	0 (0)	0 (0)	0 (0)
pituitary	enlarged		2 (9)	1 (4)	2 (8)	1 (4)
	red		0 (0)	1 (4)	0 (0)	0 (0)
	red patch		0 (0)	0 (0)	1 (4)	0 (0)
	nodule		1 (5)	0 (0)	0 (0)	0 (0)
ovary	enlarged		1 (5)	5 (20)	4 (15)	5 (21)
	red		0 (0)	0 (0)	1 (4)	0 (0)
	black		0 (0)	1 (4)	0 (0)	0 (0)
	cyst		2 (9)	2 (8)	2 (8)	2 (8)
uterus	enlarged		1 (5)	0 (0)	0 (0)	0 (0)

Organ	Findings	Group Name NO. of Animals	Control 22 (%)	20ppm 25 (%)	75ppm 26 (%)	300ppm 24 (%)
uterus	nodule		9 (41)	5 (20)	8 (31)	9 (38)
	thick		0 (0)	0 (0)	0 (0)	1 (4)
vagina	nodule		0 (0)	0 (0)	1 (4)	0 (0)
brain	black zone		0 (0)	0 (0)	0 (0)	1 (4)
spinal cord	red zone		1 (5)	0 (0)	0 (0)	0 (0)
muscle	nodule		0 (0)	0 (0)	1 (4)	0 (0)
mediastinum	mass		3 (14)	3 (12)	3 (12)	2 (8)
peritoneum	nodule		1 (5)	2 (8)	4 (15)	0 (0)
	mass		0 (0)	2 (8)	1 (4)	0 (0)
retroperit	nodule		0 (0)	0 (0)	1 (4)	0 (0)
	mass		0 (0)	3 (12)	0 (0)	1 (4)
abdominal c	hemorrhage		1 (5)	5 (20)	3 (12)	5 (21)
	ascites		6 (27)	5 (20)	9 (35)	3 (13)
mesenterium	red zone		0 (0)	0 (0)	1 (4)	0 (0)
	nodule		1 (5)	0 (0)	1 (4)	0 (0)
thoracic ca	hemorrhage		2 (9)	2 (8)	1 (4)	1 (4)
	mass		0 (0)	0 (0)	1 (4)	0 (0)
	pleural fluid		10 (45)	11 (44)	10 (38)	6 (25)
other	absence		0 (0)	0 (0)	1 (4)	0 (0)
whole body	anemic		0 (0)	0 (0)	1 (4)	0 (0)

APPENDIX G 7

GROSS FINDINGS : SUMMARY, MOSUE : MALE : SACRIFICED ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0159
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (105W)

Organ	Findings	Group Name NO. of Animals	Control 39 (%)	20ppm 31 (%)	75ppm 32 (%)	300ppm 30 (%)
skin/app	nodule		0 (0)	0 (0)	1 (3)	0 (0)
	erosion		2 (5)	1 (3)	3 (9)	0 (0)
subcutis	mass		0 (0)	2 (6)	1 (3)	1 (3)
brown fat	nodule		0 (0)	0 (0)	1 (3)	1 (3)
lung	nodule		7 (18)	5 (16)	7 (22)	5 (17)
lymph node	enlarged		3 (8)	2 (6)	6 (19)	3 (10)
	nodule		1 (3)	0 (0)	0 (0)	0 (0)
spleen	enlarged		1 (3)	1 (3)	4 (13)	0 (0)
	black zone		0 (0)	1 (3)	0 (0)	1 (3)
	nodule		2 (5)	2 (6)	0 (0)	1 (3)
	accentuation of white pulp		1 (3)	3 (10)	5 (16)	0 (0)
salivary gl	nodule		0 (0)	1 (3)	1 (3)	0 (0)
small intes	white zone		1 (3)	0 (0)	0 (0)	0 (0)
	nodule		0 (0)	2 (6)	0 (0)	1 (3)
large intes	nodule		0 (0)	0 (0)	1 (3)	0 (0)
liver	white zone		0 (0)	3 (10)	3 (9)	3 (10)
	red zone		2 (5)	2 (6)	1 (3)	0 (0)
	nodule		19 (49)	17 (55)	15 (47)	25 (83)
pancreas	nodule		0 (0)	1 (3)	0 (0)	1 (3)
kidney	pale		1 (3)	0 (0)	0 (0)	0 (0)
	nodule		0 (0)	1 (3)	1 (3)	0 (0)
	cyst		1 (3)	0 (0)	0 (0)	0 (0)

STUDY NO. : 0159
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (105W)

Organ	Findings	Group Name NO. of Animals	Control 39 (%)	20ppm 31 (%)	75ppm 32 (%)	300ppm 30 (%)
kidney	hydronephrosis		2 (5)	0 (0)	0 (0)	1 (3)
urin bladd	urine:marked retention		1 (3)	1 (3)	2 (6)	0 (0)
pituitary	enlarged		1 (3)	0 (0)	0 (0)	0 (0)
	nodule		0 (0)	1 (3)	0 (0)	0 (0)
thyroid	enlarged		1 (3)	1 (3)	0 (0)	0 (0)
testis	enlarged		0 (0)	0 (0)	0 (0)	1 (3)
	atrophic		0 (0)	0 (0)	1 (3)	0 (0)
	absence		0 (0)	0 (0)	0 (0)	1 (3)
semin ves	enlarged		0 (0)	1 (3)	0 (0)	0 (0)
prostate	enlarged		0 (0)	1 (3)	0 (0)	0 (0)
prep/cli gl	nodule		1 (3)	0 (0)	0 (0)	0 (0)
	cyst		1 (3)	0 (0)	0 (0)	0 (0)
eye	turbid		0 (0)	0 (0)	2 (6)	0 (0)
Harder gl	enlarged		0 (0)	0 (0)	1 (3)	0 (0)
	nodule		2 (5)	1 (3)	0 (0)	2 (7)
mediastinum	mass		1 (3)	0 (0)	0 (0)	0 (0)
retroperit	mass		0 (0)	0 (0)	1 (3)	0 (0)
abdominal c	ascites		0 (0)	0 (0)	0 (0)	1 (3)
mesenterium	nodule		0 (0)	0 (0)	1 (3)	0 (0)
thoracic ca	mass		0 (0)	0 (0)	1 (3)	0 (0)
	pleural fluid		0 (0)	0 (0)	1 (3)	1 (3)
other	tail:nodule		0 (0)	0 (0)	1 (3)	0 (0)

STUDY NO. : 0159
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (105W)

Organ	Findings	Group Name NO. of Animals	Control 39 (%)	20ppm 31 (%)	75ppm 32 (%)	300ppm 30 (%)
other	ear:nodule		0 (0)	0 (0)	1 (3)	0 (0)

APPENDIX G 8

GROSS FINDINGS : SUMMARY, MOSUE : FEMALE : SACRIFICED ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0159
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (105W)

Organ	Findings	Group Name NO. of Animals	Control 28 (%)	20ppm 25 (%)	75ppm 23 (%)	300ppm 26 (%)
subcutis	mass		0 (0)	0 (0)	1 (4)	0 (0)
lung	red zone		0 (0)	0 (0)	1 (4)	0 (0)
	nodule		2 (7)	4 (16)	0 (0)	3 (12)
lymph node	enlarged		3 (11)	1 (4)	0 (0)	4 (15)
spleen	enlarged		4 (14)	3 (12)	0 (0)	3 (12)
	white zone		0 (0)	1 (4)	0 (0)	0 (0)
	black zone		1 (4)	0 (0)	0 (0)	0 (0)
	nodule		1 (4)	0 (0)	0 (0)	1 (4)
	accentuation of white pulp		1 (4)	0 (0)	0 (0)	2 (8)
tongue	nodule		0 (0)	0 (0)	1 (4)	0 (0)
salivary gl	nodule		0 (0)	1 (4)	0 (0)	1 (4)
forestomach	nodule		0 (0)	0 (0)	1 (4)	0 (0)
small intes	nodule		1 (4)	0 (0)	0 (0)	0 (0)
liver	enlarged		0 (0)	1 (4)	0 (0)	0 (0)
	white zone		0 (0)	1 (4)	0 (0)	0 (0)
	red zone		2 (7)	5 (20)	2 (9)	0 (0)
	yellow zone		0 (0)	1 (4)	0 (0)	0 (0)
	nodule		5 (18)	10 (40)	8 (35)	26 (100)
	rough		1 (4)	0 (0)	0 (0)	0 (0)
gall bladd	dilated		0 (0)	1 (4)	0 (0)	0 (0)
pancreas	nodule		0 (0)	1 (4)	0 (0)	1 (4)
kidney	enlarged		0 (0)	0 (0)	0 (0)	1 (4)

STUDY NO. : 0159
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (105W)

Organ	Findings	Group Name NO. of Animals	Control 28 (%)	20ppm 25 (%)	75ppm 23 (%)	300ppm 26 (%)
kidney	atrophic		2 (7)	0 (0)	0 (0)	0 (0)
	nodule		0 (0)	0 (0)	0 (0)	1 (4)
	hydronephrosis		2 (7)	0 (0)	0 (0)	1 (4)
pituitary	enlarged		2 (7)	3 (12)	1 (4)	3 (12)
	nodule		0 (0)	4 (16)	2 (9)	1 (4)
ovary	enlarged		0 (0)	0 (0)	1 (4)	0 (0)
	red		0 (0)	0 (0)	1 (4)	0 (0)
	cyst		10 (36)	6 (24)	5 (22)	0 (0)
uterus	nodule		2 (7)	3 (12)	3 (13)	1 (4)
periph nerv	nodule		1 (4)	0 (0)	0 (0)	0 (0)
eye	turbid		1 (4)	0 (0)	0 (0)	0 (0)
Harder gl	nodule		2 (7)	0 (0)	0 (0)	1 (4)
peritoneum	nodule		0 (0)	0 (0)	1 (4)	0 (0)
	thick		0 (0)	0 (0)	1 (4)	0 (0)
retroperit	mass		0 (0)	1 (4)	0 (0)	0 (0)
abdominal c	mass		0 (0)	0 (0)	0 (0)	1 (4)
	ascites		1 (4)	1 (4)	1 (4)	1 (4)
thoracic ca	mass		0 (0)	0 (0)	1 (4)	0 (0)
	pleural fluid		3 (11)	0 (0)	3 (13)	0 (0)

APPENDIX H 1

ORGAN WEIGHT, ABSOLUTE : SUMMARY, RAT : MALE

(2-YEAR STUDY)

STUDY NO. : 0158
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
SURVIVAL ANIMALS (105).

Group Name	NO. of Animals	Body Weight	ADRENALS	TESTES	HEART	LUNGS	KIDNEYS
Control	33	394± 40	0.105± 0.085	4.811± 1.503	1.365± 0.155	1.596± 0.574	3.040± 0.261
20 ppm	34	406± 45	0.086± 0.014	5.318± 2.452	1.348± 0.145	1.570± 0.217	3.183± 0.590
75 ppm	29	382± 42	0.103± 0.056	4.965± 1.844	1.346± 0.148	1.538± 0.205	3.193± 0.352
300 ppm	18	382± 43	0.139± 0.171	5.571± 2.225	1.327± 0.115	1.571± 0.191	3.636± 0.493**

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

STUDY NO. : 0158
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	SPLEEN		LIVER		BRAIN	
Control	33	1.558±	1.700	13.007±	1.669	2.028±	0.066
20 ppm	34	1.780±	1.623	14.309±	4.983	2.041±	0.053
75 ppm	29	1.754±	2.933	13.773±	2.357	2.020±	0.056
300 ppm	18	1.628±	1.221	14.957±	1.883**	2.069±	0.059

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

APPENDIX H 2

ORGAN WEIGHT, ABSOLUTE : SUMMARY, RAT : FEMALE

(2-YEAR STUDY)

STUDY NO. : 0158
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	Body Weight	ADRENALS	OVARIES	HEART	LUNGS	KIDNEYS
Control	38	300± 31	0.082± 0.013	0.209± 0.410	1.007± 0.106	1.073± 0.089	2.088± 0.178
20 ppm	34	304± 40	0.084± 0.024	0.116± 0.016	0.986± 0.101	1.033± 0.089	2.042± 0.175
75 ppm	38	298± 45	0.085± 0.011	0.117± 0.058	1.014± 0.103	1.081± 0.155	2.081± 0.182
300 ppm	36	295± 42	0.081± 0.012	0.147± 0.134	1.029± 0.105	1.147± 0.253	2.172± 0.230

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

STUDY NO. : 0158
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	SPLEEN		LIVER		BRAIN	
Control	38	0.737±	0.591	7.864±	0.899	1.835±	0.049
20 ppm	34	0.586±	0.168	8.032±	1.187	1.831±	0.042
75 ppm	38	0.734±	0.786	8.193±	1.378	1.839±	0.057
300 ppm	36	1.394±	2.482	9.055±	1.681**	1.852±	0.060

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

APPENDIX H 3

ORGAN WEIGHT, ABSOLUTE : SUMMARY, MOSUE : MALE

(2-YEAR STUDY)

STUDY NO. : 0159
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	Body Weight	ADRENALS	TESTES	HEART	LUNGS	KIDNEYS
Control	39	42.5± 8.1	0.013± 0.004	0.217± 0.027	0.232± 0.034	0.266± 0.149	0.674± 0.266
20ppm	31	40.3± 8.4	0.013± 0.003	0.214± 0.039	0.235± 0.031	0.248± 0.097	0.637± 0.071
75ppm	32	41.6± 6.0	0.013± 0.004	0.218± 0.035	0.231± 0.032	0.259± 0.148	0.655± 0.064
300ppm	30	37.6± 3.9**	0.013± 0.004	0.262± 0.232	0.223± 0.024	0.233± 0.047	0.722± 0.346

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

STUDY NO. : 0159
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	SPLEEN		LIVER		BRAIN	
Control	39	0.120±	0.105	1.700±	0.450	0.460±	0.012
20ppm	31	0.170±	0.247	1.907±	0.616	0.462±	0.011
75ppm	32	0.210±	0.323	1.984±	0.756	0.464±	0.013
300ppm	30	0.135±	0.192	3.159±	1.632**	0.463±	0.011

Significant difference : * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

APPENDIX H 4

ORGAN WEIGHT, ABSOLUTE : SUMMARY, MOSUE : FEMALE

(2-YEAR STUDY)

STUDY NO. : 0159
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	Body Weight	ADRENALS	OVARIES	HEART	LUNGS	KIDNEYS
Control	28	32.4± 5.4	0.014± 0.003	0.054± 0.069	0.192± 0.034	0.220± 0.034	0.467± 0.093
20ppm	25	34.3± 6.1	0.015± 0.003	0.036± 0.017	0.197± 0.033	0.230± 0.039	0.469± 0.045
75ppm	23	31.2± 5.3	0.015± 0.004	0.063± 0.116	0.192± 0.057	0.221± 0.035	0.457± 0.062
300ppm	26	29.6± 2.3	0.014± 0.003	0.022± 0.009**	0.190± 0.027	0.230± 0.032	0.514± 0.117*

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

STUDY NO. : 0159
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	SPLEEN		LIVER		BRAIN	
Control	28	0.245±	0.326	1.583±	0.429	0.486±	0.015
20ppm	25	0.283±	0.487	1.857±	1.283	0.483±	0.014
75ppm	23	0.156±	0.082	1.571±	0.433	0.485±	0.016
300ppm	26	0.294±	0.294	5.354±	2.955**	0.469±	0.015**

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

APPENDIX I 1

ORGAN WEIGHT, RELATIVE : SUMMARY, RAT : MALE

(2-YEAR STUDY)

STUDY NO. : 0158
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	Body Weight (g)	ADRENALS	TESTES	HEART	LUNGS	KIDNEYS
Control	33	394± 40	0.027± 0.023	1.230± 0.395	0.351± 0.064	0.413± 0.185	0.779± 0.108
20 ppm	34	406± 45	0.022± 0.005	1.305± 0.585	0.336± 0.052	0.393± 0.077	0.800± 0.204
75 ppm	29	382± 42	0.028± 0.021	1.315± 0.504	0.358± 0.070	0.407± 0.073	0.849± 0.165
300 ppm	18	382± 43	0.037± 0.047	1.459± 0.551	0.352± 0.051	0.415± 0.056	0.967± 0.194**

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

STUDY NO. : 0158
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	SPLEEN	LIVER	BRAIN
Control	33	0.400± 0.443	3.331± 0.546	0.519± 0.048
20 ppm	34	0.454± 0.446	3.583± 1.375	0.509± 0.052
75 ppm	29	0.464± 0.780	3.634± 0.690	0.535± 0.067
300 ppm	18	0.441± 0.392	3.950± 0.562**	0.548± 0.062

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

APPENDIX I 2

ORGAN WEIGHT, RELATIVE : SUMMARY, RAT : FEMALE

(2-YEAR STUDY)

STUDY NO. : 0158
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	Body Weight (g)	ADRENALS	OVARIES	HEART	LUNGS	KIDNEYS
Control	38	300± 31	0.028± 0.004	0.068± 0.128	0.338± 0.034	0.361± 0.045	0.703± 0.090
20 ppm	34	304± 40	0.028± 0.011	0.039± 0.008	0.328± 0.047	0.344± 0.044	0.680± 0.093
75 ppm	38	298± 45	0.029± 0.005	0.039± 0.015	0.348± 0.060	0.374± 0.092	0.715± 0.134
300 ppm	36	295± 42	0.028± 0.006	0.048± 0.037	0.358± 0.076	0.402± 0.137	0.758± 0.186

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

STUDY NO. : 0158
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	SPLEEN	LIVER	BRAIN
Control	38	0.249± 0.211	2.644± 0.379	0.618± 0.064
20 ppm	34	0.196± 0.063	2.657± 0.330	0.612± 0.079
75 ppm	38	0.254± 0.306	2.774± 0.394	0.633± 0.103
300 ppm	36	0.543± 1.138	3.159± 0.901**	0.642± 0.105

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

APPENDIX I 3

ORGAN WEIGHT, RELATIVE : SUMMARY, MOSUE : MALE

(2-YEAR STUDY)

STUDY NO. : 0159
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	Body Weight (g)	ADRENALS	TESTES	HEART	LUNGS	KIDNEYS
Control	39	42.5± 8.1	0.032± 0.012	0.533± 0.143	0.563± 0.124	0.683± 0.547	1.686± 1.082
20ppm	31	40.3± 8.4	0.033± 0.010	0.544± 0.111	0.610± 0.164	0.653± 0.344	1.655± 0.438
75ppm	32	41.6± 6.0	0.031± 0.009	0.532± 0.097	0.564± 0.095	0.639± 0.409	1.605± 0.283
300ppm	30	37.6± 3.9**	0.035± 0.010	0.708± 0.631**	0.595± 0.071	0.627± 0.147	1.955± 1.100**

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

STUDY NO. : 0159
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	SPLEEN	LIVER	BRAIN
Control	39	0.317± 0.345	4.212± 1.776	1.126± 0.228
20ppm	31	0.435± 0.580	5.062± 2.395	1.200± 0.269
75ppm	32	0.511± 0.773	4.868± 2.100	1.139± 0.178
300ppm	30	0.363± 0.508	8.606± 4.766**	1.243± 0.138**

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

APPENDIX I 4

ORGAN WEIGHT, RELATIVE : SUMMARY, MOSUE : FEMALE

(2-YEAR STUDY)

STUDY NO. : 0159
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	Body Weight (g)	ADRENALS	OVARIES	HEART	LUNGS	KIDNEYS
Control	28	32.4± 5.4	0.045± 0.011	0.166± 0.209	0.606± 0.130	0.692± 0.137	1.474± 0.378
20ppm	25	34.3± 6.1	0.044± 0.010	0.108± 0.054	0.586± 0.114	0.688± 0.160	1.396± 0.220
75ppm	23	31.2± 5.3	0.049± 0.011	0.225± 0.444	0.618± 0.117	0.721± 0.125	1.480± 0.156
300ppm	26	29.6± 2.3	0.047± 0.010	0.075± 0.029*	0.646± 0.100	0.782± 0.123	1.749± 0.433**

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

STUDY NO. : 0159
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	SPLEEN	LIVER	BRAIN
Control	28	0.807± 1.150	5.010± 1.703	1.535± 0.236
20ppm	25	0.912± 1.656	5.620± 4.412	1.442± 0.205
75ppm	23	0.503± 0.273	5.020± 0.791	1.597± 0.274
300ppm	26	1.000± 1.018	17.947± 8.830**	1.597± 0.138

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett