複層カーボンナノチューブ（MWCNT）のラットを用いた
吸入による13週間毒性試験報告書

試験番号：0780

TABLES

TABLES

TABLES (CONTINUED)

TABLE A

CONCENTRATIONS OF MWCNT

IN THE INHALATION CHAMBER

OF THE 13-WEEK INHALATION STUDY

CONCENTRATIONS OF MWCNT IN THE INHALATION CHAMBER OF THE 13-WEEK INHALATION STUDY

Group Name	Concentration(mg/m^3) Mean ± S.D.
Control	0.00 ± 0.00
0.2 mg/m^3	0.20 ± 0.02
1 mg/m^3	1.01 ± 0.11
5 mg/m^3	5.02 ± 0.25

TABLE B1

SURVIVAL ANIMAL NUMBERS : MALE

STUDY NO. : 0780 SURVIVAL ANIMAL NUMBERS
ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj]
REPORT TYPE : A1 13
SEX : MALE

Group Name	Animals At start	Administration (Weeks) 0	1	2	3	4	5	6	7	8	9	10	11	12	13
Control	10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0.2mg/m3	10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1mg/m3	10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
5mg/m3	10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Number of survival/ Number of effective animals
Survival rate(%)

TABLE B2

SURVIVAL ANIMAL NUMBERS : FEMALE

Group Name	Animals At start	Administration (Weeks) 0	1	2	3	4	5	6	7	8	9	10	11	12	13
Control	10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0.2mg/m3	10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1mg/m3	10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
5mg/m3	10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Number of survival/ Number of effective animals
Survival rate(%)

TABLE C1

CLINICAL OBSERVATION : MALE

Clinical sign	Group Name	Administration Week-day 1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7
		1	1	1	1	1	1	1	1	1	1	1	1	1
NON REMARKABLE	Control	10	10	10	10	10	10	10	10	10	10	10	10	10
	0.2mg/m3	10	10	10	10	10	10	10	10	10	10	10	10	10
	1mg/m3	10	10	10	10	10	10	10	10	10	10	10	10	10
	5mg/m3	10	10	10	10	10	10	10	10	10	10	10	10	10

TABLE C2

CLINICAL OBSERVATION : FEMALE

Clinical sign	Group Name	Administration Week-day 1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7
		1	1	1	1	1	1	1	1	1	1	1	1	1
NON REMARKABLE	Control	10	10	10	10	10	10	10	10	10	10	10	10	10
	0.2mg/m3	10	10	10	10	10	10	10	10	10	10	10	10	10
	1mg/m3	10	10	10	10	10	10	10	10	10	10	10	10	10
	5mg/m3	10	10	10	10	10	10	10	10	10	10	10	10	10

TABLE D1

BODY WEIGHT CHANGES AND SURVIVAL ANIMAL NUMBERS : MALE

STUDY NO. : 0780 MEAN BODY WEIGHTS AND SURVIVAL
ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj]
UNIT : g
REPORT TYPE : A1 13
SEX : MALE

Week on Study	Control Av.Wt.	Control No.of Surviv. <10>	0.2mg/m3 Av.Wt.	0.2mg/m3 % of cont. <10>	0.2mg/m3 No.of Surviv.	1mg/m3 Av.Wt.	1mg/m3 % of cont. <10>	1mg/m3 No.of Surviv.	5mg/m3 Av.Wt.	5mg/m3 % of cont. <10>	5mg/m3 No.of Surviv.
0	121 (10)	10/10	121 (10)	100	10/10	121 (10)	100	10/10	121 (10)	100	10/10
1	150 (10)	10/10	145 (10)	97	10/10	147 (10)	98	10/10	143 (10)	95	10/10
2	179 (10)	10/10	173 (10)	97	10/10	178 (10)	99	10/10	168 (10)	94	10/10
3	201 (10)	10/10	195 (10)	97	10/10	202 (10)	100	10/10	189 (10)	94	10/10
4	221 (10)	10/10	214 (10)	97	10/10	221 (10)	100	10/10	209 (10)	95	10/10
5	238 (10)	10/10	224 (10)	94	10/10	236 (10)	99	10/10	223 (10)	94	10/10
6	251 (10)	10/10	238 (10)	95	10/10	249 (10)	99	10/10	233 (10)	93	10/10
7	262 (10)	10/10	247 (10)	94	10/10	261 (10)	100	10/10	244 (10)	93	10/10
8	274 (10)	10/10	257 (10)	94	10/10	271 (10)	99	10/10	253 (10)	92	10/10
9	283 (10)	10/10	265 (10)	94	10/10	282 (10)	100	10/10	262 (10)	93	10/10
10	289 (10)	10/10	272 (10)	94	10/10	289 (10)	100	10/10	271 (10)	94	10/10
11	295 (10)	10/10	280 (10)	95	10/10	295 (10)	100	10/10	276 (10)	94	10/10
12	299 (10)	10/10	287 (10)	96	10/10	302 (10)	101	10/10	284 (10)	95	10/10
13	304 (10)	10/10	291 (10)	96	10/10	307 (10)	101	10/10	287 (10)	94	10/10

< >:No.of effective animals,( ):No.of measured animals Av.Wt.:g

TABLE D2

BODY WEIGHT CHANGES AND SURVIVAL ANIMAL NUMBERS : FEMALE

STUDY NO. : 0780 MEAN BODY WEIGHTS AND SURVIVAL
ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj]
UNIT : g
REPORT TYPE : A1 13
SEX : FEMALE

Week on Study	Control Av.Wt.	Control No.of Surviv. <10>	0.2mg/m3 Av.Wt.	0.2mg/m3 % of cont. <10>	0.2mg/m3 No.of Surviv.	1mg/m3 Av.Wt.	1mg/m3 % of cont. <10>	1mg/m3 No.of Surviv.	5mg/m3 Av.Wt.	5mg/m3 % of cont. <10>	5mg/m3 No.of Surviv.
0	98 (10)	10/10	98 (10)	100	10/10	98 (10)	100	10/10	98 (10)	100	10/10
1	111 (10)	10/10	110 (10)	99	10/10	108 (10)	97	10/10	111 (10)	100	10/10
2	124 (10)	10/10	123 (10)	99	10/10	121 (10)	98	10/10	124 (10)	100	10/10
3	133 (10)	10/10	132 (10)	99	10/10	131 (10)	98	10/10	135 (10)	102	10/10
4	140 (10)	10/10	140 (10)	100	10/10	138 (10)	99	10/10	142 (10)	101	10/10
5	146 (10)	10/10	146 (10)	100	10/10	144 (10)	99	10/10	147 (10)	101	10/10
6	150 (10)	10/10	151 (10)	101	10/10	149 (10)	99	10/10	154 (10)	103	10/10
7	155 (10)	10/10	156 (10)	101	10/10	153 (10)	99	10/10	157 (10)	101	10/10
8	157 (10)	10/10	158 (10)	101	10/10	156 (10)	99	10/10	161 (10)	103	10/10
9	160 (10)	10/10	163 (10)	102	10/10	159 (10)	99	10/10	165 (10)	103	10/10
10	164 (10)	10/10	166 (10)	101	10/10	163 (10)	99	10/10	167 (10)	102	10/10
11	168 (10)	10/10	171 (10)	102	10/10	165 (10)	98	10/10	170 (10)	101	10/10
12	170 (10)	10/10	174 (10)	102	10/10	170 (10)	100	10/10	174 (10)	102	10/10
13	170 (10)	10/10	173 (10)	102	10/10	170 (10)	100	10/10	174 (10)	102	10/10

< >:No.of effective animals,( ):No.of measured animals Av.Wt.: g

TABLE D3

BODY WEIGHT CHANGES : MALE

STUDY NO. : 0780
ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj]
UNIT : g
REPORT TYPE : A1 13
SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week 0	1	2	3	4	5	6
Control	121± 6	150± 9	179± 12	201± 13	221± 13	238± 14	251± 15
0.2mg/m3	121± 6	145± 6	173± 8	195± 11	214± 13	224± 15	238± 15
1mg/m3	121± 5	147± 7	178± 11	202± 11	221± 12	236± 15	249± 17
5mg/m3	121± 5	143± 6	168± 7	189± 7*	209± 8	223± 7*	233± 7*

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

STUDY NO. : 0780
ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj]
UNIT : g
REPORT TYPE : A1 13
SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week 7	8	9	10	11	12	13
Control	262± 17	274± 17	283± 17	289± 17	295± 17	299± 17	304± 19
0.2mg/m3	247± 15	257± 14	265± 14	272± 14	280± 16	287± 15	291± 15
1mg/m3	261± 18	271± 21	282± 21	289± 22	295± 23	302± 23	307± 25
5mg/m3	244± 8*	253± 10*	262± 11*	271± 11	276± 11	284± 12	287± 11

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

TABLE D4

BODY WEIGHT CHANGES : FEMALE

STUDY NO. : 0780
ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj]
UNIT : g
REPORT TYPE : A1 13
SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week 0	1	2	3	4	5	6
Control	98± 6	111± 6	124± 7	133± 7	140± 9	146± 10	150± 9
0.2mg/m3	98± 5	110± 6	123± 6	132± 6	140± 8	146± 9	151± 9
1mg/m3	98± 5	108± 5	121± 6	131± 7	138± 8	144± 8	149± 9
5mg/m3	98± 5	111± 7	124± 8	135± 8	142± 8	147± 9	154± 9

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

STUDY NO. : 0780
ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj]
UNIT : g
REPORT TYPE : A1 13
SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week 7	8	9	10	11	12	13
Control	155± 10	157± 11	160± 12	164± 11	168± 11	170± 12	170± 12
0.2mg/m3	156± 10	158± 10	163± 11	166± 10	171± 11	174± 11	173± 12
1mg/m3	153± 10	156± 10	159± 10	163± 10	165± 10	170± 10	170± 9
5mg/m3	157± 10	161± 10	165± 10	167± 10	170± 10	174± 10	174± 11

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

TABLE E1

FOOD CONSUMPTION CHANGES AND SURVIVAL ANIMAL NUMBERS : MALE

STUDY NO. : 0780
ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj]
UNIT : g
REPORT TYPE : A1 13
SEX : MALE

MEAN FOOD CONSUMPTION(FC) AND SURVIVAL

Week on Study	Control Av.FC.	Control No.of Surviv. <10>	0.2mg/m3 Av.FC.	0.2mg/m3 % of cont. <10>	0.2mg/m3 No.of Surviv.	1mg/m3 Av.FC.	1mg/m3 % of cont. <10>	1mg/m3 No.of Surviv.	5mg/m3 Av.FC.	5mg/m3 % of cont. <10>	5mg/m3 No.of Surviv.
1	14.7 (10)	10/10	14.3 (10)	97	10/10	14.7 (10)	100	10/10	14.4 (10)	98	10/10
2	15.7 (10)	10/10	15.0 (10)	96	10/10	15.6 (10)	99	10/10	14.8 (10)	94	10/10
3	16.6 (10)	10/10	15.7 (10)	95	10/10	16.5 (10)	99	10/10	15.7 (10)	95	10/10
4	16.3 (10)	10/10	16.1 (10)	99	10/10	16.5 (10)	101	10/10	16.0 (10)	98	10/10
5	16.1 (10)	10/10	15.5 (10)	96	10/10	16.4 (10)	102	10/10	15.5 (10)	96	10/10
6	16.0 (10)	10/10	14.9 (10)	93	10/10	15.9 (10)	99	10/10	15.3 (10)	96	10/10
7	16.1 (10)	10/10	14.6 (10)	91	10/10	16.2 (10)	101	10/10	14.9 (8)	93	10/10
8	15.9 (10)	10/10	14.6 (10)	92	10/10	15.8 (10)	99	10/10	14.8 (10)	93	10/10
9	15.9 (10)	10/10	14.9 (10)	94	10/10	16.4 (10)	103	10/10	15.4 (10)	97	10/10
10	16.0 (10)	10/10	14.8 (10)	93	10/10	15.6 (10)	98	10/10	14.8 (10)	93	10/10
11	15.5 (10)	10/10	14.3 (10)	92	10/10	15.7 (10)	101	10/10	14.7 (10)	95	10/10
12	15.5 (10)	10/10	14.4 (10)	93	10/10	15.7 (10)	101	10/10	14.9 (10)	96	10/10
13	15.1 (10)	10/10	14.3 (10)	95	10/10	15.1 (10)	100	10/10	14.3 (10)	95	10/10

< >:No.of effective animals,( ):No.of measured animals Av.FC.: g

TABLE E2

FOOD CONSUMPTION CHANGES AND SURVIVAL ANIMAL NUMBERS : FEMALE

STUDY NO. : 0780
ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj]
UNIT : g
REPORT TYPE : A1 13
SEX : FEMALE

MEAN FOOD CONSUMPTION(FC) AND SURVIVAL

Week on Study	Control Av.FC.	Control No.of Surviv. <10>	0.2mg/m3 Av.FC.	0.2mg/m3 % of cont. <10>	0.2mg/m3 No.of Surviv.	1mg/m3 Av.FC.	1mg/m3 % of cont. <10>	1mg/m3 No.of Surviv.	5mg/m3 Av.FC.	5mg/m3 % of cont. <10>	5mg/m3 No.of Surviv.
1	11.3 (10)	10/10	11.0 (10)	97	10/10	11.1 (10)	98	10/10	11.6 (10)	103	10/10
2	11.4 (10)	10/10	11.3 (10)	99	10/10	11.1 (10)	97	10/10	11.7 (10)	103	10/10
3	11.2 (10)	10/10	11.0 (10)	98	10/10	11.0 (10)	98	10/10	11.6 (10)	104	10/10
4	11.2 (10)	10/10	10.9 (10)	97	10/10	11.2 (10)	100	10/10	11.9 (10)	106	10/10
5	11.0 (10)	10/10	10.8 (10)	98	10/10	11.0 (10)	100	10/10	11.5 (10)	105	10/10
6	10.9 (10)	10/10	10.8 (10)	99	10/10	10.8 (10)	99	10/10	11.4 (10)	105	10/10
7	10.8 (10)	10/10	10.5 (10)	97	10/10	10.9 (10)	101	10/10	11.2 (10)	104	10/10
8	10.5 (10)	10/10	10.5 (10)	100	10/10	10.4 (10)	99	10/10	10.8 (10)	103	10/10
9	10.6 (10)	10/10	10.5 (10)	99	10/10	10.4 (10)	98	10/10	11.1 (10)	105	10/10
10	11.0 (10)	10/10	10.5 (10)	95	10/10	10.6 (10)	96	10/10	10.8 (10)	98	10/10
11	10.8 (10)	10/10	10.8 (10)	100	10/10	10.5 (10)	97	10/10	10.8 (10)	100	10/10
12	10.8 (10)	10/10	10.8 (10)	100	10/10	10.7 (10)	99	10/10	10.9 (10)	101	10/10
13	10.5 (10)	10/10	10.4 (10)	99	10/10	10.1 (10)	96	10/10	10.3 (10)	98	10/10

< >:No.of effective animals,( ):No.of measured animals Av.FC.: g

TABLE E3

FOOD CONSUMPTION CHANGES : MALE

STUDY NO. : 0780
ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj]
UNIT : g
REPORT TYPE : A1 13
SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week 1	2	3	4	5	6	7
Control	14.7± 0.7	15.7± 1.0	16.6± 1.1	16.3± 0.8	16.1± 0.9	16.0± 1.0	16.1± 1.3
0.2mg/m3	14.3± 0.7	15.0± 0.8	15.7± 0.9	16.1± 1.1	15.5± 1.1	14.9± 1.1	14.6± 1.1**
1mg/m3	14.7± 1.0	15.6± 1.0	16.5± 0.6	16.5± 0.8	16.4± 1.0	15.9± 1.1	16.2± 1.1
5mg/m3	14.4± 0.9	14.8± 0.8	15.7± 0.7	16.0± 0.5	15.5± 0.6	15.3± 0.7	14.9± 0.5

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

STUDY NO. : 0780
ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj]
UNIT : g
REPORT TYPE : A1 13
SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week 8	9	10	11	12	13
Control	15.9± 1.1	15.9± 1.0	16.0± 0.9	15.5± 0.9	15.5± 0.9	15.1± 0.8
0.2mg/m3	14.6± 1.0*	14.9± 0.7*	14.8± 0.9*	14.3± 1.0*	14.4± 1.1	14.3± 0.8
1mg/m3	15.8± 1.3	16.4± 1.2	15.6± 1.4	15.7± 1.4	15.7± 1.5	15.1± 1.3
5mg/m3	14.8± 0.8	15.4± 0.6	14.8± 0.9*	14.7± 0.8	14.9± 0.8	14.3± 0.7

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

TABLE E4

FOOD CONSUMPTION CHANGES : FEMALE

STUDY NO. : 0780
ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj]
UNIT : g
REPORT TYPE : A1 13
SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week 1	2	3	4	5	6	7
Control	11.3± 0.7	11.4± 0.5	11.2± 0.8	11.2± 0.7	11.0± 0.7	10.9± 0.7	10.8± 0.5
0.2mg/m3	11.0± 0.8	11.3± 0.6	11.0± 0.8	10.9± 0.7	10.8± 0.8	10.8± 0.9	10.5± 1.0
1mg/m3	11.1± 0.5	11.1± 0.7	11.0± 0.7	11.2± 0.9	11.0± 0.9	10.8± 0.7	10.9± 0.9
5mg/m3	11.6± 0.7	11.7± 0.8	11.6± 0.6	11.9± 0.7	11.5± 0.9	11.4± 1.0	11.2± 0.7

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

STUDY NO. : 0780
ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj]
UNIT : g
REPORT TYPE : A1 13
SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week 8	9	10	11	12	13
Control	10.5± 1.0	10.6± 0.9	11.0± 0.9	10.8± 0.9	10.8± 0.6	10.5± 0.8
0.2mg/m3	10.5± 0.8	10.5± 0.9	10.5± 0.8	10.8± 0.9	10.8± 1.0	10.4± 0.9
1mg/m3	10.4± 0.8	10.4± 0.6	10.6± 0.8	10.5± 0.7	10.7± 0.5	10.1± 0.7
5mg/m3	10.8± 0.9	11.1± 0.9	10.8± 1.0	10.8± 0.8	10.9± 0.5	10.3± 0.8

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

TABLE F1

HEMATOLOGY : MALE

STUDY NO. : 0780
ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj]
MEASURE. TIME : 1
SEX : MALE REPORT TYPE : A1

HEMATOLOGY (SUMMARY)
ALL ANIMALS (14W)

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	10	9.56±	0.22	15.8±	0.4	46.8±	1.2	49.0±	0.3	16.5±	0.2	33.8±	0.5	752±	37
0.2mg/m3	10	9.75±	0.27	16.1±	0.3	48.1±	1.0*	49.3±	0.5	16.5±	0.3	33.4±	0.4	775±	37
1mg/m3	10	9.76±	0.60	15.9±	1.0	47.7±	2.7*	48.9±	0.5	16.3±	0.3	33.2±	0.5	760±	58
5mg/m3	10	9.71±	0.27	16.0±	0.3	47.6±	1.2	49.0±	0.4	16.5±	0.4	33.7±	0.6	758±	36

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

Group Name	NO. of Animals	RETICULOCYTE %
Control	10	1.7± 0.2
0.2mg/m3	10	1.9± 0.2
1mg/m3	10	1.7± 0.1
5mg/m3	10	1.7± 0.2

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

Group Name	NO. of Animals	WBC $10^3/\mu\ell$		Differential WBC (%) NEUTRO		LYMPHO		MONO		EOSINO		BASO		OTHER	
Control	10	3.40±	0.55	25±	4	72±	4	1±	0	1±	0	0±	0	0±	0
0.2mg/m3	10	3.92±	0.85	26±	4	71±	4	1±	0	1±	0	0±	0	0±	0
1mg/m3	10	4.05±	1.22	30±	8	67±	10	2±	2	1±	0	0±	0	0±	0
5mg/m3	10	3.96±	0.66	32±	7	65±	7	1±	0	2±	1	0±	0	0±	0

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

TABLE F2

HEMATOLOGY : FEMALE

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	10	8.87±	0.27	15.8±	0.5	45.9±	1.4	51.8±	0.3	17.9±	0.2	34.4±	0.5	782±	43
0.2mg/m3	10	8.98±	0.50	16.1±	0.4	46.5±	2.7	51.8±	0.3	17.9±	0.8	34.6±	1.5	787±	39
1mg/m3	10	9.03±	0.24	15.9±	0.4	46.9±	1.1	51.9±	0.4	17.6±	0.2	34.0±	0.4	752±	23
5mg/m3	10	9.01±	0.20	15.9±	0.3	46.8±	1.1	52.0±	0.3	17.7±	0.2	34.1±	0.4	787±	46

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

Group Name	NO. of Animals	RETICULOCYTE %
Control	10	1.6± 0.2
0.2mg/m3	10	1.7± 0.2
1mg/m3	10	1.7± 0.1
5mg/m3	10	1.7± 0.2

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

Group Name	NO. of Animals	WBC $10^3/\mu\ell$		Differential WBC (%) NEUTRO		LYMPHO		MONO		EOSINO		BASO		OTHER	
Control	10	2.07±	0.59	21±	3	76±	3	2±	0	1±	0	0±	0	0±	0
0.2mg/m3	10	2.49±	0.47	24±	3	73±	3	1±	0	2±	1	0±	0	0±	0
1mg/m3	10	2.60±	0.67	25±	4*	72±	4	1±	0	1±	0	0±	0	0±	0
5mg/m3	10	2.39±	0.38	28±	4**	70±	3**	1±	0	2±	1	0±	0	0±	0

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

TABLE G1

BIOCHEMISTRY : MALE

STUDY NO. : 0780
ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj]
MEASURE. TIME : 1
SEX : MALE REPORT TYPE : A1

BIOCHEMISTRY (SUMMARY)
ALL ANIMALS (14W)

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	10	6.1±	0.1	3.2±	0.1	1.1±	0.1	0.08±	0.01	181±	14	62±	5	52±	13
0.2mg/m3	10	6.2±	0.1	3.3±	0.1	1.1±	0.1	0.08±	0.00	180±	10	61±	3	45±	13
1mg/m3	10	6.2±	0.3	3.3±	0.2	1.2±	0.1	0.08±	0.01	184±	13	60±	5	36±	16
5mg/m3	10	6.1±	0.1	3.3±	0.1	1.1±	0.1	0.08±	0.00	182±	7	60±	5	42±	11

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

Group Name	NO. of Animals	PHOSPHOLIPID mg／dℓ		AST U／L		ALT U／L		LDH U／L		ALP U／L		G-GTP U／L		CK U／L	
Control	10	118±	5	83±	24	46±	10	97±	22	364±	29	1±	0	112±	10
0.2mg/m3	10	111±	6*	76±	8	46±	6	104±	19	372±	29	1±	0	147±	25**
1mg/m3	10	109±	7**	71±	9	44±	5	101±	22	378±	42	1±	0	140±	23**
5mg/m3	10	108±	7**	69±	6	41±	3	90±	23	390±	28	1±	0	129±	18

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

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	10	18.6±	1.4	0.6±	0.1	144±	1	3.2±	0.2	107±	1	10.0±	0.2	4.7±	0.4
0.2mg/m3	10	20.4±	2.0	0.6±	0.1	144±	1	3.1±	0.1	106±	1	10.3±	0.1**	6.0±	0.5**
1mg/m3	10	19.2±	2.1	0.6±	0.1	143±	2	3.4±	1.2	106±	1	10.4±	0.3**	6.3±	1.8**
5mg/m3	10	20.0±	1.7	0.5±	0.1	143±	1	3.0±	0.2**	105±	2	10.2±	0.2	5.8±	0.5**

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

TABLE G2

BIOCHEMISTRY : FEMALE

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	10	5.9± 0.2	3.2± 0.1	1.2± 0.1	0.09± 0.01	150± 9	69± 7	10± 4
0.2mg/m3	10	6.1± 0.2	3.3± 0.1	1.2± 0.1	0.08± 0.01	146± 9	67± 7	10± 3
1mg/m3	10	6.0± 0.2	3.2± 0.1	1.2± 0.1	0.08± 0.01	147± 11	65± 8	10± 3
5mg/m3	10	6.0± 0.2	3.3± 0.1	1.2± 0.0	0.08± 0.01	138± 14	69± 4	9± 3

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

Group Name	NO. of Animals	PHOSPHOLIPID mg／dℓ		AST U／L		ALT U／L		LDH U／L		ALP U／L		G-GTP U／L		CK U／L	
Control	10	130±	10	64±	6	33±	6	83±	21	301±	23	1±	0	150±	63
0.2mg/m3	10	125±	10	65±	3	34±	4	114±	24	288±	30	1±	0	134±	21
1mg/m3	10	121±	14	66±	5	34±	6	110±	36	321±	27	1±	0	127±	22
5mg/m3	10	129±	7	66±	6	33±	5	115±	38	304±	22	1±	0	126±	21

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

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	10	20.1± 2.5	0.6± 0.1	144± 1	3.0± 0.2	109± 1	9.9± 0.1	4.6± 1.2
0.2mg/m3	10	20.5± 1.5	0.6± 0.1	144± 1	2.8± 0.2*	108± 1	9.9± 0.2	5.2± 0.9
1mg/m3	10	21.0± 3.2	0.6± 0.1	144± 1	2.8± 0.1**	107± 1	9.9± 0.2	5.6± 1.0
5mg/m3	10	21.2± 3.0	0.5± 0.1	144± 1	2.7± 0.2**	107± 1	9.9± 0.2	5.4± 1.1

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

TABLE H1

URINALYSIS : MALE

STUDY NO. : 0780 URINALYSIS
ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj]
MEASURE. TIME : 1
SEX : MALE REPORT TYPE : A1 PAGE : 1

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	10	0	0	0	0	0	2	8		0	4	5	1	0	0		10	0	0	0	0	0		8	0	2	0	0	0		10	0	0	0	
0.2mg/m3	10	0	0	0	0	2	1	7		0	8	1	1	0	0		10	0	0	0	0	0		8	0	1	1	0	0		10	0	0	0	
1mg/m3	10	0	0	0	0	1	3	6		1	4	5	0	0	0		10	0	0	0	0	0		7	0	3	0	0	0		10	0	0	0	
5mg/m3	10	0	0	0	0	0	2	8		0	3	5	2	0	0		10	0	0	0	0	0		5	0	4	1	0	0		10	0	0	0	

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

Group Name	NO. of Animals	Occult blood −	±	+	2+	3+	CHI	Urobilinogen ±	+	2+	3+	4+	CHI
Control	10	10	0	0	0	0		10	0	0	0	0	
0.2mg/m3	10	10	0	0	0	0		10	0	0	0	0	
1mg/m3	10	10	0	0	0	0		10	0	0	0	0	
5mg/m3	10	10	0	0	0	0		10	0	0	0	0	

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

TABLE H2

URINALYSIS : FEMALE

STUDY NO. : 0780 URINALYSIS
ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj]
MEASURE. TIME : 1
SEX : FEMALE REPORT TYPE : A1

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	10	0	0	0	0	0	2	8		7	3	0	0	0	0		10	0	0	0	0	0		10	0	0	0	0	0		10	0	0	0	
0.2mg/m3	10	0	0	0	0	0	1	9		6	3	1	0	0	0		10	0	0	0	0	0		10	0	0	0	0	0		10	0	0	0	
1mg/m3	10	0	0	0	0	0	0	10		4	4	2	0	0	0		10	0	0	0	0	0		10	0	0	0	0	0		10	0	0	0	
5mg/m3	10	0	0	0	0	1	1	8		5	5	0	0	0	0		10	0	0	0	0	0		10	0	0	0	0	0		10	0	0	0	

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

Group Name	NO. of Animals	Occult blood −	±	+	2+	3+	CHI	Urobilinogen ±	+	2+	3+	4+	CHI
Control	10	10	0	0	0	0		10	0	0	0	0	
0.2mg/m3	10	10	0	0	0	0		10	0	0	0	0	
1mg/m3	10	10	0	0	0	0		10	0	0	0	0	
5mg/m3	10	10	0	0	0	0		10	0	0	0	0	

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

TABLE I1

BALF: CYTOLOGICAL ANALYSIS: MALE

STUDY NO. : 0780
ANIMAL : RAT F344/DuCrlCrlj [F344/DuCrj]
MEASURE. TIME : 1
SEX : MALE

BALF: CYTOLOGICAL ANALYSIS (SUMMARY)
ALL ANIMALS (13W)

REPORT TYPE : A1

Group Name	NO. of Animals	TOTAL CELLS 10^3／μℓ	Differential BALF Cells (%) NEUTRO	LYMPHO	EOSINO	BASO	ALVEOLAR MACROPHAGE	OTHER
Control	10	0.28 ± 0.05	0.0 ± 0.1	0.0 ± 0.1	0.0 ± 0.0	0.0 ± 0.0	99.9 ± 0.2	0.0 ± 0.0
0.2 mg/mg^3	10	0.30 ± 0.04	0.6 ± 0.5**	0.3 ± 0.4*	0.0 ± 0.1	0.0 ± 0.0	99.0 ± 0.8**	0.0 ± 0.0
1 mg/mg^3	9	0.37 ± 0.03**	13.5 ± 3.5**	3.6 ± 3.6**	0.0 ± 0.1	0.0 ± 0.0	82.9 ± 5.4**	0.0 ± 0.0
5 mg/mg^3	10	0.67 ± 0.05**	45.7 ± 4.6**	8.0 ± 6.3**	0.1 ± 0.1	0.0 ± 0.0	46.2 ± 3.5**	0.0 ± 0.0

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

TABLE I2

BALF: CYTOLOGICAL ANALYSIS: FEMALE

STUDY NO. : 0780
ANIMAL : RAT F344/DuCrlCrlj [F344/DuCrj]
MEASURE. TIME : 1
SEX : FEMALE

BALF: CYTOLOGICAL ANALYSIS (SUMMARY)
ALL ANIMALS (13W)

REPORT TYPE : A1

Group Name	NO. of Animals	TOTAL CELLS 10^3／μℓ	Differential BALF Cells (%) NEUTRO	LYMPHO	EOSINO	BASO	ALVEOLAR MACROPHAGE	OTHER
Control	10	0.26 ± 0.04	0.1 ± 0.1	0.1 ± 0.2	0.0 ± 0.0	0.0 ± 0.0	99.7 ± 0.3	0.0 ± 0.0
0.2 mg/mg^3	10	0.25 ± 0.04	1.5 ± 0.7**	0.2 ± 0.2	0.0 ± 0.0	0.0 ± 0.0	98.4 ± 0.7**	0.0 ± 0.0
1 mg/mg^3	10	0.34 ± 0.05**	18.5 ± 3.2**	2.3 ± 2.5**	0.0 ± 0.1	0.0 ± 0.0	79.2 ± 4.0**	0.0 ± 0.0
5 mg/mg^3	10	0.68 ± 0.05**	47.5 ± 10.2**	7.5 ± 7.4**	0.0 ± 0.1	0.0 ± 0.0	44.9 ± 5.8**	0.0 ± 0.0

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

TABLE I3

BALF: CYTOLOGICAL ANALYSIS

(MACROPHAGE)

: MALE

STUDY NO. : 0780 BALF: CYTOLOGICAL ANALYSIS (SUMMARY)
ANIMAL : RAT F344/DuCrlCrlj [F344/DuCrj] ALL ANIMALS (13W)
MEASURE. TIME : 1
SEX : MALE REPORT TYPE : A1

Group Name	NO. of Animals	ALVEOLAR MACROPHAGE (AM) (%) MONONUCLEAR AM	BINUCLEAR AM	MULTINUCLEAR AM
Control	10	98.8 ± 0.3	1.2 ± 0.3	0.0 ± 0.1
0.2 mg/mg^3	10	97.5 ± 0.5**	2.2 ± 0.5**	0.3 ± 0.3*
1 mg/mg^3	9	96.6 ± 0.8**	3.0 ± 0.8**	0.4 ± 0.3**
5 mg/mg^3	10	96.9 ± 1.0**	2.7 ± 0.7**	0.4 ± 0.4**

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

TABLE I4

BALF: CYTOLOGICAL ANALYSIS

(MACROPHAGE)

: FEMALE

STUDY NO. : 0780 BALF: CYTOLOGICAL ANALYSIS (SUMMARY)
ANIMAL : RAT F344/DuCrlCrlj [F344/DuCrj] ALL ANIMALS (13W)
MEASURE. TIME : 1
SEX : FEMALE REPORT TYPE : A1

Group Name	NO. of Animals	ALVEOLAR MACROPHAGE (AM) (%) MONONUCLEAR AM	BINUCLEAR AM	MULTINUCLEAR AM
Control	10	98.9 ± 0.6	1.0 ± 0.6	0.0 ± 0.1
0.2 mg/mg^3	10	97.9 ± 0.7**	1.9 ± 0.6*	0.2 ± 0.3
1 mg/mg^3	10	97.0 ± 0.8**	2.5 ± 0.8**	0.5 ± 0.3**
5 mg/mg^3	10	96.7 ± 0.8**	3.1 ± 0.8**	0.2 ± 0.2

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

TABLE J1

BALF: BIOCHEMICAL ANALYSIS

: MALE

STUDY NO. : 0780
ANIMAL : RAT F344/DuCrlCrlj [F344/DuCrj]
MEASURE. TIME : 1
SEX : MALE

BALF: BIOCHEMICAL ANALYSIS (SUMMARY)
ALL ANIMALS (13W)

REPORT TYPE : A1

Group Name	NO. of Animals	TOTAL PROTEIN μg／mℓ	ALBUMIN μg／mℓ	LDH U／ℓ	ALP U／ℓ
Control	10	65.0 ± 4.5	29.3 ± 3.2	35.1 ± 2.6	169.8 ± 11.6
0.2 mg/mg^3	10	97.6 ± 6.4**	43.7 ± 2.8**	53.3 ± 4.2**	219.6 ± 19.0**
1 mg/mg^3	9	135.1 ± 12.3**	59.3 ± 5.0**	82.8 ± 6.5**	271.0 ± 25.7**
5 mg/mg^3	10	225.8 ± 5.6**	98.4 ± 4.2**	167.3 ± 4.6**	393.2 ± 12.8**

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

TABLE J2

BALF: BIOCHEMICAL ANALYSIS

: FEMALE

STUDY NO. : 0780
ANIMAL : RAT F344/DuCrlCrlj [F344/DuCrj]
MEASURE. TIME : 1
SEX : FEMALE

BALF: BIOCHEMICAL ANALYSIS (SUMMARY)
ALL ANIMALS (13W)

REPORT TYPE : A1

Group Name	NO. of Animals	TOTAL PROTEIN μg／mℓ	ALBUMIN μg／mℓ	LDH U／ℓ	ALP U／ℓ
Control	10	62.6 ± 5.5	30.2 ± 2.7	36.6 ± 3.1	167.8 ± 16.4
0.2 mg/mg^3	10	86.7 ± 10.5**	42.3 ± 4.3**	51.1 ± 6.6**	184.2 ± 14.2
1 mg/mg^3	10	119.5 ± 12.7**	55.1 ± 4.5**	80.6 ± 8.1**	229.1 ± 22.8**
5 mg/mg^3	10	208.0 ± 16.5**	92.1 ± 8.4**	165.3 ± 9.1**	335.4 ± 21.0**

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

TABLE K1

ORGAN WEIGHT, ABSOLUTE : MALE

STUDY NO. : 0780
ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj]
REPORT TYPE : A1
SEX : MALE
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
SURVIVAL ANIMALS (14W)

Group Name	NO. of Animals	Body Weight	THYMUS	ADRENALS	TESTES	HEART	LUNG L
Control	10	284± 17	0.273± 0.024	0.055± 0.005	3.059± 0.136	0.867± 0.048	0.432± 0.027
0.2mg/m3	10	271± 14	0.258± 0.030	0.053± 0.004	2.987± 0.085	0.834± 0.026	0.447± 0.033
1mg/m3	10	286± 23	0.264± 0.032	0.056± 0.004	2.976± 0.194	0.871± 0.064	0.514± 0.076**
5mg/m3	10	269± 10	0.251± 0.016	0.056± 0.004	2.937± 0.207	0.851± 0.041	0.555± 0.038**

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

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
Control	10	1.841± 0.138	0.598± 0.031	7.015± 0.515	1.882± 0.041
0.2mg/m3	10	1.728± 0.082	0.588± 0.037	6.640± 0.459	1.886± 0.048
1mg/m3	10	1.846± 0.135	0.617± 0.056	7.034± 0.651	1.884± 0.023
5mg/m3	10	1.749± 0.059	0.606± 0.033	6.620± 0.406	1.856± 0.079

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

TABLE K2

ORGAN WEIGHT, ABSOLUTE : FEMALE

Group Name	NO. of Animals	Body Weight	THYMUS	ADRENALS	OVARIES	HEART	LUNG L
Control	10	156± 12	0.200± 0.023	0.062± 0.007	0.105± 0.004	0.581± 0.035	0.315± 0.012
0.2mg/m3	10	159± 11	0.204± 0.019	0.062± 0.004	0.112± 0.015	0.568± 0.038	0.333± 0.017
1mg/m3	10	156± 10	0.195± 0.019	0.058± 0.007	0.105± 0.011	0.555± 0.037	0.374± 0.084**
5mg/m3	10	160± 10	0.208± 0.014	0.061± 0.003	0.108± 0.014	0.584± 0.025	0.418± 0.041**

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

STUDY NO. : 0780
ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj]
REPORT TYPE : A1
SEX : FEMALE
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
SURVIVAL ANIMALS (14W)

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
Control	10	1.127± 0.059	0.388± 0.025	3.801± 0.259	1.743± 0.034
0.2mg/m3	10	1.141± 0.061	0.412± 0.031	3.820± 0.190	1.732± 0.084
1mg/m3	10	1.115± 0.065	0.413± 0.023	3.707± 0.229	1.755± 0.036
5mg/m3	10	1.139± 0.058	0.428± 0.032**	3.822± 0.244	1.756± 0.031

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

TABLE L1

ORGAN WEIGHT, RELATIVE : MALE

STUDY NO. : 0780
ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj]
REPORT TYPE : A1
SEX : MALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (14W)

Group Name	NO. of Animals	Body Weight (g)	THYMUS	ADRENALS	TESTES	HEART	LUNG L
Control	10	284± 17	0.096± 0.009	0.019± 0.001	1.080± 0.048	0.306± 0.009	0.152± 0.008
0.2mg/m3	10	271± 14	0.095± 0.009	0.020± 0.002	1.104± 0.042	0.309± 0.011	0.165± 0.012
1mg/m3	10	286± 23	0.092± 0.010	0.020± 0.001	1.042± 0.058	0.304± 0.006	0.179± 0.016**
5mg/m3	10	269± 10	0.094± 0.007	0.021± 0.001*	1.096± 0.098	0.317± 0.010*	0.207± 0.014**

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

STUDY NO. : 0780
ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj]
REPORT TYPE : A1
SEX : MALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (14W)

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
Control	10	0.649± 0.022	0.211± 0.008	2.473± 0.080	0.666± 0.038
0.2mg/m3	10	0.638± 0.021	0.217± 0.009	2.450± 0.085	0.697± 0.029
1mg/m3	10	0.645± 0.014	0.216± 0.009	2.455± 0.062	0.662± 0.051
5mg/m3	10	0.651± 0.018	0.226± 0.010**	2.462± 0.076	0.692± 0.043

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

TABLE L2

ORGAN WEIGHT, RELATIVE : FEMALE

STUDY NO. : 0780
ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj]
REPORT TYPE : A1
SEX : FEMALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (14W)

Group Name	NO. of Animals	Body Weight (g)	THYMUS	ADRENALS	OVARIES	HEART	LUNG L
Control	10	156± 12	0.128± 0.011	0.040± 0.005	0.068± 0.005	0.374± 0.015	0.204± 0.019
0.2mg/m3	10	159± 11	0.128± 0.008	0.039± 0.003	0.070± 0.009	0.357± 0.015*	0.209± 0.010
1mg/m3	10	156± 10	0.125± 0.007	0.037± 0.003	0.068± 0.009	0.355± 0.012*	0.242± 0.066*
5mg/m3	10	160± 10	0.130± 0.008	0.038± 0.003	0.067± 0.008	0.365± 0.016	0.261± 0.019**

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

STUDY NO. : 0780
ANIMAL : RAT F344/DuCrlCrlj[F344/DuCrj]
REPORT TYPE : A1
SEX : FEMALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (14W)

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
Control	10	0.726± 0.029	0.250± 0.015	2.447± 0.082	1.126± 0.079
0.2mg/m3	10	0.717± 0.030	0.259± 0.017	2.401± 0.077	1.090± 0.066
1mg/m3	10	0.714± 0.031	0.265± 0.019	2.374± 0.073	1.126± 0.056
5mg/m3	10	0.711± 0.017	0.268± 0.019	2.386± 0.084	1.099± 0.061

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

TABLE M1

HISTOPATHOLOGICAL FINDINGS :

NON-NEOPLASTIC LESIONS : MALE

Organ	Findings	Group Name / Grade	Control				0.2mg/m3				1mg/m3				5mg/m3			
		No. of Animals on Study	10				10				10				10			
			1+ (%)	2+ (%)	3+ (%)	4+ (%)	1+ (%)	2+ (%)	3+ (%)	4+ (%)	1+ (%)	2+ (%)	3+ (%)	4+ (%)	1+ (%)	2+ (%)	3+ (%)	4+ (%)
{Respiratory system}																		
nasal cavit			<10>				<10>				<10>				<10>			
	goblet cell hyperplasia		0	0	0	0	0	0	0	0	10	0	0	0 **	4	6	0	0 **
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(100)	(0)	(0)	(0)	(40)	(60)	(0)	(0)
	eosinophilic change:olfactory epithelium		1	0	0	0	2	0	0	0	9	1	0	0 **	1	9	0	0 **
			(10)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(90)	(10)	(0)	(0)	(10)	(90)	(0)	(0)
	eosinophilic change:respiratory epithelium		1	0	0	0	2	0	0	0	10	0	0	0 **	10	0	0	0 **
			(10)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(100)	(0)	(0)	(0)	(100)	(0)	(0)	(0)
	inflammation:foreign body		0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
			(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	respiratory metaplasia:gland		1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	deposit of fiber:respiratory epithelium		0	0	0	0	1	0	0	0	7	0	0	0 **	10	0	0	0 **
			(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(70)	(0)	(0)	(0)	(100)	(0)	(0)	(0)
nasopharynx			<10>				<10>				<10>				<10>			
	goblet cell hyperplasia		0	0	0	0	1	0	0	0	10	0	0	0 **	10	0	0	0 **
			(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(100)	(0)	(0)	(0)	(100)	(0)	(0)	(0)
larynx			<10>				<10>				<10>				<10>			
	deposit of fiber		0	0	0	0	3	0	0	0	4	0	0	0	5	0	0	0 *
			(0)	(0)	(0)	(0)	(30)	(0)	(0)	(0)	(40)	(0)	(0)	(0)	(50)	(0)	(0)	(0)

Grade 1+ : Slight 2+ : Moderate 3+ : Marked 4+ : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name / Grade	Control	0.2mg/m3	1mg/m3	5mg/m3
		No. of Animals on Study	10	10	10	10
		1+ (%)				
		2+ (%)				
		3+ (%)				
		4+ (%)				
{Respiratory system}						
trachea			<10>	<10>	<10>	<10>
	deposit of fiber		0 (0)	8 (80)	10 (100)	10 (100)
			0 (0)	0 (0)	0 (0)	0 (0)
			0 (0)	0 (0)	0 (0)	0 (0)
			0 (0)	0 (0)	0 (0)	0 (0)
			0	0	0 **	0 **
lung			<10>	<10>	<10>	<10>
	granulomatous change		0 (0)	1 (10)	8 (80)	6 (60)
			0 (0)	0 (0)	0 (0)	4 (40)
			0 (0)	0 (0)	0 (0)	0 (0)
			0	0	0 **	0 **
	thickening:alveolar wall,focal		0 (0)	0 (0)	10 (100)	10 (100)
			0 (0)	0 (0)	0 (0)	0 (0)
			0 (0)	0 (0)	0 (0)	0 (0)
			0	0	0 **	0 **
	deposit of fiber:alveolar space,phagocytosed by alveolar macrophages		0 (0)	10 (100)	10 (100)	0 (0)
			0 (0)	0 (0)	0 (0)	10 (100)
			0 (0)	0 (0)	0 (0)	0 (0)
			0	0	0 **	0 **
	deposit of fiber:alveolar space,non-phagocytosed		0 (0)	8 (80)	10 (100)	10 (100)
			0 (0)	0 (0)	0 (0)	0 (0)
			0 (0)	0 (0)	0 (0)	0 (0)
			0	0	0 **	0 **
	deposit of fiber:bronchiolar space,phagocytosed by alveolar macrophages		0 (0)	9 (90)	10 (100)	10 (100)
			0 (0)	0 (0)	0 (0)	0 (0)
			0 (0)	0 (0)	0 (0)	0 (0)
			0	0	0 **	0 **
	deposit of fiber:bronchiolar space,non-phagocytosed		0 (0)	7 (70)	10 (100)	10 (100)
			0 (0)	0 (0)	0 (0)	0 (0)
			0 (0)	0 (0)	0 (0)	0 (0)
			0	0	0 **	0 **
	deposit of fiber:alveolar wall		0 (0)	4 (40)	10 (100)	10 (100)
			0 (0)	0 (0)	0 (0)	0 (0)
			0 (0)	0 (0)	0 (0)	0 (0)
			0	0	0 **	0 **

Grade 1+ : Slight 2+ : Moderate 3+ : Marked 4+ : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	Control				0.2mg/m3				1mg/m3				5mg/m3			
		No. of Animals on Study	10				10				10				10			
		Grade	1+	2+	3+	4+	1+	2+	3+	4+	1+	2+	3+	4+	1+	2+	3+	4+
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Respiratory system}																		
lung			<10>				<10>				<10>				<10>			
	deposit of fiber :bronchus-associated lymphoid tissue		0	0	0	0	7	0	0	0 **	10	0	0	0 **	10	0	0	0 **
			(0)	(0)	(0)	(0)	(70)	(0)	(0)	(0)	(100)	(0)	(0)	(0)	(100)	(0)	(0)	(0)
{Hematopoietic system}																		
lymph node			<10>				<10>				<10>				<10>			
	deposit of fiber:mediastinum		0	0	0	0	3	0	0	0	10	0	0	0 **	9	0	0	0 **
			(0)	(0)	(0)	(0)	(30)	(0)	(0)	(0)	(100)	(0)	(0)	(0)	(90)	(0)	(0)	(0)
{Digestive system}																		
liver			<10>				<10>				<10>				<10>			
	inflammatory cell nest		0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(20)	(0)	(0)	(0)
{Urinary system}																		
kidney			<10>				<10>				<10>				<10>			
	eosinophilic body		10	0	0	0	10	0	0	0	10	0	0	0	10	0	0	0
			(100)	(0)	(0)	(0)	(100)	(0)	(0)	(0)	(100)	(0)	(0)	(0)	(100)	(0)	(0)	(0)

Grade 1+ : Slight 2+ : Moderate 3+ : Marked 4+ : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name	Control				0.2mg/m3				1mg/m3				5mg/m3			
		No. of Animals on Study	10				10				10				10			
		Grade	1+	2+	3+	4+	1+	2+	3+	4+	1+	2+	3+	4+	1+	2+	3+	4+
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
{Urinary system}																		
kidney			<10>				<10>				<10>				<10>			
	regeneration:proximal tubule		1	0	0	0	1	0	0	0	3	0	0	0	3	0	0	0
			(10)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(30)	(0)	(0)	(0)	(30)	(0)	(0)	(0)
{Special sense organs/appendage}																		
Harder gl			<10>				<10>				<10>				<10>			
	lymphocytic infiltration		2	0	0	0	2	0	0	0	1	0	0	0	1	0	0	0
			(20)	(0)	(0)	(0)	(20)	(0)	(0)	(0)	(10)	(0)	(0)	(0)	(10)	(0)	(0)	(0)
{Body cavities}																		
pleura			<10>				<10>				<10>				<10>			
	inflammatory cell nest		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(10)	(0)	(0)	(0)

Grade 1+ : Slight 2+ : Moderate 3+ : Marked 4+ : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

TABLE M2

HISTOPATHOLOGICAL FINDINGS :

NON-NEOPLASTIC LESIONS : FEMALE

Organ	Findings	Group Name	Control				0.2mg/m3				1mg/m3				5mg/m3			
		No. of Animals on Study	10				10				10				10			
		Grade	1+ (%)	2+ (%)	3+ (%)	4+ (%)	1+ (%)	2+ (%)	3+ (%)	4+ (%)	1+ (%)	2+ (%)	3+ (%)	4+ (%)	1+ (%)	2+ (%)	3+ (%)	4+ (%)
{Respiratory system}																		
nasal cavit			<10>				<10>				<10>				<10>			
	goblet cell hyperplasia		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	10 (100)	0 (0)	0 (0)	0 ** (0)	2 (20)	8 (80)	0 (0)	0 ** (0)
	eosinophilic change:olfactory epithelium		1 (10)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	10 (100)	0 (0)	0 (0)	0 ** (0)	0 (0)	10 (100)	0 (0)	0 ** (0)
	eosinophilic change:respiratory epithelium		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	10 (100)	0 (0)	0 (0)	0 ** (0)	10 (100)	0 (0)	0 (0)	0 ** (0)
	inflammation:foreign body		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	inflammation:respiratory epithelium		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	respiratory metaplasia:gland		2 (20)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)
	deposit of fiber:respiratory epithelium		0 (0)	0 (0)	0 (0)	0 (0)	4 (40)	0 (0)	0 (0)	0 (0)	7 (70)	0 (0)	0 (0)	0 ** (0)	10 (100)	0 (0)	0 (0)	0 ** (0)
nasopharynx			<10>				<10>				<10>				<10>			
	goblet cell hyperplasia		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	10 (100)	0 (0)	0 (0)	0 ** (0)	10 (100)	0 (0)	0 (0)	0 ** (0)

Grade 1+ : Slight 2+ : Moderate 3+ : Marked 4+ : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Grade	Control 10	0.2mg/m3 10	1mg/m3 10	5mg/m3 10
			1+ (%)	1+ (%)	1+ (%)	1+ (%)
			2+ (%)	2+ (%)	2+ (%)	2+ (%)
			3+ (%)	3+ (%)	3+ (%)	3+ (%)
			4+ (%)	4+ (%)	4+ (%)	4+ (%)
{Respiratory system}						
larynx			<10>	<10>	<10>	<10>
	deposit of fiber		0 (0)	2 (20)	3 (30)	6 (60)
			0 (0)	0 (0)	0 (0)	0 (0)
			0 (0)	0 (0)	0 (0)	0 (0)
			0 (0)	0 (0)	0 (0)	0 * (0)
trachea			<10>	<10>	<10>	<10>
	deposit of fiber		0 (0)	6 (60)	7 (70)	7 (70)
			0 (0)	0 (0)	0 (0)	0 (0)
			0 (0)	0 (0)	0 (0)	0 (0)
			0 (0)	0 * (0)	0 ** (0)	0 ** (0)
lung			<10>	<10>	<10>	<10>
	granulomatous change		0 (0)	0 (0)	4 (40)	9 (90)
			0 (0)	0 (0)	0 (0)	1 (10)
			0 (0)	0 (0)	0 (0)	0 (0)
			0 (0)	0 (0)	0 (0)	0 ** (0)
	thickening:alveolar wall,focal		0 (0)	0 (0)	9 (90)	10 (100)
			0 (0)	0 (0)	0 (0)	0 (0)
			0 (0)	0 (0)	0 (0)	0 (0)
			0 (0)	0 (0)	0 ** (0)	0 ** (0)
	deposit of fiber:alveolar space,phagocytosed by alveolar macrophages		0 (0)	10 (100)	10 (100)	0 (0)
			0 (0)	0 (0)	0 (0)	10 (100)
			0 (0)	0 (0)	0 (0)	0 (0)
			0 (0)	0 ** (0)	0 ** (0)	0 ** (0)
	deposit of fiber:alveolar space,non-phagocytosed		0 (0)	4 (40)	10 (100)	10 (100)
			0 (0)	0 (0)	0 (0)	0 (0)
			0 (0)	0 (0)	0 (0)	0 (0)
			0 (0)	0 ** (0)	0 ** (0)	0 ** (0)
	deposit of fiber:bronchiolar space,phagocytosed by alveolar macrophages		0 (0)	7 (70)	10 (100)	10 (100)
			0 (0)	0 (0)	0 (0)	0 (0)
			0 (0)	0 (0)	0 (0)	0 (0)
			0 (0)	0 ** (0)	0 ** (0)	0 ** (0)

Grade 1+ : Slight 2+ : Moderate 3+ : Marked 4+ : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Group Name / Grade	Control 1+ (%)	Control 2+ (%)	Control 3+ (%)	Control 4+ (%)	0.2mg/m3 1+ (%)	0.2mg/m3 2+ (%)	0.2mg/m3 3+ (%)	0.2mg/m3 4+ (%)	1mg/m3 1+ (%)	1mg/m3 2+ (%)	1mg/m3 3+ (%)	1mg/m3 4+ (%)	5mg/m3 1+ (%)	5mg/m3 2+ (%)	5mg/m3 3+ (%)	5mg/m3 4+ (%)
		No. of Animals on Study	10				10				10				10			
{Respiratory system}																		
lung			<10>				<10>				<10>				<10>			
	deposit of fiber:bronchiolar space,non-phagocytosed		0 (0)	0 (0)	0 (0)	0 (0)	10 (100)	0 (0)	0 (0)	0 ** (0)	10 (100)	0 (0)	0 (0)	0 ** (0)	10 (100)	0 (0)	0 (0)	0 ** (0)
	deposit of fiber:alveolar wall		0 (0)	0 (0)	0 (0)	0 (0)	3 (30)	0 (0)	0 (0)	0 (0)	10 (100)	0 (0)	0 (0)	0 ** (0)	10 (100)	0 (0)	0 (0)	0 ** (0)
	deposit of fiber :bronchus-associated lymphoid tissue		0 (0)	0 (0)	0 (0)	0 (0)	5 (50)	0 (0)	0 (0)	0 * (0)	8 (80)	0 (0)	0 (0)	0 ** (0)	8 (80)	0 (0)	0 (0)	0 ** (0)
{Hematopoietic system}																		
bone marrow			<10>				<10>				<10>				<10>			
	granulation		1 (10)	0 (0)	0 (0)	0 (0)	3 (30)	1 (10)	0 (0)	0 (0)	2 (20)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)
lymph node			<10>				<10>				<10>				<10>			
	deposit of fiber:mediastinum		0 (0)	0 (0)	0 (0)	0 (0)	3 (30)	0 (0)	0 (0)	0 (0)	6 (60)	0 (0)	0 (0)	0 * (0)	10 (100)	0 (0)	0 (0)	0 ** (0)
{Digestive system}																		
liver			<10>				<10>				<10>				<10>			
	herniation		0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)

Grade 1+ : Slight 2+ : Moderate 3+ : Marked 4+ : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square

Organ	Findings	Grade	Control	0.2mg/m3	1mg/m3	5mg/m3
		No. of Animals on Study	10	10	10	10
{Digestive system}						
liver			<10>	<10>	<10>	<10>
	inflammatory cell nest	1+	1 (10)	0 (0)	0 (0)	0 (0)
		2+	0 (0)	0 (0)	0 (0)	0 (0)
		3+	0 (0)	0 (0)	0 (0)	0 (0)
		4+	0 (0)	0 (0)	0 (0)	0 (0)
{Endocrine system}						
pituitary			<10>	< 9>	<10>	<10>
	Rathke pouch	1+	0 (0)	0 (0)	0 (0)	1 (10)
		2+	0 (0)	0 (0)	0 (0)	0 (0)
		3+	0 (0)	0 (0)	0 (0)	0 (0)
		4+	0 (0)	0 (0)	0 (0)	0 (0)
thyroid			<10>	<10>	<10>	<10>
	ultimobranchial body remanet	1+	0 (0)	1 (10)	1 (10)	1 (10)
		2+	0 (0)	0 (0)	0 (0)	0 (0)
		3+	0 (0)	0 (0)	0 (0)	0 (0)
		4+	0 (0)	0 (0)	0 (0)	0 (0)
{Special sense organs/appendage}						
Harder gl			<10>	<10>	<10>	<10>
	lymphocytic infiltration	1+	2 (20)	3 (30)	3 (30)	1 (10)
		2+	0 (0)	0 (0)	0 (0)	0 (0)
		3+	0 (0)	0 (0)	0 (0)	0 (0)
		4+	0 (0)	0 (0)	0 (0)	0 (0)
{Body cavities}						
pleura			<10>	<10>	<10>	<10>
	inflammatory cell nest	1+	0 (0)	0 (0)	0 (0)	1 (10)
		2+	0 (0)	0 (0)	0 (0)	0 (0)
		3+	0 (0)	0 (0)	0 (0)	0 (0)
		4+	0 (0)	0 (0)	0 (0)	0 (0)

Grade 1+ : Slight 2+ : Moderate 3+ : Marked 4+ : Severe
< a > a : Number of animals examined at the site
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(c) c : b / a * 100
Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square