1,4 - ジクロロ - 2 - ニトロベンゼンのマウスを用いた
経口投与による 13 週間毒性試験(混餌試験)報告書

試験番号：０３０２

TABLES

TABLES

TABLE 1 SURVIVAL ANIMAL NUMBERS AND BODY WEIGHT CHANGES OF MALE MICE IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

TABLE 2 SURVIVAL ANIMAL NUMBERS AND BODY WEIGHT CHANGES OF FEMALE MICE IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

TABLE 3 FOOD CONSUMPTION CHANGES OF MALE MICE IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

TABLE 4 FOOD CONSUMPTION CHANGES OF FEMALE MICE IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

TABLE 5 HEMATOLOGY OF MALE MICE IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

TABLE 6 HEMATOLOGY OF FEMALE MICE IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

TABLE 7 BIOCHEMISTRY OF MALE MICE IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

TABLE 8 BIOCHEMISTRY OF FEMALE MICE IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

TABLE 9 URINALYSIS OF MALE MICE IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

TABLE 10 URINALYSIS OF FEMALE MICE IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

TABLE 11 ORGAN WEIGHTS OF MALE MICE IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

TABLE 12 ORGAN WEIGHTS OF FEMALE MICE IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

TABLES (Continued)

TABLE 13 INCIDENCES OF SELECTED LESIONS OF MALE MICE IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

TABLE 14 INCIDENCES OF SELECTED LESIONS OF FEMALE MICE IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

TABLE 1 SURVIVAL ANIMAL NUMBERS AND BODY WEIGHT CHANGES OF MALE MICE IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

Week on Study	Control Av.Wt.		No. of Surviv. <10>	1481ppm Av.Wt.		% of cont.	No. of Surviv. <9>	2222ppm Av.Wt.		% of cont.	No. of Surviv. <10>	3333ppm Av.Wt.		% of cont.	No. of Surviv. <10>	5000ppm Av.Wt.		% of cont.	No. of Surviv. <10>	7500ppm Av.Wt.		% of cont.	No. of Surviv. <10>
0	22.6	(10)	10/10	22.5	(9)	100	9/ 9	22.6	(10)	100	10/10	22.6	(10)	100	10/10	22.6	(10)	100	10/10	22.6	(10)	100	10/10
1	20.3	(10)	10/10	20.7	(9)	102	9/ 9	20.6	(10)	101	10/10	21.3	(10)	105	10/10	21.2	(10)	104	10/10	18.1	(10)	89	10/10
2	21.6	(10)	10/10	22.3	(9)	103	9/ 9	21.9	(10)	101	10/10	21.7	(10)	100	10/10	21.0	(10)	97	10/10	17.2	(8)	80	8/10
3	21.1	(10)	10/10	21.9	(9)	104	9/ 9	21.2	(10)	100	10/10	22.1	(9)	105	9/10	20.5	(10)	97	10/10	17.0	(7)	81	7/10
4	24.1	(10)	10/10	24.4	(9)	101	9/ 9	24.3	(10)	101	10/10	24.6	(9)	102	9/10	24.2	(10)	100	10/10	15.5	(7)	64	7/10
5	25.3	(10)	10/10	25.7	(9)	102	9/ 9	25.7	(10)	102	10/10	25.5	(9)	101	9/10	25.6	(10)	101	10/10	15.0	(7)	59	7/10
6	24.6	(10)	10/10	25.0	(9)	102	9/ 9	25.5	(10)	104	10/10	25.2	(9)	102	9/10	25.6	(10)	104	10/10	15.2	(7)	62	7/10
7	26.0	(10)	10/10	26.0	(9)	100	9/ 9	26.7	(10)	103	10/10	25.9	(9)	100	9/10	26.1	(10)	100	10/10	15.3	(6)	59	6/10
8	22.3	(10)	10/10	24.0	(9)	108	9/ 9	24.3	(10)	109	10/10	24.9	(9)	112	9/10	24.5	(10)	110	10/10	15.3	(6)	69	6/10
9	27.1	(10)	10/10	26.9	(9)	99	9/ 9	27.2	(10)	100	10/10	27.1	(9)	100	9/10	27.2	(10)	100	10/10	16.6	(6)	61	6/10
10	27.2	(10)	10/10	27.2	(9)	100	9/ 9	27.3	(10)	100	10/10	27.4	(9)	101	9/10	27.1	(10)	100	10/10	16.9	(6)	62	6/10
11	28.5	(10)	10/10	28.4	(9)	100	9/ 9	28.6	(10)	100	10/10	28.3	(9)	99	9/10	28.4	(10)	100	10/10	18.2	(6)	64	6/10
12	29.5	(10)	10/10	29.8	(9)	101	9/ 9	29.4	(10)	100	10/10	29.1	(9)	99	9/10	28.7	(10)	97	10/10	19.1	(6)	65	6/10
13	30.3	(10)	10/10	30.1	(9)	99	9/ 9	29.9	(10)	99	10/10	29.7	(9)	98	9/10	29.0	(10)	96	10/10	20.0	(6)	66	6/10

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

TABLE 2 SURVIVAL ANIMAL NUMBERS AND BODY WEIGHT CHANGES OF FEMALE MICE IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

Week on Study	Control Av.Wt. <10>	Control No. of Surviv.	1481ppm Av.Wt.	1481ppm % of cont. <10>	1481ppm No. of Surviv.	2222ppm Av.Wt.	2222ppm % of cont. <10>	2222ppm No. of Surviv.	3333ppm Av.Wt.	3333ppm % of cont. <10>	3333ppm No. of Surviv.	5000ppm Av.Wt.	5000ppm % of cont. <10>	5000ppm No. of Surviv.	7500ppm Av.Wt.	7500ppm % of cont. <10>	7500ppm No. of Surviv.
0	18.9 (10)	10/10	18.9 (10)	100	10/10	18.9 (10)	100	10/10	18.9 (10)	100	10/10	18.9 (10)	100	10/10	18.9 (10)	100	10/10
1	18.3 (10)	10/10	18.7 (10)	102	10/10	18.8 (10)	103	10/10	18.3 (10)	100	10/10	17.7 (10)	97	10/10	15.8 (10)	86	10/10
2	19.0 (10)	10/10	19.1 (10)	101	10/10	19.6 (10)	103	10/10	19.2 (10)	101	10/10	18.7 (10)	98	10/10	14.7 (10)	77	10/10
3	18.1 (10)	10/10	18.9 (10)	104	10/10	19.0 (10)	105	10/10	18.3 (10)	101	10/10	18.6 (10)	103	10/10	13.7 (9)	76	9/10
4	20.4 (10)	10/10	21.0 (10)	103	10/10	20.9 (10)	102	10/10	20.9 (10)	102	10/10	20.9 (10)	102	10/10	13.7 (8)	67	8/10
5	20.1 (10)	10/10	21.0 (10)	104	10/10	21.3 (10)	106	10/10	21.3 (10)	106	10/10	21.0 (10)	104	10/10	14.5 (8)	72	8/10
6	21.1 (10)	10/10	21.8 (10)	103	10/10	21.5 (10)	102	10/10	21.9 (10)	104	10/10	21.6 (10)	102	10/10	15.3 (8)	73	8/10
7	21.2 (10)	10/10	22.0 (10)	104	10/10	21.4 (10)	101	10/10	22.1 (10)	104	10/10	20.8 (10)	98	10/10	15.5 (7)	73	7/10
8	18.9 (10)	10/10	19.7 (10)	104	10/10	19.6 (10)	104	10/10	19.4 (10)	103	10/10	19.1 (10)	101	10/10	15.7 (6)	83	6/10
9	22.6 (10)	10/10	22.8 (10)	101	10/10	23.1 (10)	102	10/10	23.6 (10)	104	10/10	22.6 (10)	100	10/10	17.3 (6)	77	6/10
10	22.0 (10)	10/10	22.9 (10)	104	10/10	22.7 (10)	103	10/10	23.2 (10)	105	10/10	22.5 (10)	102	10/10	16.8 (6)	76	6/10
11	22.7 (10)	10/10	23.8 (10)	105	10/10	23.8 (10)	105	10/10	23.8 (10)	105	10/10	23.8 (10)	105	10/10	18.3 (6)	81	6/10
12	23.3 (10)	10/10	24.7 (10)	106	10/10	24.1 (10)	103	10/10	24.7 (10)	106	10/10	24.6 (10)	106	10/10	18.3 (6)	79	6/10
13	23.9 (10)	10/10	24.9 (10)	104	10/10	25.0 (10)	105	10/10	25.7 (10)	108	10/10	24.5 (10)	103	10/10	18.7 (6)	78	6/10

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

(Study No. 0302)

TABLE 3 FOOD CONSUMPTION CHANGES OF MALE MICE IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

Week on Study	Control			1481ppm				2222ppm				3333ppm				5000ppm				7500ppm			
	Av.FC.		No. of Surviv.	Av.FC.		% of cont.	No. of Surviv.	Av.FC.		% of cont.	No. of Surviv.	Av.FC.		% of cont.	No. of Surviv.	Av.FC.		% of cont.	No. of Surviv.	Av.FC.		% of cont.	No. of Surviv.
	<10>			<9>				<10>				<10>				<10>				<10>			
1	3.6	(10)	10/10	3.9	(9)	110	9/ 9	3.7	(10)	103	10/10	3.9	(10)	108	10/10	3.7	(10)	103	10/10	4.1	(10)	114	10/10
2	2.7	(10)	10/10	3.0	(9)	112	9/ 9	2.9	(10)	107	10/10	2.9	(10)	107	10/10	2.6	(10)	96	10/10	2.9	(8)	107	8/10
3	2.9	(10)	10/10	3.5	(9)	121	9/ 9	3.0	(10)	103	10/10	3.2	(9)	110	9/10	2.8	(10)	97	10/10	2.8	(7)	97	7/10
4	4.9	(9)	10/10	4.9	(9)	100	9/ 9	5.0	(10)	102	10/10	4.6	(9)	94	9/10	4.7	(10)	96	10/10	3.3	(5)	67	7/10
5	4.5	(10)	10/10	4.5	(9)	100	9/ 9	4.6	(10)	102	10/10	4.5	(9)	100	9/10	4.3	(10)	96	10/10	3.1	(5)	69	7/10
6	3.7	(10)	10/10	3.7	(9)	100	9/ 9	4.1	(10)	111	10/10	3.8	(9)	103	9/10	3.7	(10)	100	10/10	3.3	(7)	89	7/10
7	3.8	(7)	10/10	4.2	(9)	111	9/ 9	4.4	(10)	116	10/10	4.2	(9)	111	9/10	4.0	(10)	105	10/10	3.2	(6)	84	6/10
8	3.4	(10)	10/10	3.6	(9)	106	9/ 9	3.8	(10)	112	10/10	3.7	(9)	109	9/10	3.6	(10)	106	10/10	3.1	(6)	91	6/10
9	5.4	(10)	10/10	5.0	(9)	93	9/ 9	5.0	(10)	93	10/10	4.7	(9)	87	9/10	4.4	(10)	81	10/10	3.6	(6)	67	6/10
10	4.1	(10)	10/10	4.2	(9)	102	9/ 9	4.6	(10)	112	10/10	3.9	(9)	95	9/10	4.1	(10)	100	10/10	3.8	(3)	93	6/10
11	4.6	(10)	10/10	4.4	(9)	96	9/ 9	4.9	(10)	107	10/10	4.1	(9)	89	9/10	4.4	(10)	96	10/10	4.2	(4)	91	6/10
12	4.8	(10)	10/10	4.8	(9)	100	9/ 9	4.9	(10)	102	10/10	4.4	(9)	92	9/10	4.3	(10)	90	10/10	4.6	(4)	96	6/10
13	4.7	(10)	10/10	4.6	(9)	98	9/ 9	4.9	(10)	104	10/10	4.3	(9)	91	9/10	4.2	(10)	89	10/10	4.8	(2)	102	6/10

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

(Study No. 0302)

TABLE 4 FOOD CONSUMPTION CHANGES OF FEMALE MICE IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

Week on Study	Control Av.FC.		No. of Surviv. <10>	1481ppm Av.FC.		% of cont.	No. of Surviv. <10>	2222ppm Av.FC.		% of cont.	No. of Surviv. <10>	3333ppm Av.FC.		% of cont.	No. of Surviv. <10>	5000ppm Av.FC.		% of cont.	No. of Surviv. <10>	7500ppm Av.FC.		% of cont.	No. of Surviv. <10>
1	4.0	(10)	10/10	4.2	(10)	105	10/10	4.0	(10)	100	10/10	3.8	(10)	95	10/10	4.0	(10)	100	10/10	4.1	(10)	103	10/10
2	2.8	(10)	10/10	2.8	(10)	100	10/10	3.0	(10)	107	10/10	3.0	(10)	107	10/10	3.2	(10)	114	10/10	2.8	(10)	100	10/10
3	2.6	(10)	10/10	2.7	(10)	104	10/10	2.8	(10)	108	10/10	2.9	(10)	112	10/10	3.1	(10)	119	10/10	2.5	(9)	96	9/10
4	4.4	(10)	10/10	4.5	(10)	102	10/10	4.4	(10)	100	10/10	4.5	(10)	102	10/10	4.3	(10)	98	10/10	3.3	(8)	75	8/10
5	3.9	(10)	10/10	4.0	(10)	103	10/10	4.0	(10)	103	10/10	3.9	(10)	100	10/10	4.0	(10)	103	10/10	3.6	(8)	92	8/10
6	4.0	(10)	10/10	4.1	(10)	103	10/10	4.1	(9)	103	10/10	4.0	(10)	100	10/10	3.7	(10)	92	10/10	3.4	(8)	85	8/10
7	4.1	(10)	10/10	4.3	(10)	105	10/10	4.3	(9)	105	10/10	4.3	(10)	105	10/10	4.1	(10)	100	10/10	3.4	(7)	83	7/10
8	3.5	(10)	10/10	3.3	(10)	94	10/10	3.3	(9)	94	10/10	3.1	(10)	89	10/10	3.0	(10)	86	10/10	2.6	(6)	74	6/10
9	4.9	(10)	10/10	4.9	(10)	100	10/10	5.1	(10)	104	10/10	5.0	(10)	102	10/10	5.1	(10)	104	10/10	3.7	(6)	76	6/10
10	3.8	(10)	10/10	4.1	(10)	108	10/10	3.9	(10)	103	10/10	3.8	(10)	100	10/10	3.8	(10)	100	10/10	3.2	(6)	84	6/10
11	4.7	(10)	10/10	4.9	(10)	104	10/10	4.8	(10)	102	10/10	4.2	(10)	89	10/10	4.3	(10)	91	10/10	3.5	(4)	74	6/10
12	4.7	(10)	10/10	5.2	(10)	111	10/10	4.9	(10)	104	10/10	4.6	(10)	98	10/10	4.4	(10)	94	10/10	3.3	(5)	70	6/10
13	4.8	(10)	10/10	5.0	(9)	104	10/10	4.8	(9)	100	10/10	4.5	(10)	94	10/10	4.2	(10)	87	10/10	4.0	(3)	83	6/10

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

(Study No. 0302)

TABLE 5 HEMATOLOGY OF MALE MICE IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

Group Name	Control	1481 ppm	2222 ppm	3333 ppm	5000 ppm	7500 ppm
No. of examined animals	10	9	10	9	10	6
Red blood cell ($10^6/\mu$ L)	10.88 ± 0.27	10.64 ± 0.31	10.44 ± 0.29 *	10.36 ± 0.31 **	10.14 ± 0.31 **	10.19 ± 0.38 **
Hemoglobin (g/dL)	16.2 ± 0.3	16.0 ± 0.3	16.0 ± 0.5	15.8 ± 0.3	15.4 ± 0.4 **	15.4 ± 0.5 **
Hematocrit (%)	51.1 ± 1.0	50.8 ± 1.4	50.6 ± 1.8	49.8 ± 1.5	48.8 ± 1.8 *	47.8 ± 2.3 **
MCV (fL)	47.0 ± 0.5	47.8 ± 0.7	48.5 ± 0.9 **	48.0 ± 0.7	48.1 ± 1.4 **	46.9 ± 1.4
MCH (pg)	14.9 ± 0.2	15.1 ± 0.3	15.3 ± 0.2 **	15.2 ± 0.3	15.2 ± 0.3	15.1 ± 0.3
Platlet ($10^3/\mu$ L)	1433 ± 52	1269 ± 90 **	1239 ± 121 **	1289 ± 82 *	1311 ± 132 *	1367 ± 84
Methmoglobin(%)	0.3 ± 0.0	0.3 ± 0.1	0.3 ± 0.1	0.4 ± 0.2	0.6 ± 0.6	1.6 ± 1.2 **
Differential WBC (%)						
N-SEG	13 ± 3	16 ± 4	15 ± 4	19 ± 8	15 ± 6	30 ± 8 **
LYMPHO	81 ± 5	79 ± 5	80 ± 5	78 ± 9	81 ± 6	66 ± 7 **

Mean ± S.D.

*) Significant difference, $p<0.05$ (Test of Dunnett)

**) Significant difference, $p<0.01$ (Test of Dunnett)

TABLE 6 HEMATOLOGY OF FEMALE MICE IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

Group Name	Control	1481 ppm	2222 ppm	3333 ppm	5000 ppm	7500 ppm
No. of examined animals	10	10	10	10	10	6
Red blood cell ($10^6/\mu$ L)	10.71 ± 0.26	10.55 ± 0.46	10.48 ± 0.33	10.23 ± 0.45 *	10.31 ± 0.23	9.54 ± 0.44 **
Hemoglobin (g/dL)	16.2 ± 0.4	16.4 ± 0.4	16.2 ± 0.6	15.9 ± 0.6	16.0 ± 0.4	15.1 ± 0.5 **
Hematocrit (%)	49.9 ± 1.4	50.8 ± 1.9	50.7 ± 1.7	49.6 ± 2.0	50.4 ± 1.0	44.6 ± 3.2 **
MCV (fL)	46.6 ± 0.5	48.2 ± 0.6 *	48.4 ± 0.4 **	48.5 ± 0.6 **	48.9 ± 0.6 **	46.7 ± 1.3
MCH (pg)	15.1 ± 0.2	15.5 ± 0.5	15.4 ± 0.4	15.6 ± 0.4 *	15.5 ± 0.3	15.9 ± 0.6 **
Platlet ($10^3/\mu$ L)	1282 ± 49	1172 ± 72 *	1153 ± 103 **	1270 ± 87	1238 ± 74	1207 ± 120
Methmoglobin(%)	0.3 ± 0.1	0.3 ± 0.1	0.3 ± 0.1	0.4 ± 0.2	0.4 ± 0.3	1.4 ± 0.7 **

Mean ± S.D.

*) Significant difference, $p<0.05$ (Test of Dunnett)

**) Significant difference, $p<0.01$ (Test of Dunnett)

TABLE 7 BIOCHEMISTRY OF MALE MICE IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

Group Name	Control	1481 ppm	2222 ppm	3333 ppm	5000 ppm	7500 ppm
No. of examined animals	10	9	10	9	10	6
Total protein (g/dL)	5.1 ± 0.2	5.1 ± 0.2	5.3 ± 0.2	5.4 ± 0.1 *	5.5 ± 0.3 **	5.9 ± 0.2 **
Albumin (g/dL)	2.9 ± 0.1	3.0 ± 0.1	3.0 ± 0.1	3.1 ± 0.1 *	3.1 ± 0.2 **	3.6 ± 0.2 **
A/G ratio	1.3 ± 0.1	1.4 ± 0.1	1.3 ± 0.1	1.4 ± 0.1	1.3 ± 0.1	1.6 ± 0.1 **
T-Bilirubin (mg/dL)	0.19 ± 0.02	0.19 ± 0.01	0.18 ± 0.02	0.18 ± 0.02	0.19 ± 0.02	0.25 ± 0.06 *
T-Cholesterol (mg/dL)	84 ± 10	128 ± 10	145 ± 15 *	178 ± 13 **	203 ± 24 **	248 ± 9 **
Triglyceride (mg/dL)	23 ± 8	30 ± 12	33 ± 6	47 ± 21 **	42 ± 13 **	29 ± 6
Phospholipid (mg/dL)	161 ± 20	229 ± 19 **	251 ± 25 **	303 ± 22 **	336 ± 39 **	403 ± 15 **
GOT (IU/L)	43 ± 5	54 ± 6	54 ± 7	63 ± 12 **	70 ± 11 **	116 ± 34 **
GPT (IU/L)	19 ± 4	54 ± 10	58 ± 10	82 ± 13 **	94 ± 20 **	201 ± 56 **
LDH (IU/L)	261 ± 71	277 ± 44	319 ± 46	327 ± 49	368 ± 59 **	550 ± 67 **
ALP (IU/L)	182 ± 9	188 ± 12	195 ± 15	201 ± 23	230 ± 25 **	513 ± 65 **
γ-GTP(IU/L)	1 ± 1	1 ± 1	1 ± 1	2 ± 1	5 ± 4 *	61 ± 23 **
CPK (IU/L)	46 ± 12	52 ± 14	72 ± 34	70 ± 22	119 ± 72 **	114 ± 27 **
Potassium (mEq/L)	4.7 ± 0.4	4.3 ± 0.5	4.7 ± 0.4	4.4 ± 0.3	4.3 ± 0.4	4.1 ± 0.3 *
Calcium(mg/dL)	8.7 ± 0.2	8.9 ± 0.3	9.1 ± 0.3 **	9.1 ± 0.2 *	9.3 ± 0.2 **	9.1 ± 0.3 *

Mean ± S.D.

*) Significant difference, $p<0.05$ (Test of Dunnett)

**) Significant difference, $p<0.01$ (Test of Dunnett)

TABLE 8 BIOCHEMISTRY OF FEMALE MICE IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

Group Name	Control	1481 ppm	2222 ppm	3333 ppm	5000 ppm	7500 ppm
No. of examined animals	10	10	10	10	10	6
Total protein (g/dL)	5.1 ± 0.1	5.2 ± 0.2	5.3 ± 0.2 *	5.2 ± 0.1	5.4 ± 0.1 **	6.0 ± 0.2 **
Albumin (g/dL)	3.1 ± 0.1	3.3 ± 0.1 *	3.3 ± 0.1	3.2 ± 0.1	3.2 ± 0.1	3.7 ± 0.3 **
T-Cholesterol (mg/dL)	71 ± 5	114 ± 7	136 ± 17 *	156 ± 11 **	184 ± 12 **	252 ± 19 **
Triglyceride (mg/dL)	19 ± 5	28 ± 9	36 ± 15 **	37 ± 8 **	37 ± 10 **	27 ± 5
Phospholipid (mg/dL)	135 ± 10	214 ± 16	248 ± 24 *	227 ± 18 **	315 ± 19 **	420 ± 36 **
GOT (IU/L)	54 ± 7	61 ± 9	73 ± 15 *	71 ± 11 *	107 ± 37 **	96 ± 33 **
GPT (IU/L)	22 ± 4	50 ± 12	67 ± 28 *	86 ± 21 **	144 ± 43 **	164 ± 50 **
ALP (IU/L)	256 ± 28	245 ± 25	249 ± 30	236 ± 23	258 ± 29	403 ± 20 **
γ-GTP(IU/L)	1 ± 1	1 ± 1	2 ± 2	2 ± 1	4 ± 1 **	46 ± 10 **
Urea Nitrogen(mg/L)	19.1 ± 2.6	20.8 ± 2.5	20.9 ± 2.4	19.9 ± 1.3	23.0 ± 3.0 **	29.3 ± 4.1 **
Sodium (mEq/L)	153 ± 1	152 ± 2	153 ± 3	152 ± 2	151 ± 1	150 ± 2 *
Potassium (mEq/L)	5.0 ± 0.5	4.4 ± 0.4 **	4.6 ± 0.7	4.1 ± 0.3 **	4.1 ± 0.3 **	4.4 ± 0.5 *
Chloride (mEq/L)	124 ± 1	124 ± 2	123 ± 3	122 ± 2 *	121 ± 2 **	116 ± 2 **
Calcium(mg/dL)	8.5 ± 0.4	8.8 ± 0.3	8.9 ± 0.3	9.0 ± 0.1 *	9.1 ± 0.2 **	9.3 ± 0.3 **

Mean ± S.D.

*) Significant difference, $p<0.05$ (Test of Dunnett)

**) Significant difference, $p<0.01$ (Test of Dunnett)

TABLE 9 URINALYSIS OF MALE MICE IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

Group		Control	1481 ppm	2222 ppm	3333 ppm	5000 ppm	7500 ppm
Number of examined animals		10	9	10	9	10	6
	Grade						
pH	6.0	0	0 *	0	0	0	0
	6.5	2	4	3	1	1	2
	7.0	2	5	5	4	6	2
	7.5	4	0	2	4	3	1
	8.0	2	0	0	0	0	1
	8.5	0	0	0	0	0	0
Protein	−	0	0	0	0	0	0 *
	±	0	0	0	2	1	3
	+	7	9	9	7	9	3
	2+	3	0	1	0	0	0
	3+	0	0	0	0	0	0
	4+	0	0	0	0	0	0
Ketone body	−	6	6	6	1 *	5	5
	±	4	3	4	8	5	1
	+	0	0	0	0	0	0
	2+	0	0	0	0	0	0
	3+	0	0	0	0	0	0
	4+	0	0	0	0	0	0

Significant difference * : $p<0.05$ ** : $p<0.01$ Chi square test

TABLE 10 URINALYSIS OF FEMALE MICE IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

Group		Control	1481 ppm	2222 ppm	3333 ppm	5000 ppm	7500 ppm
Number of examined animals		10	10	10	10	10	6
	Grade						
Protein	−	0	0	0	0 *	0	0 *
	±	1	5	4	6	5	4
	+	9	5	6	4	5	2
	2+	0	0	0	0	0	0
	3+	0	0	0	0	0	0
	4+	0	0	0	0	0	0

Significant difference * : $p<0.05$ ** : $p<0.01$ Chi square test

TABLE 11 ORGAN WEIGHTS OF MALE MICE IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

Group Name	Control	1481 ppm	2222 ppm	3333 ppm	5000 ppm	7500 ppm
No. of examined animals	10	9	10	9	10	6
Body weight (g)	27.4 ± 1.3	27.1 ± 1.9	27.1 ± 1.7	26.9 ± 1.6	25.9 ± 1.2	17.9 ± 2.2 **
Thymus (g)	0.039 ± 0.006	0.037 ± 0.006	0.035 ± 0.008	0.040 ± 0.005	0.035 ± 0.006	0.031 ± 0.014
Thymus (%)	0.143 ± 0.019	0.138 ± 0.020	0.130 ± 0.029	0.149 ± 0.020	0.136 ± 0.020	0.167 ± 0.062
Adrenals (g)	0.012 ± 0.003	0.012 ± 0.005	0.012 ± 0.004	0.012 ± 0.004	0.011 ± 0.003	0.010 ± 0.003
Adrenals (%)	0.042 ± 0.010	0.043 ± 0.018	0.043 ± 0.014	0.043 ± 0.012	0.042 ± 0.013	0.053 ± 0.009
Testes (g)	0.221 ± 0.016	0.220 ± 0.025	0.221 ± 0.020	0.228 ± 0.014	0.207 ± 0.022	0.110 ± 0.019 **
Testes (%)	0.807 ± 0.049	0.813 ± 0.090	0.816 ± 0.067	0.851 ± 0.078	0.804 ± 0.098	0.612 ± 0.066 **
Heart (g)	0.147 ± 0.016	0.148 ± 0.011	0.152 ± 0.008	0.144 ± 0.010	0.143 ± 0.009	0.105 ± 0.012 **
Heart (%)	0.536 ± 0.050	0.546 ± 0.038	0.561 ± 0.030	0.536 ± 0.042	0.554 ± 0.036	0.586 ± 0.031
Lungs (g)	0.151 ± 0.009	0.158 ± 0.010	0.162 ± 0.009	0.156 ± 0.012	0.156 ± 0.014	0.130 ± 0.006 **
Lungs (%)	0.552 ± 0.028	0.585 ± 0.037	0.602 ± 0.050	0.583 ± 0.060	0.604 ± 0.052	0.730 ± 0.080 **
Kidneys (g)	0.462 ± 0.148	0.557 ± 0.350	0.449 ± 0.035	0.450 ± 0.017	0.503 ± 0.172	0.317 ± 0.050
Kidneys (%)	1.685 ± 0.554	2.069 ± 1.340	1.662 ± 0.094	1.680 ± 0.077	1.971 ± 0.803 **	1.762 ± 0.097 **
Spleen (g)	0.047 ± 0.006	0.052 ± 0.009	0.056 ± 0.006	0.065 ± 0.017 **	0.072 ± 0.017 **	0.050 ± 0.017
Spleen (%)	0.171 ± 0.024	0.193 ± 0.027	0.206 ± 0.019	0.243 ± 0.068 **	0.279 ± 0.080 **	0.270 ± 0.065 **
Liver (g)	1.054 ± 0.066	1.359 ± 0.099 **	1.459 ± 0.132 **	1.704 ± 0.145 **	1.880 ± 0.120 **	1.587 ± 0.195 **
Liver (%)	3.843 ± 0.201	5.021 ± 0.194 **	5.394 ± 0.365 **	6.342 ± 0.311 **	7.275 ± 0.360 **	8.849 ± 0.246 **
Brain (g)	0.434 ± 0.016	0.442 ± 0.014	0.447 ± 0.013	0.429 ± 0.016	0.428 ± 0.024	0.380 ± 0.012 **
Brain (%)	1.583 ± 0.078	1.640 ± 0.122	1.657 ± 0.102	1.603 ± 0.127	1.658 ± 0.111	2.137 ± 0.209 **

Mean ± S.D.

*) Significant difference, $p<0.05$ (Test of Dunnett)

**) Significant difference, $p<0.01$ (Test of Dunnett)

TABLE 12 ORGAN WEIGHTS OF FEMALE MICE IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

Group Name	Control	1481 ppm	2222 ppm	3333 ppm	5000 ppm	7500 ppm
No. of examined animals	10	10	10	10	10	6
Body weight (g)	20.8 ± 0.8	21.5 ± 1.0	21.9 ± 0.7	22.3 ± 1.4 **	21.6 ± 0.7	17.2 ± 1.5 **
Thymus (g)	0.047 ± 0.005	0.043 ± 0.007	0.046 ± 0.006	0.046 ± 0.004	0.046 ± 0.006	0.044 ± 0.017
Thymus (%)	0.224 ± 0.020	0.202 ± 0.034	0.212 ± 0.023	0.207 ± 0.020	0.213 ± 0.026	0.251 ± 0.084
Adrenals (g)	0.013 ± 0.002	0.014 ± 0.002	0.014 ± 0.002	0.015 ± 0.003	0.014 ± 0.004	0.011 ± 0.004
Adrenals (%)	0.062 ± 0.009	0.065 ± 0.010	0.062 ± 0.008	0.067 ± 0.012	0.063 ± 0.016	0.060 ± 0.019
Ovary (g)	0.029 ± 0.005	0.028 ± 0.003	0.026 ± 0.003	0.028 ± 0.003	0.027 ± 0.003	0.019 ± 0.006 **
Ovary (%)	0.137 ± 0.019	0.131 ± 0.013	0.119 ± 0.015	0.128 ± 0.016	0.125 ± 0.013	0.108 ± 0.027 **
Heart (g)	0.121 ± 0.006	0.125 ± 0.008	0.129 ± 0.009	0.124 ± 0.007	0.129 ± 0.007	0.096 ± 0.007 **
Heart (%)	0.584 ± 0.036	0.582 ± 0.042	0.589 ± 0.049	0.558 ± 0.036	0.596 ± 0.042	0.561 ± 0.035
Lungs (g)	0.145 ± 0.007	0.147 ± 0.007	0.151 ± 0.007	0.155 ± 0.010 *	0.146 ± 0.008	0.127 ± 0.010 **
Lungs (%)	0.698 ± 0.044	0.683 ± 0.049	0.693 ± 0.043	0.699 ± 0.064	0.678 ± 0.038	0.739 ± 0.054
Kidneys (g)	0.291 ± 0.013	0.311 ± 0.009 *	0.321 ± 0.015 **	0.329 ± 0.016 **	0.329 ± 0.016 **	0.259 ± 0.024 **
Kidneys (%)	1.399 ± 0.087	1.446 ± 0.074	1.469 ± 0.076	1.476 ± 0.054	1.526 ± 0.075 **	1.506 ± 0.091 *
Spleen (g)	0.050 ± 0.003	0.057 ± 0.005	0.063 ± 0.005 *	0.068 ± 0.004 **	0.077 ± 0.007 **	0.054 ± 0.014
Spleen (%)	0.240 ± 0.009	0.265 ± 0.021	0.285 ± 0.017 *	0.305 ± 0.024 **	0.358 ± 0.033 **	0.307 ± 0.060 *
Liver (g)	0.858 ± 0.044	1.093 ± 0.048	1.231 ± 0.057 *	1.415 ± 0.107 **	1.600 ± 0.108 **	1.573 ± 0.108 **
Liver (%)	4.125 ± 0.143	5.083 ± 0.226	5.623 ± 0.198 *	6.350 ± 0.307 **	7.403 ± 0.396 **	9.153 ± 0.495 **
Brain (g)	0.452 ± 0.024	0.442 ± 0.014	0.442 ± 0.015	0.437 ± 0.023	0.434 ± 0.017	0.386 ± 0.009 **
Brain (%)	2.175 ± 0.132	2.056 ± 0.118	2.022 ± 0.078 *	1.967 ± 0.151 **	2.010 ± 0.099 *	2.251 ± 0.170

Mean ± S.D.

*) Significant difference, $p<0.05$ (Test of Dunnett)

**) Significant difference, $p<0.01$ (Test of Dunnett)

TABLE 13 INCIDENCES OF SELECTED LESIONS OF MALE MICE IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

Group		Control	1481 ppm	2222 ppm	3333 ppm	5000 ppm	7500 ppm
Number of examined animals		10	9	10	10	10	10
Organ Findings	Grade of Nonneoplastic finding						
Nasal cavity							
Atrophy:olfactory epitheliu	1+	0	0	0	0	0	6 *
Thymus							
Atrophy	1+	0	0	0	0[a)]	0	3[b)]
Spleen							
Deposit of hemosiderin	1+	1	5	10 **	9 **	10 **	3
	2+	1	1	0	0	0	4
Increased extramedullary	1+	0	1	5 *	7 **	3 **	2 *
hematopoiesis	2+	0	0	0	2	7	4
Liver							
Necrosis:focal	1+	1	1	2	3	4	1
	2+	0	0	0	0	1	0
Necrosis:single cell	1+	1	1	3	8 **	10 **	10 **
Deposit of crystal	1+	0	0	5 *	9 **	10 **	9 **
Cytomegaly of hepatocyte	1+	0	0 **	0 **	0 **	0 **	1 **
:central	2+	0	9	10	1	1	2
	3+	0	0	0	8	9	7
Testis							
Germ cell necrosis	2+	0	0	0	0	0	10 **
Epididymis							
Debris of spermatic elemen	1+	0	0	0	0	0	6 **
	2+	0	0	0	0	0	4
Disappear:sperma	1+	0	0	0	0	1	0 *
	3+	0	0	0	0	0	6

Grade 1+: Slight 2+: Moderate 3+: Marked 4+: Severe

Significant difference * : $p<0.05$ ** : $p<0.01$ Chi square test for non-neoplastic lesion

a) : Number of examine 8 b) : Number of examine 9

TABLE 14 INCIDENCES OF SELECTED LESIONS OF FEMALE MICE IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

Group		Control	1481 ppm	2222 ppm	3333 ppm	5000 ppm	7500 ppm
Number of examined animals		10	10	10	10	10	10
Organ Findings	Grade of Nonneoplastic finding						
Spleen							
Atrophy	1+	0	0	0	0	0	2
	2+	0	0	0	0	0	2
Deposit of hemosiderin	1+	0	10 **	7 **	10 **	10 **	8 **
Increased extramedullary hematopoiesis	1+	0	2	4	10 **	8 **	1 *
	2+	0	0	0	0	2	4
Liver							
Necrosis:single cell	1+	0	2	4	10 **	10 **	6 *
Deposit of crystal	1+	0	0	10 **	10 **	10 **	9 **
Cytomegaly of hepatocyte :central	1+	0	10 **	5 **	0 **	0 **	1 **
	2+	0	0	5	4	0	2
	3+	0	0	0	6	10	7

Grade 1+: Slight 2+: Moderate 3+: Marked 4+: Severe

Significant difference * : $p<0.05$ ** : $p<0.01$ Chi square test for non-neoplastic lesion