

ジフェニルアミンのマウスを用いた
経口投与による2週間毒性試験（混餌試験）報告書

試験番号：0652

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TABLE 1 SURVIVAL ANIMAL NUMBERS AND BODY WEIGHT CHANGES OF MALE MICE IN THE 2-WEEK FEED STUDY OF DIPHENYLAMINE

Week-Day on Study	Control		1600 ppm			4000 ppm			7000 ppm			10000 ppm			25000 ppm		
	Av.Wt.	No.of Surviv.	Av.Wt.	% of cont.	No.of Surviv.	Av.Wt.	% of cont.	No.of Surviv.	Av.Wt.	% of cont.	No.of Surviv.	Av.Wt.	% of cont.	No.of Surviv.	Av.Wt.	% of cont.	No.of Surviv.
	< 5>		< 5>			< 5>			< 5>			< 5>			< 5>		
0-0	23.0 (5)	5/5	22.9 (5)	100	5/5	22.9 (5)	100	5/5	23.0 (5)	100	5/5	22.7 (5)	99	5/5	22.9 (5)	100	5/5
1-4	23.4 (5)	5/5	23.3 (5)	100	5/5	22.8 (5)	97	5/5	21.9 (5)	94	5/5	19.3 (5)	82	5/5	16.1 (5)	69	5/5
1-7	24.3 (5)	5/5	24.0 (5)	99	5/5	23.0 (5)	95	5/5	22.1 (5)	91	5/5	20.0 (5)	82	5/5	15.0 (5)	62	5/5
2-4	25.3 (5)	5/5	24.9 (5)	98	5/5	24.4 (5)	96	5/5	24.1 (5)	95	5/5	22.2 (5)	88	5/5	14.4 (4)	57	4/5
2-7	25.5 (5)	5/5	25.5 (5)	100	5/5	25.1 (5)	98	5/5	24.8 (5)	97	5/5	22.8 (5)	89	5/5	14.3 (4)	56	4/5

< > : No. of effective animals, () : No. of measured animals Av.Wt. : Averaged body weight (Unit : g).

TABLE 2 SURVIVAL ANIMAL NUMBERS AND BODY WEIGHT CHANGES OF FEMALE MICE IN THE 2-WEEK FEED STUDY OF DIPHENYLAMINE

Week-Day on Study	Control		1600 ppm			4000 ppm			7000 ppm			10000 ppm			25000 ppm		
	Av.Wt.	No.of Surviv.	Av.Wt.	% of cont.	No.of Surviv.	Av.Wt.	% of cont.	No.of Surviv.	Av.Wt.	% of cont.	No.of Surviv.	Av.Wt.	% of cont.	No.of Surviv.	Av.Wt.	% of cont.	No.of Surviv.
	< 5>		< 5>			< 5>			< 5>			< 5>			< 5>		
0-0	19.0 (5)	5/5	19.1 (5)	101	5/5	19.0 (5)	100	5/5	19.0 (5)	100	5/5	19.0 (5)	100	5/5	19.0 (5)	100	5/5
1-4	19.8 (5)	5/5	19.2 (5)	97	5/5	18.5 (5)	93	5/5	17.7 (5)	89	5/5	16.5 (5)	83	5/5	13.7 (5)	69	5/5
1-7	19.7 (5)	5/5	19.4 (5)	98	5/5	19.5 (5)	99	5/5	18.4 (5)	93	5/5	16.9 (5)	86	5/5	12.6 (5)	64	5/5
2-4	20.3 (5)	5/5	20.3 (5)	100	5/5	20.3 (5)	100	5/5	20.3 (5)	100	5/5	18.8 (5)	93	5/5	12.0 (5)	59	5/5
2-7	20.6 (5)	5/5	20.9 (5)	101	5/5	20.5 (5)	100	5/5	20.4 (5)	99	5/5	19.5 (5)	95	5/5	11.4 (5)	55	5/5

< > : No. of effective animals, () : No. of measured animals Av.Wt. : Averaged body weight (Unit : g).

TABLE 3 FOOD CONSUMPTION CHANGES OF MALE MICE IN THE 2-WEEK FEED STUDY OF DIPHENYLAMINE

Week-Day on Study	Control		1600 ppm			4000 ppm			7000 ppm			10000 ppm			25000 ppm		
	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.
	< 5>		< 5>			< 5>			< 5>			< 5>			< 5>		
1-4	3.9 (5)	5/5	3.7 (5)	95	5/5	3.7 (5)	95	5/5	3.3 (5)	85	5/5	2.1 (5)	54	5/5	0.7 (5)	18	5/5
1-7	4.5 (5)	5/5	4.2 (5)	93	5/5	3.7 (5)	82	5/5	3.9 (5)	87	5/5	3.5 (5)	78	5/5	1.6 (5)	36	5/5
2-4	4.0 (5)	5/5	3.7 (5)	93	5/5	4.0 (5)	100	5/5	4.4 (5)	110	5/5	3.8 (5)	95	5/5	1.5 (4)	38	4/5
2-7	3.9 (5)	5/5	4.0 (5)	103	5/5	4.1 (5)	105	5/5	4.8 (5)	123	5/5	4.2 (5)	108	5/5	1.2 (4)	31	4/5

< > : No. of effective animals, () : No. of measured animals Av.Fc. : Averaged food consumption (Unit : g).

TABLE 4 FOOD CONSUMPTION CHANGES OF FEMALE MICE IN THE 2-WEEK FEED STUDY OF DIPHENYLAMINE

Week-Day on Study	Control		1600 ppm			4000 ppm			7000 ppm			10000 ppm			25000 ppm		
	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.
	< 5>		< 5>			< 5>			< 5>			< 5>			< 5>		
1-4	3.5 (5)	5/5	3.3 (5)	94	5/5	3.5 (5)	100	5/5	2.7 (5)	77	5/5	1.9 (5)	54	5/5	0.8 (5)	23	5/5
1-7	3.5 (5)	5/5	3.3 (5)	94	5/5	3.6 (5)	103	5/5	3.4 (5)	97	5/5	2.8 (5)	80	5/5	1.5 (5)	43	5/5
2-4	3.5 (5)	5/5	3.3 (5)	94	5/5	3.5 (5)	100	5/5	3.8 (5)	109	5/5	3.2 (5)	91	5/5	1.5 (5)	43	5/5
2-7	3.7 (5)	5/5	3.8 (5)	103	5/5	3.8 (5)	103	5/5	3.4 (5)	92	5/5	4.4 (5)	119	5/5	1.2 (5)	32	5/5

< > : No. of effective animals, () : No. of measured animals Av.Fc. : Averaged food consumption (Unit : g).

TABLE 5 HEMATOLOGY OF MALE MICE IN THE 2-WEEK FEED STUDY OF DIPHENYLAMINE

Group Name	Control	1600 ppm	4000 ppm	7000 ppm	10000 ppm	25000 ppm
No. of examined animals	5	5	5	5	5	4
RED BLOOD CELL ($10^6/\mu\text{L}$)	10.31 \pm 0.27	8.19 \pm 0.40 **	6.73 \pm 0.10 **	5.97 \pm 0.22 **	5.76 \pm 0.21 **	2.49 \pm 0.54 **
HEMOGLOBIN (g/dL)	15.9 \pm 0.4	16.0 \pm 1.0	13.4 \pm 0.4 **	10.7 \pm 0.3 **	10.0 \pm 0.5 **	3.8 \pm 0.8 **
HEMATOCRIT (%)	47.5 \pm 1.7	40.6 \pm 2.8 **	37.9 \pm 1.3 **	39.6 \pm 1.9 **	39.9 \pm 1.3 **	14.8 \pm 3.5 **
MCV (fL)	46.0 \pm 0.7	49.5 \pm 1.3 **	56.3 \pm 1.5 **	66.4 \pm 1.5 **	69.4 \pm 1.8 **	59.2 \pm 2.3 **
MCH (pg)	15.4 \pm 0.1	19.5 \pm 0.3 **	19.8 \pm 0.4 **	18.0 \pm 0.3 **	17.4 \pm 0.3 **	15.3 \pm 0.9
MCHC (g/dL)	33.5 \pm 0.4	39.4 \pm 0.8 **	35.2 \pm 0.4	27.1 \pm 0.6 **	25.1 \pm 0.9 **	25.8 \pm 2.2 **
PLATELET ($10^3/\mu\text{L}$)	1042 \pm 84	1087 \pm 65	942 \pm 80	835 \pm 47 **	741 \pm 41 **	1018 \pm 146
METHEMOGLOBIN (%)	0.5 \pm 0.1	3.1 \pm 0.8	9.9 \pm 0.5 **	15.7 \pm 3.6 **	17.6 \pm 1.8 **	15.9 \pm 1.9 **
WBC ($10^3/\mu\text{L}$)	3.71 \pm 1.34	5.04 \pm 2.64	5.89 \pm 1.42	4.90 \pm 1.04	5.08 \pm 1.70	12.23 \pm 5.51 **

Mean \pm S.D.Significant difference: * : $p \leq 0.05$ ** : $p \leq 0.01$ Test of Dunnett

TABLE 6 HEMATOLOGY OF FEMALE MICE IN THE 2-WEEK FEED STUDY OF DIPHENYLAMINE

Group Name	Control	1600 ppm	4000 ppm	7000 ppm	10000 ppm	25000 ppm
No. of examined animals	5	4	5	5	5	3
RED BLOOD CELL ($10^6/\mu\text{L}$)	9.74 \pm 0.48	8.18 \pm 0.33 **	7.54 \pm 0.44 **	6.46 \pm 0.29 **	5.74 \pm 0.34 **	1.69 \pm 0.25 **
HEMOGLOBIN (g/dL)	15.0 \pm 0.6	15.3 \pm 0.6	16.0 \pm 0.9	11.9 \pm 0.5 **	10.2 \pm 0.6 **	2.7 \pm 0.5 **
HEMATOCRIT (%)	44.7 \pm 1.6	40.9 \pm 2.4	39.2 \pm 2.2 **	39.8 \pm 2.3 *	39.0 \pm 2.8 **	9.1 \pm 1.5 **
MCV (fL)	45.8 \pm 1.0	49.9 \pm 0.9 *	52.0 \pm 1.4 **	61.5 \pm 2.9 **	67.9 \pm 1.4 **	54.0 \pm 2.6 **
MCH (pg)	15.4 \pm 0.2	18.7 \pm 0.1 **	21.2 \pm 0.2 **	18.5 \pm 0.5 **	17.8 \pm 0.3 **	15.9 \pm 0.8
MCHC (g/dL)	33.6 \pm 0.3	37.5 \pm 0.6 **	40.8 \pm 1.5 **	30.1 \pm 1.4 **	26.2 \pm 0.8 **	29.6 \pm 2.6 **
PLATELET ($10^3/\mu\text{L}$)	945 \pm 46	930 \pm 58	898 \pm 37	843 \pm 91	710 \pm 72 **	817 \pm 201
METHEMOGLOBIN (%)	0.5 \pm 0.1	4.0 \pm 2.1	8.6 \pm 2.4 **	9.6 \pm 3.0 **	11.5 \pm 2.0 **	13.2 \pm 1.8 **
WBC ($10^3/\mu\text{L}$)	3.30 \pm 0.69	5.78 \pm 2.77	5.67 \pm 1.47	4.66 \pm 1.97	2.63 \pm 0.74	11.07 \pm 2.47 **

Mean \pm S.D.Significant difference: * : $p \leq 0.05$ ** : $p \leq 0.01$ Test of Dunnett

TABLE 7 BIOCHEMISTRY OF MALE MICE IN THE 2-WEEK FEED STUDY OF DIPHENYLAMINE

Group Name	Control	1600 ppm	4000 ppm	7000 ppm	10000 ppm	25000 ppm
No. of examined animals	5	5	5	5	5	4
TOTAL PROTEIN (g/dL)	4.7 ± 0.1	5.1 ± 0.2 **	5.1 ± 0.1 **	5.3 ± 0.1 **	5.6 ± 0.1 **	4.7 ± 0.1 **
ALBUMIN (g/dL)	2.6 ± 0.1	2.9 ± 0.1 **	3.0 ± 0.1 **	3.2 ± 0.0 **	3.5 ± 0.1 **	2.9 ± 0.1 **
A/G RATIO	1.2 ± 0.1	1.4 ± 0.1 *	1.4 ± 0.1 **	1.6 ± 0.1 **	1.7 ± 0.1 **	1.7 ± 0.1 **
T-BILIRUBIN (mg/dL)	0.12 ± 0.01	0.24 ± 0.02 *	0.34 ± 0.03 **	0.48 ± 0.08 **	0.58 ± 0.08 **	0.69 ± 0.12 **
GLUCOSE (mg/dL)	315 ± 10	296 ± 16	269 ± 19 *	280 ± 32	248 ± 24 **	60 ± 45 **
PHOSPHOLIPID (mg/dL)	198 ± 29	225 ± 5	214 ± 16	202 ± 12	181 ± 20	143 ± 29 **
AST (IU/L)	31 ± 2	32 ± 2	35 ± 2 **	44 ± 4 **	52 ± 7 **	501 ± 53 **
ALT (IU/L)	18 ± 1	18 ± 1	19 ± 0	22 ± 3 **	27 ± 6 **	398 ± 23 **
LDH (IU/L)	150 ± 27	282 ± 50 **	319 ± 67 **	464 ± 100 **	550 ± 96 **	6840 ± 1222 **
CK (IU/L)	53 ± 13	39 ± 5	44 ± 8	66 ± 22	44 ± 12	474 ± 368 *
UREA NITROGEN (mg/dL)	21.7 ± 4.5	22.5 ± 5.3	26.0 ± 7.9	23.9 ± 7.1	22.1 ± 4.4	37.5 ± 19.9
SODIUM (mEq/L)	151 ± 1	151 ± 1	151 ± 2	150 ± 1	152 ± 2	160 ± 4 **

Mean ± S.D.

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

TABLE 8 BIOCHEMISTRY OF FEMALE MICE IN THE 2-WEEK FEED STUDY OF DIPHENYLAMINE

Group Name	Control	1600 ppm	4000 ppm	7000 ppm	10000 ppm	25000 ppm
No. of examined animals	5	4	5	5	5	3
TOTAL PROTEIN (g/dL)	4.7 ± 0.2	4.8 ± 0.2	5.1 ± 0.2	5.5 ± 0.2 **	5.9 ± 0.2 **	5.0 ± 0.6 **
ALBUMIN (g/dL)	2.9 ± 0.1	3.0 ± 0.1	3.2 ± 0.1 **	3.4 ± 0.2 **	3.7 ± 0.1 **	3.2 ± 0.5 **
T-BILIRUBIN (mg/dL)	0.15 ± 0.05	0.19 ± 0.02	0.26 ± 0.04 **	0.43 ± 0.03 **	0.54 ± 0.07 **	0.78 ± 0.18 **
GLUCOSE (mg/dL)	287 ± 17	271 ± 24	253 ± 31	241 ± 22	252 ± 22	48 ± 64 **
T-CHOLESTEROL (mg/dL)	73 ± 10	88 ± 6	130 ± 59 **	125 ± 6 **	125 ± 26 **	65 ± 9 **
PHOSPHOLIPID (mg/dL)	155 ± 17	183 ± 9	227 ± 49 **	237 ± 9 **	235 ± 38 **	107 ± 29 **
AST (IU/L)	40 ± 4	35 ± 2	45 ± 7	46 ± 5	49 ± 3 **	578 ± 72 **
ALT (IU/L)	19 ± 3	19 ± 3	20 ± 5	19 ± 2	26 ± 3 *	321 ± 27 **
LDH (IU/L)	238 ± 105	228 ± 65	282 ± 66	351 ± 53	464 ± 67 **	7697 ± 465 **
CK (IU/L)	92 ± 61	58 ± 15	56 ± 15	50 ± 15	51 ± 12	745 ± 513
UREA NITROGEN (mg/dL)	20.7 ± 2.7	22.9 ± 4.7	20.8 ± 4.1	21.4 ± 3.1	25.1 ± 3.1	77.3 ± 47.0
SODIUM (mEq/L)	149 ± 2	150 ± 1	150 ± 1	149 ± 1	152 ± 1 *	166 ± 4 **
CHLORIDE (mEq/L)	120 ± 1	118 ± 2	118 ± 2 *	118 ± 1 *	118 ± 1	131 ± 6
CALCIUM (mg/dL)	9.2 ± 0.5	9.2 ± 0.2	9.3 ± 0.2	9.3 ± 0.3	10.1 ± 0.4 **	10.2 ± 0.3 **

Mean ± S.D.

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

TABLE 9 URINALYSIS OF MALE MICE IN THE 2-WEEK FEED STUDY OF DIPHENYLAMINE

Group Name		Control	1600 ppm	4000 ppm	7000 ppm	10000 ppm	25000 ppm
No. of examined animals		5	5	5	5	5	4
pH	Grade						
	5.0	0	0	0	0	0	0
	6.0	0	0	0	0	0	2
	6.5	0	0	0	0	0	2
	7.0	0	0	0	0	0	0
	7.5	0	0	0	1	0	0
	8.0	4	4	5	3	5	0
	8.5	1	1	0	1	0	0
Protein	—	0	0	0	0	0	1
	±	0	0	0	0	2	2
	+	1	1	4	5	3	1
	2+	4	4	1	0	0	0
	3+	0	0	0	0	0	0
	4+	0	0	0	0	0	0

TABLE 10 URINALYSIS OF FEMALE MICE IN THE 2-WEEK FEED STUDY OF DIPHENYLAMINE

Group Name		Control	1600 ppm	4000 ppm	7000 ppm	10000 ppm	25000 ppm
No. of examined animals		5	5	5	5	5	5
pH	Grade						
	5.0	0	0	0	0	0	0
	6.0	0	0	0	0	0	2
	6.5	0	0	0	0	0	3
	7.0	0	0	1	0	0	0
	7.5	0	0	0	0	0	0
	8.0	5	5	4	5	5	0
	8.5	0	0	0	0	0	0
Protein	—	0	0	0	0	0	1
	±	0	0	0	3	4	3
	+	3	4	5	2	1	1
	2+	2	1	0	0	0	0
	3+	0	0	0	0	0	0
	4+	0	0	0	0	0	0

TABLE 11 ORGAN WEIGHTS OF MALE MICE IN THE 2-WEEK FEED STUDY OF DIPHENYLAMINE

Group Name	Control	1600 ppm	4000 ppm	7000 ppm	10000 ppm	25000 ppm
No. of examined animal	5	5	5	5	5	4
Body weight (g)	25.5 ± 0.9	25.5 ± 0.8	25.1 ± 0.6	24.8 ± 0.8	22.8 ± 1.3	** 14.3 ± 1.1 **
Thymus (g)	0.051 ± 0.006	0.056 ± 0.006	0.045 ± 0.007	0.039 ± 0.006 *	0.025 ± 0.005 **	0.007 ± 0.003 **
Thymus (%)	0.199 ± 0.030	0.220 ± 0.018	0.179 ± 0.025	0.159 ± 0.025 *	0.109 ± 0.018 **	0.048 ± 0.020 **
Adrenals (g)	0.007 ± 0.001	0.006 ± 0.001	0.007 ± 0.002	0.007 ± 0.001	0.008 ± 0.002	0.008 ± 0.002
Adrenals (%)	0.028 ± 0.005	0.025 ± 0.005	0.029 ± 0.006	0.027 ± 0.006	0.036 ± 0.007	0.058 ± 0.011 **
Testes (g)	0.174 ± 0.023	0.169 ± 0.022	0.159 ± 0.020	0.176 ± 0.022	0.174 ± 0.038	0.126 ± 0.018
Testes (%)	0.684 ± 0.090	0.661 ± 0.074	0.634 ± 0.075	0.707 ± 0.079	0.765 ± 0.169	0.885 ± 0.106 *
Heart (g)	0.134 ± 0.005	0.131 ± 0.015	0.131 ± 0.004	0.134 ± 0.005	0.127 ± 0.006	0.105 ± 0.010 **
Heart (%)	0.527 ± 0.029	0.515 ± 0.067	0.523 ± 0.009	0.540 ± 0.027	0.556 ± 0.031	0.736 ± 0.029 *
Lungs (g)	0.135 ± 0.005	0.130 ± 0.006	0.132 ± 0.004	0.142 ± 0.011	0.132 ± 0.009	0.123 ± 0.012
Lungs (%)	0.528 ± 0.010	0.511 ± 0.034	0.528 ± 0.017	0.573 ± 0.047	0.578 ± 0.021	0.861 ± 0.038 **
Kidneys (g)	0.367 ± 0.006	0.372 ± 0.012	0.420 ± 0.073 **	0.382 ± 0.013	0.332 ± 0.013 *	0.248 ± 0.025 **
Kidneys (%)	1.439 ± 0.051	1.462 ± 0.060	1.676 ± 0.326 **	1.540 ± 0.022 **	1.454 ± 0.040	1.737 ± 0.079 **
Spleen (g)	0.053 ± 0.003	0.161 ± 0.009	0.245 ± 0.021 **	0.298 ± 0.028 **	0.327 ± 0.027 **	0.238 ± 0.086 **
Spleen (%)	0.207 ± 0.020	0.632 ± 0.035	0.976 ± 0.074 **	1.201 ± 0.076 **	1.430 ± 0.083 **	1.643 ± 0.507 **
Liver (g)	1.270 ± 0.095	1.386 ± 0.104	1.491 ± 0.074 *	1.573 ± 0.150 **	1.623 ± 0.121 **	0.828 ± 0.160 **
Liver (%)	4.978 ± 0.259	5.445 ± 0.467	5.938 ± 0.241 **	6.333 ± 0.489 **	7.104 ± 0.322 **	5.776 ± 0.742 *
Brain (g)	0.428 ± 0.008	0.435 ± 0.016	0.433 ± 0.004	0.430 ± 0.012	0.419 ± 0.011	0.406 ± 0.008 *
Brain (%)	1.682 ± 0.069	1.710 ± 0.089	1.725 ± 0.048	1.734 ± 0.069	1.837 ± 0.086	2.860 ± 0.215 **

Mean ± S.D.

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

TABLE 12 ORGAN WEIGHTS OF FEMALE MICE IN THE 2-WEEK FEED STUDY OF DIPHENYLAMINE

Group Name	Control	1600 ppm	4000 ppm	7000 ppm	10000 ppm	25000 ppm	
No. of examined animal	5	5	5	5	5	5	
Body weight (g)	20.6 ± 0.4	20.9 ± 0.9	20.5 ± 0.3	20.4 ± 0.8	19.5 ± 1.3	11.4 ± 1.0	**
Thymus (g)	0.076 ± 0.008	0.075 ± 0.004	0.067 ± 0.002	0.059 ± 0.004	0.037 ± 0.009	0.006 ± 0.002	**
Thymus (%)	0.368 ± 0.038	0.358 ± 0.011	0.327 ± 0.006	0.291 ± 0.018	0.187 ± 0.037	0.049 ± 0.013	**
Adrenals (g)	0.011 ± 0.002	0.010 ± 0.001	0.010 ± 0.001	0.009 ± 0.001	0.009 ± 0.001	0.008 ± 0.002	
Adrenals (%)	0.052 ± 0.010	0.048 ± 0.004	0.050 ± 0.005	0.046 ± 0.005	0.047 ± 0.005	0.074 ± 0.008	**
Ovaries (g)	0.016 ± 0.005	0.015 ± 0.004	0.013 ± 0.003	0.014 ± 0.002	0.012 ± 0.003	0.008 ± 0.001	**
Ovaries (%)	0.076 ± 0.024	0.072 ± 0.020	0.065 ± 0.016	0.068 ± 0.011	0.061 ± 0.012	0.071 ± 0.016	
Heart (g)	0.119 ± 0.008	0.115 ± 0.012	0.110 ± 0.013	0.113 ± 0.007	0.107 ± 0.011	0.097 ± 0.008	**
Heart (%)	0.581 ± 0.043	0.553 ± 0.053	0.538 ± 0.060	0.556 ± 0.036	0.550 ± 0.054	0.854 ± 0.114	**
Lungs (g)	0.124 ± 0.011	0.126 ± 0.005	0.123 ± 0.007	0.121 ± 0.009	0.121 ± 0.014	0.108 ± 0.004	
Lungs (%)	0.603 ± 0.051	0.606 ± 0.038	0.599 ± 0.032	0.592 ± 0.050	0.621 ± 0.065	0.955 ± 0.092	**
Kidneys (g)	0.267 ± 0.011	0.266 ± 0.011	0.266 ± 0.019	0.263 ± 0.010	0.245 ± 0.017	0.211 ± 0.014	**
Kidneys (%)	1.298 ± 0.038	1.278 ± 0.025	1.299 ± 0.091	1.289 ± 0.077	1.256 ± 0.045	1.864 ± 0.142	*
Spleen (g)	0.064 ± 0.008	0.153 ± 0.011	0.211 ± 0.042	0.262 ± 0.040	0.250 ± 0.023	0.157 ± 0.068	*
Spleen (%)	0.313 ± 0.041	0.734 ± 0.027	1.030 ± 0.196	1.284 ± 0.202	1.285 ± 0.123	1.347 ± 0.467	**
Liver (g)	1.009 ± 0.081	1.084 ± 0.111	1.144 ± 0.056	1.234 ± 0.066	1.322 ± 0.061	0.649 ± 0.187	**
Liver (%)	4.905 ± 0.336	5.184 ± 0.307	5.576 ± 0.192	6.049 ± 0.218	6.796 ± 0.233	5.632 ± 1.159	
Brain (g)	0.441 ± 0.015	0.440 ± 0.009	0.435 ± 0.019	0.438 ± 0.008	0.416 ± 0.010	0.404 ± 0.004	**
Brain (%)	2.146 ± 0.051	2.110 ± 0.056	2.121 ± 0.083	2.148 ± 0.106	2.142 ± 0.097	3.570 ± 0.285	*

Mean ± S.D.

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

TABLE 13 INCIDENCES OF SELECTED LESIONS OF MALE MICE IN THE 2-WEEK FEED STUDY OF DIPHENYLAMINE (DEAD AND MORIBUND ANIMALS)

Group Name	Control				1600 ppm				4000 ppm				7000 ppm				10000 ppm				25000 ppm			
Number of examined animals	0				0				0				0				0				1			
Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
spleen	<1>																							
deposit of hemosiderin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0	1	0	0
extramedullary hematopoiesis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0	1	0	0
engorgement of erythrocyte	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0	1	0	0
liver	<1>																							
necrosis:central	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0	0	1	0
deposit of pigment	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0	1	0	0
hepatocellular hypertrophy:central	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0	1	0	0
kidney	<1>																							
hyaline cast	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0	1	0	0
tubular necrosis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0	1	0	0

Grade 1: Slight 2: Moderate 3: Marked 4: Severe
 < > : Number of animals examined at the site
 — : All animals survived at the terminal necropsy

TABLE 14 INCIDENCES OF SELECTED LESIONS OF MALE MICE IN THE 2-WEEK FEED STUDY OF
DIPHENYLAMINE (SACRIFICED ANIMALS)

Group Name	Control				1600 ppm				4000 ppm				7000 ppm				10000 ppm				25000 ppm			
Number of examined animals	5				5				5				5				5				4			
Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
spleen	<5>				<5>				<5>				<5>				<5>				<4>			
deposit of hemosiderin	0	0	0	0	5	0	0	0	1	4	0	0	0	5	0	0	0	5	0	0	0	4	0	0
extramedullary hematopoiesis	0	0	0	0	0	5	0	0	0	5	0	0	0	4	1	0	0	5	0	0	0	0	4	0
engorgement of erythrocyte	0	0	0	0	5	0	0	0	5	0	0	0	5	0	0	0	0	0	0	0	1	0	0	0
liver	<5>				<5>				<5>				<5>				<5>				<4>			
necrosis:central	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0
deposit of pigment	0	0	0	0	0	0	0	0	4	0	0	0	5	0	0	0	5	0	0	0	0	4	0	0
extramedullary hematopoiesis	0	0	0	0	1	0	0	0	3	0	0	0	4	0	0	0	5	0	0	0	0	0	0	0
hepatocellular hypertrophy:central	0	0	0	0	4	0	0	0	0	5	0	0	0	5	0	0	0	1	4	0	1	3	0	0
kidney	<5>				<5>				<5>				<5>				<5>				<4>			
dilatation:tubular lumen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0

Grade 1: Slight 2: Moderate 3: Marked 4: Severe
< > : Number of animals examined at the site

TABLE 15 INCIDENCES OF SELECTED LESIONS OF FEMALE MICE IN THE 2-WEEK FEED STUDY OF DIPHENYLAMINE (ALL ANIMALS)

Group Name	Control				1600 ppm				4000 ppm				7000 ppm				10000 ppm				25000 ppm			
Number of examined animals	5				5				5				5				5							
Grade	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
spleen	<5>				<5>				<5>				<5>				<5>							
deposit of hemosiderin	0	0	0	0	5	0	0	0	5	0	0	0	4	1	0	0	0	5	0	0	1	4	0	0
extramedullary hematopoiesis	0	0	0	0	5	0	0	0	5	0	0	0	4	1	0	0	0	5	0	0	0	2	3	0
engorgement of erythrocyte	0	0	0	0	5	0	0	0	5	0	0	0	5	0	0	0	4	0	0	0	3	1	0	0
liver	<5>				<5>				<5>				<5>				<5>							
necrosis:centeral	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	1	0
deposit of pigment	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	0	0	0	0	3	2	0
extramedullary hematopoiesis	0	0	0	0	0	0	0	0	1	0	0	0	4	0	0	0	3	0	0	0	0	0	0	0
hepatocellular hypertrophy:centeral	0	0	0	0	2	0	0	0	5	0	0	0	2	3	0	0	0	5	0	0	0	0	0	0
kidney	<5>				<5>				<5>				<5>				<5>							
tubular necrosis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
dilatation:tubular lumen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	4	0	0	0

Grade 1: Slight 2: Moderate 3: Marked 4: Severe
 < > : Number of animals examined at the site