2,4-ペンタンジオンのラットを用いた
吸入による 2 週間毒性試験報告書

試験番号：0582

TABLES

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TABLE 1 CONCENTRATION OF 2,4-PENTANEDIONE IN THE INHALATION CHAMBER OF THE 2-WEEK INHALATION STUDY

Group Name	Concentration(ppm) Mean ± S.D.
Control	0.0 ± 0.0
50 ppm	50.2 ± 1.5
100 ppm	100.9 ± 2.2
200 ppm	201.4 ± 2.9
400 ppm	401.0 ± 5.1
800 ppm	806.1 ± 1.6

TABLE 2 SURVIVAL ANIMAL NUMBERS AND BODY WEIGHT CHANGES OF MALE RATS IN THE 2-WEEK INHALATION STUDY OF 2,4-PENTANEDIONE

Week-Day on Study	Control Av.Wt.	Control No.of Surviv.	50 ppm Av.Wt.	50 ppm % of cont.	50 ppm No.of Surviv.	100 ppm Av.Wt.	100 ppm % of cont.	100 ppm No.of Surviv.	200 ppm Av.Wt.	200 ppm % of cont.	200 ppm No.of Surviv.	400 ppm Av.Wt.	400 ppm % of cont.	400 ppm No.of Surviv.	800 ppm Av.Wt.	800 ppm % of cont.	800 ppm No.of Surviv.
	< 5>		< 5>			< 5>			< 5>			< 5>			< 5>			
0-0	126 (5)	5/ 5	127 (5)	101	5/ 5	126 (5)	100	5/ 5	127 (5)	101	5/ 5	126 (5)	100	5/ 5	127 (5)	101	5/ 5
1-2	132 (5)	5/ 5	131 (5)	99	5/ 5	132 (5)	100	5/ 5	131 (5)	99	5/ 5	128 (5)	97	5/ 5	115 (1)	87	1/ 5
1-4	137 (5)	5/ 5	134 (5)	98	5/ 5	136 (5)	99	5/ 5	134 (5)	98	5/ 5	128 (5)	93	5/ 5	-	-	0/ 5
1-7	148 (5)	5/ 5	146 (5)	99	5/ 5	147 (5)	99	5/ 5	145 (5)	98	5/ 5	141 (5)	95	5/ 5	-	-	0/ 5
2-3	159 (5)	5/ 5	156 (5)	98	5/ 5	157 (5)	99	5/ 5	154 (5)	97	5/ 5	145 (5)	91	5/ 5	-	-	0/ 5
2-7	175 (5)	5/ 5	171 (5)	98	5/ 5	174 (5)	99	5/ 5	173 (5)	99	5/ 5	160 (5)	91	5/ 5	-	-	0/ 5

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

TABLE 3 SURVIVAL ANIMAL NUMBERS AND BODY WEIGHT CHANGES OF FEMALE RATS IN THE 2-WEEK INHALATION STUDY OF 2,4-PENTANEDIONE

Week-Day on Study	Control Av.Wt.	Control No.of Surviv.	50 ppm Av.Wt.	50 ppm % of cont.	50 ppm No.of Surviv.	100 ppm Av.Wt.	100 ppm % of cont.	100 ppm No.of Surviv.	200 ppm Av.Wt.	200 ppm % of cont.	200 ppm No.of Surviv.	400 ppm Av.Wt.	400 ppm % of cont.	400 ppm No.of Surviv.	800 ppm Av.Wt.	800 ppm % of cont.	800 ppm No.of Surviv.
	< 5>		< 5>			< 5>			< 5>			< 5>			< 5>			
0-0	99 (5)	5/ 5	99 (5)	100	5/ 5	99 (5)	100	5/ 5	99 (5)	100	5/ 5	99 (5)	100	5/ 5	99 (5)	100	5/ 5
1-2	102 (5)	5/ 5	101 (5)	99	5/ 5	101 (5)	99	5/ 5	101 (5)	99	5/ 5	98 (5)	96	5/ 5	-	-	0/ 5
1-4	102 (5)	5/ 5	103 (5)	101	5/ 5	102 (5)	100	5/ 5	103 (5)	101	5/ 5	97 (5)	95	5/ 5	-	-	0/ 5
1-7	108 (5)	5/ 5	109 (5)	101	5/ 5	107 (5)	99	5/ 5	110 (5)	102	5/ 5	104 (5)	96	5/ 5	-	-	0/ 5
2-3	113 (5)	5/ 5	112 (5)	99	5/ 5	110 (5)	97	5/ 5	112 (5)	99	5/ 5	105 (5)	93	5/ 5	-	-	0/ 5
2-7	122 (5)	5/ 5	119 (5)	98	5/ 5	117 (5)	96	5/ 5	121 (5)	99	5/ 5	113 (5)	93	5/ 5	-	-	0/ 5

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

TABLE 4 FOOD CONSUMPTION CHANGES OF MALE RATS IN THE 2-WEEK INHALATION STUDY OF 2,4-PENTANEDIONE

Week-Day on Study	Control Av.FC.	Control No.of Surviv.	50 ppm Av.FC.	50 ppm % of cont.	50 ppm No.of Surviv.	100 ppm Av.FC.	100 ppm % of cont.	100 ppm No.of Surviv.	200 ppm Av.FC.	200 ppm % of cont.	200 ppm No.of Surviv.	400 ppm Av.FC.	400 ppm % of cont.	400 ppm No.of Surviv.	800 ppm Av.FC.	800 ppm % of cont.	800 ppm No.of Surviv.
	< 5>		< 5>			< 5>			< 5>			< 5>			< 5>			
1-7	15.2 (5)	5/ 5	15.3 (5)	101	5/ 5	15.5 (5)	102	5/ 5	14.9 (5)	98	5/ 5	13.7 (5)	90	5/ 5	-	-	0/ 5
2-7	15.0 (5)	5/ 5	15.6 (5)	104	5/ 5	15.4 (5)	103	5/ 5	15.3 (5)	102	5/ 5	13.3 (5)	89	5/ 5	-	-	0/ 5

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

TABLE 5 FOOD CONSUMPTION CHANGES OF FEMALE RATS IN THE 2-WEEK INHALATION STUDY OF 2,4-PENTANEDIONE

Week-Day on Study	Control Av.FC.	Control No.of Surviv.	50 ppm Av.FC.	50 ppm % of cont.	50 ppm No.of Surviv.	100 ppm Av.FC.	100 ppm % of cont.	100 ppm No.of Surviv.	200 ppm Av.FC.	200 ppm % of cont.	200 ppm No.of Surviv.	400 ppm Av.FC.	400 ppm % of cont.	400 ppm No.of Surviv.	800 ppm Av.FC.	800 ppm % of cont.	800 ppm No.of Surviv.
	< 5>		< 5>			< 5>			< 5>			< 5>			< 5>			
1-7	11.5 (5)	5/ 5	12.1 (5)	105	5/ 5	11.6 (5)	101	5/ 5	11.8 (5)	103	5/ 5	10.6 (5)	92	5/ 5	-	-	0/ 5
2-7	11.7 (5)	5/ 5	11.5 (5)	98	5/ 5	11.3 (5)	97	5/ 5	11.5 (5)	98	5/ 5	9.9 (5)	85	5/ 5	-	-	0/ 5

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

TABLE 6　HEMATOLOGY OF MALE RATS IN THE 2-WEEK INHALATION STUDY OF 2,4-PENTANEDIONE

Group Name	Control	50 ppm	100 ppm	200 ppm	400 ppm	800 ppm
No. of examined animals	5	5	5	5	5	0
MCV (fL)	54.0 ± 0.5	53.7 ± 0.4	53.6 ± 0.3	53.2 ± 0.3 *	52.2 ± 0.6 **	-
MCHC (g/dL)	33.5 ± 0.4	33.8 ± 0.3	33.7 ± 0.2	34.0 ± 0.1	34.6 ± 0.5 **	-

Mean ± S.D.

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

TABLE 7　HEMATOLOGY OF FEMALE RATS IN THE 2-WEEK INHALATION STUDY OF 2,4-PENTANEDIONE

Group Name	Control	50 ppm	100 ppm	200 ppm	400 ppm	800 ppm
No. of examined animals	5	5	5	5	5	0
HEMOGLOBIN (g/dL)	16.7 ± 0.2	16.5 ± 0.3	16.7 ± 0.4	16.7 ± 0.3	16.1 ± 0.3 *	-
HEMATOCRIT (%)	48.3 ± 0.3	48.2 ± 1.0	48.2 ± 0.9	47.9 ± 1.1	46.1 ± 0.7 **	-
MCV (fL)	53.4 ± 0.1	53.6 ± 0.3	53.3 ± 0.3	52.6 ± 0.3 **	52.0 ± 0.2 **	-
WBC ($10^3/\mu$L)	3.28 ± 0.84	3.23 ± 0.58	3.59 ± 0.82	3.22 ± 0.44	4.76 ± 0.72 *	-

Mean ± S.D.

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

TABLE 8 BIOCHEMISTRY OF MALE RATS IN THE 2-WEEK INHALATION STUDY OF 2,4-PENTANEDIONE

Group Name	Control	50 ppm	100 ppm	200 ppm	400 ppm		800 ppm
No. of examined animals	5	5	5	5	5		0
GLUCOSE (mg/dL)	153 ± 16	150 ± 11	161 ± 13	158 ± 11	177 ± 14	*	-

Mean ± S.D.

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

TABLE 9 BIOCHEMISTRY OF FEMALE RATS IN THE 2-WEEK INHALATION STUDY OF 2,4-PENTANEDIONE

Group Name	Control	50 ppm	100 ppm	200 ppm		400 ppm		800 ppm
No. of examined animals	5	5	5	5		5		0
TOTAL PROTEIN (g/dL)	5.7 ± 0.1	5.7 ± 0.0	5.6 ± 0.1	5.7 ± 0.0		5.5 ± 0.1	*	-
GLUCOSE (mg/dL)	130 ± 15	142 ± 20	135 ± 11	152 ± 9	*	159 ± 8	**	-
T-CHOLESTEROL (mg/dL)	68 ± 2	62 ± 3	64 ± 4	66 ± 3		75 ± 5	*	-
AST (IU/L)	71 ± 4	72 ± 2	69 ± 3	66 ± 3		61 ± 3	**	-

Mean ± S.D.

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

TABLE 10 ORGAN WEIGHTS OF MALE RATS IN THE 2-WEEK INHALATION STUDY OF 2,4-PENTANEDIONE

Group Name	Control	50 ppm	100 ppm	200 ppm	400 ppm	800 ppm
No. of examined animal	5	5	5	5	5	0
Body weight (g)	157 ± 9	155 ± 8	155 ± 9	153 ± 3	145 ± 6	-
Thymus (g)	0.280 ± 0.025	0.243 ± 0.025	0.243 ± 0.032	0.221 ± 0.012 **	0.211 ± 0.012 **	-
Thymus (%)	0.179 ± 0.020	0.157 ± 0.011 *	0.157 ± 0.013 *	0.145 ± 0.006 **	0.146 ± 0.013 **	-
Kidneys (g)	1.278 ± 0.074	1.262 ± 0.078	1.258 ± 0.054	1.282 ± 0.047	1.272 ± 0.016	-
Kidneys (%)	0.814 ± 0.011	0.816 ± 0.027	0.814 ± 0.018	0.836 ± 0.023	0.878 ± 0.029 **	-
Liver (g)	4.697 ± 0.323	4.602 ± 0.267	4.630 ± 0.251	4.798 ± 0.092	4.795 ± 0.348	-
Liver (%)	2.990 ± 0.043	2.976 ± 0.065	2.993 ± 0.057	3.132 ± 0.063 *	3.304 ± 0.143 **	-

Mean ± S.D.
Significant difference: * : p≦0.05 ** : p≦0.01 Test of Dunnett

TABLE 11 ORGAN WEIGHTS OF FEMALE RATS IN THE 2-WEEK INHALATION STUDY OF 2,4-PENTANEDIONE

Group Name	Control	50 ppm	100 ppm	200 ppm	400 ppm	800 ppm
No. of examined animal	5	5	5	5	5	0
Body weight (g)	108 ± 4	106 ± 4	105 ± 3	107 ± 4	101 ± 4	-
Heart (g)	0.463 ± 0.015	0.471 ± 0.029	0.468 ± 0.010	0.471 ± 0.009	0.473 ± 0.009	-
Heart (%)	0.429 ± 0.015	0.443 ± 0.012	0.447 ± 0.017	0.440 ± 0.014	0.467 ± 0.013 **	-
Kidneys (g)	0.924 ± 0.017	0.923 ± 0.022	0.936 ± 0.040	0.944 ± 0.048	0.943 ± 0.024	-
Kidneys (%)	0.857 ± 0.035	0.868 ± 0.023	0.895 ± 0.032	0.880 ± 0.021	0.932 ± 0.040 **	-
Liver (g)	3.259 ± 0.091	3.347 ± 0.168	3.228 ± 0.151	3.346 ± 0.145	3.372 ± 0.144	-
Liver (%)	3.018 ± 0.037	3.145 ± 0.080 **	3.085 ± 0.079	3.121 ± 0.041 *	3.331 ± 0.044 **	-

Mean ± S.D.
Significant difference: * : p≦0.05 ** : p≦0.01 Test of Dunnett