

Table 23 Spontaneous motor activity of male rats on termination of administration period in combined repeat dose and reproductive/developmental toxicity screening test of 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene by oral administration

Group mg/kg	Control		1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene							
	0		45		180		720			
Number of males	6		6		6		6			
Ambulatory counts										
Minutes after administration										
10	573 ±	493	645 ±	517	1048 ±	535	1007 ±	568		
20	242 ±	278	317 ±	322	240 ±	232	249 ±	285		
30	110 ±	142	174 ±	220	115 ±	145	292 ±	276		
40	64 ±	65	57 ±	61	81 ±	95	167 ±	174		
50	167 ±	313	94 ±	87	87 ±	101	100 ±	173		
60	93 ±	136	59 ±	76	112 ±	144	106 ±	110		
Total	1249 ±	1221	1346 ±	1003	1682 ±	874	1921 ±	1354		
Vertical counts										
Minutes after administration										
10	28 ±	14	37 ±	28	42 ±	21	61 ±	34		
20	14 ±	12	19 ±	16	13 ±	11	23 ±	27		
30	7 ±	11	14 ±	17	12 ±	21	25 ±	20		
40	2 ±	3	9 ±	19	4 ±	6	14 ±	15		
50	2 ±	4	11 ±	21	6 ±	9	16 ±	24		
60	4 ±	6	11 ±	19	5 ±	8	15 ±	19		
Total	57 ±	30	101 ±	111	82 ±	43	154 ±	129		

Each value shows mean ± S.D.

Table 24 Spontaneous motor activity of female rats on termination of administration period in combined repeat dose and reproductive/developmental toxicity screening test of 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene by oral administration

Group mg/kg	Control		1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene							
	0		45		180		720			
Number of females	6		6		6		6			
Ambulatory counts										
Minutes after administration										
10	1837 ±	925	1576 ±	767	1338 ±	649	1516 ±	1161		
20	672 ±	553	277 ±	212	225 ±	388	659 ±	574		
30	172 ±	189	92 ±	123	132 ±	249	395 ±	481		
40	355 ±	451	26 ±	57	108 ±	173	233 ±	336		
50	320 ±	520	154 ±	274	75 ±	130	585 ±	1192		
60	217 ±	177	174 ±	192	100 ±	203	215 ±	325		
Total	3572 ±	1905	2298 ±	1139	1978 ±	1005	3601 ±	3674		
Vertical counts										
Minutes after administration										
10	33 ±	12	36 ±	16	31 ±	19	34 ±	14		
20	13 ±	9	9 ±	8	4 ±	8	13 ±	8		
30	2 ±	3	3 ±	3	4 ±	7	7 ±	6		
40	6 ±	6	1 ±	3	3 ±	4	4 ±	8		
50	6 ±	7	4 ±	7	1 ±	2	7 ±	12		
60	8 ±	12	3 ±	3	3 ±	7	4 ±	9		
Total	67 ±	29	56 ±	25	46 ±	27	70 ±	44		

Each value shows mean ± S.D.

Table 25-1 Urinary examination of male rats on termination of administration period in combined repeat dose and reproductive/developmental toxicity screening test of 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene by oral administration

Group	Control		1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene					
	0		45		180		720	
mg/kg	6		6		6		6	
Number of males	6		6		6		6	
Volume (mL): Mean ± S.D.	9.2 ± 1.7		10.9 ± 3.2		10.1 ± 1.8		25.6 ± 5.0 **	
Specific gravity: Mean ± S.D.	1.059 ± 0.012		1.053 ± 0.010		1.052 ± 0.008		1.031 ± 0.004 **	
Color								
Light yellow	6		6		6		6	
pH								
8.0	0		0		1		0	
8.5	1		3		2		4	
9.0	5		3		3		2	
Protein								
10~20 mg/dL	0		3		1		1	
30 mg/dL	3		0		2		4	
100 mg/dL	3		3		3		1	
Glucose								
Negative	6		6		6		6	
Ketone body								
Negative	4		6		3		6	
Slight	2		0		3		0	
Bilirubin								
Negative	6		6		6		6	
Occult blood								
Negative	5		4		4		5	
Trace	1		2		1		1	
Moderate	0		0		1		0	
Urobilinogen								
Normal	5		6		6		6	
1 mg/dL	1		0		0		0	

Significantly different from control group (\*\*: P<0.01).

Table 25-2 Urinary examination of male rats on termination of administration period in combined repeat dose and reproductive/developmental toxicity screening test of 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene by oral administration

Group	1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene			
	Control	45	180	720
mg/kg	0	45	180	720
Number of males	6	6	6	6
Urinary sediments				
Epithelial cells				
0~20 cells/100 fields	6	6	6	5
101~200 cells/100fields	0	0	0	1
Erythrocytes				
0~20 cells/100 fields	6	6	5	6
21~100 cells/100 fields	0	0	1	0
Leukocytes				
0~20 cells/100 fields	6	6	6	6
Casts				
Not observed	6	6	6	6
Crystals				
Not observed	3	4	1	1
Observed	3	2	5	5

Table 26-1 Urinary examination of female rats on termination of administration period in combined repeat dose and reproductive/developmental toxicity screening test of 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene by oral administration

Group	Control		1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene					
	0		45		180		720	
mg/kg								
Number of females	6		6		6		6	
Volume (mL): Mean ± S.D.	30.1 ± 5.9		26.6 ± 8.6		37.5 ± 4.8		41.6 ± 17.3	
Specific gravity: Mean ± S.D.	1.024 ± 0.003		1.028 ± 0.007		1.023 ± 0.003		1.022 ± 0.007	
Color								
Light yellow	6		6		6		6	
pH								
5.5	0		0		1		0	
6.0	0		0		1		1	
6.5	1		2		1		0	
7.0	1		2		1		1	
7.5	2		0		2		0	
8.0	1		0		0		1	
8.5	0		2		0		3	
9.0	1		0		0		0	
Protein								
Negative	5		3		4		2	
10~20 mg/dL	1		2		2		3	
30 mg/dL	0		1		0		1	
Glucose								
Negative	6		6		6		6	
Ketone body								
Negative	6		6		6		6	
Bilirubin								
Negative	6		6		6		6	
Occult blood								
Negative	6		5		6		6	
Slight	0		1		0		0	
Urobilinogen								
Normal	6		6		6		6	

Table 26-2 Urinary examination of female rats on termination of administration period in combined repeat dose and reproductive/developmental toxicity screening test of 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene by oral administration

Group	1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene			
	Control	45	180	720
mg/kg	0	45	180	720
Number of females	6	6	6	6
Urinary sediments				
Epithelial cells				
0~20 cells/100 fields	6	6	6	6
Erythrocytes				
0~20 cells/100 fields	6	6	6	6
Leukocytes				
0~20 cells/100 fields	6	6	6	6
Casts				
Not observed	6	6	6	6
Crystals				
Not observed	1	3	5	4
Observed	5	3	1	2

Table 27-1 Urinary examination of male rats on termination of recovery period in combined repeat dose and reproductive/developmental toxicity screening test of 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene by oral administration

Group	Control		1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene					
	0		45		180		720	
mg/kg								
Number of males	6		6		6		6	
Volume (mL): Mean ± S.D.	12.1 ± 5.9		14.0 ± 4.7		17.1 ± 4.8		17.8 ± 3.5	
Specific gravity: Mean ± S.D.	1.053 ± 0.014		1.052 ± 0.013		1.047 ± 0.010		1.049 ± 0.010	
Color								
Light yellow	6		6		6		6	
pH								
8.5	1		4		4		5	
9.0	5		2		2		1	
Protein								
10~20 mg/dL	1		1		0		0	
30 mg/dL	2		3		3		2	
100 mg/dL	2		2		2		4	
300 mg/dL	1		0		0		0	
1000 mg/dL	0		0		1		0	
Glucose								
Negative	6		6		6		6	
Ketone body								
Negative	3		5		4		5	
Slight	3		1		2		1	
Bilirubin								
Negative	6		6		6		6	
Occult blood								
Negative	6		6		6		6	
Urobilinogen								
Normal	5		6		6		6	
1 mg/dL	1		0		0		0	

Table 27-2 Urinary examination of male rats on termination of recovery period in combined repeat dose and reproductive/developmental toxicity screening test of 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene by oral administration

Group	1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene			
	Control	45	180	720
mg/kg	0	45	180	720
Number of males	6	6	6	6
Urinary sediments				
Epithelial cells				
0~20 cells/100 fields	6	6	6	6
Erythrocytes				
0~20 cells/100 fields	6	6	6	6
Leukocytes				
0~20 cells/100 fields	6	6	6	6
Casts				
Not observed	6	6	6	6
Crystals				
Not observed	4	4	3	0
Observed	2	2	3	6



Table 28-1 Urinary examination of female rats on termination of recovery period in combined repeat dose and reproductive/developmental toxicity screening test of 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene by oral administration

Group mg/kg	Control		1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene	
	0		180	720
Number of females	6		6	5
Volume (mL): Mean ± S.D.	14.2 ± 4.7		12.8 ± 6.2	12.7 ± 4.9
Specific gravity: Mean ± S.D.	1.045 ± 0.014		1.047 ± 0.015	1.041 ± 0.009
Color				
Light yellow	6		6	5
pH				
7.5	0		0	1
8.0	0		1	1
8.5	4		3	2
9.0	2		2	1
Protein				
Negative	2		2	0
10~20 mg/dL	2		2	2
30 mg/dL	2		2	0
100 mg/dL	0		0	3
Glucose				
Negative	6		6	5
Ketone body				
Negative	6		5	5
Slight	0		1	0
Bilirubin				
Negative	6		6	5
Occult blood				
Negative	6		5	4
Trace	0		1	1
Urobilinogen				
Normal	6		5	5
1 mg/dL	0		1	0

Table 28-2 Urinary examination of female rats on termination of recovery period in combined repeat dose and reproductive/developmental toxicity screening test of 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene by oral administration

Group	1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene		
	Control	180	720
mg/kg	0	180	720
Number of females	6	6	4
Urinary sediments			
Epithelial cells			
0~20 cells/100 fields	6	6	5
Erythrocytes			
0~20 cells/100 fields	6	6	5
Leukocytes			
0~20 cells/100 fields	6	6	5
Casts			
Not observed	6	6	5
Crystals			
Not observed	2	3	1
Observed	4	3	4

Table 29 Hematological examination of male rats on termination of administration period in combined repeat dose and reproductive/developmental toxicity screening test of 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene by oral administration

Group	Control		1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene					
	0		45		180		720	
mg/kg			6		6		6	
Number of males	6		6		6		6	
RBC	(10 <sup>4</sup> /μL)	830 ± 25	836 ± 21	820 ± 21	802 ± 26			
HGB	(g/dL)	15.5 ± 0.5	15.5 ± 0.3	15.3 ± 0.5	15.0 ± 0.6			
HCT	(%)	46.1 ± 1.5	45.8 ± 0.9	45.6 ± 2.1	44.5 ± 1.6			
MCV	(fL)	55.6 ± 0.7	54.8 ± 2.3	55.5 ± 2.0	55.5 ± 0.8			
MCH	(pg)	18.7 ± 0.4	18.5 ± 0.7	18.7 ± 0.5	18.7 ± 0.3			
MCHC	(g/dL)	33.6 ± 0.5	33.8 ± 0.4	33.7 ± 0.5	33.6 ± 0.6			
PLT	(10 <sup>4</sup> /μL)	96.9 ± 8.5	96.9 ± 8.2	101.9 ± 8.0	105.3 ± 8.0			
RET	(%)	24 ± 9	25 ± 2	23 ± 4	23 ± 7			
PT	(sec.)	18.7 ± 2.5	22.6 ± 3.2	30.3 ± 4.5 **	28.3 ± 6.6 **			
APTT	(sec.)	23.4 ± 2.5	26.9 ± 2.3	34.7 ± 4.5 **	38.7 ± 4.8 **			
Fbg	(mg/dL)	219.4 ± 14.1	217.9 ± 10.9	233.1 ± 18.9	252.4 ± 16.9 **			
WBC	(10 <sup>2</sup> /μL)	74 ± 17	62 ± 17	73 ± 20	64 ± 20			
Differential leukocyte (%)								
Lymphocyte		84.8 ± 6.3	85.3 ± 5.7	85.8 ± 5.1	84.8 ± 4.1			
Neutrophil		13.8 ± 5.8	13.7 ± 5.5	13.0 ± 4.9	14.5 ± 4.1			
Eosinophil		0.7 ± 0.8	0.3 ± 0.8	0.3 ± 0.5	0.5 ± 0.5			
Basophil		0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0			
Monocyte		0.7 ± 0.8	0.7 ± 0.5	0.8 ± 0.4	0.2 ± 0.4			

Each value shows mean ± S.D.

Significantly different from control group (\*\*: P<0.01).

Table 30 Hematological examination of female rats on termination of administration period in combined repeat dose and reproductive/developmental toxicity screening test of 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene by oral administration

Group	Control		1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene					
	0		45		180		720	
mg/kg								
Number of females	6		6		6		6	
RBC (10 <sup>4</sup> /μL)	749 ± 21		752 ± 52		702 ± 28		679 ± 66 *	
HGB (g/dL)	14.7 ± 0.4		14.7 ± 0.8		14.0 ± 0.3		13.6 ± 1.0	
HCT (%)	43.4 ± 1.4		43.2 ± 2.4		40.7 ± 1.1		40.1 ± 3.1 *	
MCV (fL)	57.9 ± 1.4		57.5 ± 1.5		58.1 ± 1.6		59.2 ± 2.1	
MCH (pg)	19.7 ± 0.6		19.6 ± 0.7		19.9 ± 0.8		20.1 ± 0.8	
MCHC (g/dL)	34.0 ± 0.5		34.1 ± 0.3		34.3 ± 0.7		34.0 ± 0.4	
PLT (10 <sup>4</sup> /μL)	109.7 ± 10.9		92.8 ± 26.5		105.6 ± 6.2		130.4 ± 15.1	
RET (%)	55 ± 9		51 ± 8		58 ± 12		64 ± 11	
PT (sec.)	16.2 ± 0.6		15.4 ± 0.2 *		15.0 ± 0.5 **		14.7 ± 0.6 **	
APTT (sec.)	16.9 ± 1.9		18.4 ± 0.5		18.1 ± 1.2		21.5 ± 1.8 **	
Fbg (mg/dL)	231.2 ± 12.5		237.5 ± 61.8		285.6 ± 82.6		210.4 ± 23.5	
WBC (10 <sup>3</sup> /μL)	39 ± 8		49 ± 8		61 ± 19 *		56 ± 18	
Differential leukocyte (%)								
Lymphocyte	85.2 ± 7.2		84.0 ± 7.1		81.3 ± 9.1		87.2 ± 1.7	
Neutrophil	13.8 ± 6.4		14.7 ± 6.7		17.7 ± 9.2		12.2 ± 1.7	
Eosinophil	0.5 ± 0.8		0.3 ± 0.5		0.3 ± 0.5		0.2 ± 0.4	
Basophil	0.0 ± 0.0		0.0 ± 0.0		0.0 ± 0.0		0.0 ± 0.0	
Monocyte	0.5 ± 0.5		1.0 ± 0.6		0.7 ± 0.8		0.5 ± 0.5	

Each value shows mean ± S.D.

Significantly different from control group (\*: P<0.05, \*\*: P<0.01).

Table 31 Hematological examination of male rats on termination of recovery period in combined repeat dose and reproductive/developmental toxicity screening test of 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene by oral administration

Group	Control		1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene					
	0		45		180		720	
mg/kg								
Number of males	6		6		6		6	
RBC (10 <sup>4</sup> /μL)	861 ± 21		854 ± 11		851 ± 39		846 ± 53	
HGB (g/dL)	15.7 ± 0.5		15.5 ± 0.6		15.6 ± 0.6		15.1 ± 0.7	
HCT (%)	46.4 ± 1.8		45.7 ± 1.3		46.0 ± 2.1		44.9 ± 2.5	
MCV (fL)	53.9 ± 1.7		53.6 ± 1.3		54.1 ± 1.1		53.1 ± 0.7	
MCH (pg)	18.2 ± 0.5		18.1 ± 0.6		18.3 ± 0.3		17.9 ± 0.3	
MCHC (g/dL)	33.8 ± 0.2		33.8 ± 0.5		33.9 ± 0.4		33.6 ± 0.4	
PLT (10 <sup>4</sup> /μL)	100.7 ± 13.6		95.1 ± 16.9		97.1 ± 6.7		106.8 ± 10.0	
RET (%)	26 ± 5		26 ± 5		25 ± 5		34 ± 9	
PT (sec.)	19.3 ± 3.2		17.5 ± 1.6		17.6 ± 1.9		22.2 ± 3.5	
APTT (sec.)	23.5 ± 1.6		22.2 ± 1.6		22.3 ± 1.4		24.4 ± 1.8	
Fbg (mg/dL)	196.6 ± 7.9		205.4 ± 17.4		212.9 ± 10.6		199.8 ± 10.0	
WBC (10 <sup>2</sup> /μL)	57 ± 19		59 ± 19		61 ± 11		44 ± 7	
Differential leukocyte (%)								
Lymphocyte	87.5 ± 4.1		87.5 ± 5.0		87.3 ± 5.5		84.2 ± 6.8	
Neutrophil	12.0 ± 4.1		11.2 ± 4.4		11.8 ± 5.2		15.2 ± 6.2	
Eosinophil	0.2 ± 0.4		0.7 ± 0.8		0.3 ± 0.5		0.3 ± 0.5	
Basophil	0.0 ± 0.0		0.0 ± 0.0		0.0 ± 0.0		0.0 ± 0.0	
Monocyte	0.3 ± 0.5		0.7 ± 0.5		0.5 ± 0.5		0.3 ± 0.5	

Each value shows mean ± S.D.

Table 32 Hematological examination of female rats on termination of recovery period in combined repeat dose and reproductive/developmental toxicity screening test of 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene by oral administration

Group mg/kg	Control		1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene			
	0		180		720	
Number of females	6		6		5	
RBC (10 <sup>4</sup> /μL)	785 ± 20		800 ± 31		796 ± 26	
HGB (g/dL)	15.2 ± 0.6		15.2 ± 0.3		14.9 ± 0.5	
HCT (%)	43.7 ± 1.2		44.1 ± 1.2		43.4 ± 1.1	
MCV (fL)	55.7 ± 0.9		55.2 ± 1.2		54.6 ± 1.8	
MCH (pg)	19.4 ± 0.4		19.0 ± 0.6		18.8 ± 0.9	
MCHC (g/dL)	34.9 ± 0.4		34.5 ± 0.5		34.4 ± 0.6	
PLT (10 <sup>4</sup> /μL)	103.0 ± 12.2		106.8 ± 12.6		105.4 ± 11.0	
RET (‰)	21 ± 2		24 ± 6		23 ± 5	
PT (sec.)	15.7 ± 0.5		15.1 ± 0.9		15.4 ± 0.1	
APTT (sec.)	18.3 ± 1.4		17.6 ± 0.9		18.4 ± 0.7	
Fbg (mg/dL)	169.0 ± 11.6		162.9 ± 15.5		175.8 ± 14.4	
WBC (10 <sup>2</sup> /μL)	34 ± 9		31 ± 6		34 ± 12	
Differential leukocyte (%)						
Lymphocyte	83.3 ± 7.1		84.8 ± 8.0		83.2 ± 4.6	
Neutrophil	15.7 ± 6.8		13.3 ± 7.8		15.6 ± 4.9	
Eosinophil	0.7 ± 0.5		1.2 ± 1.2		0.6 ± 0.9	
Basophil	0.0 ± 0.0		0.0 ± 0.0		0.0 ± 0.0	
Monocyte	0.3 ± 0.8		0.7 ± 0.8		0.6 ± 0.5	

Each value shows mean ± S.D.

Table 33 Blood chemical examination of male rats on termination of administration period in combined repeat dose and reproductive/developmental toxicity screening test of 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene by oral administration

Group		Control	1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene					
mg/kg		0	45		180		720	
Number of males		6	6		6		6	
AST	(IU/L)	114.8 ± 89.5	72.7 ± 11.7		65.1 ± 9.5		61.5 ± 8.3 **	
ALT	(IU/L)	49.2 ± 47.5	33.2 ± 9.2		37.4 ± 14.7		38.9 ± 10.9	
ALP	(IU/L)	365.8 ± 52.5	368.7 ± 78.6		357.8 ± 36.7		389.0 ± 131.6	
γ-GTP	(IU/L)	0.53 ± 0.17	0.33 ± 0.18		1.39 ± 0.71		2.62 ± 0.87 **	
TP	(g/dL)	5.59 ± 0.17	5.62 ± 0.23		5.86 ± 0.18		6.40 ± 0.40 **	
Alb	(g/dL)	2.76 ± 0.12	2.80 ± 0.15		2.92 ± 0.13		3.29 ± 0.20 **	
A/G		0.98 ± 0.04	0.99 ± 0.05		1.00 ± 0.06		1.06 ± 0.04 *	
T-Bil	(mg/dL)	0.13 ± 0.05	0.09 ± 0.04		0.15 ± 0.01		0.27 ± 0.05 *	
UN	(mg/dL)	14.8 ± 2.4	13.2 ± 1.4		14.6 ± 2.0		14.3 ± 2.2	
CRE	(mg/dL)	0.30 ± 0.05	0.28 ± 0.03		0.27 ± 0.03		0.26 ± 0.01	
Glu	(mg/dL)	127.3 ± 9.4	118.7 ± 13.0		121.8 ± 5.5		114.8 ± 12.5	
T-Cho	(mg/dL)	55.2 ± 12.4	55.5 ± 11.6		65.3 ± 9.9		125.9 ± 34.2 **	
TG	(mg/dL)	21.0 ± 5.2	35.8 ± 16.7		15.1 ± 6.2		13.2 ± 6.1	
Na	(mEq/L)	144.5 ± 1.3	144.9 ± 1.0		144.6 ± 1.6		144.4 ± 1.2	
K	(mEq/L)	4.37 ± 0.20	4.39 ± 0.20		4.03 ± 0.16 *		4.29 ± 0.24	
Cl	(mEq/L)	106.2 ± 1.2	105.8 ± 1.0		105.2 ± 1.8		104.0 ± 1.1 *	
Ca	(mg/dL)	9.5 ± 0.3	9.6 ± 0.4		10.0 ± 0.2 *		10.3 ± 0.4 **	
IP	(mg/dL)	6.6 ± 0.6	6.6 ± 0.8		6.3 ± 0.5		6.2 ± 0.4	

Each value shows mean ± S.D.

Significantly different from control group (\*: P<0.05, \*\*: P<0.01).

Table 34 Blood chemical examination of female rats on termination of administration period in combined repeat dose and reproductive/developmental toxicity screening test of 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene by oral administration

Group		Control		1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene					
mg/kg		0		45		180		720	
Number of females		6		6		6		6	
AST	(IU/L)	82.0 ± 18.1		91.1 ± 15.5		104.3 ± 25.0		110.5 ± 54.4	
ALT	(IU/L)	23.2 ± 3.7		27.3 ± 4.6		25.2 ± 0.7		54.6 ± 63.7	
ALP	(IU/L)	238.6 ± 39.4		178.0 ± 17.9		215.9 ± 92.8		209.8 ± 67.9	
γ-GTP	(IU/L)	0.49 ± 0.04		1.29 ± 1.41		1.07 ± 0.76		3.42 ± 1.48 **	
TP	(g/dL)	6.09 ± 0.21		6.30 ± 0.41		6.60 ± 0.19 *		6.64 ± 0.44 *	
Alb	(g/dL)	3.14 ± 0.12		3.14 ± 0.26		3.07 ± 0.23		3.41 ± 0.24	
A/G		1.07 ± 0.08		1.00 ± 0.08		0.88 ± 0.15 *		1.06 ± 0.07	
T-Bil	(mg/dL)	0.14 ± 0.02		0.14 ± 0.03		0.15 ± 0.02		0.20 ± 0.04 *	
UN	(mg/dL)	17.0 ± 2.4		19.3 ± 2.6		21.7 ± 7.1		16.5 ± 1.8	
CRE	(mg/dL)	0.33 ± 0.03		0.36 ± 0.05		0.36 ± 0.05		0.33 ± 0.03	
Glu	(mg/dL)	120.7 ± 10.6		112.4 ± 5.7		105.2 ± 8.0		93.2 ± 18.6 **	
T-Chol	(mg/dL)	74.2 ± 13.6		60.4 ± 8.4		64.0 ± 10.2		76.2 ± 21.5	
TG	(mg/dL)	21.1 ± 7.0		27.5 ± 9.8		31.3 ± 9.3		30.7 ± 10.4	
Na	(mEq/L)	142.2 ± 0.4		141.1 ± 1.1		138.2 ± 4.6		141.8 ± 1.5	
K	(mEq/L)	4.07 ± 0.38		4.10 ± 0.24		4.32 ± 0.28		4.32 ± 0.29	
Cl	(mEq/L)	105.4 ± 0.7		105.0 ± 1.4		101.2 ± 3.7 *		103.8 ± 1.4	
Ca	(mg/dL)	10.6 ± 0.3		10.9 ± 0.3		11.0 ± 0.5		10.8 ± 0.4	
IP	(mg/dL)	6.7 ± 0.7		6.7 ± 0.6		7.0 ± 0.5		6.4 ± 0.9	

Each value shows mean ± S.D.

Significantly different from control group (\*: P<0.05, \*\*: P<0.01).



Table 35 Blood chemical examination of male rats on termination of recovery period in combined repeat dose and reproductive/developmental toxicity screening test of 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene by oral administration

Group mg/kg	Control		1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene			
	0		45	180		720
Number of males	6		6	6		6
AST (IU/L)	89.7 ± 11.8		84.1 ± 6.1	87.9 ± 10.7		78.8 ± 5.0
ALT (IU/L)	28.1 ± 6.2		29.8 ± 6.5	31.1 ± 5.1		32.1 ± 6.3
ALP (IU/L)	277.4 ± 49.2		334.8 ± 69.2	330.1 ± 72.8		278.1 ± 72.4
γ-GTP (IU/L)	0.42 ± 0.15		0.45 ± 0.17	0.61 ± 0.21		0.81 ± 0.27 **
TP (g/dL)	5.46 ± 0.28		5.38 ± 0.22	5.69 ± 0.16		5.53 ± 0.36
Alb (g/dL)	2.75 ± 0.08		2.69 ± 0.17	2.90 ± 0.16		2.75 ± 0.15
A/G	1.02 ± 0.08		1.00 ± 0.07	1.04 ± 0.07		1.00 ± 0.10
T-Bil (mg/dL)	0.17 ± 0.03		0.15 ± 0.02	0.16 ± 0.02		0.15 ± 0.02
UN (mg/dL)	17.2 ± 2.8		17.3 ± 2.6	16.5 ± 2.6		16.7 ± 1.6
CRE (mg/dL)	0.30 ± 0.02		0.30 ± 0.04	0.28 ± 0.02		0.27 ± 0.03
Glu (mg/dL)	117.6 ± 6.3		140.4 ± 21.1	116.9 ± 6.6		115.5 ± 11.4
T-Cho (mg/dL)	56.4 ± 12.6		61.5 ± 12.2	68.1 ± 18.3		60.6 ± 16.5
TG (mg/dL)	35.5 ± 18.6		44.0 ± 38.6	36.9 ± 16.1		28.7 ± 9.4
Na (mEq/L)	138.1 ± 0.9		138.0 ± 0.9	138.2 ± 1.0		138.0 ± 0.7
K (mEq/L)	4.26 ± 0.17		4.11 ± 0.18	4.21 ± 0.10		4.30 ± 0.10
Cl (mEq/L)	100.7 ± 1.2		100.4 ± 0.2	100.6 ± 0.7		100.5 ± 0.6
Ca (mg/dL)	9.3 ± 0.3		9.3 ± 0.2	9.5 ± 0.2		9.5 ± 0.4
IP (mg/dL)	6.4 ± 0.5		6.6 ± 0.5	6.5 ± 0.4		6.9 ± 0.7

Each value shows mean ± S.D.

Significantly different from control group (\*\*: P<0.01).

Table 36 Blood chemical examination of female rats on termination of recovery period in combined repeat dose and reproductive/developmental toxicity screening test of 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene by oral administration

Group	Control		1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene	
	0		180	720
mg/kg			6	5
Number of females	6		6	5
AST (IU/L)	77.7 ± 9.7		74.4 ± 26.2	70.9 ± 17.3
ALT (IU/L)	25.0 ± 6.0		24.6 ± 4.6	22.3 ± 2.6
ALP (IU/L)	137.1 ± 24.1		127.1 ± 23.5	113.5 ± 14.1
γ-GTP (IU/L)	0.59 ± 0.45		0.59 ± 0.27	0.50 ± 0.36
TP (g/dL)	6.24 ± 0.59		6.43 ± 0.33	6.77 ± 0.29
Alb (g/dL)	3.48 ± 0.37		3.41 ± 0.23	3.71 ± 0.16
A/G	1.26 ± 0.13		1.13 ± 0.07	1.22 ± 0.09
T-Bil (mg/dL)	0.16 ± 0.04		0.15 ± 0.04	0.17 ± 0.03
UN (mg/dL)	18.2 ± 1.3		17.0 ± 1.4	18.5 ± 1.3
CRE (mg/dL)	0.36 ± 0.03		0.34 ± 0.03	0.32 ± 0.03
Glu (mg/dL)	122.6 ± 11.5		123.2 ± 9.2	120.9 ± 13.9
T-Cho (mg/dL)	69.5 ± 12.4		83.8 ± 9.7	99.2 ± 24.4 *
TG (mg/dL)	21.8 ± 11.1		20.3 ± 2.9	25.8 ± 3.9
Na (mEq/L)	133.4 ± 1.3		134.1 ± 1.1	133.4 ± 1.0
K (mEq/L)	3.78 ± 0.36		3.72 ± 0.25	3.71 ± 0.12
Cl (mEq/L)	100.5 ± 0.7		100.1 ± 2.3	97.8 ± 0.9 *
Ca (mg/dL)	9.9 ± 0.6		10.0 ± 0.3	10.4 ± 0.3
IP (mg/dL)	4.6 ± 0.6		5.3 ± 0.6	5.1 ± 0.5

Each value shows mean ± S.D.

Significantly different from control group (\*: P<0.05).

Table 37 Necropsy findings of dead female rats in combined repeat dose and reproductive/developmental toxicity screening test of 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene by oral administration

Group	1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene
mg/kg	720
Number of dead females	1
Thymus	
Atrophy	1
Spleen	
Atrophy	1

Table 38 Necropsy findings of dead female rats (recovery group) in combined repeat dose and reproductive/developmental toxicity screening test of 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene by oral administration

Group	1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene
mg/kg	720
Number of dead females	1
Thymus	
Atrophy	1
Adrenal	
Enlargement	1

Table 39 Necropsy findings of male rats on termination of administration period in combined repeat dose and reproductive/developmental toxicity screening test of 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene by oral administration

Group	Control	1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene		
mg/kg	0	45	180	720
Number of males	6	6	6	6
Normal	6	6	6	6

Table 40 Necropsy findings of female rats on termination of administration period in combined repeat dose and reproductive/developmental toxicity screening test of 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene by oral administration

Group	Control	1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene		
		mg/kg	45	180
Number of dams	11	12	11	10
Normal	11	12	11	10
Number of non-pregnant females	1	0	1	1
Normal	1	-	1	1

Table 41 Necropsy findings of male rats on termination of recovery period in combined repeat dose and reproductive/developmental toxicity screening test of 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene by oral administration

Group mg/kg	Control	1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene		
		45	180	720
Number of males	6	6	6	6
Normal	6	5	6	6
Liver Adhesion	0	1	0	0

Table 42 Necropsy findings of female rats on termination of recovery period in combined repeat dose and reproductive/developmental toxicity screening test of 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene by oral administration

Group	Control	1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene	
mg/kg	0	180	720
Number of females	6	6	5
Normal	6	6	5