

ビフェニルのラット及びマウスを用いた
経口投与によるがん原性予備試験(混餌試験)報告書

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TABLE 1 EXPERIMENTAL DESIGN AND MATERIALS AND METHODS IN THE FEED STUDIES OF BIPHENYL

Two-Week Studies	Thirteen-Week Studies
<Method of Administration> Feed	Feed
<Number of Groups> Male 6, Female 6	Rat Male 6, Female 6 Mouse Male 7, Female 7
<Size of Study Groups> 10 males and 10 females of each groups	10 males and 10 females of each groups
<Animals> Strain and Species F344/DuCrj (Fischer) rat Crj:BDF ₁ mouse	F344/DuCrj (Fischer) rat Crj:BDF ₁ mouse
Animal Source Charles River Japan, Inc.	Charles River Japan, Inc.
During of Time Held Before Study 2 wk	2 wk
Age When Placed on Study 6 wk	6 wk
Age When Killed 8 wk	19 wk
<Doses> Rat--0, 2500, 5000, 10000, 20000, or 40000ppm; Mouse-- 0, 1250, 2500, 5000, 10000, or 20000ppm	Rat--0, 1000, 2000, 4000, 8000, or 16000ppm; Mouse--0, 5, 2000, 4000, 8000, 10000, or 16000ppm
<Duration of Dosing> 7d/wk for 2wk	7d/wk for 13wk
<Animal Maintenance> Feed CRF-1 (Oriental Yeast Co., Ltd.) Sterilized by γ -ray Available ad libitum	Same as two-week studies
Water Sterilized by ultraviolet rays Automatic watering system Available ad libitum	Same as two-week studies
Animals per Cage Single (stainless steel wire)	Single (stainless steel wire)
Animal Room Environment Barrier system Temperature:24 \pm 2°C Humidity :55 \pm 10% Fluorescent light 12h/d 15-17 room air changes /h	Same as two-week studies
<Type and Frequency of Observation> Clinical Sign Observed 1×d	Observed 1×d
Body Weight Weighed 0-0, 1-1, 1-2, 1-4, 1-7, 2-4, and 2-7 (wk-d)	Weighed 1×wk for 13wk
<Food Consumption> Weighed 1-4, 1-7, 2-4 and 2-7 (wk-d)	Weighed 1×wk for 13wk

TABLE 1 EXPERIMENTAL DESIGN AND MATERIALS AND METHODS IN THE FEED STUDIES OF BIPHENYL
(Continued)

Two-Week Studies	Thirteen-Week Studies
<p><Hematology> None</p>	<p>Red blood cell (RBC), Hemoglobin, Hematocrit, Mean corpuscular volume (MCV), Mean corpuscular hemoglobin (MCH), Mean corpuscular hemoglobin concentration (MCHC), Platelet, White blood cell (WBC), Differential WBC.</p>
<p><Blood Biochemistry> None</p>	<p>Total protein, Albumin, A/G ratio, T-bilirubin, Glucose, T-cholesterol, Triglyceride, Phospholipid<rat only>, Glutamic oxaloacetic transaminase (GOT), Glutamic pyruvic transaminase (GPT), Lactate dehydrogenase (LDH), Alkaline phosphatase (ALP), γ-Glutamyl transpeptidase (G-GTP)<rat only>, Creatine phosphokinase (CPK), Urea nitrogen, Creatinine<rat only>, Sodium, Potassium, Chloride, Calcium, Inorganic phosphorus.</p>
<p><Urinalysis> None</p>	<p>pH, Protein, Glucose, Ketone body, Bilirubin<rat only>, Occult blood, Urobilinogen.</p>
<p><Necropsy> Necropsy performed on all animals.</p>	<p>Same as two-week studies</p>
<p><Organ Weight> None</p>	<p>Organ weight measurement performed on schedule sacrificed animals. The following organs were weighed: brain, lung, liver, spleen, heart, kidney, adrenal, testis, ovary, thymus.</p>
<p><Histopathologic Examination> Histopathologic examination performed on at least two animals per sex per group.</p>	<p>Histopathologic examination performed on all animals.</p>
<p>The following organs were examined: nasal cavity, trachea, lung, bone marrow, lymph node, thymus, spleen, heart, stomach, small intestine, large intestine, liver, pancreas, kidney, pituitary, adrenal, testis, ovary, brain, muscle.</p>	<p>The following organs were examined: skin, nasal cavity, trachea, lung, bone marrow, lymph node, thymus, spleen, heart, tongue, salivary gland, esophagus, stomach, small intestine, large intestine, liver, pancreas, kidney, urin bladd, pituitary, thyroid, adrenal, testis, epididymis, seminal vesicl, prostate, ovary, uterus, vagina, mammary gland, brain, spinal cord, peripheral nerve, eye, Harderian gland, muscle, bone.</p>

TABLE 2 SURVIVAL ANIMAL NUMBERS AND BODY WEIGHT CHANGES IN MALE RAT (TWO-WEEK STUDIES)

Week-Day on Study	Control				2500 ppm				5000 ppm				10000 ppm				20000 ppm				40000 ppm			
	Av.Wt.	No.of Surviv. <10>	Av.Wt.	% of cont. <10>	No.of Surviv.	Av.Wt.	% of cont. <10>	No.of Surviv.																
0-0	125 (10)	10/10	125 (10)	100	10/10	125 (10)	100	10/10	125 (10)	100	10/10	125 (10)	100	10/10	125 (10)	100	10/10	125 (10)	100	10/10	125 (10)	100	10/10	
1-1	130 (10)	10/10	125 (10)	96	10/10	125 (10)	96	10/10	116 (10)	89	10/10	111 (10)	85	10/10	109 (10)	84	10/10	108 (10)	84	10/10	108 (10)	84	10/10	
1-2	136 (10)	10/10	135 (10)	99	10/10	133 (10)	98	10/10	118 (10)	87	10/10	108 (10)	78	10/10	104 (10)	76	10/10	104 (10)	76	10/10	104 (10)	76	10/10	
1-4	147 (10)	10/10	146 (10)	99	10/10	143 (10)	97	10/10	131 (10)	89	10/10	113 (10)	77	10/10	93 (10)	63	10/10	93 (10)	63	10/10	93 (10)	63	10/10	
1-7	162 (10)	10/10	161 (10)	99	10/10	159 (10)	98	10/10	146 (10)	90	10/10	126 (10)	78	10/10	93 (10)	57	10/10	93 (10)	57	10/10	93 (10)	57	10/10	
2-4	183 (10)	10/10	179 (10)	98	10/10	178 (10)	97	10/10	161 (10)	88	10/10	140 (10)	77	10/10	97 (10)	53	10/10	97 (10)	53	10/10	97 (10)	53	10/10	
2-7	199 (10)	10/10	194 (10)	97	10/10	192 (10)	96	10/10	175 (10)	88	10/10	151 (10)	76	10/10	102 (10)	51	10/10	102 (10)	51	10/10	102 (10)	51	10/10	

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

Av.Wt.:g

TABLE 3 SURVIVAL ANIMAL NUMBERS AND BODY WEIGHT CHANGES IN FEMALE RAT (TWO-WEEK STUDIES)

Week-Day on Study	Control				2500 ppm				5000 ppm				10000 ppm				20000 ppm				40000 ppm			
	Av.Wt.	No.of Surviv. <10>	Av.Wt.	% of cont. <10>	No.of Surviv.																			
0-0	103 (10)	10/10	103 (10)	100	10/10	103 (10)	100	10/10	103 (10)	100	10/10	103 (10)	100	10/10	103 (10)	100	10/10	103 (10)	100	10/10	103 (10)	100	10/10	
1-1	106 (10)	10/10	105 (10)	99	10/10	100 (10)	94	10/10	94 (10)	89	10/10	93 (10)	88	10/10	90 (10)	85	10/10	90 (10)	85	10/10	90 (10)	85	10/10	
1-2	108 (10)	10/10	108 (10)	99	10/10	104 (10)	95	10/10	96 (10)	88	10/10	91 (10)	83	10/10	85 (10)	78	10/10	85 (10)	78	10/10	85 (10)	78	10/10	
1-4	113 (10)	10/10	112 (10)	99	10/10	110 (10)	97	10/10	103 (10)	91	10/10	94 (10)	83	10/10	81 (10)	72	10/10	81 (10)	72	10/10	81 (10)	72	10/10	
1-7	121 (10)	10/10	121 (10)	100	10/10	116 (10)	96	10/10	111 (10)	92	10/10	101 (10)	83	10/10	80 (10)	66	10/10	80 (10)	66	10/10	80 (10)	66	10/10	
2-4	126 (10)	10/10	125 (10)	99	10/10	122 (10)	97	10/10	118 (10)	94	10/10	110 (10)	87	10/10	84 (10)	67	10/10	84 (10)	67	10/10	84 (10)	67	10/10	
2-7	135 (10)	10/10	133 (10)	99	10/10	130 (10)	96	10/10	124 (10)	92	10/10	117 (10)	87	10/10	88 (10)	65	10/10	88 (10)	65	10/10	88 (10)	65	10/10	

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

Av.Wt.:g

TABLE 4 FOOD CONSUMPTION IN MALE RAT (TWO-WEEK STUDIES)

Week-Day on Study	Control			2500 ppm			5000 ppm			10000 ppm			20000 ppm			40000 ppm		
	Av.FC.	No.of Surviv.	Av.FC.	% of cont.	No.of Surviv.	Av.FC.	% of cont.	No.of Surviv.										
		<10>			<10>			<10>			<10>			<10>			<10>	
1-1	14.3 (10)	10/10	13.6 (10)	95	10/10	12.3 (10)	86	10/10	10.0 (10)	70	10/10	6.2 (10)	43	10/10	5.6 (10)	39	10/10	
1-7	15.0 (10)	10/10	14.9 (10)	99	10/10	14.3 (10)	95	10/10	13.3 (10)	89	10/10	11.0 (10)	73	10/10	7.1 (10)	47	10/10	
2-1	14.6 (10)	10/10	13.9 (10)	95	10/10	13.6 (10)	93	10/10	13.0 (10)	89	10/10	11.7 (10)	80	10/10	7.0 (10)	48	10/10	
2-7	16.2 (10)	10/10	15.9 (10)	98	10/10	15.6 (10)	96	10/10	14.7 (10)	91	10/10	13.0 (10)	80	10/10	8.6 (10)	53	10/10	

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

TABLE 5 FOOD CONSUMPTION IN FEMALE RAT (TWO-WEEK STUDIES)

Week-Day on Study	Control			2500 ppm			5000 ppm			10000 ppm			20000 ppm			40000 ppm		
	Av.FC.	No.of Surviv.	Av.FC.	% of cont.	No.of Surviv.	Av.FC.	% of cont.	No.of Surviv.										
		<10>			<10>			<10>			<10>			<10>			<10>	
1-4	11.2 (10)	10/10	10.7 (10)	96	10/10	9.5 (10)	85	10/10	7.0 (10)	63	10/10	4.9 (10)	44	10/10	4.2 (10)	38	10/10	
1-7	11.3 (10)	10/10	11.2 (10)	99	10/10	10.6 (10)	94	10/10	10.3 (10)	91	10/10	9.2 (10)	81	10/10	8.3 (10)	73	10/10	
2-1	10.1 (10)	10/10	9.6 (10)	95	10/10	9.5 (10)	94	10/10	9.5 (10)	94	10/10	9.1 (10)	90	10/10	8.6 (10)	85	10/10	
2-7	11.5 (10)	10/10	11.5 (10)	100	10/10	11.3 (10)	98	10/10	11.2 (10)	97	10/10	10.1 (10)	88	10/10	7.9 (10)	69	10/10	

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

TABLE 6 SURVIVAL ANIMAL NUMBERS AND BODY WEIGHT CHANGES IN MALE RAT (THIRTEEN-WEEK STUDIES)

Week-Day on Study	Control		1000 ppm		2000 ppm		4000 ppm		8000 ppm		16000 ppm			
	Au.Wt. <10>	No.of Surviv. <10>	Au.Wt. <10>	% of cont. <10>	No.of Surviv. <10>									
0-0	125 (10)	10/10	125 (10)	100	10/10	125 (10)	100	10/10	125 (10)	100	10/10	125 (10)	100	10/10
1-7	153 (10)	10/10	152 (10)	99	10/10	151 (10)	99	10/10	148 (10)	97	10/10	142 (10)	93	10/10
2-7	182 (10)	10/10	181 (10)	99	10/10	180 (10)	99	10/10	175 (10)	96	10/10	169 (10)	93	10/10
3-7	208 (10)	10/10	207 (10)	100	10/10	206 (10)	99	10/10	198 (10)	95	10/10	191 (10)	92	10/10
4-7	227 (10)	10/10	227 (10)	100	10/10	224 (10)	99	10/10	218 (10)	96	10/10	210 (10)	93	10/10
5-7	246 (10)	10/10	247 (10)	100	10/10	243 (10)	99	10/10	234 (10)	95	10/10	229 (10)	93	10/10
6-7	264 (10)	10/10	265 (10)	100	10/10	259 (10)	98	10/10	249 (10)	94	10/10	243 (10)	92	10/10
7-7	275 (10)	10/10	277 (10)	101	10/10	269 (10)	98	10/10	256 (10)	93	10/10	247 (10)	90	10/10
8-7	287 (10)	10/10	289 (10)	101	10/10	282 (10)	98	10/10	270 (10)	94	10/10	262 (10)	91	10/10
9-7	301 (10)	10/10	300 (10)	100	10/10	294 (10)	98	10/10	279 (10)	93	10/10	274 (10)	91	10/10
10-7	313 (10)	10/10	313 (10)	100	10/10	303 (10)	97	10/10	288 (10)	92	10/10	285 (10)	91	10/10
11-7	321 (10)	10/10	322 (10)	100	10/10	313 (10)	98	10/10	294 (10)	92	10/10	291 (10)	91	10/10
12-7	328 (10)	10/10	331 (10)	101	10/10	319 (10)	97	10/10	302 (10)	92	10/10	298 (10)	91	10/10
13-7	335 (10)	10/10	340 (10)	101	10/10	326 (10)	97	10/10	308 (10)	92	10/10	304 (10)	91	10/10

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

Au.Wt.:g

TABLE 7 SURVIVAL ANIMAL NUMBERS AND BODY WEIGHT CHANGES IN FEMALE RAT (THIRTEEN-WEEK STUDIES)

Week-Day on Study	Control		1000 ppm		2000 ppm		4000 ppm		8000 ppm		16000 ppm			
	Au.Wt. <10>	No.of Surviv. <10>	Au.Wt. <10>	% of cont. <10>	No.of Surviv. <10>									
0-0	103 (10)	10/10	103 (10)	100	10/10	103 (10)	100	10/10	103 (10)	100	10/10	104 (10)	101	10/10
1-7	118 (10)	10/10	117 (10)	99	10/10	117 (10)	99	10/10	113 (10)	96	10/10	110 (10)	93	10/10
2-7	130 (10)	10/10	129 (10)	99	10/10	129 (10)	99	10/10	125 (10)	96	10/10	122 (10)	94	10/10
3-7	141 (10)	10/10	138 (10)	98	10/10	137 (10)	97	10/10	132 (10)	94	10/10	130 (10)	92	10/10
4-7	148 (10)	10/10	143 (10)	97	10/10	144 (10)	97	10/10	140 (10)	95	10/10	137 (10)	93	10/10
5-7	157 (10)	10/10	151 (10)	96	10/10	152 (10)	97	10/10	148 (10)	94	10/10	144 (10)	92	10/10
6-7	166 (10)	10/10	160 (10)	96	10/10	160 (10)	96	10/10	156 (10)	94	10/10	151 (10)	91	10/10
7-7	169 (10)	10/10	162 (10)	96	10/10	162 (10)	96	10/10	157 (10)	93	10/10	152 (10)	90	10/10
8-7	174 (10)	10/10	168 (10)	97	10/10	168 (10)	97	10/10	162 (10)	93	10/10	157 (10)	90	10/10
9-7	180 (10)	10/10	174 (10)	97	10/10	173 (10)	96	10/10	167 (10)	93	10/10	160 (10)	89	10/10
10-7	184 (10)	10/10	179 (10)	97	10/10	177 (10)	96	10/10	172 (10)	93	10/10	164 (10)	89	10/10
11-7	188 (10)	10/10	183 (10)	97	10/10	182 (10)	97	10/10	175 (10)	93	10/10	165 (10)	88	10/10
12-7	189 (10)	10/10	185 (10)	98	10/10	180 (10)	95	10/10	172 (10)	91	10/10	169 (10)	89	10/10
13-7	192 (10)	10/10	187 (10)	97	10/10	189 (10)	98	10/10	179 (10)	93	10/10	172 (10)	90	10/10

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

Au.Wt.:g

TABLE 8 FOOD CONSUMPTION IN MALE RAT (THIRTEEN-WEEK STUDIES)

Week-Day on Study	Control		1000 ppm		2000 ppm		4000 ppm		8000 ppm		16000 ppm			
	Au.FC.	No.of Surviv. <10>	Au.FC.	% of cont. <10>	No.of Surviv.									
1-7	13.4 (10)	10/10	13.1 (10)	98	10/10	12.8 (10)	96	10/10	12.2 (10)	91	10/10	11.1 (10)	83	10/10
2-7	14.4 (10)	10/10	14.4 (10)	100	10/10	14.1 (10)	98	10/10	13.9 (10)	97	10/10	13.6 (10)	94	10/10
3-7	15.5 (10)	10/10	15.3 (10)	99	10/10	15.2 (10)	98	10/10	14.4 (10)	93	10/10	14.3 (9)	92	10/10
4-7	15.4 (10)	10/10	15.3 (10)	99	10/10	15.1 (10)	98	10/10	14.3 (9)	93	10/10	14.4 (9)	94	10/10
5-7	15.8 (10)	10/10	15.8 (10)	100	10/10	15.6 (10)	99	10/10	14.7 (10)	93	10/10	14.6 (10)	92	10/10
6-7	15.4 (10)	10/10	15.6 (10)	101	10/10	15.2 (9)	99	10/10	14.3 (10)	93	10/10	14.2 (10)	92	10/10
7-7	15.5 (10)	10/10	15.5 (10)	100	10/10	15.1 (10)	97	10/10	14.4 (10)	93	10/10	14.3 (10)	92	10/10
8-7	15.6 (9)	10/10	16.2 (10)	104	10/10	15.9 (10)	102	10/10	15.2 (10)	97	10/10	14.9 (10)	96	10/10
9-7	16.1 (10)	10/10	15.9 (10)	99	10/10	15.6 (10)	97	10/10	15.0 (10)	93	10/10	15.2 (10)	94	10/10
10-7	15.9 (10)	10/10	16.4 (10)	103	10/10	14.5 (10)	91	10/10	15.1 (10)	95	10/10	15.5 (10)	97	10/10
11-7	15.6 (10)	10/10	15.7 (10)	101	10/10	15.7 (10)	101	10/10	14.6 (10)	94	10/10	14.9 (10)	96	10/10
12-7	15.1 (10)	10/10	15.5 (10)	103	10/10	15.2 (10)	101	10/10	14.9 (10)	99	10/10	15.1 (10)	100	10/10
13-7	15.4 (10)	10/10	15.7 (10)	102	10/10	15.1 (10)	98	10/10	14.7 (10)	95	10/10	15.0 (10)	97	10/10

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

Au.FC.: g

TABLE 9 FOOD CONSUMPTION IN FEMALE RAT (THIRTEEN-WEEK STUDIES)

Week-Day on Study	Control		1000 ppm		2000 ppm		4000 ppm		8000 ppm		16000 ppm			
	Au.FC.	No.of Surviv. <10>	Au.FC.	% of cont. <10>	No.of Surviv.									
1-7	11.2 (10)	10/10	10.7 (10)	96	10/10	12.7 (10)	113	10/10	9.9 (10)	88	10/10	9.7 (10)	87	10/10
2-7	11.3 (10)	10/10	11.1 (10)	98	10/10	11.1 (10)	98	10/10	10.4 (10)	92	10/10	10.1 (10)	89	10/10
3-7	11.7 (10)	10/10	11.5 (10)	98	10/10	11.1 (10)	95	10/10	10.2 (10)	87	10/10	10.0 (10)	85	10/10
4-7	11.1 (10)	10/10	10.4 (10)	94	10/10	10.7 (10)	96	10/10	10.3 (10)	93	10/10	10.0 (10)	90	10/10
5-7	11.8 (10)	10/10	10.7 (10)	91	10/10	11.3 (10)	96	10/10	10.7 (10)	91	10/10	10.0 (10)	85	10/10
6-7	10.9 (10)	10/10	10.7 (10)	98	10/10	11.6 (10)	106	10/10	10.3 (10)	94	10/10	9.9 (10)	91	10/10
7-7	11.2 (10)	10/10	10.6 (10)	95	10/10	11.4 (10)	102	10/10	10.2 (10)	91	10/10	9.7 (10)	87	10/10
8-7	11.4 (10)	10/10	11.2 (10)	98	10/10	11.3 (9)	99	10/10	10.9 (10)	96	10/10	10.2 (10)	89	10/10
9-7	11.5 (10)	10/10	11.4 (10)	99	10/10	12.7 (10)	110	10/10	11.0 (10)	96	10/10	10.6 (10)	92	10/10
10-7	11.7 (10)	10/10	11.3 (10)	97	10/10	11.4 (10)	97	10/10	11.3 (10)	97	10/10	10.2 (10)	87	10/10
11-7	11.8 (10)	10/10	11.3 (10)	96	10/10	12.7 (10)	108	10/10	10.6 (10)	90	10/10	9.5 (10)	81	10/10
12-7	11.1 (10)	10/10	10.8 (10)	97	10/10	11.5 (10)	104	10/10	11.0 (10)	99	10/10	10.2 (10)	92	10/10
13-7	11.5 (10)	10/10	11.1 (10)	97	10/10	12.6 (10)	110	10/10	11.0 (10)	96	10/10	10.0 (10)	87	10/10

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

Au.FC.: g

TABLE 10 SURVIVAL ANIMAL NUMBERS AND BODY WEIGHT CHANGES IN MALE MOUSE (TWO-WEEK STUDIES)

Week-Day on Study	Control			1250 ppm			2500 ppm			5000 ppm			10000 ppm			20000 ppm		
	Av.Wt.	No.of Surviv. <10>	Av.Wt.	% of cont.	No.of Surviv. <10>													
0-0	22.9 (10)	10/10	22.9 (10)	100	10/10	22.8 (10)	100	10/10	22.8 (10)	100	10/10	22.9 (10)	100	10/10	22.9 (10)	100	10/10	
1-1	22.5 (10)	10/10	22.2 (10)	99	10/10	22.2 (10)	99	10/10	21.1 (10)	94	10/10	19.5 (10)	87	10/10	19.4 (10)	86	10/10	
1-2	22.8 (10)	10/10	22.8 (10)	100	10/10	22.5 (10)	99	10/10	21.2 (10)	93	10/10	18.2 (10)	80	10/10	17.7 (10)	78	10/10	
1-4	22.8 (10)	10/10	23.0 (10)	101	10/10	22.8 (10)	100	10/10	21.8 (10)	96	10/10	17.0 (10)	75	10/10	15.8 (9)	69	9/10	
1-7	23.1 (10)	10/10	23.4 (10)	101	10/10	23.2 (10)	100	10/10	22.4 (10)	97	10/10	17.5 (9)	76	9/10	15.1 (4)	65	4/10	
2-1	24.7 (10)	10/10	24.7 (10)	100	10/10	24.4 (10)	99	10/10	24.0 (10)	97	10/10	20.1 (9)	81	9/10	16.9 (3)	68	3/10	
2-7	24.2 (10)	10/10	24.5 (10)	101	10/10	24.3 (10)	100	10/10	24.0 (10)	99	10/10	21.3 (9)	88	9/10	18.2 (3)	75	3/10	

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

Av.Wt.: g

TABLE 11 SURVIVAL ANIMAL NUMBERS AND BODY WEIGHT CHANGES IN FEMALE MOUSE (TWO-WEEK STUDIES)

Week-Day on Study	Control			1250 ppm			2500 ppm			5000 ppm			10000 ppm			20000 ppm		
	Av.Wt.	No.of Surviv. <10>	Av.Wt.	% of cont.	No.of Surviv. <10>													
0-0	18.8 (10)	10/10	18.8 (10)	101	10/10	18.9 (10)	101	10/10	18.8 (10)	100	10/10	18.9 (10)	101	10/10	18.8 (10)	100	10/10	
1-1	18.4 (10)	10/10	18.2 (10)	99	10/10	18.2 (10)	99	10/10	17.3 (10)	94	10/10	15.9 (10)	86	10/10	15.4 (10)	84	10/10	
1-2	18.5 (10)	10/10	18.4 (10)	99	10/10	18.2 (10)	98	10/10	17.5 (10)	95	10/10	14.8 (10)	80	10/10	13.3 (10)	75	10/10	
1-4	18.4 (10)	10/10	18.6 (10)	101	10/10	18.5 (10)	101	10/10	17.9 (10)	97	10/10	14.1 (10)	77	10/10	12.5 (9)	68	9/10	
1-7	18.8 (10)	10/10	18.8 (10)	100	10/10	18.4 (10)	98	10/10	18.6 (10)	99	10/10	15.4 (9)	82	9/10	12.8 (6)	68	6/10	
2-1	20.0 (10)	10/10	19.9 (10)	100	10/10	19.6 (10)	98	10/10	19.4 (10)	97	10/10	17.4 (9)	87	9/10	15.2 (4)	76	4/10	
2-7	19.8 (10)	10/10	19.9 (10)	101	10/10	19.6 (10)	99	10/10	19.4 (10)	98	10/10	18.3 (9)	92	9/10	16.6 (4)	84	4/10	

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

Av.Wt.: g

TABLE 12 FOOD CONSUMPTION IN MALE MOUSE (TWO-WEEK STUDIES)

Week-Day on Study	Control			1250 ppm			2500 ppm			5000 ppm			10000 ppm			20000 ppm		
	Au.FC.	No.of Surviv. (10)	Au.FC.	% of cont. (10)	No.of Surviv. (10)													
1-4	4.5 (10)	10/10	4.6 (10)	102	10/10	4.5 (10)	100	10/10	4.8 (10)	107	10/10	3.5 (10)	78	9/10	2.7 (10)	60	4/10	
1-7	4.7 (10)	10/10	4.6 (10)	98	10/10	4.9 (10)	104	10/10	5.8 (10)	123	10/10	5.9 (10)	126	9/10	3.7 (9)	79	4/10	
2-4	4.7 (10)	10/10	4.5 (10)	96	10/10	4.5 (10)	96	10/10	5.0 (10)	106	10/10	7.8 (9)	166	9/10	6.1 (3)	130	3/10	
2-7	4.3 (10)	10/10	4.6 (10)	107	10/10	4.6 (10)	107	10/10	4.9 (10)	114	10/10	7.3 (9)	170	9/10	6.9 (3)	160	3/10	

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

TABLE 13 FOOD CONSUMPTION IN FEMALE MOUSE (TWO-WEEK STUDIES)

Week-Day on Study	Control			1250 ppm			2500 ppm			5000 ppm			10000 ppm			20000 ppm		
	Au.FC.	No.of Surviv. (10)	Au.FC.	% of cont. (10)	No.of Surviv. (10)													
1-4	4.3 (10)	10/10	4.4 (10)	102	10/10	4.2 (10)	98	10/10	5.6 (10)	130	10/10	3.6 (10)	84	9/10	2.1 (10)	49	6/10	
1-7	4.6 (10)	10/10	4.7 (10)	102	10/10	4.7 (10)	102	10/10	6.0 (10)	130	10/10	7.6 (10)	165	9/10	3.4 (9)	74	6/10	
2-4	4.2 (10)	10/10	4.4 (10)	105	10/10	4.1 (10)	98	10/10	4.4 (10)	105	10/10	6.8 (9)	162	9/10	5.5 (5)	131	4/10	
2-7	4.2 (10)	10/10	4.5 (10)	107	10/10	4.6 (10)	110	10/10	4.4 (10)	105	10/10	5.7 (9)	136	9/10	6.4 (4)	152	4/10	

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

TABLE 14 SURVIVAL ANIMAL NUMBERS AND BODY WEIGHT CHANGES IN MALE MOUSE (THIRTEEN-WEEK STUDIES)

Week on Study	Control		500 ppm		2000 ppm		4000 ppm		8000 ppm		10000 ppm		16000 ppm				
	Au.Wt. <10>	No.of Surviv. <10>	Au.Wt. <10>	% of cont. <10>	No.of Surviv. <10>												
0	23.3 (10)	10/10	23.3 (10)	100	10/10	23.3 (10)	100	10/10	23.4 (9)	100	10/10	23.3 (10)	100	10/10	23.3 (10)	100	10/10
1	23.0 (10)	10/10	24.1 (10)	101	10/10	23.6 (10)	99	10/10	22.9 (10)	98	10/10	22.8 (9)	95	10/10	23.2 (10)	97	10/10
2	25.0 (10)	10/10	25.6 (10)	102	10/10	25.2 (10)	101	10/10	24.6 (10)	98	10/10	21.7 (9)	87	10/10	21.9 (10)	88	10/10
3	25.9 (10)	10/10	26.1 (10)	101	10/10	25.9 (10)	100	10/10	25.2 (10)	97	10/10	22.7 (9)	88	10/10	22.7 (10)	88	10/10
4	25.8 (10)	10/10	27.2 (10)	101	10/10	26.7 (10)	100	10/10	25.0 (10)	97	10/10	23.8 (9)	89	10/10	24.1 (10)	90	10/10
5	27.6 (10)	10/10	28.0 (10)	101	10/10	27.6 (10)	100	10/10	26.6 (10)	96	10/10	24.4 (9)	88	10/10	25.5 (10)	92	10/10
6	28.2 (10)	10/10	28.4 (10)	101	10/10	28.0 (10)	99	10/10	27.2 (10)	96	10/10	24.8 (9)	88	10/10	24.9 (10)	88	10/10
7	28.2 (10)	10/10	28.7 (10)	102	10/10	28.1 (10)	100	10/10	27.0 (10)	96	10/10	24.6 (9)	87	10/10	24.1 (10)	85	10/10
8	26.2 (10)	10/10	25.4 (10)	97	10/10	25.5 (10)	97	10/10	24.0 (10)	92	10/10	21.8 (9)	83	10/10	22.1 (10)	84	10/10
9	20.0 (10)	10/10	29.7 (10)	102	10/10	29.2 (10)	101	10/10	27.8 (10)	96	10/10	25.4 (9)	88	10/10	25.7 (10)	89	10/10
10	26.7 (10)	10/10	26.6 (10)	100	10/10	25.8 (10)	97	10/10	25.1 (10)	94	10/10	24.0 (9)	90	10/10	23.5 (10)	88	10/10
11	30.2 (10)	10/10	30.0 (10)	99	10/10	30.0 (10)	99	10/10	28.1 (10)	93	10/10	25.7 (9)	85	10/10	27.6 (10)	91	10/10
12	31.1 (10)	10/10	30.0 (10)	99	10/10	30.8 (10)	99	10/10	29.0 (10)	93	10/10	26.6 (9)	86	10/10	27.0 (10)	87	10/10
13	32.5 (10)	10/10	31.5 (10)	97	10/10	31.4 (10)	97	10/10	29.5 (10)	91	10/10	27.1 (9)	83	9/ 9	27.6 (10)	85	10/10

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

Au.Wt.:g

TABLE 15 SURVIVAL ANIMAL NUMBERS AND BODY WEIGHT CHANGES IN FEMALE MOUSE (THIRTEEN-WEEK STUDIES)

Week on Study	Control		500 ppm		2000 ppm		4000 ppm		8000 ppm		10000 ppm		16000 ppm				
	Au.Wt. <10>	No.of Surviv. <10>	Au.Wt. <10>	% of cont. <10>	No.of Surviv. <10>												
0	18.8 (10)	10/10	18.8 (10)	100	10/10	18.8 (10)	100	10/10	18.8 (10)	100	10/10	18.8 (10)	100	10/10	18.8 (10)	100	10/10
1	18.0 (10)	10/10	19.0 (10)	101	10/10	18.7 (10)	99	10/10	18.5 (10)	98	10/10	18.7 (10)	99	10/10	18.3 (10)	97	10/10
2	10.7 (10)	10/10	19.0 (10)	101	10/10	19.8 (10)	101	10/10	19.6 (10)	99	10/10	18.7 (10)	95	10/10	16.8 (10)	85	10/10
3	20.0 (10)	10/10	20.1 (10)	101	10/10	19.6 (10)	98	10/10	19.6 (10)	98	10/10	19.6 (10)	98	10/10	17.5 (10)	88	10/10
4	20.7 (10)	10/10	21.1 (10)	102	10/10	20.6 (10)	100	10/10	20.4 (10)	99	10/10	20.1 (10)	97	10/10	19.2 (10)	93	10/10
5	20.0 (10)	10/10	21.3 (10)	102	10/10	20.9 (10)	100	10/10	20.5 (10)	98	10/10	20.4 (10)	98	10/10	19.9 (10)	95	10/10
6	21.0 (10)	10/10	21.0 (10)	100	10/10	21.7 (10)	99	10/10	21.6 (10)	99	10/10	21.0 (10)	96	10/10	18.8 (10)	86	10/10
7	22.0 (10)	10/10	22.3 (10)	101	10/10	22.4 (10)	102	10/10	22.2 (10)	101	10/10	21.0 (10)	95	10/10	19.8 (10)	90	10/10
8	20.2 (10)	10/10	18.0 (10)	89	10/10	18.3 (10)	91	10/10	18.8 (10)	93	10/10	18.2 (10)	90	10/10	18.3 (10)	91	10/10
9	22.8 (10)	10/10	23.7 (10)	103	10/10	23.5 (10)	103	10/10	23.0 (10)	100	10/10	22.1 (10)	97	10/10	21.1 (10)	92	10/10
10	20.4 (10)	10/10	20.0 (10)	98	10/10	20.6 (10)	101	10/10	19.7 (10)	97	10/10	19.9 (10)	98	10/10	19.4 (10)	95	10/10
11	23.5 (10)	10/10	23.5 (10)	100	10/10	23.5 (10)	100	10/10	22.9 (10)	97	10/10	22.1 (10)	94	10/10	21.5 (10)	91	10/10
12	23.6 (10)	10/10	23.6 (10)	100	10/10	23.4 (10)	99	10/10	22.9 (10)	97	10/10	22.3 (10)	94	10/10	21.1 (10)	89	10/10
13	23.8 (10)	10/10	24.2 (10)	101	10/10	24.3 (10)	102	10/10	23.3 (10)	97	10/10	22.4 (10)	94	10/10	21.9 (10)	92	10/10

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

Au.Wt.:g

(Study No. 0185, 0186)

TABLE 16 FOOD CONSUMPTION IN MALE MOUSE (THIRTEEN-WEEK STUDIES)

Week-Day on Study	Control		500 ppm		2000 ppm		4000 ppm		8000 ppm		10000 ppm		16000 ppm				
	Av.FC.	No. of Surviv. <10>	Av.FC.	% of cont. <10>	No. of Surviv.	Av.FC.	% of cont. <10>	No. of Surviv.	Av.FC.	% of cont. <10>	No. of Surviv.	Av.FC.	% of cont. <10>	No. of Surviv.	Av.FC.	% of cont. <10>	No. of Surviv.
1-7	6.0 (10)	10/10	5.1 (10)	85	10/10	5.0 (10)	83	10/10	5.2 (10)	87	10/10	5.0 (9)	83	10/10	4.9 (10)	82	10/10
2-7	5.0 (10)	10/10	5.0 (10)	100	10/10	5.0 (10)	100	10/10	5.0 (10)	100	10/10	5.3 (9)	106	10/10	5.7 (10)	114	10/10
3-7	5.1 (10)	10/10	5.0 (10)	98	10/10	5.0 (10)	98	10/10	5.0 (10)	98	10/10	5.4 (9)	106	10/10	5.7 (10)	112	10/10
4-7	5.1 (10)	10/10	5.1 (10)	100	10/10	4.8 (10)	94	10/10	4.8 (10)	94	10/10	5.0 (9)	98	10/10	5.0 (10)	98	10/10
5-7	5.5 (10)	10/10	6.0 (10)	108	10/10	5.7 (10)	104	10/10	5.8 (10)	105	10/10	6.5 (9)	118	10/10	6.3 (10)	115	10/10
6-7	5.1 (10)	10/10	4.9 (10)	95	10/10	5.2 (10)	102	10/10	5.3 (10)	104	10/10	5.6 (9)	110	10/10	5.6 (10)	110	10/10
7-7	4.6 (10)	10/10	5.1 (10)	111	10/10	5.2 (10)	113	10/10	4.9 (10)	107	10/10	5.0 (9)	109	10/10	4.6 (10)	100	10/10
8-7	4.3 (10)	10/10	4.0 (10)	93	10/10	4.5 (10)	105	10/10	4.0 (10)	93	10/10	4.1 (9)	95	10/10	4.5 (10)	105	10/10
9-7	5.0 (10)	10/10	5.0 (10)	118	10/10	5.5 (10)	110	10/10	5.5 (10)	110	10/10	6.2 (9)	124	10/10	6.1 (10)	122	10/10
10-7	4.1 (10)	10/10	4.0 (10)	98	10/10	4.0 (10)	98	10/10	4.2 (10)	102	10/10	4.7 (9)	115	10/10	4.3 (10)	105	10/10
11-7	5.5 (10)	10/10	5.4 (10)	98	10/10	5.8 (10)	105	10/10	5.6 (10)	102	10/10	5.5 (9)	100	10/10	5.8 (10)	105	10/10
12-7	5.4 (10)	10/10	5.4 (10)	100	10/10	5.6 (10)	104	10/10	5.8 (10)	107	10/10	5.7 (9)	106	10/10	5.6 (10)	104	10/10
13-7	5.5 (10)	10/10	5.0 (10)	91	10/10	5.2 (10)	95	10/10	5.2 (10)	95	10/10	5.4 (9)	98	9/9	5.2 (10)	95	10/10

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

Av.FC.: g

TABLE 17 FOOD CONSUMPTION IN FEMALE MOUSE (THIRTEEN-WEEK STUDIES)

Week-Day on Study	Control		500 ppm		2000 ppm		4000 ppm		8000 ppm		10000 ppm		16000 ppm				
	Av.FC.	No. of Surviv. <10>	Av.FC.	% of cont. <10>	No. of Surviv.												
1-7	5.1 (10)	10/10	5.1 (10)	100	10/10	4.5 (10)	88	10/10	4.9 (10)	96	10/10	4.7 (10)	92	10/10	5.5 (10)	103	10/10
2-7	4.1 (10)	10/10	4.3 (10)	105	10/10	4.0 (10)	98	10/10	4.1 (10)	100	10/10	4.6 (10)	112	10/10	5.4 (10)	132	10/10
3-7	5.0 (10)	10/10	4.7 (10)	94	10/10	4.5 (10)	90	10/10	4.7 (10)	94	10/10	5.1 (10)	102	10/10	6.0 (10)	120	10/10
4-7	5.4 (10)	10/10	5.2 (10)	96	10/10	4.9 (10)	91	10/10	4.8 (10)	89	10/10	5.0 (10)	93	10/10	5.3 (10)	98	10/10
5-7	5.3 (10)	10/10	5.9 (10)	111	10/10	5.6 (10)	106	10/10	5.7 (10)	108	10/10	6.1 (10)	115	10/10	6.4 (10)	121	10/10
6-7	5.0 (10)	10/10	5.6 (10)	95	10/10	5.6 (10)	95	10/10	5.6 (10)	95	10/10	5.7 (10)	97	10/10	6.0 (10)	102	10/10
7-7	5.1 (10)	10/10	5.8 (10)	114	10/10	5.9 (10)	116	10/10	5.9 (10)	116	10/10	5.2 (10)	102	10/10	5.2 (10)	102	10/10
8-7	4.4 (10)	10/10	3.0 (10)	89	10/10	4.3 (10)	98	10/10	4.0 (10)	91	10/10	4.1 (10)	93	10/10	4.4 (10)	100	10/10
9-7	5.3 (10)	10/10	6.6 (10)	125	10/10	6.4 (10)	121	10/10	6.1 (10)	115	10/10	6.3 (10)	119	10/10	6.2 (10)	117	10/10
10-7	4.4 (10)	10/10	4.3 (10)	93	10/10	4.2 (10)	95	10/10	4.0 (10)	91	10/10	4.3 (10)	98	10/10	4.0 (10)	91	10/10
11-7	6.2 (10)	10/10	6.4 (10)	103	10/10	6.2 (10)	100	10/10	5.8 (10)	94	10/10	6.1 (10)	98	10/10	6.0 (10)	97	10/10
12-7	5.7 (10)	10/10	5.8 (10)	102	10/10	5.7 (10)	100	10/10	5.7 (10)	100	10/10	5.9 (10)	104	10/10	6.1 (10)	107	10/10
13-7	5.0 (10)	10/10	5.7 (10)	97	10/10	5.3 (10)	90	10/10	5.3 (10)	90	10/10	5.4 (10)	92	10/10	5.2 (10)	88	10/10

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

Av.FC.: g