キノリンのラットを用いた経口投与による
13 週 間 毒 性 試 験（混 水 試 験）報 告 書

試験番号：０２８９

TABLES

TABLES

TABLE 1 EXPERIMENTAL DESIGN AND MATERIALS AND METHODS IN THE 2-WEEK DRINKING STUDY OF QUINOLINE

13-week study

<Method of Administration>
Drinking Water
<Number of Groups>
Male 6, Female 6
<Size of Groups>
10 males and 10 females of each group
<Animals>
Strain and Species
F344/DuCrj (Fischer) rat
Animal Source
Charles River Japan, Inc.
Duration Held Before Study
2 wk
Age When Placed on Study
6 wk
Age When Killed
19 wk
<Doses>
<Male> 0, 158, 237, 355, 533 or 800 ppm
<Female> 0, 158, 237, 355, 533 or 800 ppm
<Duration of Dosing>
7d/wk for 13wk
<Animal Maintenance>
Feed
CRF-1 (Oriental Yeast Co., Ltd.)
Sterilized by γ-ray
Available *ad libitum*
Water
Filtrated and sterilized by ultraviolet ray
Automatic watering system in duration of quarantine
Glass bottle in duration of acclimation and administration
Available *ad libitum*
Animal per Cage
Single (stainless steel wire)
Animal Room Environment
Barrier system
Temperature : 24±2℃
Humidity : 55±10%
Fluorescent light 12h/d
15~17 room air changes /h
<Type and Frequency of Observation>
Clinical Sign
Observed 1 per d
Body Weight
Weighed 1 per wk for 13wk
Food Consumption
Weighed 1 per wk for 13wk
Water Consumption
Weighed 1 per wk for 13wk

TABLE 1 (Continued) EXPERIMENTAL DESIGN AND MATERIALS AND METHODS IN THE 2-WEEK DRINKING STUDY OF QUINOLINE

2-week study
<Hematology> Red blood cell (RBC), Hemoglobin, Hematocrit, Mean Corpuscular Volume (MCV), Mean Corpuscular hemoglobin (MCH), Mean Corpuscular hemoglobin concentrate (MCHC), Platelet, Reticurocyte, Prothrombin time (PT), Activated partial thromboplastin time (APTT) White blood cell (WBC), Differential WBC, <Biochemistry> Total protein, Albumin, A/G ratio, Total bilirubin, Glucose, Total cholesterol, Triglyceride, Phospholipid, Glutamic oxaloacetic transaminase (GOT), Alkaline phosphatase (ALP), Glutamic pyruvic transaminase (GPT), Lactate dehydrogenase (LDH), γ -Glutamyl transpeptidase (G-GTP) Creatine phosphokinase (CPK), Urea nitrogen, Sodium, Potassium, Chloride, Calcium, Inorganic phosphorus. <Urinalysis> pH, Protein, Glucose, Ketone body, Bilirubin, Occult blood, Urobilinogen <Necropsy> Necropsy performed on all animals. <Organ Weight> Organ weight measurement performed on scheduled sacrificed animals. The following organs were weighed; thymus, adrenal, testis, ovary, heart, lung, kidney, spleen, liver, and brain. <Histopathologic Examination> Histopathologic examination performed on all animals The following organs were examined; skin, nasal cavity, nasopharynx, larynx, trachea, lung, bone marrow, lymph node, thymus, spleen, heart, tongue, salivary gland, esophagus, stomach, small intestine, large intestine, liver, gall bladder, pancreas, kidney, urinary bladder, pituitary, thyroid, parathyroid, adrenal, testis, epididymis, seminal vesicle, prostate, ovary, uterus, vagina, mammary gland, brain, spinal cord, peripheral nerve, eye, Harderian gland, muscle, bone, other organs/tissues with gross lesions.

TABLE 2 SURVIVAL ANIMAL NUMBERS AND BODY WEIGHT CHANGES OF MALE RATS IN THE 13-WEEK DRINKING WATER STUDY OF QUINOLINE

Week on Study	Control Av.Wt. <10>	Control No. of Surviv.	158ppm Av.Wt.	158ppm % of cont. <10>	158ppm No. of Surviv.	237ppm Av.Wt.	237ppm % of cont. <10>	237ppm No. of Surviv.	355ppm Av.Wt.	355ppm % of cont. <10>	355ppm No. of Surviv.	533ppm Av.Wt.	533ppm % of cont. <10>	533ppm No. of Surviv.	800ppm Av.Wt.	800ppm % of cont. <10>	800ppm No. of Surviv.
0	124 (10)	10/10	124 (10)	100	10/10	124 (10)	100	10/10	124 (10)	100	10/10	124 (10)	100	10/10	124 (10)	100	10/10
1	155 (10)	10/10	151 (10)	97	10/10	149 (10)	96	10/10	148 (10)	95	10/10	143 (10)	92	10/10	127 (10)	82	10/10
2	187 (10)	10/10	184 (10)	98	10/10	177 (10)	95	10/10	178 (10)	95	10/10	173 (10)	93	10/10	156 (10)	83	10/10
3	212 (10)	10/10	211 (10)	100	10/10	203 (10)	96	10/10	205 (10)	97	10/10	199 (10)	94	10/10	185 (10)	87	10/10
4	235 (10)	10/10	234 (10)	100	10/10	224 (10)	95	10/10	227 (10)	97	10/10	221 (10)	94	10/10	207 (10)	88	10/10
5	229 (10)	10/10	250 (10)	109	10/10	240 (10)	105	10/10	242 (10)	106	10/10	238 (10)	104	10/10	224 (10)	98	10/10
6	253 (10)	10/10	264 (10)	104	10/10	254 (10)	100	10/10	256 (10)	101	10/10	250 (10)	99	10/10	238 (10)	94	10/10
7	270 (10)	10/10	276 (10)	102	10/10	266 (10)	99	10/10	265 (10)	98	10/10	260 (10)	96	10/10	248 (10)	92	10/10
8	284 (10)	10/10	288 (10)	101	10/10	277 (10)	98	10/10	278 (10)	98	10/10	273 (10)	96	10/10	261 (10)	92	10/10
9	295 (10)	10/10	298 (10)	101	10/10	288 (10)	98	10/10	289 (10)	98	10/10	284 (10)	96	10/10	271 (10)	92	10/10
10	304 (10)	10/10	306 (10)	101	10/10	298 (10)	98	10/10	300 (10)	99	10/10	295 (10)	97	10/10	280 (10)	92	10/10
11	312 (10)	10/10	314 (10)	101	10/10	303 (10)	97	10/10	307 (10)	98	10/10	299 (10)	96	10/10	288 (10)	92	10/10
12	319 (10)	10/10	320 (10)	100	10/10	309 (10)	97	10/10	312 (10)	98	10/10	308 (10)	97	10/10	292 (10)	92	10/10
13	324 (10)	10/10	327 (10)	101	10/10	315 (10)	97	10/10	320 (10)	99	10/10	317 (10)	98	10/10	302 (10)	93	10/10

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

TABLE 3 SURVIVAL ANIMAL NUMBERS AND BODY WEIGHT CHANGES OF FEMALE RATS IN THE 13-WEEK DRINKING WATER STUDY OF QUINOLINE

Week on Study	Control Av.Wt. <10>	Control No. of Surviv.	158ppm Av.Wt.	158ppm % of cont. <10>	158ppm No. of Surviv.	237ppm Av.Wt.	237ppm % of cont. <10>	237ppm No. of Surviv.	355ppm Av.Wt.	355ppm % of cont. <10>	355ppm No. of Surviv.	533ppm Av.Wt.	533ppm % of cont. <10>	533ppm No. of Surviv.	800ppm Av.Wt.	800ppm % of cont. <10>	800ppm No. of Surviv.
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
1	119 (10)	10/10	117 (10)	98	10/10	112 (10)	94	10/10	111 (10)	93	10/10	104 (10)	87	10/10	86 (10)	72	10/10
2	133 (10)	10/10	132 (10)	99	10/10	128 (10)	96	10/10	127 (10)	95	10/10	121 (10)	91	10/10	104 (10)	78	10/10
3	146 (10)	10/10	144 (10)	99	10/10	140 (10)	96	10/10	136 (10)	93	10/10	132 (10)	90	10/10	120 (10)	82	10/10
4	154 (10)	10/10	152 (10)	99	10/10	147 (10)	95	10/10	144 (10)	94	10/10	140 (10)	91	10/10	130 (10)	84	10/10
5	160 (10)	10/10	159 (10)	99	10/10	153 (10)	96	10/10	150 (10)	94	10/10	147 (10)	92	10/10	137 (10)	86	10/10
6	168 (10)	10/10	165 (10)	98	10/10	157 (10)	93	10/10	154 (10)	92	10/10	151 (10)	90	10/10	141 (10)	84	10/10
7	174 (10)	10/10	169 (10)	97	10/10	162 (10)	93	10/10	158 (10)	91	10/10	154 (10)	89	10/10	144 (10)	83	10/10
8	178 (10)	10/10	173 (10)	97	10/10	167 (10)	94	10/10	163 (10)	92	10/10	158 (10)	89	10/10	149 (10)	84	10/10
9	184 (10)	10/10	178 (10)	97	10/10	172 (10)	93	10/10	166 (10)	90	10/10	162 (10)	88	10/10	152 (10)	83	10/10
10	187 (10)	10/10	179 (10)	96	10/10	175 (10)	94	10/10	170 (10)	91	10/10	168 (10)	90	10/10	154 (10)	82	10/10
11	189 (10)	10/10	184 (10)	97	10/10	177 (10)	94	10/10	172 (10)	91	10/10	169 (10)	89	10/10	157 (10)	83	10/10
12	192 (10)	10/10	185 (10)	96	10/10	178 (10)	93	10/10	174 (10)	91	10/10	172 (10)	90	10/10	159 (10)	83	10/10
13	193 (10)	10/10	186 (10)	96	10/10	179 (10)	93	10/10	174 (10)	90	10/10	172 (10)	89	10/10	161 (10)	83	10/10

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

TABLE 4 WATER CONSUMPTION CHANGES OF MALE RATS IN THE 13-WEEK DRINKING WATER STUDY OF QUINOLINE

Week on Study	Control			158ppm				237ppm				355ppm				533ppm				800ppm			
	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>					<10>				<10>				<10>				<10>				<10>	
1	17.2	(10)	10/10	14.7	(10)	85	10/10	13.5	(10)	78	10/10	12.1	(10)	70	10/10	10.5	(10)	61	10/10	7.5	(10)	44	10/10
2	18.0	(10)	10/10	16.0	(10)	89	10/10	14.3	(10)	79	10/10	12.8	(10)	71	10/10	12.2	(10)	68	10/10	10.7	(10)	59	10/10
3	18.8	(10)	10/10	16.8	(10)	89	10/10	14.5	(10)	77	10/10	13.1	(10)	70	10/10	12.7	(10)	68	10/10	11.5	(10)	61	10/10
4	19.6	(10)	10/10	17.0	(10)	86	10/10	15.2	(10)	78	10/10	13.4	(10)	68	10/10	13.0	(10)	66	10/10	11.8	(10)	60	10/10
5	10.8	(10)	10/10	17.0	(10)	157	10/10	15.6	(10)	144	10/10	13.4	(10)	124	10/10	13.0	(10)	120	10/10	11.8	(10)	109	10/10
6	20.2	(10)	10/10	16.1	(10)	80	10/10	14.4	(10)	71	10/10	13.0	(10)	64	10/10	12.3	(10)	61	10/10	11.5	(10)	57	10/10
7	19.8	(10)	10/10	15.9	(10)	80	10/10	14.6	(10)	74	10/10	12.7	(10)	64	10/10	12.3	(10)	62	10/10	11.4	(10)	57	10/10
8	19.4	(10)	10/10	16.2	(10)	84	10/10	14.4	(10)	74	10/10	13.3	(10)	69	10/10	12.8	(10)	66	10/10	12.1	(10)	62	10/10
9	19.3	(10)	10/10	15.9	(10)	82	10/10	14.6	(10)	75	10/10	14.1	(10)	73	10/10	12.7	(10)	65	10/10	11.6	(10)	60	10/10
10	19.3	(10)	10/10	18.7	(10)	97	10/10	15.2	(10)	78	10/10	13.6	(10)	70	10/10	13.1	(10)	68	10/10	12.0	(10)	62	10/10
11	18.8	(10)	10/10	16.2	(10)	86	10/10	14.6	(10)	77	10/10	13.6	(10)	72	10/10	13.2	(10)	70	10/10	12.3	(10)	65	10/10
12	18.7	(10)	10/10	16.2	(10)	86	10/10	14.8	(10)	79	10/10	13.1	(10)	70	10/10	13.0	(10)	69	10/10	11.7	(10)	63	10/10
13	18.5	(10)	10/10	16.4	(10)	89	10/10	14.3	(10)	78	10/10	13.6	(10)	74	10/10	13.0	(10)	71	10/10	12.1	(10)	65	10/10

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

(Study No. 0289)

TABLE 5 WATER CONSUMPTION CHANGES OF FEMALE RATS IN THE 13-WEEK DRINKING WATER STUDY OF QUINOLINE

Week on Study	Control Av.FC. <10>	Control No. of Surviv.	158ppm Av.FC.	158ppm % of cont. <10>	158ppm No. of Surviv.	237ppm Av.FC.	237ppm % of cont. <10>	237ppm No. of Surviv.	355ppm Av.FC.	355ppm % of cont. <10>	355ppm No. of Surviv.	533ppm Av.FC.	533ppm % of cont. <10>	533ppm No. of Surviv.	800ppm Av.FC.	800ppm % of cont. <10>	800ppm No. of Surviv
1	13.7 (10)	10/10	12.8 (10)	93	10/10	10.4 (10)	76	10/10	11.3 (10)	83	10/10	7.7 (10)	56	10/10	4.3 (10)	31	10/10
2	15.8 (10)	10/10	12.7 (10)	80	10/10	11.5 (10)	73	10/10	11.8 (10)	75	10/10	9.3 (10)	59	10/10	7.7 (10)	49	10/10
3	15.4 (10)	10/10	12.7 (10)	82	10/10	11.3 (10)	73	10/10	11.4 (10)	74	10/10	9.2 (10)	59	10/10	8.0 (10)	52	10/10
4	15.0 (10)	10/10	11.9 (10)	80	10/10	10.4 (10)	70	10/10	10.2 (10)	68	10/10	8.9 (10)	59	10/10	7.8 (10)	52	10/10
5	14.9 (10)	10/10	11.9 (10)	79	10/10	10.0 (10)	67	10/10	10.0 (10)	67	10/10	8.8 (10)	59	10/10	7.8 (10)	53	10/10
6	14.8 (10)	10/10	11.2 (10)	75	10/10	9.7 (10)	65	10/10	10.0 (10)	67	10/10	8.1 (10)	54	10/10	7.3 (10)	49	10/10
7	14.9 (10)	10/10	11.1 (10)	74	10/10	9.6 (10)	64	10/10	10.3 (10)	69	10/10	8.5 (10)	57	10/10	7.1 (10)	48	10/10
8	15.1 (10)	10/10	11.2 (10)	74	10/10	9.6 (10)	63	10/10	10.2 (10)	67	10/10	8.3 (10)	55	10/10	7.4 (10)	49	10/10
9	16.0 (10)	10/10	11.0 (10)	69	10/10	9.5 (10)	60	10/10	9.9 (10)	62	10/10	8.4 (10)	52	10/10	7.1 (10)	44	10/10
10	14.7 (10)	10/10	10.9 (10)	74	10/10	9.6 (10)	65	10/10	10.2 (10)	69	10/10	8.6 (10)	58	10/10	7.4 (10)	50	10/10
11	14.7 (10)	10/10	11.2 (10)	76	10/10	9.8 (10)	66	10/10	9.4 (10)	64	10/10	8.5 (10)	58	10/10	7.4 (10)	50	10/10
12	14.5 (10)	10/10	11.0 (10)	76	10/10	10.1 (10)	69	10/10	9.3 (10)	64	10/10	8.5 (10)	58	10/10	7.4 (10)	51	10/10
13	14.2 (10)	10/10	10.6 (10)	75	10/10	8.7 (10)	61	10/10	9.7 (10)	68	10/10	7.7 (10)	54	10/10	7.3 (10)	52	10/10

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

TABLE 6 FOOD CONSUMPTION CHANGES OF MALE RATS IN THE 13-WEEK FEED STUDY OF QUINOLINE

Week on Study	Control			158ppm				237ppm				355ppm				533ppm				800ppm			
	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>					<10>				<10>				<10>				<10>				<10>	
1	13.8	(10)	10/10	13.2	(10)	96	10/10	12.9	(10)	93	10/10	12.5	(10)	91	10/10	11.4	(10)	83	10/10	9.6	(10)	70	10/10
2	15.3	(10)	10/10	15.0	(10)	98	10/10	14.3	(10)	93	10/10	14.1	(10)	92	10/10	13.6	(10)	89	10/10	12.8	(10)	84	10/10
3	15.5	(10)	10/10	15.9	(10)	103	10/10	14.7	(10)	95	10/10	14.9	(10)	96	10/10	14.5	(10)	94	10/10	14.1	(10)	91	10/10
4	16.1	(9)	10/10	16.6	(10)	103	10/10	15.8	(10)	98	10/10	15.6	(10)	97	10/10	15.1	(10)	94	10/10	14.9	(10)	93	10/10
5	10.7	(10)	10/10	16.5	(10)	154	10/10	15.3	(10)	143	10/10	15.5	(10)	145	10/10	15.3	(10)	143	10/10	15.1	(10)	141	10/10
6	16.9	(10)	10/10	15.8	(10)	93	10/10	14.9	(10)	88	10/10	15.1	(10)	89	10/10	14.9	(10)	88	10/10	14.6	(10)	86	10/10
7	15.9	(7)	10/10	15.8	(10)	99	10/10	15.0	(10)	94	10/10	14.9	(10)	94	10/10	14.5	(10)	91	10/10	14.5	(10)	91	10/10
8	16.3	(10)	10/10	15.8	(10)	97	10/10	14.7	(10)	90	10/10	15.5	(10)	95	10/10	14.9	(10)	91	10/10	14.7	(10)	90	10/10
9	15.7	(10)	10/10	15.6	(10)	99	10/10	14.6	(10)	93	10/10	15.5	(10)	99	10/10	15.0	(10)	96	10/10	14.9	(10)	95	10/10
10	15.4	(10)	10/10	15.7	(10)	102	10/10	14.8	(10)	96	10/10	15.5	(10)	101	10/10	15.0	(10)	97	10/10	14.7	(10)	95	10/10
11	15.0	(10)	10/10	15.4	(10)	103	10/10	14.4	(10)	96	10/10	15.3	(10)	102	10/10	14.7	(10)	98	10/10	14.8	(10)	99	10/10
12	14.8	(10)	10/10	15.4	(10)	104	10/10	14.6	(10)	99	10/10	15.0	(10)	101	10/10	15.2	(10)	103	10/10	14.4	(10)	97	10/10
13	15.3	(10)	10/10	15.9	(10)	104	10/10	14.8	(10)	97	10/10	15.7	(10)	103	10/10	15.2	(10)	99	10/10	15.2	(10)	99	10/10

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

(Study No. 0289)

TABLE 7 FOOD CONSUMPTION CHANGES OF FEMALE RATS IN THE 13-WEEK FEED STUDY OF QUINOLINE

Week on Study	Control			158ppm				237ppm				355ppm				533ppm				800ppm			
	Av.FC. <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.	Av.FC.		% of cont. <10>	No. of Surviv.
1	11.1	(10)	10/10	10.5	(10)	95	10/10	9.5	(10)	86	10/10	9.8	(10)	88	10/10	8.6	(10)	77	10/10	5.7	(10)	51	10/10
2	11.0	(10)	10/10	10.9	(10)	99	10/10	10.8	(10)	98	10/10	10.6	(10)	96	10/10	10.2	(10)	93	10/10	8.7	(10)	79	10/10
3	11.1	(10)	10/10	11.1	(10)	100	10/10	11.0	(10)	99	10/10	10.6	(10)	95	10/10	10.5	(10)	95	10/10	10.2	(10)	92	10/10
4	10.8	(10)	10/10	10.9	(10)	101	10/10	10.5	(10)	97	10/10	10.4	(10)	96	10/10	10.6	(10)	98	10/10	10.4	(10)	96	10/10
5	10.8	(10)	10/10	10.9	(10)	101	10/10	10.3	(10)	95	10/10	10.4	(10)	96	10/10	10.3	(10)	95	10/10	10.1	(10)	94	10/10
6	10.5	(10)	10/10	10.4	(10)	99	10/10	10.0	(10)	95	10/10	9.9	(10)	94	10/10	10.0	(10)	95	10/10	9.6	(10)	91	10/10
7	10.6	(10)	10/10	10.4	(10)	98	10/10	10.0	(10)	94	10/10	9.9	(10)	93	10/10	10.1	(10)	95	10/10	9.5	(10)	90	10/10
8	10.6	(10)	10/10	10.2	(10)	96	10/10	10.1	(10)	95	10/10	10.2	(10)	96	10/10	10.0	(10)	94	10/10	9.8	(10)	92	10/10
9	10.4	(10)	10/10	10.2	(10)	98	10/10	10.2	(10)	98	10/10	10.1	(10)	97	10/10	10.1	(10)	97	10/10	9.7	(10)	93	10/10
10	10.3	(10)	10/10	10.1	(10)	98	10/10	10.0	(10)	97	10/10	10.1	(10)	98	10/10	10.0	(10)	97	10/10	9.3	(10)	90	10/10
11	9.9	(10)	10/10	10.1	(10)	102	10/10	9.8	(10)	99	10/10	9.9	(10)	100	10/10	10.2	(10)	103	10/10	9.6	(10)	97	10/10
12	10.0	(10)	10/10	10.0	(10)	100	10/10	9.8	(10)	98	10/10	9.9	(10)	99	10/10	10.0	(10)	100	10/10	9.6	(10)	96	10/10
13	9.7	(10)	10/10	9.8	(10)	101	10/10	9.5	(10)	98	10/10	9.7	(10)	100	10/10	9.8	(10)	101	10/10	9.8	(10)	101	10/10

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