

Table 7 Absolute organ weights (g) in rats treated with the enzymatically-decomposed rutin by dietary administration for 52 weeks

Group	Final bw	Brain	Pitui.	Thyroid	Thym.	Heart	Lung	Liver	Spleen	Adren.	Kidney	Testes	Ovaries		
Male	Cont.	Mean	535.3	2.28	0.031	0.038	0.124	1.29	1.75	17.03	1.06	0.073	3.12	3.53	
		SD	68.7	0.11	0.070	0.028	0.050	0.18	0.20	3.45	0.30	0.039	1.12	0.81	
	0.04%	Mean	550.5	2.32	0.014	0.036	0.133	1.24	1.79	17.06	0.98	0.062	2.91	3.78	
		SD	73.4	0.10	0.005	0.014	0.060	0.16	0.25	2.59	0.35	0.012	0.38	0.42	
	0.2%	Mean	553.7	2.30	0.012	0.035	0.126	1.26	1.80	16.42	0.94	0.060	2.87	3.82	
		SD	42.9	0.09	0.002	0.016	0.040	0.12	0.14	1.63	0.11	0.008	0.27	0.31	
	1%	Mean	525.4	2.29	0.012*	0.033	0.125	1.21	1.74	15.41	0.91	0.060	2.74	3.76	
		SD	48.2	0.10	0.002	0.013	0.030	0.12	0.18	1.69	0.16	0.007	0.22	0.36	
	5%	Mean	562.7	2.30	0.012	0.041	0.181	1.28	1.84	16.98	1.26	0.067	3.15	3.75	
		SD	53.3	0.09	0.001	0.019	0.208	0.13	0.23	2.14	1.48	0.005	0.30	0.22	
	Female	Cont.	Mean	326.8	2.11	0.022	0.033	0.146	0.89	1.29	9.97	0.63	0.082	1.96	0.097
			SD	50.5	0.07	0.005	0.011	0.034	0.10	0.15	1.80	0.11	0.013	0.24	0.032
0.04%		Mean	336.4	2.09	0.021	0.031	0.157	0.88	1.28	10.30	0.69	0.082	1.97	0.106	
		SD	43.6	0.08	0.005	0.010	0.045	0.10	0.10	1.47	0.12	0.014	0.21	0.026	
0.2%		Mean	336.0	2.11	0.024	0.029	0.144	0.89	1.30	10.36	0.67	0.081	1.97	0.109	
		SD	41.3	0.10	0.011	0.006	0.038	0.09	0.13	1.43	0.07	0.009	0.17	0.034	
1%		Mean	333.5	2.10	0.021	0.029	0.166	0.88	1.28	10.10	0.66	0.082	1.88	0.113	
		SD	37.2	0.06	0.004	0.005	0.092	0.08	0.11	1.35	0.08	0.010	0.18	0.026	
5%		Mean	326.2	2.06	0.022	0.033	0.148	0.83	1.22	9.50	0.62	0.081	1.89	0.101	
		SD	35.2	0.09	0.005	0.008	0.049	0.08	0.09	1.01	0.08	0.012	0.17	0.035	

*: P<0.05 (Significant difference from control)

Table 8 Relative organ weights (g/kg) in rats treated with the enzymatically-decomposed rutin by dietary administration for 52 weeks

Group		Final bw	Brain	Pitui.	Thyroid	Thym.	Heart	Lung	Liver	Spleen	Adren.	Kidney	Testes	Ovaries		
Male	Cont.	Mean	535.3	4.31	0.069	0.076	0.231	2.44	3.33	32.23	2.01	0.142	6.03	6.61	-	
		SD	68.7	0.54	0.177	0.073	0.085	0.55	0.62	8.69	0.62	0.101	3.14	1.43	-	
	0.04%	Mean	550.5	4.28	0.025	0.068	0.242	2.25	3.27	31.01	1.78	0.112	5.29	6.95	-	
		SD	73.4	0.57	0.009	0.034	0.106	0.16	0.37	2.12	0.66	0.019	0.37	1.02	-	
	0.2%	Mean	553.7	4.18	0.022	0.062	0.227	2.28	3.27	29.65	1.70	0.108	5.19	6.94	-	
		SD	42.9	0.38	0.004	0.027	0.071	0.16	0.24	1.94	0.19	0.012	0.32	0.74	-	
	1%	Mean	525.4	4.38	0.022	0.062	0.239	2.31	3.33	29.35	1.72	0.116	5.23	7.19	-	
		SD	48.2	0.41	0.003	0.021	0.055	0.16	0.28	1.86	0.21	0.014	0.32	0.76	-	
	5%	Mean	562.7	4.12	0.021	0.072	0.309	2.27	3.27	30.14	2.16	0.119	5.62	6.71	-	
		SD	53.3	0.37	0.002	0.032	0.306	0.18	0.32	1.84	2.14	0.011	0.44	0.66	-	
	Female	Cont.	Mean	326.8	6.59	0.068	0.100	0.449	2.75	4.00	30.50	1.94	0.253	6.07	-	0.302
			SD	50.5	0.88	0.015	0.027	0.100	0.33	0.53	2.31	0.24	0.036	0.68	-	0.107
0.04%		Mean	336.4	6.31	0.063	0.094	0.471	2.64	3.86	30.65	2.05	0.246	5.91	-	0.321	
		SD	43.6	0.85	0.015	0.033	0.137	0.27	0.42	2.35	0.27	0.043	0.75	-	0.096	
0.2%		Mean	336.0	6.37	0.071	0.088	0.436	2.66	3.92	30.84	2.00	0.244	5.92	-	0.326	
		SD	41.3	0.77	0.031	0.020	0.132	0.22	0.56	2.06	0.29	0.037	0.59	-	0.105	
1%		Mean	333.5	6.36	0.062	0.089	0.489	0.64	3.86	30.30	2.00	0.246	5.68	-	0.343	
		SD	37.2	0.72	0.012	0.019	0.217	0.20	0.39	2.42	0.28	0.027	0.51	-	0.084	
5%		Mean	326.2	6.39	0.068	0.101	0.459	2.55	3.77	29.22	1.89	0.252	5.85	-	0.310	
		SD	35.2	0.72	0.017	0.029	0.157	0.21	0.28	2.21	0.17	0.044	0.68	-	0.105	

Table 9 Urinary findings in rats treated with the enzymatically-decomposed rutin by dietary administration for 52 weeks

SEX	GROUP AND DOSE	COLOR		PH		PROTEIN	GLUCOSE	OCCULT BLOOD						
		Y	SC	YB	8.5				7.0	8.0	8.5	-	1+	2+
MALE	CONTROL	NO.OF ANIMALS		10	10	10	10	10						
		Y	SC	10 0 0	0 0 0	4 4 2	0 0 1	7 1 1	10	10	8 1 1	0		
		NO.OF ANIMALS	10	10	10	10	10	10	10	10	10	10		
	0.04%	NO.OF ANIMALS		10	10	10	10	10	10					
		Y	SC	10 0 0	0 1 1	3 3 2	0 0 5	4 0 1	10	10	7 2 0	1		
		NO.OF ANIMALS	10	10	10	10	10	10	10	10	10	10		
	0.20%	NO.OF ANIMALS		10	10	10	10	10	10					
		Y	SC	9 1 0	0 0 0	2 6 2	0 1 2	5 1 1	10	10	8 1 1	0		
		NO.OF ANIMALS	10	10	10	10	10	10	10	10	10	10		
	1%	NO.OF ANIMALS		10	10	10	10	10	10					
		Y	SC	0 10 0	0 1 0	2 6 1	0 2 3	2 3 0	10	10	8 2 0	0		
		NO.OF ANIMALS	10	10	10	10	10	10	10	10	10	10		
	5%	NO.OF ANIMALS		10	10	10	10	10	10					
		Y	SC	0 7 3	1 1 0	3 5 0	0 0 3	1 4 2	10	10	9 1 0	0		
		NO.OF ANIMALS	10	10	10	10	10	10	10	10	10	10		
FEMALE	CONTROL	NO.OF ANIMALS		10	10	10	10	10						
		Y	SC	10 0 0	1 0 1	3 5 0	3 1 3	1 2 0	10	10	9 1 0	0		
		NO.OF ANIMALS	10	10	10	10	10	10	10	10	10	10		
	0.04%	NO.OF ANIMALS		10	10	10	10	10	10					
		Y	SC	8 2 0	0 0 1	4 2 3	1 2 5	1 1 0	10	10	9 0 1	0		
		NO.OF ANIMALS	10	10	10	10	10	10	10	10	10	10		
	0.20%	NO.OF ANIMALS		10	10	10	10	10	10					
		Y	SC	8 2 0	0 0 0	1 5 4	2 2 2	1 3 0	10	10	10 0 0	0		
		NO.OF ANIMALS	10	10	10	10	10	10	10	10	10	10		
	1%	NO.OF ANIMALS		10	10	10	10	10	10					
		Y	SC	2 8 0	0 1 0	3 6 0	2 1 3	3 1 0	10	10	10 0 0	0		
		NO.OF ANIMALS	10	10	10	10	10	10	10	10	10	10		
	5%	NO.OF ANIMALS		10	10	10	10	10	10					
		Y	SC	3 7 0	4 2 2	0 2 0	1 0 5	2 1 1	10	10	10 0 0	0		
		NO.OF ANIMALS	10	10	10	10	10	10	10	10	10	10		

Y:YELLOW SC:STRAW-COLORED YB:YELLOWISH-BROWN

Table 9 Urinary findings in rats treated with the enzymatically-decomposed rutin by dietary administration for 52 weeks
(Continued)

SEX	GROUP AND DOSE	NO.OF ANIMALS	KETONES		BILIRUBIN	UROBILINOGEN
			-	1+		
MALE	CONTROL	10	10		10	10
	0.04%	NO.OF ANIMALS	7	2 1	10	10
			10		10	10
	0.20%	NO.OF ANIMALS	7	3 0	10	10
			10		10	10
1%	NO.OF ANIMALS	9	0 1	10	10	
		10		10	10	
5%	NO.OF ANIMALS	10	0 0	10	10	
		10		10	10	
FEMALE	CONTROL	10	10		10	10
	0.04%	NO.OF ANIMALS	10	0 0	10	10
			10		10	10
	0.20%	NO.OF ANIMALS	9	1 0	10	10
			10		10	10
1%	NO.OF ANIMALS	10	0 0	10	10	
		10		10	10	
5%	NO.OF ANIMALS	10	0 0	10	10	
		10		10	10	
			8	2 0	10	10

Table 10 Urinalysis in rats treated with the enzymatically-decomposed rutin by dietary administration for 52 weeks

Male	Group	Volume ml/day	Gravity g/ml	Na mEq/l	K mEq/l	Cl mEq/l	Ca mg/dl	Na mEq/day	K mEq/day	Cl mEq/day	Ca mg/day
Cont.		7.3	1.069	140	249.8	80	20.7	1.0	1.7	0.6	1.54
		3.3	0.016	53	57.2	28	8.1	0.4	0.4	0.2	0.95
0.04%		7.8	1.065	141	251.1	99	21.8	1.1	1.9	0.8	1.71
		0.9	0.016	51	74.3	49	7.1	0.3	0.4	0.3	0.61
0.2%		7.5	1.067	143	264.3	99	17.2	1.1	2.0	0.7	1.23
		1.2	0.011	46	48.9	36	7.5	0.4	0.5	0.3	0.46
1%		7.8	1.076	172	324.0*	133*	19.6	1.3	2.5**	1.0**	1.57
		1.5	0.009	35	53.5	37	8.0	0.4	0.5	0.3	0.76
5%		9.3**	1.072	137	249.6	98	28.8*	1.3	2.3*	0.9*	2.69**
		1.4	0.010	35	48.6	34	3.9	0.2	0.3	0.3	0.64
Female	Cont.	6.1	1.062	160	298.5	118	30.4	0.9	1.8	0.7	1.90
		2.7	0.011	34	54.1	27	6.2	0.2	0.7	0.2	0.98
0.04%		7.5	1.069	190	383.3	149	26.0	1.3	2.5	1.0	1.91
		3.7	0.026	74	158.5	69	6.3	0.5	1.0	0.5	0.90
0.2%		6.3	1.071	198	382.6	145	24.9	1.2	2.3	0.9	1.59
		2.1	0.017	54	120.6	52	5.6	0.3	0.7	0.3	0.69
1%		5.8	1.074	181	361.6	133	28.7	1.0	2.1	0.8	1.68
		2.2	0.013	44	44.4	26	4.0	0.3	0.7	0.3	0.65
5%		9.7	1.057	118	245.0	98	31.7	1.0	2.1	0.8	3.01*
		4.8	0.017	40	85.3	43	4.6	0.3	0.7	0.4	1.33

*: P<0.05, **: P<0.01 (Significant difference from control)

Table 11 Macroscopic findings in rats treated with the enzymatically-decomposed rutin by dietary administration for 52 weeks

ORGAN	FINDING	SEX DOSE	MALE				
			CONTROL	0.04%	0.20%	1%	5%
APPEARANCE		NO.OF ANIMALS	18	20	20	20	19
	PLANTER EROSION		3	3	2	5	2
	STAINING UROGENITAL REGION		1	0	0	0	0
	NO ABNORMALITIES		14	17	18	15	17
SUBMANDIBULAR LN		NO.OF ANIMALS	18	20	20	20	19
	ENLARGEMENT		0	0	0	0	1
	NO ABNORMALITIES		18	20	20	20	18
LACRIMAL GLAND		NO.OF ANIMALS	18	20	20	20	19
	DISCOLORATION		0	2	0	0	0
	FOCUS' WHITE		0	0	3	1	3
	SPOT' WHITE		0	0	0	0	1
	NO ABNORMALITIES		18	18	17	19	15
THYMUS		NO.OF ANIMALS	18	20	20	20	19
	ENLARGEMENT		0	0	0	0	1
	NO ABNORMALITIES		18	20	20	20	18
LUNG		NO.OF ANIMALS	18	20	20	20	19
	FOCUS' WHITE		0	0	0	0	1
	SPOT' RED		1	0	0	0	0
	SPOT' WHITE		0	0	0	0	0
	NO ABNORMALITIES		17	20	20	20	18
LIVER		NO.OF ANIMALS	18	20	20	20	19
	DIAPHRAGMATIC HERNIA		0	0	0	0	0
	DILATATION' EXTRAHEPATIC BILE DUCT		0	0	0	0	0
	ENLARGEMENT		1	0	0	0	0
	FOCUS' RED		0	0	0	0	0
	NO ABNORMALITIES		17	20	20	20	19
	LN:L YMPH NODE						

Table 11 Macroscopic findings in rats treated with the enzymatically-decomposed rutin by dietary administration for 52 weeks (Continued)

ORGAN	FINDING	SEX DOSE	MALE				
			CONTROL	0.04%	0.20%	1%	5%
SPLEEN	NO.OF ANIMALS		18	20	20	20	19
	ENLARGEMENT		1	1	0	0	1
	NO ABNORMALITIES		17	19	20	20	18
PANCREAS	NO.OF ANIMALS		18	20	20	20	19
	ENLARGEMENT		0	0	0	0	0
	NO ABNORMALITIES		18	20	20	20	19
ADRENAL GLAND	NO.OF ANIMALS		18	20	20	20	19
	CYST		0	0	0	0	0
	ENLARGEMENT		2	0	0	0	0
	SMALL		0	0	1	0	0
	NO ABNORMALITIES		16	20	19	20	19
KIDNEY	NO.OF ANIMALS		18	20	20	20	19
	CYST		0	1	0	0	0
	ENLARGEMENT		1	0	0	0	0
TESTIS	NO ABNORMALITIES		17	19	20	20	19
	SMALL		18	20	20	20	19
	NO ABNORMALITIES		2	1	0	0	0
EPIDIDYMIS	NO.OF ANIMALS		16	19	20	20	19
	NODULE' YELLOW' PERIEPIDYMIAL ADIPOSE TISSUE		18	20	20	20	19
	NO ABNORMALITIES		1	0	0	0	0
PROSTATE	NO.OF ANIMALS		17	20	20	20	19
	FOCUS' DARK RED SPOT		18	20	20	20	19
	NO ABNORMALITIES		0	0	0	1	1
ADRENAL GLAND	NO.OF ANIMALS		0	0	0	0	0
	FOCUS' DARK RED SPOT		0	0	0	0	0
	NO ABNORMALITIES		18	20	20	19	18

Table 11 Macroscopic findings in rats treated with the enzymatically-decomposed rutin by dietary administration for 52 weeks
(Continued)

ORGAN	FINDING	SEX DOSE		MALE				
		NO.OF ANIMALS	CONTROL	0.04%	0.20%	1%	5%	
EYE	WHITTISH' LENS	18	18	20	20	20	19	
	NO ABNORMALITIES	0	0	0	0	0	0	
SUBCUTIS	NO ABNORMALITIES	18	18	20	20	20	19	
	MASS' LEFT CHEEK	0	0	0	0	0	0	
	MASS' RIGHT ABDOMEN	0	0	0	0	0	0	
	NODULE' WHITE	0	0	0	0	0	0	
FEMUR	NO ABNORMALITIES	18	18	20	20	20	19	
	COLORED' YELLOWISH	0	0	0	0	3	19 **	
FEMUR BONE MARROW	NO ABNORMALITIES	18	18	20	20	17	0	
	WHITTISH	0	0	0	0	0	0	
STOMACH	NO ABNORMALITIES	18	18	20	20	20	18	
	DARK RED' GLANDULAR REGION	0	0	0	0	0	1	
	NO ABNORMALITIES	18	18	20	20	20	18	
CECUM	NO ABNORMALITIES	18	18	20	20	20	19	
	DARK ENLARGEMENT	0	0	0	0	0	0	
	NO ABNORMALITIES	18	18	20	20	20	19	

** : P<0.01 (SIGNIFICANT DIFFERENCE FROM CONTROL)

Table 11 Macroscopic findings in rats treated with the enzymatically-decomposed rutin by dietary administration for 52 weeks (Continued)

ORGAN FINDING	SEX DOSE	CONTROL	MALE				
			NO.OF ANIMALS	0.04%	0.20%	1%	5%
PITUITARY GLAND							
FOCUS' DARK RED		18	20	20	20	20	19
NODULE		0	0	0	0	0	0
NODULE' BLACK		1	1	0	0	0	0
NODULE' DARK RED		0	0	0	0	0	0
SPOT' DARK RED		0	0	0	0	0	0
SPOT' RED		0	0	0	0	0	0
NO ABNORMALITIES		17	19	20	20	20	19
THYROID GLAND							
CYST		18	20	20	20	20	19
NO ABNORMALITIES		0	0	0	0	0	1
NO ABNORMALITIES		18	20	20	20	20	18
ABDOMINAL CAVITY							
FLUID		18	20	20	20	20	19
NODULE' YELLOW' ADIPOSE TISSUE		0	0	0	0	0	0
NO ABNORMALITIES		0	0	0	0	0	0
NO ABNORMALITIES		18	20	20	20	20	19
LYMPH NODE							
ENLARGED' PERIPANCREATIC		18	20	20	20	20	19
ENLARGED' POPLITEAL		0	0	0	0	0	0
NO ABNORMALITIES		0	0	1	0	0	0
NO ABNORMALITIES		18	20	19	20	20	19

Table 11 Macroscopic findings in rats treated with the enzymatically-decomposed rutin by dietary administration for 52 weeks
(Continued)

ORGAN FINDING	SEX DOSE	CONTROL	FEMALE			
			0.04%	0.20%	1%	5%
APPEARANCE	NO.OF ANIMALS	20	20	20	20	19
PLANTER EROSION		0	0	0	0	0
STAINING' UROGENITAL REGION		0	0	0	0	0
NO ABNORMALITIES		20	20	20	20	19
SUBMANDIBULAR LN ENLARGEMENT	NO.OF ANIMALS	20	20	20	20	19
NO ABNORMALITIES		20	20	20	20	19
LACRIMAL GLAND DISCOLORATION	NO.OF ANIMALS	20	20	20	20	19
FOCUS' WHITE		0	0	0	0	0
SPOT' WHITE		0	0	0	0	0
NO ABNORMALITIES		20	20	20	20	19
THYMUS ENLARGEMENT	NO.OF ANIMALS	20	20	20	20	19
NO ABNORMALITIES		20	20	20	20	19
LUNG FOCUS' WHITE	NO.OF ANIMALS	20	20	20	20	19
SPOT' RED		0	0	0	0	0
SPOT' WHITE		0	1	0	0	0
NO ABNORMALITIES		20	19	20	20	19
LIVER DJAPHRAGMATIC HERNIA	NO.OF ANIMALS	20	20	20	20	19
DILATATION' EXTRAHEPATIC BILE DUCT		0	0	0	1	0
ENLARGEMENT		0	0	0	0	0
FOCUS' RED		0	0	0	0	0
NO ABNORMALITIES		20	20	20	19	19
LN:LYMPH NODE						

Table 11 Macroscopic findings in rats treated with the enzymatically-decomposed rutin by dietary administration for 52 weeks
(Continued)

ORGAN	FINDING	SEX DOSE	CONTROL	FEMALE				
				0.04%	0.20%	1%	5%	
SPLEEN	ENLARGEMENT	NO.OF ANIMALS	20	20	20	20	19	
	NO ABNORMALITIES		0	0	0	0	0	
PANCREAS	ENLARGEMENT	NO.OF ANIMALS	20	20	20	20	19	
	NO ABNORMALITIES		0	0	0	0	0	
ADRENAL GLAND	CYST	NO.OF ANIMALS	20	20	20	20	19	
	ENLARGEMENT		0	0	0	1	0	
ADRENAL GLAND	SMALL		0	0	0	0	0	
	NO ABNORMALITIES		0	0	0	0	0	
KIDNEY	CYST	NO.OF ANIMALS	20	20	20	20	19	
	ENLARGEMENT		0	0	0	0	1	
OVARY	NO ABNORMALITIES		0	0	0	0	0	
	EDEMA	NO.OF ANIMALS	20	20	20	20	19	
UTERUS	SPOT' BLACK		0	1	0	0	0	
	NO ABNORMALITIES		0	0	0	1	1	
UTERUS	CYST' RIGHT HORN	NO.OF ANIMALS	20	19	20	20	18	
	DARK RED' RIGHT HORN		20	20	20	20	19	
UTERUS	NO ABNORMALITIES		0	0	0	0	1	
	NO ABNORMALITIES		1	0	0	0	0	
UTERUS	NO ABNORMALITIES		19	20	20	20	18	
	NO ABNORMALITIES		19	20	20	20	18	

Table 11 Macroscopic findings in rats treated with the enzymatically-decomposed rutin by dietary administration for 52 weeks (Continued)

ORGAN FINDING	SEX DOSE		FEMALE			
	NO.OF ANIMALS	CONTROL	0.04%	0.20%	1%	5%
EYE	WHITISH' LENS	20	20	20	20	19
	NO ABNORMALITIES	0	0	0	0	1
SUBCUTIS	NO ABNORMALITIES	20	20	20	20	18
	NO.OF ANIMALS	20	20	20	20	19
	MASS' LEFT CHEEK	0	0	0	0	0
	MASS' RIGHT ABDOMEN	0	0	0	0	0
	NODULE' WHITE	0	1	0	0	0
NO ABNORMALITIES	20	19	20	20	20	19
FEMUR	NO.OF ANIMALS	20	20	20	20	19
	COLORED' YELLOWISH	0	0	0	0	19 **
	NO ABNORMALITIES	20	20	20	20	0
FEMUR BONE MARROW	NO.OF ANIMALS	20	20	20	20	19
	WHITISH	0	0	0	0	0
	NO ABNORMALITIES	20	20	20	20	19
STOMACH	NO.OF ANIMALS	20	20	20	20	19
	DARK RED' GLANDULAR REGION	0	0	0	0	0
	NO ABNORMALITIES	20	20	20	20	19
CECUM	NO.OF ANIMALS	20	20	20	20	19
	DARK ENLARGEMENT	0	0	0	0	1
	NO ABNORMALITIES	20	20	20	20	0
	NO ABNORMALITIES	20	20	20	20	18

** : P<0.01 (SIGNIFICANT DIFFERENCE FROM CONTROL)

Table 11 Macroscopic findings in rats treated with the enzymatically-decomposed rutin by dietary administration for 52 weeks (Continued)

ORGAN FINDING	SEX		FEMALE				
	DOSE	CONTROL	0.04%	0.20%	1%	5%	
PITUITARY GLAND	NO.OF ANIMALS	20	20	20	20	19	
FOCUS' DARK RED		0	0	0	0	1	
NODULE		0	0	1	0	1	
NODULE' BLACK		0	0	0	3	0	
NODULE' DARK RED		1	0	0	0	0	
SPOT' DARK RED		1	0	0	0	0	
SPOT' RED		0	0	1	0	1	
NO ABNORMALITIES		18	20	18	17	16	
THYROID GLAND	NO.OF ANIMALS	20	20	20	20	19	
CYST		0	0	0	0	0	
NO ABNORMALITIES		20	20	20	20	19	
ABDOMINAL CAVITY	NO.OF ANIMALS	20	20	20	20	19	
FLUID		0	0	0	0	0	
NODULE' YELLOW' ADIPOSE TISSUE		0	1	0	0	0	
NO ABNORMALITIES		20	19	20	20	19	
LYMPH NODE	NO.OF ANIMALS	20	20	20	20	19	
ENLARGED' PERIPANCREATIC		0	0	0	0	0	
ENLARGED' POPLITEAL		0	0	0	0	0	
NO ABNORMALITIES		20	20	20	20	19	
CLITORAL GLAND	NO.OF ANIMALS	20	20	20	20	19	
GREEN		0	0	0	0	1	
HARD		0	0	0	0	1	
YELLOW-BROWN		1	0	0	0	0	
NO ABNORMALITIES		19	20	20	20	18	

Table 12 Histopathological findings in rats treated with the enzymatically-decomposed rutin by dietary administration for 52 weeks.

ORGAN FINDING	SEX		MALE				
	TEST ARTICLE	CONTROL	0.04%	0.20%	1%	5%	
DOSE							
GRADE	- + + + + +	- + + + + +	- + + + + +	- + + + + +	- + + + + +	- + + + + +	
NO.OF ANIMALS	18	18	20	20	20	19	
BRAIN							
DILATATION' VENTRICLE	17 1 0 0	18 2 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0	
MINERALIZATION' VENTRICLE	18 0 0 0	19 1 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0	
SPINAL CORD	18	20	20	20	20	19	
SWELLING' AXONAL	18 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	18 1 0 0	
HEART	18	20	20	20	20	19	
CARDIOMYOPATHY	12 6 0 0	10 10 0 0	14 6 0 0	12 8 0 0	11 8 0 0	11 8 0 0	
CELLULAR INFILTRATION' LEUKEMIA CELL	18 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	18 1 0 0	
HEMORRHAGE' EPICARDIAL	18 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0	
LUNG	18	20	20	20	20	19	
CALCIFICATION' VESSEL	11 7 0 0	15 5 0 0	16 4 0 0	20 0 0 0 *	16 3 0 0	16 3 0 0	
CELLULAR INFILTRATION' LEUKEMIA CELL	18 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	18 1 0 0	18 1 0 0	
FOCAL FIBROSIS' ALVEOLAR WALL	18 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	18 1 0 0	
GRANULOMA	16 2 0 0	20 0 0 0	20 0 0 0	18 2 0 0	18 2 0 0	19 0 0 0	
HISTIOCYTOSIS' ALVEOLAR	16 2 0 0	19 1 0 0	19 1 0 0	19 1 0 0	19 1 0 0	18 1 0 0	
TRACHEA	18	20	20	20	20	19	
CELLULAR INFILTRATION' LEUKEMIA CELL	18 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	18 1 0 0	
CELLULAR INFILTRATION' MONONUCLEAR CELL	16 2 0 0	17 3 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0	
DILATATION' GLAND' TRACHEAL	17 1 0 0	18 2 0 0	17 3 0 0	19 1 0 0	17 2 0 0	17 2 0 0	

-: NOT REMARKABLE, +: SLIGHT, ++: MODERATE, +++: MARKED
 *: P<0.05 (SIGNIFICANT DIFFERENCE FROM CONTROL)

Table 12 Histopathological findings in rats treated with the enzymatically-decomposed rutin by dietary administration for 52 weeks. (Continued)

ORGAN FINDING	SEX TEST ARTICLE DOSE GRADE	MALE				
		CONTROL	0.04%	0.20%	1%	5%
LIVER		18	20	20	20	19
CELLULAR INFILTRATION' LEUKEMIA CELL		18 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	18 0 1 0
CHOLANGITIS' EXTRAHEPATIC		18 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0
DEPOSIT' PIGMENT' GLISSON'S SHEATH		18 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0
DEPOSIT' PIGMENT' KUPFFER CELL		17 1 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0
FOCAL NECROSIS' HEPATOCELLULAR		15 3 0 0	18 2 0 0	19 1 0 0	20 0 0 0	19 0 0 0
FOCUS ALTERAD HEPATOCYTE' CLEAR CELL		17 1 0 0	17 3 0 0	20 0 0 0	20 0 0 0	16 3 0 0
FOCUS ALTERAD HEPATOCYTE' VACUOLATED CELL		17 1 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0
HEMATOPOIESIS' EXTRAMEDULLARY		17 1 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0
HYPERPLASIA' BILE DUCT		16 2 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0
HYPERTROPHY' HEPATOCELLULAR		17 0 1 0	20 0 0 0	20 0 0 0	20 0 0 0	18 1 0 0
INCREASE' MITOTIC FIGURE' HEPATOCELLULAR		17 0 1 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0
MICROGRANULOMA		15 3 0 0	17 3 0 0	19 1 0 0	18 2 0 0	18 1 0 0
NECROSIS' COAGULATIVE		18 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0
SINGLE CELL NECROSIS' HEPATOCELLULAR		17 1 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0
SPONGIOSIS HEPATIS		18 0 0 0	20 0 0 0	19 1 0 0	20 0 0 0	19 0 0 0
PANCREAS		18	20	20	20	19
ABSCESS		18 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0
ATROPHY' ACINAR CELL' FOCAL		14 4 0 0	17 3 0 0	17 3 0 0	17 3 0 0	13 6 0 0
CELLULAR INFILTRATION' LEUKEMIA CELL		18 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	18 1 0 0
DEPOSIT' PIGMENT		16 2 0 0	19 1 0 0	20 0 0 0	20 0 0 0	19 0 0 0

--:NOT REMARKABLE,+;SLIGHT,+;MODERATE,+++;MARKED

Table 12 Histopathological findings in rats treated with the enzymatically-decomposed rutin by dietary administration for 52 weeks. (Continued)

ORGAN FINDING	SEX TEST ARTICLE		MALE				
	DOSE	GRADE	CONTROL	0.04%	0.20%	1%	5%
KIDNEY			18	20	20	20	19
CELL DEBRIS' INFLAMMATORY' PELVIS			11 6 1 0	15 5 0 0	17 3 0 0	13 7 0 0	8 10 1 0
CELLULAR INFILTRATION' INFLAMMATORY' PELVIS			15 2 1 0	20 0 0 0	17 2 1 0	18 2 0 0	14 5 0 0
CELLULAR INFILTRATION' LEUKEMIA CELL			18 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 1 0
CHANGE' BASOPHILIC' RENAL TUBULE			17 1 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0
CHRONIC NEPHROPATHY			11 5 2 0	15 5 0 0	16 3 1 0	18 2 0 0	15 4 0 0
CYST			18 0 0 0	19 1 0 0	20 0 0 0	20 0 0 0	19 0 0 0
DEGENERATION' RENAL TUBULE' FOCAL			18 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0
DILATATION' PELVIS			18 0 0 0	18 2 0 0	20 0 0 0	20 0 0 0	19 0 0 0
DILATATION' RENAL TUBULE			17 1 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0
FOCUS' LYMPHOID CELL			17 1 0 0	19 1 0 0	20 0 0 0	20 0 0 0	19 0 0 0
HYALINE CAST			17 1 0 0	18 2 0 0	15 5 0 0	18 2 0 0	16 3 0 0
HYPERPLASIA' TRANSITIONAL CELL' PELVIS			15 2 1 0	16 4 0 0	17 3 0 0	18 2 0 0	11 8 0 0
MINERALIZATION' CORTICO-MEDULLARY JUNCTION			18 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0
MINERALIZATION' PELVIS			17 0 1 0	15 5 0 0	17 3 0 0	16 4 0 0	6 12 1 0 *
NECROSIS' PAPILLARY			17 1 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0
NECROSIS' RENAL TUBULE			18 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0
PYKNOSES' COLLECTING DUCT			18 0 0 0	20 0 0 0	19 1 0 0	20 0 0 0	19 0 0 0
URINARY BLADDER			18	20	20	20	19
CELLULAR INFILTRATION' INFLAMMATORY			17 1 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0
CELLULAR INFILTRATION' LEUKEMIA CELL			18 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	18 1 0 0
PROTEINACEOUS PLUG			17 1 0 0	20 0 0 0	19 1 0 0	19 1 0 0	18 1 0 0
THICKENING' MUCOSA			17 1 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0
VACUOLIZATION' CYTOPLASMIC' MUCOSAL CELL			17 1 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0
SPLEEN			18	20	20	20	19
CELLULAR INFILTRATION' LEUKEMIA CELL			18 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	18 0 1 0
DEPOSIT' HEMOSIDERIN			6 12 0 0	5 13 2 0	8 12 0 0	7 13 0 0	9 10 0 0
HEMATOPOIESIS' EXTRAMEDULLARY			16 1 1 0	18 1 1 0	19 1 0 0	18 2 0 0	19 0 0 0
THYMUS			18	20	20	20	19
ATROPHY			8 7 3 0	5 10 5 0	5 13 2 0	2 15 3 0 *	5 11 3 0
CELLULAR INFILTRATION' LEUKEMIA CELL			18 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	18 0 1 0
CYST			18 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0
HEMORRHAGE			16 2 0 0	19 1 0 0	20 0 0 0	20 0 0 0	18 1 0 0
LYMPHOID HYPERPLASIA			18 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0
NECROSIS			18 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0

-NOT REMARKABLE +SLIGHT.++MODERATE+++MARKED
 *: P<0.05 (SIGNIFICANT DIFFERENCE FROM CONTROL)

Table 12 Histopathological findings in rats treated with the enzymatically-decomposed rutin by dietary administration for 52 weeks. (Continued)

ORGAN FINDING	SEX		MALE									
	TEST ARTICLE DOSE	GRADE	CONTROL		0.04%		0.20%		1%		5%	
			-	+	++	+++	+	++	+++	+	++	+++
MESENTERIC LN			18		20		20		20		19	
ATROPHY' PARACORTX			13 5 0 0		20 0 0 0 *		16 3 1 0		17 3 0 0		16 3 0 0	
CELLULAR INFILTRATION' LEUKEMIA CELL			18 0 0 0		20 0 0 0		20 0 0 0		20 0 0 0		18 0 1 0	
CYST' SINUSOIDAL			18 0 0 0		19 1 0 0		19 1 0 0		19 1 0 0		19 0 0 0	
ERYTHROCYTES' SINUS			15 3 0 0		13 7 0 0		19 1 0 0		17 3 0 0		15 4 0 0	
HYPERPLASIA' ENDOTHELIAL CELL			18 0 0 0		20 0 0 0		20 0 0 0		19 1 0 0		19 0 0 0	
SINUS HISTIOCYTOSIS			18 0 0 0		20 0 0 0		20 0 0 0		20 0 0 0		19 0 0 0	
TONGUE			18		20		20		20		19	
CELLULAR INFILTRATION' INFLAMMATORY			18 0 0 0		20 0 0 0		20 0 0 0		20 0 0 0		19 0 0 0	
PAROTID GLAND			18		20		20		20		19	
CELLULAR INFILTRATION' MONONUCLEAR CELL			18 0 0 0		20 0 0 0		20 0 0 0		20 0 0 0		19 0 0 0	
LACRIMAL GLAND			18		20		20		20		19	
CELLULAR INFILTRATION' INFLAMMATORY			17 1 0 0		20 0 0 0		20 0 0 0		20 0 0 0		18 1 0 0	
CELLULAR INFILTRATION' LEUKEMIA CELL			18 0 0 0		20 0 0 0		20 0 0 0		20 0 0 0		18 1 0 0	
CELLULAR INFILTRATION' MONONUCLEAR CELL' PERIDUCTAL			14 3 1 0		15 4 1 0		19 1 0 0		18 2 0 0		16 3 0 0	
HARDERIAN ALTERATION			8 10 0 0		12 6 2 0		13 6 1 0		15 5 0 0		11 8 0 0	
SUBMANDIBULAR LN			18		20		20		20		19	
CELLULAR INFILTRATION' LEUKEMIA CELL			18 0 0 0		20 0 0 0		20 0 0 0		20 0 0 0		18 0 1 0	
DEPOSIT' PIGMENT			17 1 0 0		19 1 0 0		20 0 0 0		20 0 0 0		19 0 0 0	
ERYTHROCYTES' SINUS			17 1 0 0		19 1 0 0		20 0 0 0		20 0 0 0		19 0 0 0	
HEMORRHAGE			18 0 0 0		20 0 0 0		20 0 0 0		20 0 0 0		19 0 0 0	
HYPERPLASIA' LYMPHOCYTE			17 1 0 0		20 0 0 0		20 0 0 0		19 1 0 0		18 1 0 0	
PLASMACYTOSIS			11 7 0 0		17 3 0 0		13 7 0 0		14 6 0 0		13 6 0 0	
STOMACH			18		20		20		20		19	
CYST' LAMINA PROPRIA			17 1 0 0		20 0 0 0		19 1 0 0		20 0 0 0		18 1 0 0	
EDEMA' SUBMUCOSA'			18 0 0 0		20 0 0 0		19 1 0 0		20 0 0 0		19 0 0 0	
METAPLASIA' SQUAMOUS CELL			18 0 0 0		20 0 0 0		20 0 0 0		20 0 0 0		19 0 0 0	
VACUOLIZATION' CYTOPLASMIC' SQUAMOUS CELL			17 1 0 0		19 1 0 0		20 0 0 0		19 1 0 0		19 0 0 0	
DUODENUM			18		20		20		20		19	
DILATATION' CYSTIC' CRYPT			18 0 0 0		20 0 0 0		19 1 0 0		20 0 0 0		19 0 0 0	

--:NOT REMARKABLE,+:SLIGHT,++:MODERATE,+++:MARKED
LN:LYMPH NODE

*: P<0.05 (SIGNIFICANT DIFFERENCE FROM CONTROL)

Table 12 Histopathological findings in rats treated with the enzymatically-decomposed rutin by dietary administration for 52 weeks. (Continued)

ORGAN FINDING	SEX	TEST ARTICLE	MALE					
			CONTROL	0.04%	0.20%	1%	5%	
DOSE								
GRADE			- + + + + +	- + + + + +	- + + + + +	- + + + + +	- + + + + +	- + + + + +
NO.OF ANIMALS			18	20	20	20	19	
CELLULAR INFILTRATION' LEUKEMIA CELL' SUBMUCOSA			18 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	18 1 0 0	
CECUM			18	20	20	20	19	
CALCIFICATION' LAMINA PROPRIA			17 1 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0	
CELLULAR INFILTRATION' LEUKEMIA CELL			18 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	18 1 0 0	
COLON			18	20	20	20	19	
CELLULAR INFILTRATION' LEUKEMIA CELL			18 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	18 1 0 0	
RECTUM			18	20	20	20	19	
CELLULAR INFILTRATION' LEUKEMIA CELL			18 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	18 1 0 0	
EDEMA' SUBMUCOSA			18 0 0 0	19 1 0 0	20 0 0 0	20 0 0 0	19 0 0 0	
PITUITARY GLAND			18	20	20	20	19	
ADENOMA' PARS DISTALIS			16 2 0 0	18 2 0 0	20 0 0 0	20 0 0 0	19 0 0 0	
CYST' PARS DISTALIS			18 0 0 0	19 1 0 0	15 5 0 0	17 3 0 0	17 2 0 0	
CYST' PARS INTERMEDIA			13 5 0 0	20 0 0 0 *	19 1 0 0	19 1 0 0	17 2 0 0	
HYPERPLASIA' PARS DISTALIS			18 0 0 0	20 0 0 0	19 1 0 0	19 1 0 0	18 1 0 0	
THYROID GLAND			18	20	20	20	19	
ADENOMA' C-CELL			18 0 0 0	19 1 0 0	20 0 0 0	20 0 0 0	19 0 0 0	
CELLULAR INFILTRATION' LEUKEMIA CELL			18 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	18 1 0 0	
DYSPLASIA			18 0 0 0	18 2 0 0	19 1 0 0	19 1 0 0	17 2 0 0	
HYPERPLASIA' C-CELL			18 0 0 0	19 1 0 0	20 0 0 0	20 0 0 0	19 0 0 0	
HYPERPLASIA' CYSTIC' FOLLICULAR CELL			18 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	18 1 0 0	
HYPERPLASIA' FOCAL' FOLLICULAR CELL			16 2 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0	
HYPERTROPHY' FOLLICULAR CELL			17 1 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0	
PARATHYROID GLAND			18	20	19	20	19	
ADENOMA			18 0 0 0	20 0 0 0	19 0 0 0	20 0 0 0	19 0 0 0	
HYPERPLASIA' NODULAR			18 0 0 0	20 0 0 0	19 0 0 0	20 0 0 0	19 0 0 0	

-NOT REMARKABLE;+SLIGHT;+MODERATE;+++MARKED

*: P<0.05 (SIGNIFICANT DIFFERENCE FROM CONTROL)

Table 12 Histopathological findings in rats treated with the enzymatically-decomposed rutin by dietary administration for 52 weeks. (Continued)

ORGAN FINDING	SEX		MALE				
	TEST ARTICLE	DOSE	CONTROL	0.04%	0.20%	1%	5%
	GRADE	NO.OF ANIMALS	NO.OF ANIMALS	NO.OF ANIMALS	NO.OF ANIMALS	NO.OF ANIMALS	NO.OF ANIMALS
ADRENAL GLAND		18	20	20	20	20	19
APLASIA' MEDULLA' UNILATERAL		18 0 0 0	20 0 0 0	19 1 0 0	20 0 0 0	20 0 0 0	19 0 0 0
CYST'CORTEX		17 1 0 0	20 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0
GANGLIONEUROMA' BENIGN		17 1 0 0	20 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0
HEMORRHAGE' CYSTIC' CORTICAL		18 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0
HYPERPLASIA' NODULAR' CORTICAL		18 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0
HYPERTROPHY' CORTICAL CELL		17 1 0 0	20 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0
VACUOLIZATION' CYTOPLASMIC' CORTICAL CELL		17 1 0 0	20 0 0 0	20 0 0 0	17 3 0 0	17 2 0 0	17 2 0 0
TESTIS		18	20	20	20	20	19
TUBULAR ATROPHY		16 0 2 0	19 1 0 0	19 1 0 0	20 0 0 0	20 0 0 0	19 0 0 0
EPIDIDYMIS		18	20	20	20	20	19
HYPERTROPHY' EPITHELIAL CELL' EFFERENT DUCT		16 1 1 0	20 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0
HYOSPERMIA		16 0 2 0	20 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0
VACUOLIZATION' CYTOPLASMIC' EPITHELIAL CELL		10 8 0 0	5 15 0 0	13 7 0 0	10 10 0 0	10 9 0 0	10 9 0 0
PROSTATE		18	20	20	20	20	19
ACCUMULATION' CELL DEBRIS' ACINI		15 3 0 0	19 1 0 0	20 0 0 0	20 0 0 0	20 0 0 0	16 3 0 0
CELLULAR INFILTRATION' INFLAMMATORY		18 0 0 0	20 0 0 0	19 1 0 0	20 0 0 0	20 0 0 0	19 0 0 0
SEMINAL VESICLE		18	20	20	20	20	19
CELLULAR INFILTRATION' LEUKEMIA CELL		18 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	18 1 0 0
SKELETAL MUSCLE		18	20	20	20	20	19
CELLULAR INFILTRATION' LEUKEMIA CELL		18 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	18 1 0 0
SUBCUTIS		18	20	20	20	20	19
HEMANGIOSARCOMA		18 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0
SARCOMA' NOS		18 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	20 0 0 0	19 0 0 0
MAMMARY GLAND		14	18	15	19	15	15
CELLULAR INFILTRATION' INFLAMMATORY		14 0 0 0	18 0 0 0	15 0 0 0	19 0 0 0	19 0 0 0	15 0 0 0
DEGENERATION' ALVEOLAR/DUCTAL		14 0 0 0	18 0 0 0	15 0 0 0	19 0 0 0	15 0 0 0	15 0 0 0
DEPOSIT' PIGMENT		14 0 0 0	17 1 0 0	15 0 0 0	19 0 0 0	15 0 0 0	15 0 0 0
DILATATION' DUCT		14 0 0 0	18 0 0 0	15 0 0 0	19 0 0 0	15 0 0 0	15 0 0 0
MINERALIZATION		14 0 0 0	18 0 0 0	15 0 0 0	19 0 0 0	15 0 0 0	15 0 0 0

--:NOT REMARKABLE,+:SLIGHT,++:MODERATE,+++:MARKED

Table 12 Histopathological findings in rats treated with the enzymatically-decomposed rutin by dietary administration for 52 weeks. (Continued)

ORGAN FINDING	SEX TEST ARTICLE DOSE	MALE			
		CONTROL	0.04%	0.20%	1% 5%
GRADE	- + + + + +	- + + + + +	- + + + + +	- + + + + +	- + + + + +
FEMUR BONE MARROW CELLULAR INFILTRATION' LEUKEMIA CELL	18 18 0 0 0	20 20 0 0 0	20 20 0 0 0	20 20 0 0 0	19 18 0 1 0
STERNUM BONE MARROW CELLULAR INFILTRATION' LEUKEMIA CELL	18 18 0 0 0	20 19 0 1 0	20 20 0 0 0	20 20 0 0 0	19 18 0 1 0
ADIPOSE TISSUE LIPOMA' ABDOMINAL CAVITY LIPOMA' PERIEPIDIDYMIS	18 17 1 0 0 18 0 0 0	20 20 0 0 0 20 0 0 0	20 20 0 0 0 20 0 0 0	20 20 0 0 0 20 0 0 0	19 18 1 0 0 19 0 0 0
HARDERIAN GLAND CELLULAR INFILTRATION' MONONUCLEAR CELL	18 18 0 0 0	20 18 2 0 0	20 20 0 0 0	20 20 0 0 0	19 19 0 0 0
ADIPOSE TISSUE LIPOMA' ABDOMINAL CAVITY LIPOMA' PERIEPIDIDYMIS	18 18 0 0 0 17 1 0 0	20 20 0 0 0 20 0 0 0	20 20 0 0 0 20 0 0 0	20 19 1 0 0 20 0 0 0	19 19 0 0 0 19 0 0 0
PREPUTIAL GLAND ABSCESS CELLULAR INFILTRATION' MONONUCLEAR CELL	18 18 0 0 0 12 6 0 0	20 19 1 0 0 18 2 0 0	20 20 0 0 0 15 5 0 0	20 20 0 0 0 14 6 0 0	19 19 0 0 0 13 4 2 0
LYMPH NODE CELLULAR INFILTRATION' LEUKEMIA CELL' ABDOMINAL LN PLASMACYTOSIS' POPLTEAL LN	18 18 0 0 0 18 0 0 0	20 20 0 0 0 20 0 0 0	20 20 0 0 0 19 0 1 0	20 20 0 0 0 20 0 0 0	19 18 0 1 0 19 0 0 0

--:NOT REMARKABLE,+ :SLIGHT,++:MODERATE,+++ :MARKED LN:LYMPH NODE