APPENDIX D

SUMMARY OF LESIONS IN FEMALE MICE IN THE TWO-YEAR GAVAGE STUDY OF HYDROQUINONE

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TABLE D1. SUMMARY OF THE INCIDENCE OF NEOPLASMS IN FEMALE MICE IN THE TWO-YEAR GAVAGE STUDY OF HYDROQUINONE

	Vehicle Control	Low Dose	High Dose
Animals initially in study	65	65	65
Animals removed	65	65	65
Animals examined histopathologically	55	55	55
ALIMENTARY SYSTEM			
Gallbladder	(50)	*(55)	(48)
Lymphoma malignant lymphocytic		1 (2%)	
Lymphoma malignant mixed	2 (4%)		
Intestine large, cecum	(52)	*(55)	(53)
Lymphoma malignant lymphocytic	1 (2%)		1 (2%)
Lymphoma malignant			1 (2%)
Intestine large, colon	(52)	*(55)	(52)
Lymphoma malignant lymphocytic		1 (2%)	
Intestine small, duodenum	(52)	*(55)	(51)
Lymphoma malignant lymphocytic	1 (2%)		3 (6%)
Lymphoma malignant	1 (2%)		
Lymphoma malignant mixed			1 (2%)
Serosa, fibrosarcoma, metastatic, mesentery		1 (2%)	
Intestine small, ileum	(49)	*(55)	(52)
Lymphoma malignant lymphocytic	1 (2%)	2 (4%)	2 (4%)
Lymphoma malignant mixed			1 (2%)
Jejunum, lymphoma malignant mixed		1 (2%)	
Intestine small, jejunum	(52)	*(55)	(52)
Lymphoma malignant lymphocytic	1 (2%)	1 (2%)	3 (6%)
Lymphoma malignant mixed	2 (4%)		1 (2%)
Liver	(55)	(55)	(55)
Cholangiocarcinoma, metastatic		1 (2%)	
Hemangioma	1 (2%)	1 (2%)	
Hemangiosarcoma	1 (2%)		
Hepatocellular carcinoma	1 (2%)	2 (4%)	2 (4%)
Hepatocellular adenoma	2 (4%)	11 (20%)	11 (20%)
Hepatocellular adenoma, multiple		4 (7%)	1 (2%)
Histiocytic sarcoma			1 (2%)
Lymphoma malignant histiocytic		1 (2%)	1 (2%)
Lymphoma malignant lymphocytic	3 (5%)	4 (7%)	3 (5%)
Lymphoma malignant	2 (4%)	1 (2%)	3 (5%)
Lymphoma malignant mixed	4 (7%)	2 (4%)	3 (5%)
Lymphoma malignant undifferentiated cell type			1 (2%)
Mesentery	*(55)	*(55)	*(55)
Cholangiocarcinoma, metastatic		1 (2%)	
Fibrosarcoma		1 (2%)	
Fibrosarcoma, multiple		1 (2%)	
Lymphoma malignant lymphocytic	3 (5%)	2 (4%)	
Lymphoma malignant	1 (2%)		
Lymphoma malignant mixed	1 (2%)		1 (2%)
Fat, lymphoma malignant	1 (2%)		
Pancreas	(54)	*(55)	(53)
Fibrosarcoma, early invasion, metastatic, mesentery		1 (2%)	
Lymphoma malignant lymphocytic	1 (2%)	2 (4%)	2 (4%)
Lymphoma malignant	1 (2%)		
Lymphoma malignant mixed	2 (4%)		
Salivary glands	(54)	(54)	(54)
Histiocytic sarcoma			1 (2%)
Lymphoma malignant lymphocytic	3 (6%)	2 (4%)	2 (4%)
Lymphoma malignant	1 (2%)	1 (2%)	
Lymphoma malignant mixed	2 (4%)		
Stomach	(54)	*(55)	(55)
Serosa, lymphoma malignant lymphocytic		1 (2%)	
Stomach, forestomach	(54)	*(55)	(55)
Papilloma squamous		1 (2%)	
Glandular, lymphoma malignant lymphocytic	1 (2%)		

TABLE D1. SUMMARY OF THE INCIDENCE OF NEOPLASMS IN FEMALE MICE IN THE TWO-YEAR GAVAGE STUDY OF HYDROQUINONE (Continued)

	Vehicle Control	Low Dose	High Dose
ALIMENTARY SYSTEM (Continued)			
Stomach, glandular	(53)	*(55)	(55)
Lymphoma malignant lymphocytic	1 (2%)		
Lymphoma malignant	1 (2%)		1 (2%)
Lymphoma malignant mixed	1 (2%)		
CARDIOVASCULAR SYSTEM			
Heart	(55)	*(55)	(55)
Lymphoma malignant lymphocytic	1 (2%)	1 (2%)	
Lymphoma malignant	1 (2%)	1 (2%)	
Lymphoma malignant mixed		1 (2%)	
Epicardium, lymphoma malignant lymphocytic	1 (2%)		
Pericardium, lymphoma malignant undifferentiated cell type			1 (2%)
ENDOCRINE SYSTEM			
Adrenal gland	(55)	*(55)	(55)
Capsule, cholangiocarcinoma, metastatic		1 (2%)	
Capsule, lymphoma malignant lymphocytic	1 (2%)	1 (2%)	
Capsule, lymphoma malignant	1 (2%)		
Capsule, lymphoma malignant mixed	1 (2%)		
Adrenal gland, cortex	(55)	*(55)	(55)
Lymphoma malignant lymphocytic	1 (2%)		
Lymphoma malignant	1 (2%)		3 (5%)
Lymphoma malignant mixed		1 (2%)	
Lymphoma malignant undifferentiated cell type			1 (2%)
Adrenal gland, medulla	(51)	*(55)	(52)
Pheochromocytoma malignant	1 (2%)		
Pheochromocytoma benign	1 (2%)		
Islets, pancreatic	(51)	*(55)	(52)
Lymphoma malignant mixed	1 (2%)		
Pituitary gland	(52)	*(55)	(52)
Pars distalis, adenoma	11 (21%)	14 (25%)	11 (21%)
Pars distalis, carcinoma	1 (2%)	2 (4%)	
Pars intermedia, adenoma	1 (2%)		1 (2%)
Thyroid gland	(55)	(55)	(55)
Lymphoma malignant lymphocytic	1 (2%)		
Lymphoma malignant	1 (2%)	1 (2%)	
Lymphoma malignant mixed	1 (2%)		
Follicular cell, adenoma	3 (5%)	5 (9%)	6 (11%)
Follicular cell, carcinoma			1 (2%)
GENERAL BODY SYSTEM			
Tissue, NOS	*(55)	*(55)	*(55)
Sarcoma, poorly differentiated	1 (2%)		
GENITAL SYSTEM			
Ovary	(55)	(53)	(54)
Adenoma		1 (2%)	
Cystadenoma			1 (2%)
Lymphoma malignant lymphocytic	2 (4%)	4 (8%)	
Lymphoma malignant	1 (2%)	1 (2%)	1 (2%)
Lymphoma malignant mixed	1 (2%)		1 (2%)
Osteosarcoma, metastatic, bone		1 (2%)	
Teratoma	1 (2%)		
Periovarian tissue, lymphoma malignant lymphocytic	3 (5%)		3 (6%)

TABLE D1. SUMMARY OF THE INCIDENCE OF NEOPLASMS IN FEMALE MICE IN THE TWO-YEAR GAVAGE STUDY OF HYDROQUINONE (Continued)

	Vehicle Control	Low Dose	High Dose
GENITAL SYSTEM			
Ovary (Continued)	(55)	(53)	(54)
Periovarian tissue, lymphoma malignant	1 (2%)		1 (2%)
Periovarian tissue, lymphoma malignant mixed	2 (4%)		1 (2%)
Periovarian tissue, lymphoma malignant undifferentiated cell type			1 (2%)
Uterus	(54)	*(55)	(55)
Hemangioma		1 (2%)	
Lymphoma malignant lymphocytic	2 (4%)	1 (2%)	
Lymphoma malignant mixed	1 (2%)		
Polyp stromal		1 (2%)	
Serosa, lymphoma malignant	1 (2%)		
HEMATOPOIETIC SYSTEM			
Bone marrow	(55)	*(55)	(54)
Lymphoma malignant lymphocytic	1 (2%)		
Lymph node	(55)	*(55)	(54)
Lymphoma malignant lymphocytic	1 (2%)		
Lymphoma malignant	1 (2%)		1 (2%)
Axillary, lymphoma malignant histiocytic			1 (2%)
Axillary, lymphoma malignant lymphocytic		1 (2%)	1 (2%)
Axillary, lymphoma malignant	1 (2%)		3 (6%)
Bronchial, lymphoma malignant lymphocytic	1 (2%)	1 (2%)	
Bronchial, lymphoma malignant mixed	1 (2%)	1 (2%)	
Deep cervical, lymphoma malignant mixed		1 (2%)	
Iliac, lymphoma malignant lymphocytic		1 (2%)	
Iliac, lymphoma malignant	1 (2%)	1 (2%)	2 (4%)
Iliac, lymphoma malignant mixed	1 (2%)	1 (2%)	1 (2%)
Inguinal, lymphoma malignant lymphocytic	1 (2%)	1 (2%)	1 (2%)
Inguinal, lymphoma malignant			1 (2%)
Inguinal, lymphoma malignant mixed	1 (2%)		
Lumbar, lymphoma malignant histiocytic			1 (2%)
Lumbar, lymphoma malignant lymphocytic	1 (2%)	3 (5%)	1 (2%)
Lumbar, lymphoma malignant	2 (4%)	1 (2%)	2 (4%)
Lumbar, lymphoma malignant mixed	3 (5%)	2 (4%)	2 (4%)
Lumbar, osteosarcoma, metastatic, bone		1 (2%)	
Mediastinal, lymphoma malignant lymphocytic	3 (5%)	2 (4%)	2 (4%)
Mediastinal, lymphoma malignant	1 (2%)	1 (2%)	1 (2%)
Mediastinal, lymphoma malignant mixed	2 (4%)	2 (4%)	
Pancreatic, histiocytic sarcoma			1 (2%)
Pancreatic, lymphoma malignant histiocytic			1 (2%)
Pancreatic, lymphoma malignant lymphocytic	1 (2%)		3 (6%)
Pancreatic, lymphoma malignant	1 (2%)		1 (2%)
Pancreatic, lymphoma malignant mixed	4 (7%)		1 (2%)
Popliteal, lymphoma malignant lymphocytic		1 (2%)	
Popliteal, lymphoma malignant			1 (2%)
Renal, lymphoma malignant lymphocytic	2 (4%)	1 (2%)	
Renal, lymphoma malignant	1 (2%)		
Renal, lymphoma malignant mixed			1 (2%)
Thoracic, lymphoma malignant lymphocytic	1 (2%)		
Lymph node, mandibular	(50)	*(55)	(49)
Histiocytic sarcoma			1 (2%)
Lymphoma malignant histiocytic			1 (2%)
Lymphoma malignant lymphocytic	6 (12%)	3 (5%)	6 (12%)
Lymphoma malignant	2 (4%)	1 (2%)	2 (4%)
Lymphoma malignant mixed	2 (4%)	2 (4%)	2 (4%)
Lymphoma malignant undifferentiated cell type			1 (2%)
Lymph node, mesenteric	(52)	*(55)	(52)
Histiocytic sarcoma			1 (2%)
Lymphoma malignant histiocytic			1 (2%)
Lymphoma malignant lymphocytic	11 (21%)	3 (5%)	7 (13%)

TABLE D1. SUMMARY OF THE INCIDENCE OF NEOPLASMS IN FEMALE MICE IN THE TWO-YEAR GAVAGE STUDY OF HYDROQUINONE (Continued)

	Vehicle Control	Low Dose	High Dose
HEMATOPOIETIC SYSTEM			
Lymph node, mesenteric (Continued)	(52)	*(55)	(52)
Lymphoma malignant	3 (6%)	1 (2%)	3 (6%)
Lymphoma malignant mixed	5 (10%)	3 (5%)	5 (10%)
Lymphoma malignant undifferentiated cell type			1 (2%)
Renal, cholangiocarcinoma, metastatic		1 (2%)	
Spleen	(55)	*(55)	(55)
Lymphoma malignant histiocytic			1 (2%)
Lymphoma malignant lymphocytic	10 (18%)	7 (13%)	7 (13%)
Lymphoma malignant	3 (5%)	1 (2%)	3 (5%)
Lymphoma malignant mixed	7 (13%)	4 (7%)	4 (7%)
Lymphoma malignant undifferentiated cell type			1 (2%)
Capsule, cholangiocarcinoma, metastatic		1 (2%)	
Thymus	(44)	*(55)	(47)
Lymphoma malignant histiocytic			1 (2%)
Lymphoma malignant lymphocytic	4 (9%)	3 (5%)	4 (9%)
Lymphoma malignant		1 (2%)	1 (2%)
Lymphoma malignant mixed	3 (7%)	1 (2%)	1 (2%)
Lymphoma malignant undifferentiated cell type			1 (2%)
INTEGUMENTARY SYSTEM			
Mammary gland	(52)	*(55)	(53)
Adenocarcinoma	3 (6%)	5 (9%)	2 (4%)
Cholangiocarcinoma, metastatic, multiple		1 (2%)	
Lymphoma malignant lymphocytic	1 (2%)	2 (4%)	
Lymphoma malignant		1 (2%)	
Thoracic, hepatocellular carcinoma, metastatic, liver		1 (2%)	
Skin	(55)	*(55)	(55)
Basal cell carcinoma	1 (2%)		
Subcutaneous tissue, fibrosarcoma	1 (2%)	1 (2%)	
Subcutaneous tissue, hepatocellular carcinoma, metastatic, liver		1 (2%)	
Subcutaneous tissue, lymphoma malignant lymphocytic	1 (2%)	1 (2%)	
Subcutaneous tissue, lymphoma malignant	1 (2%)		1 (2%)
Tail, neurofibrosarcoma	1 (2%)		
Thoracic, subcutaneous tissue, hemangiosarcoma			1 (2%)
MUSCULOSKELETAL SYSTEM			
Bone	(55)	*(55)	(55)
Lumbar, vertebra, osteosarcoma		1 (2%)	
Vertebra, cholangiocarcinoma, metastatic		1 (2%)	
Skeletal muscle	*(55)	*(55)	*(55)
Lymphoma malignant			1 (2%)
Abdominal, fibrosarcoma, early invasion, metastatic, mesentery		1 (2%)	
Abdominal, diaphragm, cholangiocarcinoma, metastatic		1 (2%)	
NERVOUS SYSTEM			
Brain	(55)	*(55)	(55)
Carcinoma, extension, metastatic, pituitary gland	1 (2%)	1 (2%)	
Lymphoma malignant lymphocytic		1 (2%)	
Lymphoma malignant mixed			1 (2%)
Cerebrum, oligodendroglioma malignant	1 (2%)		
Perivascular, lymphoma malignant lymphocytic		1 (2%)	
Perivascular, lymphoma malignant		1 (2%)	

TABLE D1. SUMMARY OF THE INCIDENCE OF NEOPLASMS IN FEMALE MICE IN THE TWO-YEAR GAVAGE STUDY OF HYDROQUINONE (Continued)

	Vehicle Control	Low Dose	High Dose
RESPIRATORY SYSTEM			
Lung	(55)	(55)	(55)
Alveolar/bronchiolar adenoma	3 (5%)	6 (11%)	1 (2%)
Alveolar/bronchiolar adenoma, multiple			1 (2%)
Alveolar/bronchiolar carcinoma	1 (2%)		2 (4%)
Basal cell carcinoma, metastatic	1 (2%)		
Carcinoma, metastatic			1 (2%)
Hepatocellular carcinoma, metastatic, liver		1 (2%)	
Lymphoma malignant lymphocytic	4 (7%)	2 (4%)	1 (2%)
Lymphoma malignant	3 (5%)	1 (2%)	3 (5%)
Lymphoma malignant mixed	2 (4%)		2 (4%)
Lymphoma malignant undifferentiated cell type			1 (2%)
Osteosarcoma, metastatic, bone		1 (2%)	
Pleura, lymphoma malignant lymphocytic	1 (2%)		
Trachea	(54)	*(55)	(55)
Lymphoma malignant mixed	1 (2%)		
SPECIAL SENSES SYSTEM			
Ear	*(55)	*(55)	*(55)
Canal, external ear, squamous cell carcinoma	1 (2%)		
Harderian gland	*(55)	*(55)	*(55)
Adenoma	2 (4%)	2 (4%)	2 (4%)
Carcinoma			2 (4%)
Lymphoma malignant mixed	1 (2%)		
URINARY SYSTEM			
Kidney	(55)	*(55)	(55)
Hepatocellular carcinoma, metastatic		1 (2%)	
Lymphoma malignant histiocytic			1 (2%)
Lymphoma malignant lymphocytic	4 (7%)	3 (5%)	4 (7%)
Lymphoma malignant	2 (4%)	1 (2%)	3 (5%)
Lymphoma malignant mixed	2 (4%)	1 (2%)	3 (5%)
Osteosarcoma, metastatic, bone		1 (2%)	
Capsule, cholangiocarcinoma, metastatic		1 (2%)	
Capsule, lymphoma malignant lymphocytic	1 (2%)		1 (2%)
Fat, lymphoma malignant mixed	1 (2%)		
Renal tubule, adenoma	1 (2%)		1 (2%)
Urinary bladder	(53)	*(55)	(54)
Lymphoma malignant histiocytic		1 (2%)	
Lymphoma malignant lymphocytic	4 (8%)	3 (5%)	
Lymphoma malignant	1 (2%)	1 (2%)	1 (2%)
Lymphoma malignant mixed	1 (2%)		
SYSTEMIC LESIONS			
Multiple organs	*(55)	*(55)	*(55)
Lymphoma malignant lymphocytic	14 (25%)	7 (13%)	9 (16%)
Lymphoma malignant mixed	7 (13%)	5 (9%)	6 (11%)
Lymphoma malignant	3 (5%)	1 (2%)	3 (5%)
Hemangiosarcoma	1 (2%)		1 (2%)
Hemangioma	1 (2%)	2 (4%)	
Lymphoma malignant histiocytic		1 (2%)	1 (2%)
Lymphoma malignant undifferentiated cell			1 (2%)

TABLE D1. SUMMARY OF THE INCIDENCE OF NEOPLASMS IN FEMALE MICE IN THE TWO-YEAR GAVAGE STUDY OF HYDROQUINONE (Continued)

	Vehicle Control	Low Dose	High Dose
ANIMAL DISPOSITION SUMMARY			
Animals initially in study	65	65	65
Terminal sacrifice	37	39	36
Moribund	7	11	6
Interval sacrifice	10	10	10
Dead	11	5	9
Accident			4
TUMOR SUMMARY			
Total animals with primary neoplasms **	43	42	39
Total primary neoplasms	64	76	71
Total animals with benign neoplasms	21	33	27
Total benign neoplasms	26	47	36
Total animals with malignant neoplasms	31	21	27
Total malignant neoplasms	38	29	35
Total animals with secondary neoplasms ***	2	4	1
Total secondary neoplasms	2	21	1

* Number of animals receiving complete necropsy examination; all gross lesions including masses examined microscopically.
** Primary tumors: all tumors except secondary tumors
*** Secondary tumors: metastatic tumors or tumors invasive into an adjacent organ

TABLE D2. INDIVIDUAL ANIMAL TUMOR PATHOLOGY OF FEMALE MICE IN THE TWO-YEAR GAVAGE STUDY OF HYDROQUINONE: VEHICLE CONTROL

WEEKS ON STUDY	042	054	058	062	067	071	078	080	084	086	091	091	094	095	097	099	099	100	105	105	105	105	105	105	105
CARCASS ID	455	465	415	485	435	441	524	495	424	523	404	462	423	505	504	434	412	403	401	402	432	433	444	445	453
ALIMENTARY SYSTEM																									
Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gallbladder	+	M	+	A	+	A	+	A	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant mixed										X															
Intestine large	A	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine large, cecum		+	+	+	A	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic																									
Intestine large, colon		+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine large, rectum		A	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine small	A	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine small, duodenum		+	A	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic																									
Lymphoma malignant						X																			
Intestine small, ileum		A	A	+	A	A	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic																								X	
Intestine small, jejunum		+	+	+	A	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic																									
Lymphoma malignant mixed																									X
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hemangioma																									
Hemangiosarcoma																								X	
Hepatocellular carcinoma																									
Hepatocellular adenoma																									
Lymphoma malignant lymphocytic																		X							
Lymphoma malignant					X	X																			
Lymphoma malignant mixed										X															X
Mesentery								+		+						+			+				+	+	+
Lymphoma malignant lymphocytic																								X	
Lymphoma malignant								X																	
Lymphoma malignant mixed										X															
Fat, lymphoma malignant								X																	
Pancreas	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic																									
Lymphoma malignant					X																				
Lymphoma malignant mixed										X															
Salivary glands	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic																					X				
Lymphoma malignant					X																				
Lymphoma malignant mixed																									
Stomach	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Stomach, forestomach	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Glandular, lymphoma malignant lymphocytic																									
Stomach, glandular	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic																									
Lymphoma malignant					X																				
Lymphoma malignant mixed																									
CARDIOVASCULAR SYSTEM																									
Heart	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic																									
Lymphoma malignant					X																				
Epicardium, lymphoma malignant lymphocytic																		X							
ENDOCRINE SYSTEM																									
Adrenal gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Capsule, lymphoma malignant lymphocytic																									
Capsule, lymphoma malignant								X																	
Capsule, lymphoma malignant mixed																									
Adrenal gland, cortex	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic																		X							
Lymphoma malignant					X																				
Adrenal gland, medulla	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	M	+	+	+	+
Pheochromocytoma malignant																									
Pheochromocytoma benign																X									
Islets, pancreatic	+	M	+	M	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant mixed																									
Parathyroid gland	M	M	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	M	+	M	+	M	+
Pituitary gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	I	+	+	+
Pars distalis, adenoma														X	X				X				X		
Pars distalis, carcinoma											X														
Pars intermedia, adenoma																									
Thyroid gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic																									
Lymphoma malignant					X																				
Lymphoma malignant mixed																									
Follicular cell, adenoma														X											
GENERAL BODY SYSTEM																									
Tissue, NOS															+										
Sarcoma, poorly differentiated															X										

+: Tissue examined microscopically
: Not examined
−: Present but not examined microscopically
I: Insufficient tissue

M: Missing
A: Autolysis precludes examination
X: Incidence of listed morphology

TABLE D2. INDIVIDUAL ANIMAL TUMOR PATHOLOGY OF FEMALE MICE: VEHICLE CONTROL (Continued)

WEEKS ON STUDY	105	105	105	105	105	105	105	105	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106
CARCASS ID	461	473	474	483	493	494	503	514	421	422	443	452	471	472	482	491	492	501	502	513	522	411	413	431	442
ALIMENTARY SYSTEM																									
Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gallbladder	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant mixed										X															
Intestine large	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine large, cecum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic								X																	
Intestine large, colon	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine large, rectum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine small	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine small, duodenum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic								X																	
Lymphoma malignant																									
Intestine small, ileum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic													X												
Intestine small, jejunum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic													X												
Lymphoma malignant mixed										X															
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hemangioma					X																				
Hemangiosarcoma																									
Hepatocellular carcinoma						X																			
Hepatocellular adenoma													X												
Lymphoma malignant lymphocytic								X								X									
Lymphoma malignant																									
Lymphoma malignant mixed										X											X				
Mesentery		+		+	+			+					+				+	+	+		+	+	+		
Lymphoma malignant lymphocytic								X					X												
Lymphoma malignant																									
Lymphoma malignant mixed																									
Fat, lymphoma malignant																									
Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic								X																	
Lymphoma malignant																									
Lymphoma malignant mixed										X															
Salivary glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic								X																	
Lymphoma malignant																					X				
Lymphoma malignant mixed										X															
Stomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Stomach, forestomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Glandular, lymphoma malignant lymphocytic																									
Stomach, glandular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic								X																	
Lymphoma malignant																									
Lymphoma malignant mixed										X															
CARDIOVASCULAR SYSTEM																									
Heart	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic								X																	
Lymphoma malignant																									
Epicardium, lymphoma malignant lymphocytic																									
ENDOCRINE SYSTEM																									
Adrenal gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Capsule, lymphoma malignant lymphocytic								X																	
Capsule, lymphoma malignant										X															
Capsule, lymphoma malignant mixed																									
Adrenal gland, cortex	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic																									
Lymphoma malignant																									
Adrenal gland, medulla	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+
Pheochromocytoma malignant																							X		
Pheochromocytoma benign																									
Islets, pancreatic	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant mixed										X															
Parathyroid gland	+	M	+	+	+	+	M	+	+	M	M	+	+	M	M	M	+	M	+	M	+	+	+	+	+
Pituitary gland	+	+	+	+	+	+	+	I	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Pars distalis, adenoma	X			X										X											X
Pars distalis, carcinoma																									
Pars intermedia, adenoma																									
Thyroid gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic																									
Lymphoma malignant										X															
Lymphoma malignant mixed										X				X											
Follicular cell, adenoma																									
GENERAL BODY SYSTEM																									
Tissue, NOS																									
Sarcoma, poorly differentiated																									

TABLE D2. INDIVIDUAL ANIMAL TUMOR PATHOLOGY OF FEMALE MICE: VEHICLE CONTROL (Continued)

WEEKS ON STUDY	106	106	106	106	106	TOTAL: TISSUES TUMORS
CARCASS ID	451	481	511	512	521	
ALIMENTARY SYSTEM						
Esophagus	+	+	+	+	+	55
Gallbladder	+	+	+	+	+	50
Lymphoma malignant mixed						2
Intestine large	+	+	+	+	+	53
Intestine large, cecum	+	+	+	+	+	52
Lymphoma malignant lymphocytic						1
Intestine large, colon	+	+	+	+	+	52
Intestine large, rectum	+	+	+	+	+	52
Intestine small	+	+	+	+	+	53
Intestine small, duodenum	+	+	+	+	+	52
Lymphoma malignant lymphocytic						1
Lymphoma malignant						1
Intestine small, ileum	+	+	+	+	+	49
Lymphoma malignant lymphocytic						1
Intestine small, jejunum	+	+	+	+	+	52
Lymphoma malignant lymphocytic						1
Lymphoma malignant mixed						2
Liver	+	+	+	+	+	55
Hemangioma						1
Hemangiosarcoma						1
Hepatocellular carcinoma						1
Hepatocellular adenoma	X					2
Lymphoma malignant lymphocytic						3
Lymphoma malignant						2
Lymphoma malignant mixed						4
Mesentery		+				19
Lymphoma malignant lymphocytic						3
Lymphoma malignant						1
Lymphoma malignant mixed						1
Fat, lymphoma malignant						1
Pancreas	+	+	+	+	+	54
Lymphoma malignant lymphocytic						1
Lymphoma malignant						1
Lymphoma malignant mixed						2
Salivary glands	+	+	+	+	+	54
Lymphoma malignant lymphocytic					X	3
Lymphoma malignant						1
Lymphoma malignant mixed						2
Stomach	+	+	+	+	+	54
Stomach, forestomach	+	+	+	+	+	54
Glandular, lymphoma malignant lymphocytic					X	1
Stomach, glandular	+	+	+	+		53
Lymphoma malignant lymphocytic						1
Lymphoma malignant						1
Lymphoma malignant mixed						1
CARDIOVASCULAR SYSTEM						
Heart	+	+	+	+	+	55
Lymphoma malignant lymphocytic						1
Lymphoma malignant						1
Epicardium, lymphoma malignant lymphocytic						1
ENDOCRINE SYSTEM						
Adrenal gland	+	+	+	+	+	55
Capsule, lymphoma malignant lymphocytic						1
Capsule, lymphoma malignant						1
Capsule, lymphoma malignant mixed						1
Adrenal gland, cortex	+	+	+	+	+	55
Lymphoma malignant lymphocytic						1
Lymphoma malignant						1
Adrenal gland, medulla	+	+	+	+	M	51
Pheochromocytoma malignant						1
Pheochromocytoma benign						1
Islets, pancreatic	+	+	+	+	+	51
Lymphoma malignant mixed						1
Parathyroid gland	+	+	+	+	+	40
Pituitary gland	+	+	+	+	+	52
Pars distalis, adenoma	X		X		X	11
Pars distalis, carcinoma						1
Pars intermedia, adenoma		X				1
Thyroid gland	+	+	+	+	+	55
Lymphoma malignant lymphocytic					X	1
Lymphoma malignant						1
Lymphoma malignant mixed						1
Follicular cell, adenoma						3
GENERAL BODY SYSTEM						
Tissue, NOS						1
Sarcoma, poorly differentiated						1

TABLE D2. INDIVIDUAL ANIMAL TUMOR PATHOLOGY OF FEMALE MICE: VEHICLE CONTROL (Continued)

WEEKS ON STUDY	042	054	053	062	067	071	078	080	084	086	091	091	094	095	097	099	099	100	105	105	105	105	105	105	105
CARCASS ID	455	465	415	485	435	441	524	495	424	523	404	462	423	505	504	434	412	403	401	402	432	433	444	445	453
GENITAL SYSTEM																									
Ovary	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic																									
Lymphoma malignant					X																				
Lymphoma malignant mixed										X															
Teratoma			X																						
Periovarian tissue, lymphoma malignant lymphocytic																		X						X	
Periovarian tissue, lymphoma malignant								X																	
Periovarian tissue, lymphoma malignant mixed																									
Uterus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic																									
Lymphoma malignant mixed										X															
Serosa, lymphoma malignant								X																	
HEMATOPOIETIC SYSTEM																									
Bone marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic																									
Lymph node	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic																									
Lymphoma malignant								X																	
Axillary, lymphoma malignant					X																				
Bronchial, lymphoma malignant lymphocytic																		X							
Bronchial, lymphoma malignant mixed																									
Iliac, lymphoma malignant					X																				
Iliac, lymphoma malignant mixed										X															
Inguinal, lymphoma malignant lymphocytic																		X							
Inguinal, lymphoma malignant mixed																									
Lumbar, lymphoma malignant lymphocytic																									
Lumbar, lymphoma malignant					X	X																			
Lumbar, lymphoma malignant mixed										X															
Mediastinal, lymphoma malignant lymphocytic																								X	
Mediastinal, lymphoma malignant					X																				
Mediastinal, lymphoma malignant mixed																									
Pancreatic, lymphoma malignant lymphocytic																								X	
Pancreatic, lymphoma malignant					X																				
Pancreatic, lymphoma malignant mixed										X															
Renal, lymphoma malignant lymphocytic																		X							
Renal, lymphoma malignant						X																			
Thoracic, lymphoma malignant lymphocytic																									
Lymph node, mandibular	+	M	+	+	+	M	+	+	+	+	+	+	+	M	+	+	+	+	+	M	+	+	+	+	+
Lymphoma malignant lymphocytic																		X			X				
Lymphoma malignant					X			X																	
Lymphoma malignant mixed										X															
Lymph node, mesenteric	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic																		X		X	X			X	
Lymphoma malignant					X	X		X																	
Lymphoma malignant mixed										X															X
Spleen	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic																	X	X		X	X				
Lymphoma malignant					X	X		X																	
Lymphoma malignant mixed										X															X
Thymus	A	M	M	+	M	M	M	M	+	M	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic																		X			X			X	
Lymphoma malignant mixed																									X
INTEGUMENTARY SYSTEM																									
Mammary gland	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+
Adenocarcinoma		X																						X	
Lymphoma malignant lymphocytic																									
Skin	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Basal cell carcinoma																									
Subcutaneous tissue, fibrosarcoma															X										
Subcutaneous tissue, lymphoma malignant lymphocytic																									
Subcutaneous tissue, lymphoma malignant					X																				
Tail, neurofibrosarcoma							X																		
MUSCULOSKELETAL SYSTEM																									
Bone	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
NERVOUS SYSTEM																									
Brain	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Carcinoma, extension, metastatic, pituitary gland											X														
Cerebrum, oligodendroglioma malignant																									
Spinal cord							+				+														

TABLE D2. INDIVIDUAL ANIMAL TUMOR PATHOLOGY OF FEMALE MICE: VEHICLE CONTROL (Continued)

WEEKS ON STUDY	105	105	105	105	105	105	105	105	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106
CARCASS ID	461	473	474	483	493	494	503	514	421	422	443	452	471	472	482	491	492	501	502	513	522	411	413	431	442
GENITAL SYSTEM																									
Ovary	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic													X												
Lymphoma malignant																									
Lymphoma malignant mixed																									
Teratoma																									
Periovarian tissue, lymphoma malignant lymphocytic								X																	
Periovarian tissue, lymphoma malignant																									
Periovarian tissue, lymphoma malignant mixed										X					X										
Uterus	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic										X															X
Lymphoma malignant mixed																									
Serosa, lymphoma malignant																									
HEMATOPOIETIC SYSTEM																									
Bone marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic								X																	
Lymph node	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic													X												
Lymphoma malignant																									
Axillary, lymphoma malignant																									
Bronchial, lymphoma malignant lymphocytic																									
Bronchial, lymphoma malignant mixed															X										
Iliac, lymphoma malignant																									
Iliac, lymphoma malignant mixed																									
Inguinal, lymphoma malignant lymphocytic																									
Inguinal, lymphoma malignant mixed										X															
Lumbar, lymphoma malignant lymphocytic																									
Lumbar, lymphoma malignant																									
Lumbar, lymphoma malignant mixed					X					X															
Mediastinal, lymphoma malignant lymphocytic																X									
Mediastinal, lymphoma malignant																									
Mediastinal, lymphoma malignant mixed										X					X										
Pancreatic, lymphoma malignant lymphocytic																									
Pancreatic, lymphoma malignant																									
Pancreatic, lymphoma malignant mixed										X					X						X				
Renal, lymphoma malignant lymphocytic								X																	
Renal, lymphoma malignant																									
Thoracic, lymphoma malignant lymphocytic								X																	
Lymph node, mandibular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+
Lymphoma malignant lymphocytic								X					X												X
Lymphoma malignant																									
Lymphoma malignant mixed										X															
Lymph node, mesenteric	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic								X					X			X			X				X		X
Lymphoma malignant																									
Lymphoma malignant mixed										X					X						X				
Spleen	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic								X				X	X			X									X
Lymphoma malignant																									
Lymphoma malignant mixed					X					X					X						X	X			
Thymus	M	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic																X									
Lymphoma malignant mixed										X											X				
INTEGUMENTARY SYSTEM																									
Mammary gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+
Adenocarcinoma			X																						
Lymphoma malignant lymphocytic								X																	
Skin	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Basal cell carcinoma																									
Subcutaneous tissue, fibrosarcoma																									
Subcutaneous tissue, lymphoma malignant lymphocytic																									
Subcutaneous tissue, lymphoma malignant																									
Tail, neurofibrosarcoma																									
MUSCULOSKELETAL SYSTEM																									
Bone	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
NERVOUS SYSTEM																									
Brain	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Carcinoma, extension, metastatic, pituitary gland																					X				
Cerebrum, oligodendroglioma malignant							+	+																	
Spinal cord																									

TABLE D2. INDIVIDUAL ANIMAL TUMOR PATHOLOGY OF FEMALE MICE: VEHICLE CONTROL (Continued)

WEEKS ON STUDY	106	106	106	106	106	TOTAL: TISSUES TUMORS
CARCASS ID	451	481	511	512	521	
GENITAL SYSTEM						
Ovary	+	+	+	+	+	55
Lymphoma malignant lymphocytic					X	2
Lymphoma malignant						1
Lymphoma malignant mixed						1
Teratoma						1
Periovarian tissue, lymphoma malignant lymphocytic						3
Periovarian tissue, lymphoma malignant						1
Periovarian tissue, lymphoma malignant mixed						2
Uterus	+	+	+	+	+	54
Lymphoma malignant lymphocytic						2
Lymphoma malignant mixed						1
Serosa, lymphoma malignant						1
HEMATOPOIETIC SYSTEM						
Bone marrow	+	+	+	+	+	55
Lymphoma malignant lymphocytic						1
Lymph node	+	+	+	+	+	55
Lymphoma malignant lymphocytic						1
Lymphoma malignant						1
Axillary, lymphoma malignant						1
Bronchial, lymphoma malignant lymphocytic						1
Bronchial, lymphoma malignant mixed						1
Iliac, lymphoma malignant						1
Iliac, lymphoma malignant mixed						1
Inguinal, lymphoma malignant lymphocytic						1
Inguinal, lymphoma malignant mixed						1
Lumbar, lymphoma malig. lymphocytic					X	1
Lumbar, lymphoma malignant						2
Lumbar, lymphoma malignant mixed						3
Mediastinal, lymphoma malignant lymphocytic					X	3
Mediastinal, lymphoma malignant						1
Mediastinal, lymphoma malig. mixed						2
Pancreatic, lymphoma malignant lymphocytic						1
Pancreatic, lymphoma malignant						1
Pancreatic, lymphoma malignant mixed						4
Renal, lymphoma malig. lymphocytic						2
Renal, lymphoma malignant						1
Thoracic, lymphoma malignant lymphocytic						1
Lymph node, mandibular	+	+	+	+	+	50
Lymphoma malignant lymphocytic					X	6
Lymphoma malignant						2
Lymphoma malignant mixed						2
Lymph node, mesenteric	+	M	M	+	+	52
Lymphoma malignant lymphocytic					X	11
Lymphoma malignant						3
Lymphoma malignant mixed						5
Spleen	+	+	+	+	+	55
Lymphoma malignant lymphocytic					X	10
Lymphoma malignant						3
Lymphoma malignant mixed						7
Thymus	+	+	+	+	+	44
Lymphoma malignant lymphocytic						4
Lymphoma malignant mixed						3
INTEGUMENTARY SYSTEM						
Mammary gland	+	+	+	+	+	52
Adenocarcinoma						3
Lymphoma malignant lymphocytic						1
Skin	+	+	+	+	+	55
Basal cell carcinoma		X				1
Subcutaneous tissue, fibrosarcoma						1
Subcutaneous tissue, lymphoma malignant lymphocytic					X	1
Subcutaneous tissue, lymphoma malignant						1
Tail, neurofibrosarcoma						1
MUSCULOSKELETAL SYSTEM						
Bone	+	+	+	+	+	55
NERVOUS SYSTEM						
Brain	+	+	+	+	+	55
Carcinoma, extension, metastatic, pituitary gland						1
Cerebrum, oligodendroglioma malignant						1
Spinal cord						4

TABLE D2. INDIVIDUAL ANIMAL TUMOR PATHOLOGY OF FEMALE MICE: VEHICLE CONTROL (Continued)

WEEKS ON STUDY	042	054	058	062	067	071	078	080	084	086	091	091	094	095	097	099	099	100	105	105	105	105	105	105	105
CARCASS ID	455	465	415	485	435	441	524	495	424	523	404	462	423	505	504	434	412	403	401	402	432	433	444	445	453
RESPIRATORY SYSTEM																									
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Alveolar/bronchiolar adenoma								X							X										
Alveolar/bronchiolar carcinoma																				X					
Basal cell carcinoma, metastatic																		X							
Lymphoma malignant lymphocytic					X																X				
Lymphoma malignant						X		X																	
Lymphoma malignant mixed										X															
Pleura, lymphoma malignant lymphocytic																								X	
Nose	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Trachea	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant mixed																									
SPECIAL SENSES SYSTEM																									
Ear																									
Canal, external ear, squamous cell carcinoma																									
Eye																	+								
Harderian gland																	X								
Adenoma																									
Lymphoma malignant mixed																									
URINARY SYSTEM																									
Kidney	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic																					X				
Lymphoma malignant					X			X																	
Lymphoma malignant mixed										X															
Capsule, lymphoma malignant lymphocytic																								X	
Fat, lymphoma malignant mixed																							X		
Renal tubule, adenoma																									
Urinary bladder	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic																					X			X	
Lymphoma malignant					X																				
Lymphoma malignant mixed																									

TABLE D2. INDIVIDUAL ANIMAL TUMOR PATHOLOGY OF FEMALE MICE: VEHICLE CONTROL (Continued)

WEEKS ON STUDY	105	105	105	105	105	105	105	105	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106
CARCASS ID	461	473	474	483	493	494	503	514	421	422	443	452	471	472	482	491	492	501	502	513	522	411	413	431	442
RESPIRATORY SYSTEM																									
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Alveolar/bronchiolar adenoma																	X								
Alveolar/bronchiolar carcinoma																									
Basal cell carcinoma, metastatic																									
Lymphoma malignant lymphocytic								X																	
Lymphoma malignant																									
Lymphoma malignant mixed										X															
Pleura, lymphoma malignant lymphocytic																									
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Trachea	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant mixed										X															
SPECIAL SENSES SYSTEM																									
Ear																									
Canal, external ear, squamous cell carcinoma																									
Eye										+	+														
Harderian gland										+	+														
Adenoma											X														
Lymphoma malignant mixed										X															
URINARY SYSTEM																									
Kidney	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic								X					X						X						
Lymphoma malignant																									
Lymphoma malignant mixed										X															
Capsule, lymphoma malignant lymphocytic																									
Fat, lymphoma malignant mixed																					X				
Renal tubule, adenoma																									
Urinary bladder	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic								X																	
Lymphoma malignant																									
Lymphoma malignant mixed										X															

TABLE D2. INDIVIDUAL ANIMAL TUMOR PATHOLOGY OF FEMALE MICE: VEHICLE CONTROL (Continued)

WEEKS ON STUDY	106	106	106	106	106	TOTAL: TISSUES TUMORS
CARCASS ID	451	481	511	512	521	
RESPIRATORY SYSTEM						
Lung	+	+	+	+	+	55
Alveolar/bronchiolar adenoma						3
Alveolar/bronchiolar carcinoma						1
Basal cell carcinoma, metastatic		X				1
Lymphoma malignant lymphocytic					X	4
Lymphoma malignant						3
Lymphoma malignant mixed						2
Pleura, lymphoma malig. lymphocytic						1
Nose	+	+	+	+	+	54
Trachea	+	+	+	+	+	54
Lymphoma malignant mixed						1
SPECIAL SENSES SYSTEM						
Ear				+		1
Canal, external ear, squamous cell carcinoma				X		1
Eye						2
Harderian gland						3
Adenoma						2
Lymphoma malignant mixed						1
URINARY SYSTEM						
Kidney	+	+	+	+	+	55
Lymphoma malignant lymphocytic						4
Lymphoma malignant						2
Lymphoma malignant mixed						2
Capsule, lymphoma malignant lymphocytic						1
Fat, lymphoma malignant mixed						1
Renal tubule, adenoma						1
Urinary bladder	+	+	+	+	+	53
Lymphoma malignant lymphocytic					X	4
Lymphoma malignant						1
Lymphoma malignant mixed						1

TABLE D2. INDIVIDUAL ANIMAL TUMOR PATHOLOGY OF FEMALE MICE IN THE TWO-YEAR GAVAGE STUDY OF HYDROQUINONE: LOW DOSE

WEEKS ON STUDY	059	063	077	081	087	088	090	092	095	096	096	098	098	103	103	105	105	105	105	105	105	105	105	105	105	105
CARCASS ID	535	635	594	555	644	605	551	655	643	585	615	633	564	604	584	583	544	554	571	572	573	581	582	591	592
ALIMENTARY SYSTEM																									
Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+									
Gallbladder	+	+	M	+	M	+	+	+	A	+	+	+	+	+	A	+									
Lymphoma malignant lymphocytic								X																	
Intestine large	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+									
Intestine large, cecum	+	+	+	+	+	+	+	+		+	+	+	+	M	A	+									
Intestine large, colon	+	+	+	+		+	+	+		+	+	+	+	+	+	+									
Lymphoma malignant lymphocytic										X															
Intestine large, rectum	M	+	+	+	+	+	+	+		+	+	+	+	+	+	+									
Intestine small	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+						+			
Intestine small, duodenum	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+									
Serosa, fibrosarcoma, metastatic, mesentery							X																		
Intestine small, ileum	+	A	+	+		+	+	+		+	+	+	+	+	+	+						+			
Lymphoma malignant lymphocytic										X												X			
Jejunum, lymphoma malignant mixed	X																								
Intestine small, jejunum		A	+	+		+	+	+		+	+	+	+	+	+	+									
Lymphoma malignant lymphocytic										X															
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Cholangiocarcinoma, metastatic			X																						
Hemangioma																									
Hepatocellular carcinoma			X								X														
Hepatocellular adenoma															X		X	X	X	X				X	
Hepatocellular adenoma, multiple			X																			X			
Lymphoma malignant histiocytic	X																								
Lymphoma malignant lymphocytic								X		X	X														
Lymphoma malignant									X																
Lymphoma malignant mixed						X																	X		
Mesentery			+		+		+	+		+				+	+			+			+				
Cholangiocarcinoma, metastatic			X																						
Fibrosarcoma							X																		
Fibrosarcoma, multiple							X																		
Lymphoma malignant lymphocytic								X		X															
Pancreas	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+									
Fibrosarcoma, early invasion, metastatic, mesentery							X																		
Lymphoma malignant lymphocytic								X		X															
Salivary glands	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic						X					X														
Lymphoma malignant									X																
Stomach	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+									
Serosa, lymphoma malignant lymphocytic								X																	
Stomach, forestomach	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+									
Papilloma squamous																									
Stomach, glandular	+	+	+	+	+	+	+	+		+	M	+	+	+	+	+									
CARDIOVASCULAR SYSTEM																									
Heart	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+									
Lymphoma malignant lymphocytic								X																	
Lymphoma malignant									X																
Lymphoma malignant mixed	X																								
ENDOCRINE SYSTEM																									
Adrenal gland	+	+	+	+	M	+	+	+	+	+	M	+	+	M	+	+									
Capsule, cholangiocarcinoma, metastatic			X																						
Capsule, lymphoma malignant lymphocytic								X																	
Adrenal gland, cortex	+	+	+	+		+	+	+	+	+		+	+		+	+									
Lymphoma malignant mixed	X																								
Adrenal gland, medulla	+	+	+	+		+	+	M	M	+		+	+		+	+									
Islets, pancreatic	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+									
Parathyroid gland	+	+	+	+	+	M	+	+	+	+	+	+	+	M	M	+									
Pituitary gland	+	+	M	+	+	+	+	M	+	+	+	+	+	M	+	+		+	+	+	+	+			
Pars distalis, adenoma						X	X												X	X	X	X			
Pars distalis, carcinoma													X												
Thyroid gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant									X																
Follicular cell, adenoma											X										X			X	
GENERAL BODY SYSTEM																									
None																									

TABLE D2. INDIVIDUAL ANIMAL TUMOR PATHOLOGY OF FEMALE MICE: LOW DOSE (Continued)

WEEKS ON STUDY	105	105	105	105	105	105	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106
CARCASS ID	593	603	614	625	653	654	531	543	553	563	601	602	613	622	623	624	642	652	541	542	552	561	562	611	612
ALIMENTARY SYSTEM																									
Esophagus																									
Gallbladder																									
Lymphoma malignant lymphocytic																									
Intestine large																									
Intestine large, cecum																									
Intestine large, colon																									
Lymphoma malignant lymphocytic																									
Intestine large, rectum																									
Intestine small																									
Intestine small, duodenum																									
Serosa, fibrosarcoma, metastatic, mesentery																									
Intestine small, ileum																									
Lymphoma malignant lymphocytic																									
Jejunum, lymphoma malignant mixed																									
Intestine small, jejunum																									
Lymphoma malignant lymphocytic																									
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Cholangiocarcinoma, metastatic																									
Hemangioma															X										
Hepatocellular carcinoma																									
Hepatocellular adenoma	X				X		X			X												X			
Hepatocellular adenoma, multiple												X						X							
Lymphoma malignant histiocytic																									
Lymphoma malignant lymphocytic																X									
Lymphoma malignant																									
Lymphoma malignant mixed																									
Mesentery									+		+														
Cholangiocarcinoma, metastatic																									
Fibrosarcoma																									
Fibrosarcoma, multiple																									
Lymphoma malignant lymphocytic																									
Pancreas																				+					
Fibrosarcoma, early invasion, metastatic, mesentery																									
Lymphoma malignant lymphocytic																									
Salivary glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic																									
Lymphoma malignant																									
Stomach						+												+							
Serosa, lymphoma malignant lymphocytic																									
Stomach, forestomach						+												+							
Papilloma squamous																		X							
Stomach, glandular						+												+							
CARDIOVASCULAR SYSTEM																									
Heart										+															
Lymphoma malignant lymphocytic																									
Lymphoma malignant																									
Lymphoma malignant mixed																									
ENDOCRINE SYSTEM																									
Adrenal gland																									
Capsule, cholangiocarcinoma, metastatic																									
Capsule, lymphoma malignant lymphocytic																									
Adrenal gland, cortex																									
Lymphoma malignant mixed																									
Adrenal gland, medulla																									
Islets, pancreatic																									
Parathyroid gland																									
Pituitary gland			+	+			+	+	+	+	+							+		+	+				
Pars distalis, adenoma			X	X			X	X	X	X	X									X					
Pars distalis, carcinoma																					X				
Thyroid gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant																									
Follicular cell, adenoma																		X							X
GENERAL BODY SYSTEM																									
None																									

TABLE D2. INDIVIDUAL ANIMAL TUMOR PATHOLOGY OF FEMALE MICE: LOW DOSE (Continued)

WEEKS ON STUDY	106	106	106	106	106	TOTAL: TISSUES TUMORS
CARCASS ID	621	631	632	641	651	
ALIMENTARY SYSTEM						
Esophagus						16
Gallbladder						12
Lymphoma malignant lymphocytic						1
Intestine large						15
Intestine large, cecum						13
Intestine large, colon						14
Lymphoma malignant lymphocytic						1
Intestine large, rectum						14
Intestine small						16
Intestine small, duodenum						15
Serosa, fibrosarcoma, metastatic, mesentery						1
Intestine small, ileum						14
Lymphoma malignant lymphocytic						2
Jejunum, lymphoma malignant mixed						1
Intestine small, jejunum						12
Lymphoma malignant lymphocytic						1
Liver	+	+	+	+	+	55
Cholangiocarcinoma, metastatic						1
Hemangioma						1
Hepatocellular carcinoma						2
Hepatocellular adenoma						11
Hepatocellular adenoma, multiple						4
Lymphoma malignant histiocytic						1
Lymphoma malignant lymphocytic						4
Lymphoma malignant						1
Lymphoma malignant mixed						2
Mesentery					+	12
Cholangiocarcinoma, metastatic						1
Fibrosarcoma						1
Fibrosarcoma, multiple						1
Lymphoma malignant lymphocytic						2
Pancreas						16
Fibrosarcoma, early invasion, metastatic, mesentery						1
Lymphoma malignant lymphocytic						2
Salivary glands	+	+	+	+	+	54
Lymphoma malignant lymphocytic						2
Lymphoma malignant						1
Stomach						17
Serosa, lymphoma malig. lymphocytic						1
Stomach, forestomach						17
Papilloma squamous						1
Stomach, glandular						16
CARDIOVASCULAR SYSTEM						
Heart						17
Lymphoma malignant lymphocytic						1
Lymphoma malignant						1
Lymphoma malignant mixed						1
ENDOCRINE SYSTEM						
Adrenal gland						13
Capsule, cholangiocarcinoma, metastatic						1
Capsule, lymphoma malignant lymphocytic						1
Adrenal gland, cortex						13
Lymphoma malignant mixed						1
Adrenal gland, medulla						11
Islets, pancreatic						15
Parathyroid gland						13
Pituitary gland	M		+			29
Pars distalis, adenoma						14
Pars distalis, carcinoma						2
Thyroid gland	+	+	+	+	+	55
Lymphoma malignant						1
Follicular cell, adenoma						5
GENERAL BODY SYSTEM						
None						

TABLE D2. INDIVIDUAL ANIMAL TUMOR PATHOLOGY OF FEMALE MICE: LOW DOSE (Continued)

WEEKS ON STUDY	059	063	077	081	087	088	090	092	095	096	096	098	098	103	103	105	105	105	105	105	105	105	105	105	105
CARCASS ID	535	635	594	555	644	605	551	655	643	585	615	633	564	604	584	583	544	554	571	572	573	581	582	591	592
GENITAL SYSTEM																									
Clitoral gland						M																			
Ovary	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adenoma																									
Lymphoma malignant lymphocytic						X		X		X															
Lymphoma malignant									X																
Osteosarcoma, metastatic, bone				X																					
Uterus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+				+			+	+
Hemangioma																									
Lymphoma malignant lymphocytic								X																	
Polyp stromal																								X	
HEMATOPOIETIC SYSTEM																									
Bone marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+									
Lymph node	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+					+	+	+		
Axillary, lymphoma malignant lymphocytic								X																	
Bronchial, lymphoma malignant lymphocytic								X																	
Bronchial, lymphoma malignant mixed	X																								
Deep cervical, lymphoma malignant mixed						X																			
Iliac, lymphoma malignant lymphocytic								X																	
Iliac, lymphoma malignant									X																
Iliac, lymphoma malignant mixed						X																			
Inguinal, lymphoma malignant lymphocytic								X																	
Lumbar, lymphoma malignant lymphocytic								X		X	X														
Lumbar, lymphoma malignant									X																
Lumbar, lymphoma malignant mixed	X					X																			
Lumbar, osteosarcoma, metastatic, bone				X																					
Mediastinal, lymphoma malignant lymphocytic								X																	
Mediastinal, lymphoma malignant									X																
Mediastinal, lymphoma malignant mixed	X					X																			
Popliteal, lymphoma malignant lymphocytic								X																	
Renal, lymphoma malignant lymphocytic								X																	
Lymph node, mandibular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+									
Lymphoma malignant lymphocytic								X		X	X														
Lymphoma malignant									X																
Lymphoma malignant mixed	X					X																			
Lymph node, mesenteric	+	+	+	+	+	+	+	+	+	+	+	M	M	+	+	+					+		+		
Lymphoma malignant lymphocytic								X		X	X														
Lymphoma malignant									X																
Lymphoma malignant mixed	X					X																	X		
Renal, cholangiocarcinoma, metastatic			X																						
Spleen	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+						+	+		
Lymphoma malignant lymphocytic						X		X		X	X											X			
Lymphoma malignant									X																
Lymphoma malignant mixed	X																						X		
Capsule, cholangiocarcinoma, metastatic			X																						
Thymus	+	M	+	+	M	+	M	+	+	+	+	+	+	+	+	+					M				
Lymphoma malignant lymphocytic								X		X	X														
Lymphoma malignant									X																
Lymphoma malignant mixed	X																								
INTEGUMENTARY SYSTEM																									
Mammary gland	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+						+			
Adenocarcinoma																						X			
Cholangiocarcinoma, metastatic, multiple			X																						
Lymphoma malignant lymphocytic						X		X																	
Lymphoma malignant									X																
Thoracic, hepatocellular carcinoma, metastatic, liver			X																						
Skin	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+									
Subcutaneous tissue, fibrosarcoma																X									
Subcutaneous tissue, hepatocellular carcinoma, metastatic, liver			X																						
Subcutaneous tissue, lymphoma malignant lymphocytic										X															
MUSCULOSKELETAL SYSTEM																									
Bone	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+									
Lumbar, vertebra, osteosarcoma				X																					
Vertebra, cholangiocarcinoma, metastatic			X																						
Skeletal muscle			+				+																		
Abdominal, fibrosarcoma, early invasion, metastatic, mesentery							X																		
Abdominal, diaphragm, cholangiocarcinoma, metastatic			X																						

TABLE D2. INDIVIDUAL ANIMAL TUMOR PATHOLOGY OF FEMALE MICE: LOW DOSE (Continued)

WEEKS ON STUDY	105	105	105	105	105	105	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106
CARCASS ID	593	603	614	625	653	654	531	543	553	563	601	602	613	622	623	624	642	652	541	542	552	561	562	611	612
GENITAL SYSTEM																									
Clitoral gland																									
Ovary	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+
Adenoma																X									
Lymphoma malignant lymphocytic																X									
Lymphoma malignant																									
Osteosarcoma, metastatic, bone																									
Uterus									+			+					+			+			+	+	+
Hemangioma																							X		
Lymphoma malignant lymphocytic																									
Polyp stromal																									
HEMATOPOIETIC SYSTEM																									
Bone marrow																									
Lymph node											+					+				+					
Axillary, lymphoma malignant lymphocytic																									
Bronchial, lymphoma malignant lymphocytic																									
Bronchial, lymphoma malignant mixed																									
Deep cervical, lymphoma malignant mixed																									
Iliac, lymphoma malignant lymphocytic																									
Iliac, lymphoma malignant																									
Iliac, lymphoma malignant mixed																									
Inguinal, lymphoma malignant lymphocytic																									
Lumbar, lymphoma malignant lymphocytic																									
Lumbar, lymphoma malignant																									
Lumbar, lymphoma malignant mixed																									
Lumbar, osteosarcoma, metastatic, bone																									
Mediastinal, lymphoma malignant lymphocytic																X									
Mediastinal, lymphoma malignant																									
Mediastinal, lymphoma malignant mixed																									
Popliteal, lymphoma malignant lymphocytic																									
Renal, lymphoma malignant lymphocytic																									
Lymph node, mandibular																									
Lymphoma malignant lymphocytic																									
Lymphoma malignant																									
Lymphoma malignant mixed																									
Lymph node, mesenteric																				+					
Lymphoma malignant lymphocytic																									
Lymphoma malignant																									
Lymphoma malignant mixed																									
Renal, cholangiocarcinoma, metastatic																									
Spleen			+			+						+				+									
Lymphoma malignant lymphocytic			X													X									
Lymphoma malignant																									
Lymphoma malignant mixed						X																			
Capsule, cholangiocarcinoma, metastatic																									
Thymus																									
Lymphoma malignant lymphocytic																									
Lymphoma malignant																									
Lymphoma malignant mixed																									
INTEGUMENTARY SYSTEM																									
Mammary gland				+			+												+		+				
Adenocarcinoma				X			X												X		X				
Cholangiocarcinoma, metastatic, multiple																									
Lymphoma malignant lymphocytic																									
Lymphoma malignant																									
Thoracic, hepatocellular carcinoma, metastatic, liver																									
Skin																									
Subcutaneous tissue, fibrosarcoma																									
Subcutaneous tissue, hepatocellular carcinoma, metastatic, liver																									
Subcutaneous tissue, lymphoma malignant lymphocytic																									
MUSCULOSKELETAL SYSTEM																									
Bone																									
Lumbar, vertebra, osteosarcoma																									
Vertebra, cholangiocarcinoma, metastatic																									
Skeletal muscle																									
Abdominal, fibrosarcoma, early invasion, metastatic, mesentery																									
Abdominal, diaphragm, cholangiocarcinoma, metastatic																									

TABLE D2. INDIVIDUAL ANIMAL TUMOR PATHOLOGY OF FEMALE MICE: LOW DOSE (Continued)

WEEKS ON STUDY	1 0 6	1 0 6	1 0 6	1 0 6	1 0 6	TOTAL: TISSUES TUMORS
CARCASS ID	6 2 1	6 3 1	6 3 2	6 4 1	6 5 1	
GENITAL SYSTEM						
Clitoral gland						53
Ovary	+	+	+	+	+	1
Adenoma						4
Lymphoma malignant lymphocytic						1
Lymphoma malignant						1
Osteosarcoma, metastatic, bone						29
Uterus	+	+				1
Hemangioma						1
Lymphoma malignant lymphocytic						1
Polyp stromal						
HEMATOPOIETIC SYSTEM						16
Bone marrow						22
Lymph node						1
Axillary, lymphoma malignant lymphocytic						1
Bronchial, lymphoma malignant lymphocytic						1
Bronchial, lymphoma malignant mixed						1
Deep cervical, lymphoma malignant mixed						1
Iliac, lymphoma malignant lymphocytic						1
Iliac, lymphoma malignant						1
Iliac, lymphoma malignant mixed						1
Inguinal, lymphoma malignant lymphocytic						3
Lumbar, lymphoma malig. lymphocytic						1
Lumbar, lymphoma malignant						2
Lumbar, lymphoma malignant mixed						1
Lumbar, osteosarcoma, metastatic, bone						2
Mediastinal, lymphoma malignant lymphocytic						1
Mediastinal, lymphoma malignant						2
Mediastinal, lymphoma malig. mixed						1
Popliteal, lymphoma malignant lymphocytic						1
Renal, lymphoma malig. lymphocytic						16
Lymph node, mandibular						3
Lymphoma malignant lymphocytic						1
Lymphoma malignant						2
Lymphoma malignant mixed						17
Lymph node, mesenteric						3
Lymphoma malignant lymphocytic						1
Lymphoma malignant						3
Lymphoma malignant mixed						1
Renal, cholangiocarcinoma, metastatic						22
Spleen	+					7
Lymphoma malignant lymphocytic						1
Lymphoma malignant						4
Lymphoma malignant mixed	X					1
Capsule, cholangiocarcinoma, metastatic						13
Thymus						3
Lymphoma malignant lymphocytic						1
Lymphoma malignant						1
Lymphoma malignant mixed						
INTEGUMENTARY SYSTEM						20
Mammary gland						5
Adenocarcinoma						1
Cholangiocarcinoma, metastatic, multiple						2
Lymphoma malignant lymphocytic						1
Lymphoma malignant						1
Thoracic, hepatocellular carcinoma, metastatic, liver						16
Skin						1
Subcutaneous tissue, fibrosarcoma						1
Subcutaneous tissue, hepatocellular carcinoma, metastatic, liver						1
Subcutaneous tissue, lymphoma malignant lymphocytic						
MUSCULOSKELETAL SYSTEM						16
Bone						1
Lumbar, vertebra, osteosarcoma						1
Vertebra, cholangiocarcinoma, metastatic						2
Skeletal muscle						1
Abdominal, fibrosarcoma, early invasion, metastatic, mesentery						1
Abdominal, diaphragm, cholangiocarcinoma, metastatic						

TABLE D2. INDIVIDUAL ANIMAL TUMOR PATHOLOGY OF FEMALE MICE: LOW DOSE (Continued)

WEEKS ON STUDY	059	063	077	081	087	088	090	092	095	096	096	098	098	103	103	105	105	105	105	105	105	105	105	105	105
CARCASS ID	535	635	594	555	644	605	551	655	643	585	615	633	564	604	584	583	544	554	571	572	573	581	582	591	592
NERVOUS SYSTEM																									
Brain	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+									
Carcinoma, extension, metastatic, pituitary gland													X												
Lymphoma malignant lymphocytic						X																			
Perivascular, lymphoma malignant lymphocytic								X																	
Perivascular, lymphoma malignant									X																
Spinal cord				+					+																
RESPIRATORY SYSTEM																									
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Alveolar/bronchiolar adenoma									X							X			X						
Hepatocellular carcinoma, metastatic, liver			X																						
Lymphoma malignant lymphocytic								X																	
Lymphoma malignant									X																
Osteosarcoma, metastatic, bone				X																					
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+									
Trachea	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+									
SPECIAL SENSES SYSTEM																									
Harderian gland																									
Adenoma																									
URINARY SYSTEM																									
Kidney	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+									
Hepatocellular carcinoma, metastatic			X																						
Lymphoma malignant lymphocytic						X		X			X														
Lymphoma malignant									X																
Lymphoma malignant mixed	X																								
Osteosarcoma, metastatic, bone				X																					
Capsule, cholangiocarcinoma, metastatic			X																						
Urinary bladder	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+									
Lymphoma malignant histiocytic	X																								
Lymphoma malignant lymphocytic						X		X		X															
Lymphoma malignant									X																

TABLE D2. INDIVIDUAL ANIMAL TUMOR PATHOLOGY OF FEMALE MICE: LOW DOSE (Continued)

WEEKS ON STUDY	105	105	105	105	105	105	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106
CARCASS ID	593	603	614	625	653	654	531	543	553	563	601	602	613	622	623	624	642	652	541	542	552	561	562	611	612
NERVOUS SYSTEM																										
Brain																										
Carcinoma, extension, metastatic, pituitary gland																										
Lymphoma malignant lymphocytic																										
Perivascular, lymphoma malignant lymphocytic																										
Perivascular, lymphoma malignant																										
Spinal cord																										
RESPIRATORY SYSTEM																										
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Alveolar/bronchiolar adenoma				X						X					X											
Hepatocellular carcinoma, metastatic, liver																										
Lymphoma malignant lymphocytic																X										
Lymphoma malignant																										
Osteosarcoma, metastatic, bone																										
Nose																										
Trachea																										
SPECIAL SENSES SYSTEM																										
Harderian gland								+											+							
Adenoma																			X							
URINARY SYSTEM																										
Kidney																										
Hepatocellular carcinoma, metastatic																										
Lymphoma malignant lymphocytic																										
Lymphoma malignant																										
Lymphoma malignant mixed																										
Osteosarcoma, metastatic, bone																										
Capsule, cholangiocarcinoma, metastatic																										
Urinary bladder																										
Lymphoma malignant histiocytic																										
Lymphoma malignant lymphocytic																										
Lymphoma malignant																										

TABLE D2. INDIVIDUAL ANIMAL TUMOR PATHOLOGY OF FEMALE MICE: LOW DOSE (Continued)

WEEKS ON STUDY	1 0 6	1 0 6	1 0 6	1 0 6	1 0 6	TOTAL: TISSUES TUMORS
CARCASS ID	6 2 1	6 3 1	6 3 2	6 4 1	6 5 1	
NERVOUS SYSTEM						
Brain						
Carcinoma, extension, metastatic, pituitary gland						16
Lymphoma malignant lymphocytic						1
Perivascular, lymphoma malignant lymphocytic						1
Perivascular, lymphoma malignant						1
Spinal cord						1
						2
RESPIRATORY SYSTEM						
Lung	+	+	+	+	+	
Alveolar/bronchiolar adenoma						55
Hepatocellular carcinoma, metastatic, liver						6
Lymphoma malignant lymphocytic						1
Lymphoma malignant						2
Osteosarcoma, metastatic, bone						1
Nose						1
Trachea						16
						16
SPECIAL SENSES SYSTEM						
Harderian gland					+	
Adenoma					X	3
						2
URINARY SYSTEM						
Kidney						
Hepatocellular carcinoma, metastatic						16
Lymphoma malignant lymphocytic						1
Lymphoma malignant						3
Lymphoma malignant mixed						1
Osteosarcoma, metastatic, bone						1
Capsule, cholangiocarcinoma, metastatic						1
Urinary bladder						1
Lymphoma malignant histiocytic						15
Lymphoma malignant lymphocytic						1
Lymphoma malignant						3
						1

TABLE D2. INDIVIDUAL ANIMAL TUMOR PATHOLOGY OF FEMALE MICE IN THE TWO-YEAR GAVAGE STUDY OF HYDROQUINONE: HIGH DOSE

WEEKS ON STUDY	002	003	003	003	020	056	079	081	089	092	092	094	094	096	098	100	101	103	105	105	105	105	105	105	105
CARCASS ID	725	722	723	724	701	785	703	665	674	783	673	764	735	753	774	664	782	694	781	683	684	685	693	715	721
ALIMENTARY SYSTEM																									
Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gallbladder	+	+	+	+	+	+	+	+	A	+	+	+	A	+	+	A	+	M	+	+	+	M	+	+	+
Intestine large	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+
Intestine large, cecum	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic																	X								
Lymphoma malignant																X									
Intestine large, colon	+	+	+	+	+	+	+	+		+	+	+	+	+	+	A	+	A	+	+	+	+	+	+	+
Intestine large, rectum	M	M	M	M	+	+	+	+		+	+	+	+	+	+	A	+	A	+	+	+	+	+	+	+
Intestine small	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	A	+	A	+	+	+	+	+	+	+
Intestine small, duodenum	+	+	+	+	+	+	+	+		+	+	+	+	A	+	A	+	A	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic																			X				X		
Lymphoma malignant mixed												X													
Intestine small, ileum	+	+	+	+	+	+	+	+		+	+	+	+	+	+	A	+	A	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic														X			X								
Lymphoma malignant mixed																									
Intestine small, jejunum	+	+	+	+	+	+	+	+		+	+	+	+	+	+	A	+	A	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic														X			X								
Lymphoma malignant mixed																									
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hepatocellular carcinoma													X	X			X			X				X	X
Hepatocellular adenoma																									
Hepatocellular adenoma, multiple																									
Histiocytic sarcoma											X														
Lymphoma malignant histiocytic																	X								
Lymphoma malignant lymphocytic									X							X		X							
Lymphoma malignant																									
Lymphoma malignant mixed																									
Lymphoma malignant undifferentiated cell type																X									
Mesentery										+											+				
Lymphoma malignant mixed																									
Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	A	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic										X							X								
Salivary glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+
Histiocytic sarcoma																X	X								
Lymphoma malignant lymphocytic																									
Stomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Stomach, forestomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Stomach, glandular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant																X									
Tooth																+									
CARDIOVASCULAR SYSTEM																									
Heart	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Pericardium, lymphoma malignant undifferentiated cell type																X									
ENDOCRINE SYSTEM																									
Adrenal gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adrenal gland, cortex	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant									X								X		X						
Lymphoma malignant undifferentiated cell type																X									
Adrenal gland, medulla	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	M	+	+	+	+	+	+	+	+
Islets, pancreatic	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	M	M	+	+	+	+	+	+
Parathyroid gland	+	M	M	+	+	+	M	M	M	+	+	M	+	+	+	+	+	+	+	M	+	M	+	M	M
Pituitary gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Pars distalis, adenoma											X							X		X			X		
Pars intermedia, adenoma																									
Thyroid gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Follicular cell, adenoma							X													X					X
Follicular cell, carcinoma																									
GENERAL BODY SYSTEM																									
Tissue, NOS																								+	

TABLE D2. INDIVIDUAL ANIMAL TUMOR PATHOLOGY OF FEMALE MICE: HIGH DOSE (Continued)

WEEKS ON STUDY	105	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106
CARCASS ID	773	661	662	663	672	681	682	702	713	714	734	744	762	763	671	691	692	711	712	731	732	733	741	742	743
ALIMENTARY SYSTEM																									
Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gallbladder	M	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+
Intestine large	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine large, cecum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic																									
Lymphoma malignant																									
Intestine large, colon	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine large, rectum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine small	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine small, duodenum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic																									X
Lymphoma malignant mixed																									
Intestine small, ileum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic																									
Lymphoma malignant mixed							X																		
Intestine small, jejunum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic								X																	
Lymphoma malignant mixed																					X				
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hepatocellular carcinoma	X																		X						
Hepatocellular adenoma													X				X	X						X	X
Hepatocellular adenoma, multiple																									
Histiocytic sarcoma		X																							
Lymphoma malignant histiocytic																									
Lymphoma malignant lymphocytic								X	X																
Lymphoma malignant																									
Lymphoma malignant mixed																				X	X				
Lymphoma malignant undifferentiated cell type																									
Mesentery																					+				
Lymphoma malignant mixed																					X				
Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant lymphocytic																									
Salivary glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma		X																							
Lymphoma malignant lymphocytic																									
Stomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Stomach, forestomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Stomach, glandular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant																									
Tooth																									
CARDIOVASCULAR SYSTEM																									
Heart	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Pericardium, lymphoma malignant undifferentiated cell type																									
ENDOCRINE SYSTEM																									
Adrenal gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adrenal gland, cortex	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant																									
Lymphoma malignant undifferentiated cell type																									
Adrenal gland, medulla	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M
Islets, pancreatic	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Parathyroid gland	+	+	M	+	+	+	+	+	+	+	+	+	M	+	M	+	+	+	M	+	+	+	+	+	+
Pituitary gland	M	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Pars distalis, adenoma						X	X	X	X						X	X				X					
Pars intermedia, adenoma																								X	
Thyroid gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Follicular cell, adenoma					X											X					X				
Follicular cell, carcinoma															X										
GENERAL BODY SYSTEM																									
Tissue, NOS																									

TABLE D2. INDIVIDUAL ANIMAL TUMOR PATHOLOGY OF FEMALE MICE: HIGH DOSE (Continued)

WEEKS ON STUDY	106	106	106	106	106	
CARCASS ID	751	752	761	771	772	TOTAL: TISSUES TUMORS
ALIMENTARY SYSTEM						
Esophagus	+	+	+	+	+	55
Gallbladder	+	+	+	+	+	48
Intestine large	+	+	+	+	+	53
Intestine large, cecum	+	+	+	+	+	53
Lymphoma malignant lymphocytic						1
Lymphoma malignant						1
Intestine large, colon	+	+	+	+	+	52
Intestine large, rectum	+	+	+	+	+	48
Intestine small	+	+	+	+	+	52
Intestine small, duodenum	+	+	+	+	+	51
Lymphoma malignant lymphocytic						3
Lymphoma malignant mixed						1
Intestine small, ileum	+	+	+	+	+	52
Lymphoma malignant lymphocytic						2
Lymphoma malignant mixed						1
Intestine small, jejunum	+	+	+	+	+	52
Lymphoma malignant lymphocytic						3
Lymphoma malignant mixed						1
Liver	+	+	+	+	+	55
Hepatocellular carcinoma						2
Hepatocellular adenoma						11
Hepatocellular adenoma, multiple	X					1
Histiocytic sarcoma						1
Lymphoma malignant histiocytic						1
Lymphoma malignant lymphocytic						3
Lymphoma malignant						3
Lymphoma malignant mixed			X			3
Lymphoma malignant undifferentiated cell type						1
Mesentery		+				4
Lymphoma malignant mixed						1
Pancreas	+	+	+	+	+	53
Lymphoma malignant lymphocytic						2
Salivary glands	+	+	+	+	+	54
Histiocytic sarcoma						1
Lymphoma malignant lymphocytic						2
Stomach	+	+	+	+	+	55
Stomach, forestomach	+	+	+	+	+	55
Stomach, glandular	+	+	+	+	+	55
Lymphoma malignant						1
Tooth						1
CARDIOVASCULAR SYSTEM						
Heart	+	+	+	+	+	55
Pericardium, lymphoma malignant undifferentiated cell type						1
ENDOCRINE SYSTEM						
Adrenal gland	+	+	+	+	+	55
Adrenal gland, cortex	+	+	+	+	+	55
Lymphoma malignant						3
Lymphoma malignant undifferentiated cell type						1
Adrenal gland, medulla	+	+	+	+	+	52
Islets, pancreatic	+	+	+	+	+	52
Parathyroid gland	M	+	+	+	+	40
Pituitary gland	+	+	+	+	+	52
Pars distalis, adenoma						11
Pars intermedia, adenoma						1
Thyroid gland	+	+	+	+	+	55
Follicular cell, adenoma						6
Follicular cell, carcinoma						1
GENERAL BODY SYSTEM						
Tissue, NOS						1

TABLE D2. INDIVIDUAL ANIMAL TUMOR PATHOLOGY OF FEMALE MICE: HIGH DOSE (Continued)

WEEKS ON STUDY	002	003	003	003	020	056	079	081	089	092	092	094	094	096	098	100	101	103	105	105	105	105	105	105	105
CARCASS ID	725	722	723	724	701	785	703	665	674	783	673	764	735	753	774	664	782	694	781	683	684	685	693	715	721
GENITAL SYSTEM																									
Clitoral gland																									
Ovary	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+
Cystadenoma										X															
Lymphoma malignant																		X							
Lymphoma malignant mixed												X													
Periovarian tissue, lymphoma malignant lymphocytic										X							X								
Periovarian tissue, lymphoma malignant									X																
Periovarian tissue, lymphoma malignant mixed																									
Periovarian tissue, lymphoma malignant undifferentiated cell type															X										
Uterus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
HEMATOPOIETIC SYSTEM																									
Bone marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+
Lymph node	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant									X																
Axillary, lymphoma malignant histiocytic											X														
Axillary, lymphoma malignant lymphocytic																	X								
Axillary, lymphoma malignant									X							X		X							
Iliac, lymphoma malignant									X									X							
Iliac, lymphoma malignant mixed												X													
Inguinal, lymphoma malignant lymphocytic																	X								
Inguinal, lymphoma malignant																		X							
Lumbar, lymphoma malignant histiocytic											X														
Lumbar, lymphoma malignant lymphocytic																	X								
Lumbar, lymphoma malignant									X									X							
Lumbar, lymphoma malignant mixed												X													
Mediastinal, lymphoma malignant lymphocytic										X							X								
Mediastinal, lymphoma malignant																		X							
Pancreatic, histiocytic sarcoma																									
Pancreatic, lymphoma malignant histiocytic											X														
Pancreatic, lymphoma malignant lymphocytic														X			X						X		
Pancreatic, lymphoma malignant									X																
Pancreatic, lymphoma malignant mixed																									
Popliteal, lymphoma malignant																		X							
Renal, lymphoma malignant mixed																									
Lymph node, mandibular	+	M	+	+	M	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	M	+
Histiocytic sarcoma																									
Lymphoma malignant histiocytic											X														
Lymphoma malignant lymphocytic										X				X			X								
Lymphoma malignant									X									X							
Lymphoma malignant mixed												X													
Lymphoma malignant undifferentiated cell type															X										
Lymph node, mesenteric	+	+	M	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma																									
Lymphoma malignant histiocytic											X														
Lymphoma malignant lymphocytic										X				X			X						X		
Lymphoma malignant									X							X		X							
Lymphoma malignant mixed												X													
Lymphoma malignant undifferentiated cell type															X										
Spleen	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant histiocytic											X														
Lymphoma malignant lymphocytic										X				X			X						X		
Lymphoma malignant									X							X		X							
Lymphoma malignant mixed																									
Lymphoma malignant undifferentiated cell type															X										
Thymus	+	+	+	+	M	M	+	+	A	+	+	+	M	M	+	+	+	A	+	+	M	+	+	+	+
Lymphoma malignant histiocytic											X														
Lymphoma malignant lymphocytic										X							X								
Lymphoma malignant																X									
Lymphoma malignant mixed																									
Lymphoma malignant undifferentiated cell type															X										
INTEGUMENTARY SYSTEM																									
Mammary gland	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adenocarcinoma													X												
Skin	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Subcutaneous tissue, lymphoma malignant																		X							
Thoracic, subcutaneous tissue, hemangiosarcoma																									
MUSCULOSKELETAL SYSTEM																									
Bone	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Skeletal muscle									+																
Lymphoma malignant									X																

TABLE D2. INDIVIDUAL ANIMAL TUMOR PATHOLOGY OF FEMALE MICE: HIGH DOSE (Continued)

WEEKS ON STUDY	105	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106
CARCASS ID	773	661	662	663	672	681	682	702	713	714	734	744	762	763	671	691	692	711	712	731	732	733	741	742	743
GENITAL SYSTEM																									
Clitoral gland				+																					
Ovary	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Cystadenoma																									
Lymphoma malignant																									
Lymphoma malignant mixed																									
Periovarian tissue, lymphoma malignant lymphocytic									X																
Periovarian tissue, lymphoma malignant																									
Periovarian tissue, lymphoma malignant mixed																									
Periovarian tissue, lymphoma malignant undifferentiated cell type																				X					
Uterus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
HEMATOPOIETIC SYSTEM																									
Bone marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymph node	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant																									
Axillary, lymphoma malignant histiocytic																									
Axillary, lymphoma malignant lymphocytic																									
Axillary, lymphoma malignant																									
Iliac, lymphoma malignant																									
Iliac, lymphoma malignant mixed																									
Inguinal, lymphoma malignant lymphocytic																									
Inguinal, lymphoma malignant																									
Lumbar, lymphoma malignant histiocytic																									
Lumbar, lymphoma malignant lymphocytic																									
Lumbar, lymphoma malignant																									
Lumbar, lymphoma malignant mixed																				X					
Mediastinal, lymphoma malignant lymphocytic																									
Mediastinal, lymphoma malignant																									
Pancreatic, histiocytic sarcoma		X																							
Pancreatic, lymphoma malignant histiocytic																									
Pancreatic, lymphoma malignant lymphocytic																									
Pancreatic, lymphoma malignant																									
Pancreatic, lymphoma malignant mixed																									
Popliteal, lymphoma malignant																				X					
Renal, lymphoma malignant mixed																						X			
Lymph node, mandibular	+	+	+	+	+	M	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma		X																							
Lymphoma malignant histiocytic																									
Lymphoma malignant lymphocytic								X	X																X
Lymphoma malignant																									
Lymphoma malignant mixed																					X				
Lymphoma malignant undifferentiated cell type																									
Lymph node, mesenteric	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Histiocytic sarcoma		X																							
Lymphoma malignant histiocytic																									
Lymphoma malignant lymphocytic								X	X																X
Lymphoma malignant																									
Lymphoma malignant mixed																				X	X	X			
Lymphoma malignant undifferentiated cell type																									
Spleen	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant histiocytic																									
Lymphoma malignant lymphocytic								X	X																X
Lymphoma malignant																									
Lymphoma malignant mixed																				X	X	X			
Lymphoma malignant undifferentiated cell type																									
Thymus	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant histiocytic																									
Lymphoma malignant lymphocytic									X																X
Lymphoma malignant																									
Lymphoma malignant mixed																					X				
Lymphoma malignant undifferentiated cell type																									
INTEGUMENTARY SYSTEM																									
Mammary gland	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Adenocarcinoma				X																					
Skin	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Subcutaneous tissue, lymphoma malignant																									
Thoracic, subcutaneous tissue, hemangiosarcoma																									
MUSCULOSKELETAL SYSTEM																									
Bone	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Skeletal muscle																									
Lymphoma malignant																									

TABLE D2. INDIVIDUAL ANIMAL TUMOR PATHOLOGY OF FEMALE MICE: HIGH DOSE (Continued)

WEEKS ON STUDY	106	106	106	106	106	TOTAL: TISSUES TUMORS
CARCASS ID	751	752	761	771	772	
GENITAL SYSTEM						
Clitoral gland						1
Ovary	+	+	+	+	+	54
Cystadenoma						1
Lymphoma malignant						1
Lymphoma malignant mixed						1
Periovarian tissue, lymphoma malignant lymphocytic						3
Periovarian tissue, lymphoma malignant						1
Periovarian tissue, lymphoma malignant mixed						1
Periovarian tissue, lymphoma malignant undifferentiated cell type						1
Uterus	+	+	+	+	+	55
HEMATOPOIETIC SYSTEM						
Bone marrow	+	+	+	+	+	54
Lymph node	+	+	+	+	+	54
Lymphoma malignant						1
Axillary, lymphoma malignant histiocytic						1
Axillary, lymphoma malignant lymphocytic						1
Axillary, lymphoma malignant						3
Iliac, lymphoma malignant						2
Iliac, lymphoma malignant mixed						1
Inguinal, lymphoma malignant lymphocytic						1
Inguinal, lymphoma malignant						1
Lumbar, lymphoma malig. histiocytic						1
Lumbar, lymphoma malig. lymphocytic						1
Lumbar, lymphoma malignant						2
Lumbar, lymphoma malignant mixed						2
Mediastinal, lymphoma malignant lymphocytic						2
Mediastinal, lymphoma malignant						1
Pancreatic, histiocytic sarcoma						1
Pancreatic, lymphoma malignant histiocytic						1
Pancreatic, lymphoma malignant lymphocytic						3
Pancreatic, lymphoma malignant						1
Pancreatic, lymphoma malignant mixed						1
Popliteal, lymphoma malignant						1
Renal, lymphoma malignant mixed						1
Lymph node, mandibular	+	+	+	+	+	49
Histiocytic sarcoma						1
Lymphoma malignant histiocytic						1
Lymphoma malignant lymphocytic						6
Lymphoma malignant						2
Lymphoma malignant mixed						2
Lymphoma malignant undifferentiated cell type						1
Lymph node, mesenteric	+	+	+	+	+	52
Histiocytic sarcoma						1
Lymphoma malignant histiocytic						1
Lymphoma malignant lymphocytic						7
Lymphoma malignant						3
Lymphoma malignant mixed			X			5
Lymphoma malignant undifferentiated cell type						1
Spleen	+	+	+	+	+	55
Lymphoma malignant histiocytic						1
Lymphoma malignant lymphocytic						7
Lymphoma malignant						3
Lymphoma malignant mixed			X			4
Lymphoma malignant undifferentiated cell type						1
Thymus	+	+	+	+	+	47
Lymphoma malignant histiocytic						1
Lymphoma malignant lymphocytic						4
Lymphoma malignant						1
Lymphoma malignant mixed						1
Lymphoma malignant undifferentiated cell type						1
INTEGUMENTARY SYSTEM						
Mammary gland	+	+	+	+	+	53
Adenocarcinoma						2
Skin	+	+	+	+	+	55
Subcutaneous tissue, lymphoma malignant						1
Thoracic, subcutaneous tissue, hemangiosarcoma				X		1
MUSCULOSKELETAL SYSTEM						
Bone	+	+	+	+	+	55
Skeletal muscle						1
Lymphoma malignant						1

TABLE D2. INDIVIDUAL ANIMAL TUMOR PATHOLOGY OF FEMALE MICE: HIGH DOSE (Continued)

WEEKS ON STUDY	002	003	003	003	020	056	079	081	089	092	092	094	094	096	098	100	101	103	105	105	105	105	105	105	105
CARCASS ID	725	722	723	724	701	785	703	665	674	783	673	764	735	753	774	664	782	694	781	683	684	685	693	715	721
NERVOUS SYSTEM																									
Brain	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant mixed																									
Spinal cord						+		+								+									
RESPIRATORY SYSTEM																									
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Alveolar/bronchiolar adenoma																									
Alveolar/bronchiolar adenoma, multiple																									
Alveolar/bronchiolar carcinoma																									
Carcinoma, metastatic																									
Lymphoma malignant lymphocytic																									
Lymphoma malignant									X							X		X							
Lymphoma malignant mixed																									
Lymphoma malignant undifferentiated cell type															X										
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Trachea	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
SPECIAL SENSES SYSTEM																									
Eye						+				+															
Harderian gland										+															
Adenoma																									
Carcinoma										X															
Lacrimal gland																									
URINARY SYSTEM																									
Kidney	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant histiocytic											X														
Lymphoma malignant lymphocytic																	X								
Lymphoma malignant									X							X		X							
Lymphoma malignant mixed																									
Capsule, lymphoma malignant lymphocytic										X															
Renal tubule, adenoma																									
Urinary bladder	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+
Lymphoma malignant																X									

TABLE D2. INDIVIDUAL ANIMAL TUMOR PATHOLOGY OF FEMALE MICE: HIGH DOSE (Continued)

WEEKS ON STUDY	105	108	108	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106
CARCASS ID	773	661	662	663	672	681	682	702	713	714	734	744	762	763	671	691	692	711	712	731	732	733	741	742	743
NERVOUS SYSTEM																									
Brain	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant mixed																									
Spinal cord																									
RESPIRATORY SYSTEM																									
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Alveolar/bronchiolar adenoma																								X	
Alveolar/bronchiolar adenoma, multiple						X																			X
Alveolar/bronchiolar carcinoma																						X			
Carcinoma, metastatic																									X
Lymphoma malignant lymphocytic																									
Lymphoma malignant																					X				
Lymphoma malignant mixed																									
Lymphoma malignant undifferentiated cell type																									
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Trachea	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
SPECIAL SENSES SYSTEM																									
Eye										+												+			+
Harderian gland							+		+	+								+				+			+
Adenoma										X								X							
Carcinoma																						X			
Lacrimal gland														+										+	
URINARY SYSTEM																									
Kidney	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant histiocytic																									
Lymphoma malignant lymphocytic								X	X																X
Lymphoma malignant																				X	X				
Lymphoma malignant mixed																									
Capsule, lymphoma malignant lymphocytic																		X							
Renal tubule, adenoma																		+							
Urinary bladder	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lymphoma malignant																									

TABLE D2. INDIVIDUAL ANIMAL TUMOR PATHOLOGY OF FEMALE MICE: HIGH DOSE (Continued)

WEEKS ON STUDY	1 0 6	1 0 6	1 0 6	1 0 6	1 0 6	TOTAL: TISSUES TUMORS
CARCASS ID	7 5 1	7 5 2	7 6 1	7 7 1	7 7 2	
NERVOUS SYSTEM						
Brain	+	+	+	+	+	
Lymphoma malignant mixed			X			55
Spinal cord						1
						3
RESPIRATORY SYSTEM						
Lung	+	+	+	+	+	
Alveolar/bronchiolar adenoma	X					55
Alveolar/bronchiolar adenoma, multiple						1
Alveolar/bronchiolar carcinoma						1
Carcinoma, metastatic						2
Lymphoma malignant lymphocytic						1
Lymphoma malignant						1
Lymphoma malignant mixed			X			3
Lymphoma malignant undifferentiated cell type						2
Nose	+	+	+	+	+	1
Trachea	+	+	+	+	+	55
						55
SPECIAL SENSES SYSTEM						
Eye						5
Harderian gland						7
Adenoma						2
Carcinoma						2
Lacrimal gland						2
URINARY SYSTEM						
Kidney	+	+	+	+	+	55
Lymphoma malignant histiocytic						1
Lymphoma malignant lymphocytic						4
Lymphoma malignant			X			3
Lymphoma malignant mixed						3
Capsule, lymphoma malignant lymphocytic						1
Renal tubule, adenoma	+	+	+	+	+	1
Urinary bladder						54
Lymphoma malignant						1

TABLE D3. ANALYSIS OF PRIMARY TUMORS IN FEMALE MICE IN THE TWO-YEAR GAVAGE STUDY OF HYDROQUINONE

	Vehicle Control	50 mg/kg	100 mg/kg
Harderian Gland: Adenoma or Carcinoma			
Overall Rates (a)	2/55 (4%)	2/55 (4%)	4/55 (7%)
Adjusted Rates (b)	5.2%	5.1%	10.3%
Terminal Rates (c)	1/37 (3%)	2/39 (5%)	3/36 (8%)
Day of First Observation	693	735	641
Life Table Tests (d)	P=0.249	P=0.672N	P=0.338
Logistic Regression Tests (d)	P=0.248	P=0.664N	P=0.331
Cochran-Armitage Trend Test (d)	P=0.253		
Fisher Exact Test (d)		P=0.691N	P=0.339
Liver: Hepatocellular Adenoma			
Overall Rates (a)	2/55 (4%)	15/55 (27%)	12/55 (22%)
Adjusted Rates (b)	5.4%	36.2%	30.3%
Terminal Rates (c)	2/37 (5%)	13/39 (33%)	9/36 (25%)
Day of First Observation	735	534	656
Life Table Tests (d)	P=0.007	P=0.001	P=0.005
Logistic Regression Tests (d)	P=0.007	P=0.001	P=0.005
Cochran-Armitage Trend Test (d)	P=0.009		
Fisher Exact Test (d)		P<0.001	P=0.004
Liver: Hepatocellular Adenoma or Carcinoma			
Overall Rates (a)	3/55 (5%)	16/55 (29%)	13/55 (24%)
Adjusted Rates (b)	8.1%	37.6%	32.9%
Terminal Rates (c)	3/37 (8%)	13/39 (33%)	10/36 (28%)
Day of First Observation	735	534	656
Life Table Tests (d)	P=0.009	P=0.002	P=0.007
Logistic Regression Tests (d)	P=0.009	P=0.002	P=0.007
Cochran-Armitage Trend Test (d)	P=0.011		
Fisher Exact Test (d)		P<0.001	P=0.006
Lung: Alveolar/Bronchiolar Adenoma			
Overall Rates (a)	3/55 (5%)	6/55 (11%)	2/55 (4%)
Adjusted Rates (b)	7.1%	14.4%	5.6%
Terminal Rates (c)	1/37 (3%)	4/39 (10%)	2/36 (6%)
Day of First Observation	558	660	735
Life Table Tests (d)	P=0.434N	P=0.283	P=0.507N
Logistic Regression Tests (d)	P=0.435N	P=0.256	P=0.510N
Cochran-Armitage Trend Test (d)	P=0.424N		
Fisher Exact Test (d)		P=0.244	P=0.500N
Lung: Alveolar/Bronchiolar Adenoma or Carcinoma			
Overall Rates (a)	4/55 (7%)	6/55 (11%)	4/55 (7%)
Adjusted Rates (b)	9.6%	14.4%	11.1%
Terminal Rates (c)	2/37 (5%)	4/39 (10%)	4/36 (11%)
Day of First Observation	558	660	735
Life Table Tests (d)	P=0.556	P=0.414	P=0.631
Logistic Regression Tests (d)	P=0.560	P=0.393	P=0.633
Cochran-Armitage Trend Test (d)	P=0.568		
Fisher Exact Test (d)		P=0.371	P=0.642N
Mammary Gland: Adenocarcinoma			
Overall Rates (a)	3/55 (5%)	5/55 (9%)	2/55 (4%)
Adjusted Rates (b)	7.2%	12.8%	5.0%
Terminal Rates (c)	2/37 (5%)	5/39 (13%)	1/36 (3%)
Day of First Observation	372	735	656
Life Table Tests (d)	P=0.434N	P=0.384	P=0.512N
Logistic Regression Tests (d)	P=0.430N	P=0.355	P=0.491N
Cochran-Armitage Trend Test (d)	P=0.421N		
Fisher Exact Test (d)		P=0.358	P=0.500N

TABLE D3. ANALYSIS OF PRIMARY TUMORS IN FEMALE MICE IN THE TWO-YEAR GAVAGE STUDY OF HYDROQUINONE (Continued)

	Vehicle Control	50 mg/kg	100 mg/kg/
Pituitary Gland/Pars Distalis: Adenoma			
Overall Rates (a)	11/52 (21%)	(e) 14/29 (48%)	11/52 (21%)
Adjusted Rates (b)	30.0%		29.8%
Terminal Rates (c)	9/34 (26%)		8/33 (24%)
Day of First Observation	664		644
Life Table Test (d)			P=0.575
Logistic Regression Test (d)			P=0.585N
Fisher Exact Test (d)			P=0.595N
Pituitary Gland/Pars Distalis: Adenoma or Carcinoma			
Overall Rates (a)	12/52 (23%)	(e) 16/29 (55%)	11/52 (21%)
Adjusted Rates (b)	31.5%		29.8%
Terminal Rates (c)	9/34 (26%)		8/33 (24%)
Day of First Observation	631		644
Life Table Test (d)			P=0.518N
Logistic Regression Test (d)			P=0.497N
Fisher Exact Test (d)			P=0.500N
Thyroid Gland: Follicular Cell Adenoma			
Overall Rates (a)	3/55 (5%)	5/55 (9%)	6/55 (11%)
Adjusted Rates (b)	7.7%	12.2%	15.3%
Terminal Rates (c)	2/37 (5%)	4/39 (10%)	4/36 (11%)
Day of First Observation	664	668	548
Life Table Tests (d)	P=0.190	P=0.394	P=0.240
Logistic Regression Tests (d)	P=0.186	P=0.397	P=0.233
Cochran-Armitage Trend Test (d)	P=0.196		
Fisher Exact Test (d)		P=0.358	P=0.244
Thyroid Gland: Follicular Cell Adenoma or Carcinoma			
Overall Rates (a)	3/55 (5%)	5/55 (9%)	7/55 (13%)
Adjusted Rates (b)	7.7%	12.2%	17.9%
Terminal Rates (c)	2/37 (5%)	4/39 (10%)	5/36 (14%)
Day of First Observation	664	668	548
Life Table Tests (d)	P=0.118	P=0.394	P=0.157
Logistic Regression Tests (d)	P=0.115	P=0.397	P=0.152
Cochran-Armitage Trend Test (d)	P=0.123		
Fisher Exact Test (d)		P=0.358	P=0.160
Hematopoietic System: Lymphoma, All Malignant			
Overall Rates (a)	23/55 (42%)	12/55 (22%)	19/55 (35%)
Adjusted Rates (b)	52.8%	25.4%	41.2%
Terminal Rates (c)	17/37 (46%)	6/39 (15%)	9/36 (25%)
Day of First Observation	469	409	622
Life Table Tests (d)	P=0.266N	P=0.018N	P=0.309N
Logistic Regression Tests (d)	P=0.263N	P=0.021N	P=0.313N
Cochran-Armitage Trend Test (d)	P=0.238N		
Fisher Exact Test (d)		P=0.020N	P=0.278N

(a) Number of tumor-bearing animals/number of animals examined at the site
(b) Kaplan-Meier estimated tumor incidences at the end of the study after adjusting for intercurrent mortality
(c) Observed tumor incidence at terminal kill
(d) Beneath the vehicle control incidence are the P values associated with the trend test. Beneath the dosed group incidence are the P values corresponding to pairwise comparisons between that dosed group and the vehicle controls. The life table analysis regards tumors in animals dying prior to terminal kill as being (directly or indirectly) the cause of death. The logistic regression test regards these lesions as nonfatal. The Cochran-Armitage and Fisher exact tests compare directly the overall incidence rates. A negative trend or lower incidence in a dosed group is indicated by (N).
(e) Incomplete sampling of tissues

TABLE D4a. HISTORICAL INCIDENCE OF HEPATOCELLULAR TUMORS IN FEMALE B6C3F$_1$ MICE (a)

Study	Incidence in Controls		
	Adenoma	Carcinoma	Adenoma or Carcinoma
Historical Incidence for All Water Gavage Vehicle Controls			
Iodinated glycerol (b)	0/50	0/50	0/50
Chlorpheniramine maleate (c)	4/50	2/50	6/50
Tetrakis(hydroxymethyl)phosphonium chloride (c)	3/49	1/49	4/49
Malonaldehyde, sodium salt (c)	0/50	2/50	2/50
Tetrakis(hydroxymethyl)phosphonium sulfate (c)	5/50	3/50	7/50
Methyl carbamate (d)	4/49	1/49	4/49
Chlorinated trisodium phosphate (b)	6/50	0/50	6/50
TOTAL	22/348 (6.3%)	9/348 (2.6%)	29/348 (8.3%)
SD (e)	4.69%	2.22%	4.95%
Range (f)			
High	6/50	3/50	7/50
Low	0/50	0/50	0/50
Overall Historical Incidence for Untreated Controls			
TOTAL	107/2,032 (5.3%)	(g) 81/2,032 (4.0%)	(g) 184/2,032 (9.1%)
SD (e)	4.34%	2.42%	4.70%
Range (f)			
High	9/49	4/48	10/49
Low	0/50	0/50	1/50

(a) Data as of April 29, 1987, for studies of at least 104 weeks
(b) Study performed at EG&G Mason Research Institute
(c) Study performed at Battelle Columbus Laboratories
(d) Study performed at Microbiological Associates
(e) Standard deviation
(f) Range and SD are presented for groups of 35 or more animals.
(g) One hepatoblastoma was also observed.

TABLE D4b. HISTORICAL INCIDENCE OF THYROID GLAND FOLLICULAR CELL TUMORS IN FEMALE $B6C3F_1$ MICE (a)

Study	Incidence in Controls		
	Adenoma	Carcinoma	Adenoma or Carcinoma
Historical Incidence for All Water Gavage Vehicle Controls			
Iodinated glycerol (b)	2/48	0/48	2/48
Chlorpheniramine maleate (c)	0/48	0/48	0/48
Tetrakis(hydroxymethyl)phosphonium chloride (c)	1/48	0/48	1/48
Malonaldehyde, sodium salt (c)	3/48	0/48	3/48
Tetrakis(hydroxymethyl)phosphonium sulfate (c)	1/49	0/49	1/49
Methyl carbamate (d)	2/48	0/48	2/48
Chlorinated trisodium phosphate (b)	1/48	0/48	1/48
TOTAL	10/337 (3.0%)	0/337 (0.0%)	10/337 (3.0%)
SD (e)	2.04%	0.00%	2.04%
Range (f)			
High	3/48	0/49	3/48
Low	0/48	0/49	0/48
Overall Historical Incidence for Untreated Controls			
TOTAL	(g) 41/1,937 (2.1%)	8/1,937 (0.4%)	(g) 49/1,937 (2.5%)
SD (e)	2.58%	1.17%	3.22%
Range (f)			
High	4/48	3/48	7/48
Low	0/50	0/50	0/50

(a) Data as of April 29, 1987, for studies of at least 104 weeks
(b) Study performed at EG&G Mason Research Institute
(c) Study performed at Battelle Columbus Laboratories
(d) Study performed at Microbiological Associates
(e) Standard deviation
(f) Range and SD are presented for groups of 35 or more animals.
(g) Includes two cystadenomas, NOS, and one papillary cystadenoma, NOS

TABLE D5. SUMMARY OF THE INCIDENCE OF NONNEOPLASTIC LESIONS IN FEMALE MICE IN THE TWO-YEAR GAVAGE STUDY OF HYDROQUINONE

	Vehicle Control	Low Dose	High Dose
Animals initially in study	65	65	65
Animals removed	65	65	65
Animals examined histopathologically	55	55	55
ALIMENTARY SYSTEM			
Gallbladder	(50)	(12)	(48)
Inflammation, chronic	1 (2%)		
Mucosa, hyperplasia, focal			1 (2%)
Intestine large, cecum	(52)	(13)	(53)
Colon, serosa, inflammation, chronic		1 (8%)	
Intestine small, duodenum	(52)	(15)	(51)
Muscularis, inflammation, acute		1 (7%)	
Serosa, ileum, jejunum, inflammation, chronic		1 (7%)	
Intestine small, ileum	(49)	(14)	(52)
Amyloid deposition	1 (2%)		1 (2%)
Intestine small, jejunum	(52)	(12)	(52)
Peyer's patch, hyperplasia, lymphoid	1 (2%)		
Liver	(55)	(55)	(55)
Amyloid deposition			1 (2%)
Angiectasis	1 (2%)	2 (4%)	
Basophilic focus	2 (4%)	6 (11%)	3 (5%)
Congestion	1 (2%)		
Cyst		1 (2%)	1 (2%)
Eosinophilic focus	3 (5%)	3 (5%)	2 (4%)
Fatty change	4 (7%)	2 (4%)	
Focal cellular change			1 (2%)
Hematopoietic cell proliferation	3 (5%)	1 (2%)	1 (2%)
Hyperplasia, lymphoid		1 (2%)	
Inflammation, chronic	5 (9%)	4 (7%)	5 (9%)
Inflammation, granulomatous, focal	1 (2%)		
Mixed cell focus	1 (2%)		
Necrosis	3 (5%)	2 (4%)	2 (4%)
Biliary tract, inflammation, chronic	1 (2%)		
Kupffer cell, hyperplasia	1 (2%)		
Mesentery	(19)	(12)	(4)
Inflammation, chronic	2 (11%)	1 (8%)	
Inflammation, suppurative	1 (5%)	1 (8%)	
Necrosis, focal		1 (8%)	
Fat, hemorrhage, focal	1 (5%)		
Fat, necrosis, focal	11 (58%)	6 (50%)	2 (50%)
Fat, lymphatic, hemorrhage, focal	1 (5%)		
Perivascular, inflammation, chronic	1 (5%)		
Pancreas	(54)	(16)	(53)
Inflammation, chronic	1 (2%)	3 (19%)	1 (2%)
Inflammation, subacute	1 (2%)		
Duct, ectasia	1 (2%)	1 (6%)	
Salivary glands	(54)	(54)	(54)
Inflammation, chronic	25 (46%)	34 (63%)	33 (61%)
Stomach, glandular	(53)	(16)	(55)
Erosion, focal		1 (6%)	

TABLE D5. SUMMARY OF THE INCIDENCE OF NONNEOPLASTIC LESIONS IN FEMALE MICE IN THE TWO-YEAR GAVAGE STUDY OF HYDROQUINONE (Continued)

	Vehicle Control	Low Dose	High Dose
CARDIOVASCULAR SYSTEM			
Heart	(55)	(17)	(55)
Cardiomyopathy	1 (2%)		
Hemorrhage		1 (6%)	
Inflammation, chronic	1 (2%)		1 (2%)
Atrioventricular valve, inflammation, subacute	1 (2%)		
Atrium, thrombus	1 (2%)	1 (6%)	
Coronary artery, inflammation, chronic		1 (6%)	1 (2%)
Epicardium, inflammation, chronic	1 (2%)		
ENDOCRINE SYSTEM			
Adrenal gland, cortex	(55)	(13)	(55)
Degeneration, diffuse			1 (2%)
Degeneration, focal	2 (4%)		
Hematopoietic cell proliferation			4 (7%)
Hyperplasia, focal	3 (5%)		2 (4%)
Adrenal gland, medulla	(51)	(11)	(52)
Hyperplasia, focal	1 (2%)		
Pituitary gland	(52)	(29)	(52)
Pars distalis, angiectasis	1 (2%)	2 (7%)	4 (8%)
Pars distalis, hyperplasia, focal	13 (25%)	4 (14%)	13 (25%)
Thyroid gland	(55)	(55)	(55)
Inflammation, chronic	3 (5%)	4 (7%)	9 (16%)
Polyarteritis		1 (2%)	
Follicle, cyst			1 (2%)
Follicular cell, hyperplasia	13 (24%)	47 (85%)	45 (82%)
GENERAL BODY SYSTEM			
None			
GENITAL SYSTEM			
Ovary	(55)	(53)	(54)
Angiectasis		1 (2%)	
Cyst	12 (22%)	12 (23%)	14 (26%)
Fibrosis	1 (2%)		
Hemorrhage		1 (2%)	
Inflammation, chronic	1 (2%)		
Inflammation, suppurative	1 (2%)		
Necrosis	1 (2%)		
Thrombus	1 (2%)		
Artery, periovarian tissue, inflammation, chronic		1 (2%)	
Periovarian tissue, inflammation, chronic	5 (9%)	5 (9%)	4 (7%)
Periovarian tissue, inflammation, subacute	1 (2%)		
Periovarian tissue, necrosis		1 (2%)	
Serosa, hyperplasia, papillary			1 (2%)
Uterus	(54)	(29)	(55)
Hydrometra	2 (4%)		2 (4%)
Inflammation, chronic		1 (3%)	
Endometrium, hemorrhage	1 (2%)		
Endometrium, hyperplasia, cystic	37 (69%)	18 (62%)	31 (56%)
Endometrium, inflammation, suppurative	2 (4%)		
Myometrium, hyperplasia			1 (2%)
Submucosa, angiectasis			1 (2%)

TABLE D5. SUMMARY OF THE INCIDENCE OF NONNEOPLASTIC LESIONS IN FEMALE MICE IN THE TWO-YEAR GAVAGE STUDY OF HYDROQUINONE (Continued)

	Vehicle Control	Low Dose	High Dose
HEMATOPOIETIC SYSTEM			
Bone marrow	(55)	(16)	(54)
Hyperplasia			1 (2%)
Lymph node	(55)	(22)	(54)
Hyperplasia, plasma cell		1 (5%)	1 (2%)
Axillary, hyperplasia, lymphoid	1 (2%)		
Axillary, hyperplasia, plasma cell		1 (5%)	1 (2%)
Deep cervical, hyperplasia, plasma cell	1 (2%)		
Iliac, hematopoietic cell proliferation		1 (5%)	
Inguinal, hematopoietic cell proliferation	1 (2%)		
Mediastinal, hematopoietic cell proliferation	1 (2%)		
Mediastinal, hyperplasia, lymphoid		2 (9%)	
Mediastinal, hyperplasia, plasma cell			1 (2%)
Mediastinal, inflammation, suppurative	1 (2%)		
Renal, hemorrhage		1 (5%)	
Lymph node, mandibular	(50)	(16)	(49)
Hyperplasia, lymphoid	2 (4%)	1 (6%)	1 (2%)
Hyperplasia, lymphoid, plasma cell	1 (2%)		
Hyperplasia, plasma cell			1 (2%)
Lymph node, mesenteric	(52)	(17)	(52)
Congestion	1 (2%)		2 (4%)
Cyst	1 (2%)		
Hematopoietic cell proliferation	1 (2%)	1 (6%)	
Hyperplasia			1 (2%)
Hyperplasia, lymphoid		2 (12%)	2 (4%)
Hyperplasia, lymphoid, plasma cell	1 (2%)		
Thrombus	1 (2%)		
Spleen	(55)	(22)	(55)
Amyloid deposition			1 (2%)
Fibrosis		1 (5%)	
Hematopoietic cell proliferation	7 (13%)	2 (9%)	4 (7%)
Hyperplasia, lymphoid		1 (5%)	1 (2%)
Pigmentation, hemosiderin		1 (5%)	
Thymus	(44)	(13)	(47)
Ectopic parathyroid gland			2 (4%)
INTEGUMENTARY SYSTEM			
Mammary gland	(52)	(20)	(53)
Hyperplasia	9 (17%)	1 (5%)	5 (9%)
Hyperplasia, cystic	1 (2%)		
Inflammation, chronic			1 (2%)
Duct, ectasia	1 (2%)		
Skin	(55)	(16)	(55)
Ulcer	2 (4%)		4 (7%)
Abdominal, subcutaneous tissue, abscess		1 (6%)	
Subcutaneous tissue, inflammation, suppurative		1 (6%)	
MUSCULOSKELETAL SYSTEM			
Bone	(55)	(16)	(55)
Fibrous osteodystrophy	5 (9%)		3 (5%)
Joint, tarsal, hyperostosis	1 (2%)		

TABLE D5. SUMMARY OF THE INCIDENCE OF NONNEOPLASTIC LESIONS IN FEMALE MICE IN THE TWO-YEAR GAVAGE STUDY OF HYDROQUINONE (Continued)

	Vehicle Control	Low Dose	High Dose
NERVOUS SYSTEM			
Brain	(55)	(16)	(55)
Atrophy			1 (2%)
Hemorrhage, focal			1 (2%)
Mineralization	5 (9%)		3 (5%)
Cerebrum, hemorrhage		1 (6%)	
Cerebrum, inflammation, chronic, focal	1 (2%)		
RESPIRATORY SYSTEM			
Lung	(55)	(55)	(55)
Atelectasis			1 (2%)
Congestion	1 (2%)		3 (5%)
Hemorrhage, focal	1 (2%)		
Inflammation, chronic	1 (2%)	1 (2%)	5 (9%)
Metaplasia, osseous			1 (2%)
Alveolar epithelium, hyperplasia		1 (2%)	
Alveolus, hyperplasia, macrophage		1 (2%)	2 (4%)
Artery, hypertrophy			1 (2%)
Artery, capillary, vein, leukocytosis			1 (2%)
Peribronchiolar, inflammation, chronic			1 (2%)
Perivascular, inflammation, chronic	2 (4%)		2 (4%)
Nose	(54)	(16)	(55)
Inflammation, acute			1 (2%)
Mucosa, inflammation, chronic	1 (2%)		
Nasolacrimal duct, foreign body	1 (2%)		
Nasolacrimal duct, inflammation, chronic		1 (6%)	2 (4%)
SPECIAL SENSES SYSTEM			
Eye	(2)		(5)
Conjunctiva, retrobulbar, inflammation			1 (20%)
Lacrimal gland			(2)
Inflammation, chronic			1 (50%)
Extraorbital, inflammation, chronic			1 (50%)
URINARY SYSTEM			
Kidney	(55)	(16)	(55)
Amyloid deposition	2 (4%)		2 (4%)
Glomerulosclerosis	1 (2%)		
Inflammation, chronic	35 (64%)	8 (50%)	34 (62%)
Metaplasia, osseous, focal			1 (2%)
Nephropathy			1 (2%)
Cortex, fibrosis, focal			1 (2%)
Cortex, metaplasia, osseous	1 (2%)		
Cortex, necrosis, focal	1 (2%)		
Renal tubule, pigmentation, hemosiderin	1 (2%)		
Urinary bladder	(53)	(15)	(54)
Cytomegaly	1 (2%)		
Muscularis, submucosa, inflammation			1 (2%)
Submucosa, inflammation, chronic	28 (53%)	4 (27%)	33 (61%)
Submucosa, inflammation, hemorrhagic, chronic			1 (2%)
Subserosa, inflammation, chronic		1 (7%)	

APPENDIX E

SENTINEL ANIMAL PROGRAM

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Methods

Rodents used in the Carcinogenesis Program of the National Toxicology Program are produced in optimally clean facilities to eliminate potential pathogens that may affect study results. The Sentinel Animal Program is part of the periodic monitoring of animal health that occurs during the toxicologic evaluation of chemical compounds. Under this program, the disease state of the rodents is monitored via viral serology on sera from extra (sentinel) animals in the study rooms. These animals are untreated, and these animals and the study animals are both subject to identical environmental conditions. The sentinel animals come from the same production source and weanling groups as the animals used for the studies of chemical compounds.

Fifteen $B6C3F_1$ mice and 15 F344/N rats of each sex were selected at the time of randomization and allocation of the animals to the various study groups. Five animals of each designated sentinel group were killed at 6, 12, and 18 months on study. Data from animals surviving 24 months were collected from 5/55 randomly selected vehicle control animals of each sex and species. Two sick rats had blood samples taken at 5 months. The blood from each animal was collected and clotted, and the serum was separated. The serum was cooled on ice and shipped to Microbiological Associates' Comprehensive Animal Diagnostic Service for determination of the viral antibody titers. The following tests were performed:

	Hemagglutination Inhibition	Complement Fixation	ELISA
Mice	PVM (pneumonia virus of mice) Reo 3 (reovirus type 3) GDVII (Theiler's encephalomyelitis virus) Poly (polyoma virus) MVM (minute virus of mice) Ectro (infectious ectromelia) Sendai	M. Ad. (mouse adenovirus) LCM (lymphocytic choriomeningitis virus)	MHV (mouse hepatitis virus)
Rats	PVM KRV (Kilham rat virus) H-1 (Toolan's H-1 virus) Sendai (6,12,18,24 mo)	RCV (rat coronavirus) (6 mo)	RCV (5 mo) SDA (sialodacryoadenitis virus) (5 mo) RCV/SDA (12,18,24 mo)

Results

Results are presented in Table E1.

TABLE E1. MURINE VIRUS ANTIBODY DETERMINATIONS FOR RATS AND MICE IN THE TWO-YEAR GAVAGE STUDIES OF HYDROQUINONE (a)

Interval (months)	Number of Animals	Positive Serologic Reaction for
RATS		
5	(b)	None positive
6	--	None positive
12	--	None positive
18	9/10	RCV/SDA
24	9/10	RCV/SDA
MICE		
6	--	None positive
12	--	None positive
18	--	None positive
24	--	None positive

(a) Blood samples were taken from two sick rats at 5 months and from sentinel animals at 6, 12, and 18 months after the start of dosing and from the vehicle control animals just before they were killed; samples were sent to Microbiological Associates (Bethesda, MD) for determination of antibody titers.
(b) No positive viral antibody titers were observed for the two sick rats tested.

APPENDIX F

INGREDIENTS, NUTRIENT COMPOSITION, AND CONTAMINANT LEVELS IN NIH 07 RAT AND MOUSE RATION

Pellet Diet: September 1982 to October 1984

(Manufactured by Zeigler Bros., Inc., Gardners, PA)

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TABLE F1. INGREDIENTS OF NIH 07 RAT AND MOUSE RATION (a)

Ingredients (b)	Percent by Weight
Ground #2 yellow shelled corn	24.50
Ground hard winter wheat	23.00
Soybean meal (49% protein)	12.00
Fish meal (60% protein)	10.00
Wheat middlings	10.00
Dried skim milk	5.00
Alfalfa meal (dehydrated, 17% protein)	4.00
Corn gluten meal (60% protein)	3.00
Soy oil	2.50
Dried brewer's yeast	2.00
Dry molasses	1.50
Dicalcium phosphate	1.25
Ground limestone	0.50
Salt	0.50
Premixes (vitamin and mineral)	0.25

(a) NCI, 1976; NIH, 1978
(b) Ingredients ground to pass through a U.S. Standard Screen No. 16 before being mixed

TABLE F2. VITAMINS AND MINERALS IN NIH 07 RAT AND MOUSE RATION (a)

	Amount	Source
Vitamins		
A	5,500,000 IU	Stabilized vitamin A palmitate or acetate
D_3	4,600,000 IU	D-activated animal sterol
K_3	2.8 g	Menadione
d-α-Tocopheryl acetate	20,000 IU	
Choline	560.0 g	Choline chloride
Folic acid	2.2 g	
Niacin	30.0 g	
d-Pantothenic acid	18.0 g	*d*-Calcium pantothenate
Riboflavin	3.4 g	
Thiamine	10.0 g	Thiamine mononitrate
B_{12}	4,000 µg	
Pyridoxine	1.7 g	Pyridoxine hydrochloride
Biotin	140.0 mg	*d*-Biotin
Minerals		
Iron	120.0 g	Iron sulfate
Manganese	60.0 g	Manganous oxide
Zinc	16.0 g	Zinc oxide
Copper	4.0 g	Copper sulfate
Iodine	1.4 g	Calcium iodate
Cobalt	0.4 g	Cobalt carbonate

(a) Per ton (2,000 lb) of finished product

TABLE F3. NUTRIENT COMPOSITION OF NIH 07 RAT AND MOUSE RATION

Nutrients	Mean ± Standard Deviation	Range	Number of Samples
Crude protein (percent by weight)	23.05 ± 1.06	21.3-26.3	26
Crude fat (percent by weight)	5.22 ± 0.66	3.3-6.5	26
Crude fiber (percent by weight)	3.49 ± 0.52	2.8-5.6	26
Ash (percent by weight)	6.64 ± 0.34	6.1-7.1	26
Amino Acids (percent of total diet)			
Arginine	1.32 ± 0.072	1.310-1.390	5
Cystine	0.319 ± 0.088	0.218-0.400	5
Glycine	1.146 ± 0.063	1.060-1.210	5
Histidine	0.571 ± 0.026	0.531-0.603	5
Isoleucine	0.914 ± 0.030	0.881-0.944	5
Leucine	1.946 ± 0.056	1.850-1.990	5
Lysine	1.280 ± 0.067	1.200-1.370	5
Methionine	0.436 ± 0.165	0.306-0.699	5
Phenylalanine	0.938 ± 0.158	0.665-1.05	5
Threonine	0.855 ± 0.035	0.824-0.898	5
Tryptophan	0.277 ± 0.221	0.156-0.671	5
Tyrosine	0.618 ± 0.086	0.564-0.769	5
Valine	1.108 ± 0.043	1.050-1.170	5
Essential Fatty Acids (percent of total diet)			
Linoleic	2.290 ± 0.313	1.83-2.52	5
Linolenic	0.258 ± 0.040	0.210-0.308	5
Vitamins			
Vitamin A (IU/kg)	12,353 ± 4,593	4,100-24,000	26
Vitamin D (IU/kg)	4,450 ± 1,382	3,000-6,300	4
α-Tocopherol (ppm)	43.58 ± 6.92	31.1-48.0	5
Thiamine (ppm)	18.23 ± 3.95	12.0-27.0	26
Riboflavin (ppm)	7.6 ± 0.85	6.10-8.2	5
Niacin (ppm)	97.8 ± 31.68	65.0-150.0	5
Pantothenic acid (ppm)	30.06 ± 4.31	23.0-34.0	5
Pyridoxine (ppm)	7.68 ± 1.31	5.60-8.8	5
Folic acid (ppm)	2.62 ± 0.89	1.80-3.7	5
Biotin (ppm)	0.254 ± 0.053	0.19-0.32	5
Vitamin B_{12} (ppb)	24.21 ± 12.66	10.6-38.0	5
Choline (ppm)	3,122 ± 416.8	2,400-3,430	5
Minerals			
Calcium (percent)	1.29 ± 0.15	0.95-1.63	26
Phosphorus (percent)	0.96 ± 0.06	0.87-1.10	26
Potassium (percent)	0.900 ± 0.098	0.772-0.971	3
Chloride (percent)	0.513 ± 0.114	0.380-0.635	5
Sodium (percent)	0.323 ± 0.043	0.258-0.371	5
Magnesium (percent)	0.167 ± 0.012	0.151-0.181	5
Sulfur (percent)	0.304 ± 0.064	0.268-0.420	5
Iron (ppm)	410.3 ± 94.04	262.0-523.0	5
Manganese (ppm)	90.29 ± 7.15	81.7-99.4	5
Zinc (ppm)	52.78 ± 4.94	46.1-58.2	5
Copper (ppm)	10.72 ± 2.76	8.09-15.39	5
Iodine (ppm)	2.95 ± 1.05	1.52-3.82	4
Chromium (ppm)	1.85 ± 0.25	1.44-2.09	5
Cobalt (ppm)	0.681 ± 0.14	0.490-0.780	4

TABLE F4. CONTAMINANT LEVELS IN NIH 07 RAT AND MOUSE RATION

Contaminants	Mean ± Standard Deviation	Range	Number of Samples
Arsenic (ppm)	0.53 ± 0.16	0.17-0.77	26
Cadmium (ppm) (a)	<0.10		26
Lead (ppm)	0.62 ± 0.29	0.33-1.63	26
Mercury (ppm) (a)	<0.05		26
Selenium (ppm)	0.32 ± 0.07	0.13-0.42	26
Aflatoxins (ppb) (a)	<5.0		26
Nitrate nitrogen (ppm) (b)	9.77 ± 4.63	0.10-22.0	26
Nitrite nitrogen (ppm) (b)	1.09 ± 1.60	0.10-7.20	26
BHA (ppm) (c)	3.77 ± 4.67	2.00-17.00	26
BHT (ppm) (c)	2.76 ± 2.49	1.00-12.00	26
Aerobic plate count (CFU/g) (d)	44,858 ± 34,551	7,100-130,000	26
Coliform (MPN/g) (e)	56.73 ± 128	3.0-460	26
E. coli (MPN/g) (e)	3.04 ± 0.20	3.00-4.00	26
Total nitrosamines (ppb) (f)	5.60 ± 5.63	1.8-30.90	26
N-Nitrosodimethylamine (ppb) (f)	4.55 ± 5.65	0.8-30.00	26
N-Nitrosopyrrolidine (ppb) (f)	1.04 ± 0.24	0.81-1.70	26
Pesticides (ppm)			
α-BHC (a,g)	<0.01		46
β-BHC (a)	<0.02		46
γ-BHC (a)	<0.01		46
δ-BHC (a)	<0.01		46
Heptachlor (a)	<0.01		46
Aldrin (a)	<0.01		46
Heptachlor epoxide (a)	<0.01		46
DDE (a)	<0.01		46
DDD (a)	<0.01		46
DDT (a)	<0.01		46
HCB (a)	<0.01		46
Mirex (a)	<0.01		46
Methoxychlor (a)	<0.05		46
Dieldrin (a)	<0.01		46
Endrin (a)	<0.01		46
Telodrin (a)	<0.01		46
Chlordane (a)	<0.05		46
Toxaphene (a)	<0.1		46
Estimated PCBs (a)	<0.2		46
Ronnel (a)	<0.01		46
Ethion (a)	<0.02		46
Trithion (a)	<0.05		46
Diazinon (a)	<0.1		46
Methyl parathion (a)	<0.02		46
Ethyl parathion (a)	<0.02		46
Malathion (h)	0.12 ± 0.09	0.05-0.45	46
Endosulfan I (a)	<0.01		46
Endosulfan II (a)	<0.01		46
Endosulfan sulfate (a)	<0.03		46

(a) All values were less than the detection limit, given in the table as the mean.
(b) Source of contamination: alfalfa, grains, and fish meal
(c) Source of contamination: soy oil and fish meal
(d) CFU = colony-forming unit
(e) MPN = most probable number
(f) All values were corrected for percent recovery.
(g) BHC = hexachlorocyclohexane or benzene hexachloride
(h) Fifteen lots contained more than 0.05 ppm.

APPENDIX G

AUDIT SUMMARY

APPENDIX G. AUDIT SUMMARY

The pathology specimens, experimental data, study documents, and draft of NTP Technical Report No. 366 for the 2-year studies of hydroquinone in rats and mice were audited for the National Institute of Environmental Health Sciences (NIEHS) at the National Toxicology Program (NTP) Archives by resource support contractors. The audit included review of:

(1) All records concerning animal receipt, quarantine, randomization, and disposition prior to study start.
(2) All inlife records including protocol, correspondence, animal husbandry, environmental conditions, dosing, external masses, mortality, animal identification, and serology.
(3) Body weight and clinical observation data; all data were scanned before individual data for a random 10% or 20% sample of animals in each study group were reviewed in detail.
(4) All chemistry records.
(5) All postmortem records for individual animals concerning date of death, disposition codes, condition codes, tissue accountability, correlation of masses or clinical signs recorded at the last inlife observation with gross observations and microscopic diagnoses, and correlations between gross observations and microscopic diagnoses.
(6) All wet tissue bags for inventory and wet tissues from a random 20% sample of animals in vehicle control and high dose groups, plus other relevant cases to verify animal identity and to examine for untrimmed potential lesions.
(7) Blocks and slides of tissues from a random 20% sample of animals from vehicle control and high dose groups and animals with less than complete or correct identification.
(8) Necropsy records forms for data entry errors and all microscopic diagnosis updates for a random 10% sample of animals to verify incorporation into final pathology tables.
(9) Correlation between the data, factual information, and procedures for the 2-year studies presented in the draft of the Technical Report and the records available at the NTP Archives.

Procedures and events during the exposure phase of the studies were documented adequately by the archival records with the exception of some or all of the records for balance calibration, room light cycle, cage changes, and cage environment observations and mean differential leukocyte values for female mice. Records documented that doses were prepared, analyzed, and administered to animals properly. Review of 84 group mean body weight values showed 3 errors of small magnitude (0.1% ± 0.7%). Observations of clinical signs and masses were made consistently. Of the external masses noted in the inlife records, 128/148 in rats and 78/93 in mice correlated with necropsy observations; those that did not correlate were distributed evenly across the study groups. Survival records for all unscheduled-death animals were reviewed and found to be correct, except for the reason for removal of one rat and two mice; correct information for these is presented in the NTP Technical Report.

Individual animal identifiers (punched ears) were present in the residual wet tissues and correct for 72/121 rats and 73/76 mice examined. Improper marking of ears or their mutilation appeared to be responsible for less than complete or correct identifiers in the remaining animals; gender was correct in every case and review of data trails for these animals provided evidence that the integrity of their individual animal identity had been preserved throughout the studies. The residual wet tissues contained five untrimmed potential lesions in rats and one in a mouse. Microscopic diagnoses for intestines were made and correlated with gross lesions, but some intestinal segments in the residual wet tissues were incompletely opened. Tissue blocks and slides matched and were labeled correctly. All gross observations made at necropsy correlated with microscopic diagnoses.

Full details about these and other audit findings are presented in the audit reports on file at the NIEHS. In conclusion, the data and factual information presented in the preliminary draft of the Technical Report for the 2-year gavage studies of hydroquinone are supported by the records at the NTP Archives.

NATIONAL TOXICOLOGY PROGRAM TECHNICAL REPORTS
PRINTED AS OF SEPTEMBER 1989

TR No.	CHEMICAL
201	2,3,7,8-Tetrachlorodibenzo-p-dioxin (Dermal)
206	Dibromochloropropane
207	Cytembena
208	FD & C Yellow No. 6
209	2,3,7,8-Tetrachlorodibenzo-*p*-dioxin (Gavage)
210	1,2-Dibromoethane (Inhalation)
211	C.I. Acid Orange 10
212	Di(2-ethylhexyl)adipate
213	Butylbenzyl Phthalate
214	Caprolactam
215	Bisphenol A
216	11-Aminoundecanoic Acid
217	Di(2-ethylhexyl)phthalate
219	2,6-Dichloro-*p*-phenylenediamine
220	C.I. Acid Red 14
221	Locust Bean Gum
222	C.I. Disperse Yellow 3
223	Eugenol
224	Tara Gum
225	D & C Red No. 9
226	C.I. Solvent Yellow 14
227	Gum Arabic
229	Guar Gum
230	Agar
231	Stannous Chloride
233	2-Biphenylamine Hydrochloride
234	Allyl Isothiocyanate
235	Zearalenone
236	D-Mannitol
238	Ziram
239	Bis(2-chloro-1-methylethyl)ether
240	Propyl Gallate
242	Diallyl Phthalate (Mice)
244	Polybrominated Biphenyl Mixture
245	Melamine
247	L-Ascorbic Acid
248	4,4'-Methylenedianiline Dihydrochloride
249	Amosite Asbestos
250	Benzyl Acetate
251	Toluene Diisocyanate
252	Geranyl Acetate
253	Allyl Isovalerate
255	1,2-Dichlorobenzene
257	Diglycidyl Resorcinol Ether
259	Ethyl Acrylate
261	Chlorobenzene
263	1,2-Dichloropropane
266	Monuron
267	Propylene Oxide
269	Telone II®
271	HC Blue No. 1
272	Propylene
273	Trichloroethylene (Four strains of rats)
274	Tris(2-ethylhexyl)phosphate
275	2-Chloroethanol
276	8-Hydroxyquinoline
280	Crocidolite Asbestos
281	HC Red No. 3
282	Chlorodibromomethane
284	Diallylphthalate (Rats)
285	C.I. Basic Red 9 Monohydrochloride
287	Dimethyl Hydrogen Phosphite
288	1,3-Butadiene
289	Benzene
291	Isophorone
293	HC Blue No. 2
294	Chlorinated Trisodium Phosphate
295	Chrysotile Asbestos (Rats)
296	Tetrakis(hydroxymethyl)phosphonium Sulfate and Tetrakis(hydroxymethyl)phosphonium Chloride
298	Dimethyl Morpholinophosphoramidate
299	C.I. Disperse Blue 1
300	3-Chloro-2-methylpropene
301	*o*-Phenylphenol
303	4-Vinylcyclohexene
304	Chlorendic Acid
305	Chlorinated Paraffins (C_{23}, 43% chlorine)
306	Dichloromethane
307	Ephedrine Sulfate
308	Chlorinated Paraffins (C_{12}, 60% chlorine)
309	Decabromodiphenyl Oxide
310	Marine Diesel Fuel and JP-5 Navy Fuel
311	Tetrachloroethylene (Inhalation)
312	*n*-Butyl Chloride
314	Methyl Methacrylate
315	Oxytetracycline Hydrochloride
316	1-Chloro-2-methylpropene
317	Chlorpheniramine Maleate
318	Ampicillin Trihydrate
319	1,4-Dichlorobenzene
320	Rotenone
321	Bromodichloromethane
322	Phenylephrine Hydrochloride
323	Dimethyl Methylphosphonate
324	Boric Acid
325	Pentachloronitrobenzene
326	Ethylene Oxide
327	Xylenes (Mixed)
328	Methyl Carbamate
329	1,2-Epoxybutane
330	4-Hexylresorcinol
331	Malonaldehyde, Sodium Salt
332	Mercaptobenzothiazole
333	*N*-Phenyl-2-naphthylamine
334	2-Amino-5-nitrophenol
335	C.I. Acid Orange 3
336	Penicillin VK
337	Nitrofurazone
338	Erythromycin Stearate
339	2-Amino-4-nitrophenol
343	Benzyl Alcohol
344	Tetracycline Hydrochloride
345	Roxarsone
348	α-Methyldopa Sesquihydrate
349	Pentachlorophenol
350	Tribromomethane
353	2,4-Dichlorophenol
356	Furosemide
357	Hydrochlorothiazide
358	Ochratoxin A
359	8-Methoxypsoralen
361	Hexachloroethane

These NTP Technical Reports are available for sale from the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, VA 22161 (703-487-4650). Single copies of this Technical Report are available without charge (and while supplies last) from the NTP Public Information Office, National Toxicology Program, P.O. Box 12233, Research Triangle Park, NC 27709.