Protocol Title	IACUC NO	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Adaptation to ceramide involves AKT/FOXO regulated novel triglyceride lipases			Mouse	0	B	☐	☐	☑	☐	☑	☑
				1225	C						
				0	D						
				200	E						
Mouse and human endocrine cell proliferation and function			Mouse	0	B	☐	☑	☑	☑	☑	☑
				6912	C						
				280	D						
				0	E						
Molecular-genetic dissection of neural circuitry regulating sleep-wake cycles			Mouse	0	B	☑	☑	☐	☐	☑	☑
				22844	C						
				5044	D						
				1824	E						
Neurophysiology of Sleep-Wake Control			Rat	0	B	☑	☐	☐	☐	☑	☑
				1608	C						
				536	D						
				0	E						
Chemotherapy of hookworm			Hamster	0	B	☐	☐	☐	☐	☑	☐
				5677	C						
				168	D						
				0	E						
Chemotherapy of intestinal nematodes			Mouse	0	B	☑	☐	☐	☐	☑	☐
				7430	C						
				240	D						
				72	E						
Chemotherapy of intestinal nematodes-rat			Rat	0	B	☐	☐	☐	☐	☑	☐
				1200	C						
				0	D						
				0	E						
Evaluation of distribution and efficacy of chemically modified oligonucleotides in large animal brains			Sheep	0	B	☑	☐	☐	☐	☑	☐
				0	C						
				52	D						
				0	E						
			Goat	0	B	☑	☐	☐	☐	☑	☐
				0	C						
				6	D						
				0	E						
An Invivo Approach to Study the Mechanism and Pharmacokinetics of RNA Interference			Mouse	0	B	☑	☐	☐	☐	☑	☑
				1594	C						
				739	D						
				0	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Functions of LIM cofactors during mouse development			Mouse	0	B	☐	☐	☐	☐	☐	☑
				9501	C						
				0	D						
				0	E						
Testing Novel Agents in Wound Repair and Regeneration			Rat	0	B	☑	☐	☐	☐	☐	☐
				0	C						
				24	D						
				0	E						
Pulmonary Immunity to Tuberculosis			Mouse	0	B	☐	☐	☐	☐	☑	☑
				7068	C						
				1400	D						
				0	E						
Studies in T Cell Activation			Mouse	0	B	☐	☐	☐	☐	☑	☑
				27744	C						
				45	D						
				0	E						
MR Signal amplification for receptor imaging			Mouse	0	B	☑	☐	☐	☐	☑	☑
				0	C						
				166	D						
				0	E						
			Rat	0	B	☑	☐	☐	☐	☑	☑
				0	C						
				81	D						
				0	E						
Modeling of Intracranial Aneurysms and Inflammation			Rabbit	0	B	☐	☑	☐	☐	☑	☑
				0	C						
				140	D						
				0	E						
Mucosal Macrophages and Post-Infectious Inflammatory Bowel Disease (IBD)			Mouse	0	B	☐	☐	☐	☐	☑	☑
				3000	C						
				0	D						
				6000	E						
Investigating the effect of mutant ALS-linked proteins in neuronal function to determine biological causes of amyotrophic lateral sclerosis (ALS)			Mouse	0	B	☑	☐	☐	☐	☑	☑
				3082	C						
				0	D						
				1807	E						

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Vaccine Safety Assurance – Toxicity Testing			Guinea pig	0	B						
				1860	C	☐	☐	☐	☐	☑	☐
				0	D						
				0	E						
			Guinea pig	0	B						
				120	C	☐	☐	☐	☐	☑	☐
				0	D						
				0	E						
			Mouse	0	B						
				180	C	☐	☐	☐	☐	☑	☐
				0	D						
				0	E						
			Rabbit	0	B						
				120	C	☐	☐	☐	☐	☑	☐
				0	D						
				0	E						
Td Toxin Level Determination – MLD Assays			Guinea pig	0	B						
				0	C	☐	☐	☐	☐	☑	☐
				0	D						
				540	E						
			Guinea pig	0	B						
				0	C	☐	☐	☐	☐	☑	☐
				0	D						
				18	E						
Therapeutic Drug Studies in Transgenic Mouse Models of Amyotrophic Lateral Sclerosis			Mouse	0	B						
				4611	C	☑	☐	☐	☐	☑	☑
				14420	D						
				2037	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Development of Nucleic Acids Therapeutics in Transgenic Mouse Models of C9ORF72 related Amyotrophic Lateral Sclerosis			Mouse	0	B	☑	☐	☐	☐	☐	☑
				3679	C						
				12870	D						
				0	E						
Studies of Therapeutics for Dysferlinopathy			Mouse	0	B	☐	☐	☐	☐	☐	☑
				532	C						
				2358	D						
				90	E						
Development of Nucleic Acids Therapeutics in Transgenic Mouse Models of C9ORF72 related Amyotrophic Lateral Sclerosis			Mouse	0	B	☑	☐	☐	☐	☐	☑
				0	C						
				1000	D						
				0	E						
Functional and Molecular Studies in Hematopoiesis and Leukemia			Mouse	0	B	☐	☐	☐	☐	☑	☐
				34204	C						
				5748	D						
				0	E						
Human monoclonal antibodies in humanized mice			Mouse	0	B	☐	☐	☐	☐	☑	☑
				320	C						
				0	D						
				0	E						
Administration of Monoclonal Antibodies to Prevent/Treat Gastrointestinal Tract Inflammation or Infection			Mouse	0	B	☑	☐	☐	☐	☐	☐
				3272	C						
				488	D						
				0	E						
Therapeutic efficacy of anti-colonization factor antigen (CFA) and anti-heat labile toxin (LT) antibodies for prevention and treatment of enterotoxigenic E. coli (ETEC)			Mouse	0	B	☐	☐	☐	☐	☑	☐
				1260	C						
				364	D						
				672	E						
Identifying events and genetic regulators of melanoma progression			Zebrafish	0	B	☑	☑	☐	☐	☑	☑
				19860	C						
				12450	D						
				0	E						
Evaluating anti-GDF6 treatment as potential therapy for advanced melanoma			Mouse	0	B	☐	☐	☐	☐	☑	☐
				288	C						
				0	D						
				0	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Characterization and treatment parameters for metabolic disease.			Mouse	0	B	☑	☐	☑	☐	☑	☑
				3902	C						
				15704	D						
				3764	E						
			Rat	0	B	☑	☐	☑	☐	☑	☑
				1728	C						
				0	D						
				0	E						
Signal Transduction in Metabolism and Growth			Mouse	0	B	☐	☐	☐	☐	☑	☑
				46518	C						
				940	D						
				300	E						
Palatability of Oral Antibiotics in Rodents			Mouse	0	B	☐	☐	☑	☐	☐	☐
				0	C						
				80	D						
				0	E						
Final preclinical development of AAV gene therapy for atrial fibrillation			Pig	0	B	☑	☑	☐	☐	☑	☐
				0	C						
				77	D						
				14	E						
Integrative analysis of electrophysiology in the healed myocardial infarction scar			Pig	0	B	☑	☑	☐	☐	☑	☐
				0	C						
				96	D						
				0	E						
Wireless Sensor for Pressure Ulcer Prevention			Rat	0	B	☑	☐	☐	☐	☐	☑
				0	C						
				45	D						
				0	E						
Evaluation of a Post-operative Hybrid Dressing for Skin-Graft Donor Sites in a Pig Model			Pig	0	B	☑	☐	☐	☐	☐	☐
				0	C						
				1	D						
				0	E						
Control of Stem Cell Growth and Differentiation in Tissue Development and Disease			Mouse	0	B	☑	☐	☑	☐	☑	☑
				644	C						
				3198	D						
				144	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
CNS gene therapy for neurodegenerative diseases			Mouse	0	B	☑	☐	☐	☐	☑	☑
				16014	C						
				14702	D						
				0	E						
			Rat	0	B	☑	☐	☐	☐	☑	☑
				0	C						
				106	D						
				0	E						
Feasibility and Safety Study of Delivery Strategies for Oligonucleotides and AAV-mediated CNS Gene Therapy in a Non-human Primate Model			Non-Human primate	0	B	☑	☐	☐	☐	☑	☑
				0	C						
				24	D						
				0	E						
The role of chromatin regulation in stem cell self-renewal			Mouse	0	B	☐	☐	☐	☐	☑	☐
				1858	C						
				0	D						
				0	E						
Receptor-based Drug Models in Bacterial and Viral Pathogenesis			Mouse	0	B	☑	☐	☐	☐	☑	☑
				8295	C						
				0	D						
				19864	E						
Regulation of inflammation in vitro and in vivo.			Mouse	0	B	☐	☐	☐	☐	☑	☑
				17025	C						
				11640	D						
				29406	E						
Targeting molecules that regulate prostate cancer survival in response to ionizing radiation			Mouse	0	B	☐	☐	☐	☐	☑	☑
				60	C						
				60	D						
				0	E						
Modulation of Cardiovascular Disease in Mice			Mouse	0	B	☑	☐	☐	☐	☐	☑
				9165	C						
				2968	D						
				800	E						
Gene Therapy for human alpha-1 antitrypsin-Pi*Z liver disease			Mouse	0	B	☑	☐	☑	☐	☑	☑
				9765	C						
				664	D						
				54	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Gene Therapy for Fatty Acid Oxidation Disorders			Mouse	8640	B	☐	☐	☑	☐	☑	☐
				2048	C						
				0	D						
				1448	E						
Vascular Injury, Repair, and Remodeling: The Role of Platelets and Innate Immunity in Atherothrombosis			Mouse	0	B	☐	☐	☐	☐	☑	☑
				6428	C						
				324	D						
				458	E						
Molecular Organization of CNS Synapses			Mouse	0	B	☐	☐	☐	☐	☑	☑
				6730	C						
				5900	D						
				150	E						
Using helper-free adeno-associated virus (AAV) and self-inactivating lenti virus for gene manipulation in mouse prefrontal cortex, hippocampus, ventral midbrain and nucleus accumbens			Mouse	0	B	☑	☐	☐	☐	☑	☑
				620	C						
				600	D						
				0	E						
Behavioral and biochemical characterization of mouse models of neuropsychiatric disorders			Mouse	0	B	☐	☐	☑	☐	☑	☑
				2508	C						
				688	D						
				2480	E						
Viral vector mediated gene transfer			Mouse	0	B	☑	☐	☐	☐	☑	☑
				14257	C						
				3294	D						
				785	E						
			Rat	0	B	☑	☐	☐	☐	☑	☑
				1070	C						
				0	D						
				0	E						
Animal Models of Frontotemporal Dementia and ALS			Mouse	0	B	☑	☐	☐	☐	☑	☐
				2050	C						
				144	D						
				0	E						
Evaluation of AAV8 and other novel AAV vectors for hepatic F.IX gene transfer in NHPs			Macaque	0	B	☐	☐	☐	☐	☑	☐
				0	C						
				21	D						
				0	E						

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
			Rat	0	B	☑	☑	☐	☐	☑	☑
				0	C						
				80	D						
				0	E						
Brain/CNS transduction of novel AAV capsids in NHPs			Macaque	0	B	☑	☐	☐	☐	☑	☑
				0	C						
				3	D						
				0	E						
Evaluation of novel AAV vectors for retinal gene transfer in NHPs			Non-Human primate	0	B	☐	☐	☐	☐	☑	☐
				0	C						
				16	D						
				0	E						
Transcriptional Landscape of Innate Immune Cells			Mouse	0	B	☐	☐	☐	☐	☐	☑
				320	C						
				0	D						
				0	E						
Innate Immune receptors for protozoan parasites			Mouse	0	B	☐	☐	☐	☐	☑	☐
				6024	C						
				8556	D						
				3436	E						
Study of the influence of acute infection with Plasmodium in development of sepsis			Mouse	0	B	☐	☐	☑	☐	☑	☐
				2576	C						
				0	D						
				1464	E						
Novel therapies for genetic disease			Mouse	0	B	☐	☐	☑	☐	☑	☑
				1324	C						
				0	D						
				0	E						
Biological Link between Gaucher disease and Parkinsonism			Mouse	0	B	☐	☐	☐	☐	☐	☑
				435	C						
				0	D						
				0	E						

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Phagocyte Receptors for Lipid A			Mouse	0	B	☐	☐	☐	☐	☑	☐
				986	C						
				0	D						
				1260	E						
The role of Toll-like receptor signaling in the innate immune response to Plasmodium species.			Mouse	0	B	☐	☐	☐	☐	☑	☐
				7696	C						
				0	D						
				720	E						
Inflammasome activation in Alzheimer's disease			Mouse	0	B	☐	☐	☐	☐	☑	☑
				1336	C						
				0	D						
				278	E						
Training in the Treatment of Cerebral Aneurysm and Arteriovenous Malformation Model in the Pig and Rabbit			Rabbit	0	B	☑	☐	☐	☐	☑	☑
				0	C						
				60	D						
				0	E						
			Pig	0	B	☑	☐	☐	☐	☑	☑
				0	C						
				81	D						
				0	E						
Stroke Treatment in a Large Animal Model			Dog	0	B	☑	☐	☐	☐	☑	☑
				0	C						
				182	D						
				0	E						
Image-Guided Vascular Remodeling for the Treatment of Brain Aneurysms			Rabbit	0	B	☑	☑	☐	☐	☑	☑
				0	C						
				159	D						
				0	E						
			Dog	0	B	☑	☑	☐	☐	☑	☑
				0	C						
				4	D						
				0	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
			Mouse	0	B	☐	☐	☐	☐	☐	☑
				0	C						
				200	D						
				0	E						
Mechanical Revascularization for the Treatment of Embolic Vacular Occlusion in Swine and Rabbit Models			Pig	0	B	☑	☐	☐	☐	☑	☑
					C						
				32	D						
				0	E						
			Rabbit	0	B	☑	☐	☐	☐	☑	☑
				0	C						
				75	D						
				0	E						
Unruptured Intracranial Aneurysms: Rupture-Risk Assessment by Non-Invasive Molecular Imaging			Rabbit	0	B	☑	☐	☐	☐	☑	☐
				0	C						
				79	D						
				0	E						
Image-Guided Endovascular Neurosurgery: High-Resolution Cerebrovascular Imaging			Pig	0	B	☑	☐	☐	☐	☑	☑
				0	C						
				1	D						
				0	E						
			Rabbit	0	B	☑	☐	☐	☐	☑	☑
				0	C						
				48	D						
				0	E						
Mechanical thrombectomy in of vascular occlusions			Pig	0	B	☑	☐	☐	☐	☑	☑
				0	C						
				21	D						
				0	E						
Endovascular CSF Access: Proof-of-Concept Study			Macaque	0	B	☑	☐	☐	☐	☑	☑
				0	C						
				6	D						
				0	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Bone Erosion in Rheumatoid Arthritis (RA) and the Mechanisms of Enthesial and Periosteal Bone Formation in Spondyloarthropathy			Mouse	0	B	☐	☐	☐	☐	☑	☐
				616	C						
				0	D						
				468	E						
Testing of novel therapeutics in large animal models of neurodegenerative disease.			Goat	0	B	☑	☑	☐	☐	☑	☑
				0	C						
				24	D						
				20	E						
			Sheep	0	B	☑	☑	☐	☐	☑	☑
				0	C						
				292	D						
				87	E						
Identifying factors that contribute to breast cancer and rare genetic diseases			Mouse	0	B	☑	☐	☐	☐	☑	☐
				2509	C						
				1180	D						
				0	E						
Identification and validation of putative oncogenes and tumor suppressor genes using genome-wide RNA interference screening combined with tumor formation in nude mice			Mouse	0	B	☐	☐	☐	☐	☑	☐
				660	C						
				0	D						
				0	E						
Factors controlling tumor and metastasis development in mice			Mouse	0	B	☐	☐	☐	☐	☑	☐
				2131	C						
				649	D						
				230	E						
Anatomical and Functional Characterization of Chemosensory Cells			Mouse	0	B	☐	☐	☐	☐	☐	☑
				10796	C						
				0	D						
				0	E						
Rat models of immunity, regeneration, and infection			Rat	0	B	☑	☑	☐	☐	☑	☑
				1500	C						
				6368	D						
				0	E						
Humanized Mouse Core			Mouse	0	B	☑	☐	☐	☐	☑	☑
				22140	C						
				1000	D						
				0	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
In vivo analysis of growth control			Mouse	0	B	☐	☐	☐	☐	☑	☑
				22504	C						
				712	D						
				1488	E						
Optical Imaging and Photodynamic Therapy of Tumor in Mice Model			Mouse	0	B	☐	☐	☐	☐	☑	☑
				0	C						
				800	D						
				0	E						
Determining the factors that contribute to autoimmune skin disease: melanocyte destruction in vitiligo and melanoma, fibrosis in systemic sclerosis (scleroderma) and granuloma formation in sarcoidosis.			Mouse	0	B	☑	☑	☐	☐	☑	☑
				4699	C						
				4462	D						
				48	E						
Rodent Models of ALS and Periodic Paralysis			Mouse	0	B	☐	☐	☐	☐	☑	☑
				36	C						
				1158	D						
				288	E						
Using Sarm knockout to block ischemic and traumatic axonal injury in mouse.			Mouse	0	B	☑	☐	☐	☐	☑	☑
				1474	C						
				216	D						
				0	E						
Trauma brain injury accelerated neurodegeneration			Mouse	0	B	☑	☑	☐	☐	☐	☑
				100	C						
				480	D						
				1340	E						
Small molecules and Molecular machinery controlling nuclear hormone receptors and inflammation			Mouse	0	B	☐	☐	☐	☐	☑	☐
				14710	C						
				0	D						
				1950	E						
			Rat	0	B	☐	☐	☐	☐	☑	☐
				48	C						
				0	D						
				0	E						
Analysis of the effects of TCR/MHC + peptide affinity and specificity on T cell development and immune responses			Mouse	0	B	☐	☐	☐	☐	☑	☑
				16248	C						
				0	D						
				0	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Chromatin Remodeling Factors in Development and Differentiation			Mouse	0	B	☐	☐	☐	☐	☐	☑
				576	C						
				0	D						
				0	E						
Conditional Gene Targeting Studies of Inflammation in Mice			Mouse	0	B	☐	☐	☐	☐	☑	☑
				8696	C						
				4378	D						
				6	E						
Collection of Syphacia pinworms from privately-owned pet mice and rats for decontamination experiments			Mouse	0	B	☐	☐	☐	☐	☑	☐
				30	C						
				0	D						
				0	E						
			Rat	0	B	☐	☐	☐	☐	☑	☐
				30	C						
				0	D						
				0	E						
Glioma tumor formation and hydrocephalus in the brain			Mouse	0	B	☑	☑	☐	☐	☑	☑
				300	C						
				360	D						
				0	E						
Ethanol Consumption and the Development of Idiopathic Normal Pressure Hydrocephalus			Mouse	0	B	☐	☐	☐	☐	☐	☑
				360	C						
				0	D						
				0	E						
Molecular Basis of T Cell Lineage Commitment			Mouse	0	B	☐	☐	☐	☐	☑	☑
				6432	C						
				600	D						
				0	E						
Costimulatory Regulation of T cell Activation			Mouse	0	B	☐	☐	☐	☐	☑	☑
				4242	C						
				120	D						
				0	E						
The role of Ripk1 in TNF signal transduction and Mechanism(s) of Tal1/scl-mediated Leukemogenesis			Mouse	0	B	☑	☐	☐	☐	☑	☑
				4191	C						
				204	D						
				942	E						

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
			Zebrafish	0	B						
				1806	C	☑	☐	☐	☐	☑	☑
				200	D						
				0	E						
Development of RNAi-based therapeutics			Mouse	0	B						
				2158	C	☑	☐	☐	☐	☑	☑
				2567	D						
				775	E						
			Rat	0	B						
				2158	C	☑	☐	☐	☐	☑	☑
				2354	D						
				0	E						
Evaluation of distribution, efficacy, and safety of chemically modified oligonucleotides in a non-human primate model.			Non-Human primate	0	B						
					C	☐	☑	☑	☐	☑	☑
				36	D						
				0	E						
UMass Mouse Phenotyping Center			Mouse	0	B						
				5100	C	☑	☑	☑	☑	☑	☑
				100	D						
				5800	E						
Examining the effects of perturbing toxic metabolite pathways on the growth of cancer cells in xenograft tumors			Mouse	0	B						
				0	C	☑	☐	☐	☐	☑	☐
				506	D						
				0	E						
Conjugated nanoparticles and Prodigiosin Drug for Specific Targeting and localized Drug Delivery for Tumor Shrinkage (Treatment) of Early, Mid Stage and late Stage Xenograft Tumor of Triple Negative Breast			Mouse	0	B						
				210	C	☐	☐	☐	☐	☑	☑
				0	D						
				0	E						
Fluorescent Imaging of Cardiac Efflux			Guinea pig	0	B						
				0	C	☐	☐	☐	☐	☐	☑
				180	D						
				0	E						
			Rat	0	B						
				0	C	☐	☐	☐	☐	☐	☑
				150	D						
				0	E						

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Diabetes susceptibility to Tuberculosis			Mouse	0	B	☑	☐	☐	☐	☑	☐
				2644	C						
				352	D						
				0	E						
Determinants of Tuberculosis Severity			Mouse	0	B	☑	☐	☐	☐	☑	☐
				2666	C						
				144	D						
				0	E						
Pattern Recognition Receptors in Innate and Adaptive Immunity			Mouse	0	B	☐	☐	☐	☐	☑	☑
				4966	C						
				408	D						
				4448	E						
Microsurgical Techniques			Rat	0	B	☐	☐	☐	☐	☐	☑
				0	C						
				153	D						
				0	E						
Characterize the role of cytoskeletal disruption in ALS			Mouse	0	B	☐	☐	☐	☐	☑	☑
				2300	C						
				0	D						
				780	E						
Innate Immunity to pathogens and recognition of endogenous danger signals in sterile inflammation			Mouse	0	B	☐	☐	☐	☐	☑	☑
				14262	C						
					D						
				1080	E						
Translational Epigenetics: From Trisomy Silencing in vitro to New Therapeutic Frontiers			Mouse	0	B	☐	☐	☐	☐	☑	☑
				1050	C						
				0	D						
				0	E						
Embryonic origins of endothelial heterogeneity			Zebrafish	0	B	☑	☐	☐	☐	☐	☑
				10500	C						
				9600	D						
				0	E						
Effects of persistent and non-persistent pollutants on the reproductive endocrine system			Mouse	0	B	☐	☐	☐	☐	☑	☑
				4380	C						
				0	D						
				0	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
The Immune Response to Fungi			Mouse	0	B	☐	☐	☐	☐	☑	☐
				1800	C						
				1300	D						
				3000	E						
Effect of the microbiome on tumor progression and treatment response			Mouse	0	B	☐	☐	☐	☐	☑	☑
				0	C						
				12	D						
				0	E						
Molecular Basis of Leukemogenesis			Mouse	0	B	☐	☐	☐	☐	☑	☑
				2540	C						
				230	D						
				3620	E						
Role of Toll-like receptors and related molecules in innate immune signaling during infection and disease			Mouse	0	B	☐	☐	☐	☐	☑	☐
				5639	C						
				3844	D						
				4950	E						
Investigating Mechanisms for Resistance to Plague and the Development of Novel Anti-microbials			Mouse	0	B	☐	☐	☐	☐	☑	☐
				784	C						
				2260	D						
				7160	E						
			Rat	0	B	☐	☐	☐	☐	☑	☐
				20	C						
				40	D						
				60	E						
Evaluating specificity and efficiency of CRISPR-Gold for editing retinal genes in Ai9 mice			Mouse	0	B	☐	☐	☐	☐	☑	☐
				6	C						
				50	D						
				0	E						
Biodistribution and pharmacokinetics of radiolabeled agents in mice			Mouse	0	B	☐	☐	☐	☐	☑	☑
				0	C						
				1320	D						
				0	E						
Immunogenicity and Protection Efficacy of Flu DNA Vaccines			Rabbit	0	B	☐	☐	☐	☐	☑	☐
				0	C						
				57	D						
				0	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
The immunogenicity of HIV-1 envelope glycoprotein (Env)-based vaccines with various designs			Rabbit	0	B	☐	☐	☐	☐	☑	☐
				0	C						
				449	D						
				0	E						
Immunogenicity and innate immune responses of DNA and protein vaccines in mice			Mouse	0	B	☐	☐	☐	☐	☑	☐
				350	C						
				3125	D						
				0	E						
Immunogenicity of DNA vaccines			Rabbit	0	B	☐	☐	☐	☐	☑	☐
				0	C						
				345	D						
				0	E						
			Mouse	0	B	☐	☐	☐	☐	☑	☐
				0	C						
				765	D						
				0	E						
			Guinea pig	0	B	☐	☐	☐	☐	☑	☐
				0	C						
				65	D						
				0	E						
Epigenetic inheritance in mouse model of inflammation			Mouse	0	B	☐	☐	☑	☐	☑	☑
				2070	C						
				0	D						
				1575	E						
Mechanosensory Signaling in Muscle and Tumor Cells			Mouse	0	B	☐	☐	☐	☐	☑	☑
				2616	C						
				112	D						
				0	E						
Bivalent vaccine against Epstein-Barr virus infection using computationally determined viral epitopes			Mouse	0	B	☐	☐	☐	☐	☑	☐
				56	C						
				0	D						
				90	E						
Stem Cells and Immunological Tolerance			Mouse	0	B	☑	☐	☐	☐	☑	☑
				3918	C						
				930	D						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Steatosis, Inflammation and Cancer in the Liver			Mouse	0	B	☑	☐	☑	☐	☑	☐
				12963	C						
				7768	D						
				0	E						
Hh/Gli signaling in organogenesis and tumorigenesis			Mouse	0	B	☐	☐	☐	☐	☑	☐
				4200	C						
				192	D						
				0	E						
Regulation of synaptic plasticity by drugs of abuse in nucleus accumbens medium spiny neurons			Mouse	0	B	☑	☑	☐	☐	☑	☑
				1776	C						
				392	D						
				0	E						
Resuscitation of Warm Ischemia Damaged Livers using Machine Preservation			Rat	0	B	☐	☐	☐	☐	☐	☑
				0	C						
				310	D						
				0	E						
Gene Silencing therapy with siRNA in DCD liver grafts during Liver Machine Preservation			Mouse	0	B	☑	☐	☐	☐	☑	☑
				0	C						
				80	D						
				0	E						
			Rat	0	B	☑	☐	☐	☐	☑	☑
				0	C						
				60	D						
				0	E						
Pathogenicity of Streptococcus pneumoniae and host responses during natural colonization and invasive disease.			Mouse	0	B	☐	☐	☐	☐	☑	☐
				1324	C						
				1212	D						
				1108	E						
Mucosal Inflammation Induced by Pathogens			Mouse	0	B	☐	☐	☐	☐	☑	☐
				6106	C						
				2400	D						
				105	E						
Modulation of MDR1 by enteric pathogens			Mouse	0	B	☐	☐	☑	☐	☑	☐
				4020	C						
				0	D						
				0	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Trafficking and Regulation of Monoamine Transporters			Rat	0	B	☑	☐	☑	☐	☑	☑
				140	C						
				0	D						
				0	E						
			Mouse	0	B	☑	☐	☑	☐	☑	☑
				721	C						
				2152	D						
				0	E						
Transcription Factors and Cell Surface Receptors in Epithelial Development and Cancer			Mouse	0	B	☑	☐	☐	☐	☐	☐
				1918	C						
				904	D						
				0	E						
The mechanism of colon cancer development in hypercholesterolemic mice			Mouse	0	B	☐	☐	☑	☐	☑	☑
				1736	C						
				970	D						
					E						
The effects of type 2 diabetes on wound healing in a mouse model			Mouse	0	B	☑	☐	☐	☐	☑	☑
				4205	C						
				1395	D						
				0	E						
Bone Marrow Derived-Stem Cells in the Treatment of Atherosclerotic Peripheral Arterial Disease in Diabetic and Hypercholesterolemic Mice			Mouse	0	B	☑	☑	☐	☐	☑	☑
				4162	C						
				1638	D						
				0	E						
Role of exercise in the reduction of the incidence and severity of breast cancer in mice			Mouse	0	B	☑	☐	☐	☐	☑	☑
				988	C						
				580	D						
				0	E						
TET1 deficiency in hematopoietic stem cells increases the risk of atherosclerosis in mice			Mouse	0	B	☑	☐	☐	☐	☑	☑
				1840	C						
				40	D						
				0	E						
Improvement of Bioluminescence Imaging in vivo			Mouse	0	B	☑	☐	☐	☐	☑	☐
				65	C						
				422	D						
				25	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Virus-like Particles as Vaccines			Mouse	0	B	☐	☐	☐	☐	☑	☐
				0	C						
				4560	D						
				0	E						
Mouse Model of Pulmonary Emphysema and Fibrosis			Mouse	0	B	☑	☑	☐	☑	☑	☑
				2727	C						
				1324	D						
				0	E						
Gene Therapy for Amyotrophic Lateral Sclerosis			Mouse	0	B	☑	☐	☐	☐	☑	☐
				862	C						
				327	D						
				77	E						
TLR9 regulates Axl dependent migration of autoreactive B cells			Mouse	0	B	☐	☐	☐	☐	☑	☑
				1824	C						
				0	D						
				80	E						
Characterization of autistic animal models			Rat	0	B	☐	☐	☐	☑	☑	☑
				152	C						
				0	D						
				112	E						
Assembly of Motile and Sensory Cilia in Vertebrates			Mouse	0	B	☐	☐	☐	☐	☑	☑
				15582	C						
				120	D						
				0	E						
Photoreceptor metabolism in diseases such as Retinitis Pigmentosa and Age-related Macular degeneration			Mouse	0	B	☐	☐	☐	☐	☑	☑
				5497	C						
				18090	D						
				0	E						
Effects of diet on epigenetic information in sperm			Mouse	0	B	☑	☐	☐	☐	☑	☑
				9118	C						
				170	D						
				280	E						
PROTO201900263 - B cell response at the mucosal interface			Mouse	0	B	☐	☐	☐	☐	☑	☑
				27564	C						
				0	D						
				0	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Immune defenses against Neisseria gonorrhoeae			Mouse	0	B	☐	☐	☐	☐	☑	☐
				10068	C						
				8945	D						
				0	E						
Immunology of Infection with Streptococcus pyogenes			Mouse	0	B	☐	☐	☐	☐	☑	☐
				126	C						
				0	D						
				336	E						
Studying autoimmune skin diseases to identify new treatment options			Mouse	0	B	☐	☐	☐	☐	☑	☐
				7180	C						
				0	D						
				470	E						
Local mRNA Translation and Synaptic Plasticity			Mouse	0	B	☑	☐	☐	☐	☑	☑
				7729	C						
				1502	D						
				200	E						
Voltage-Gated Calcium Channel Studies using Primary Cells			Mouse	0	B	☐	☐	☐	☐	☐	☑
				1000	C						
				0	D						
				0	E						
Specification of Axial Development in Mammals			Mouse	0	B	☑	☐	☐	☐	☑	☐
				12027	C						
				161	D						
				0	E						
			Rat	0	B	☑	☐	☐	☐	☑	☐
				0	C						
				180	D						
				0	E						
UMMS Transgenic Animal Modeling Core (TAMC			Mouse	0	B	☑	☐	☐	☐	☑	☐
				32786	C						
				9945	D						
				0	E						
			Rat	0	B	☑	☐	☐	☐	☑	☐
				1068	C						
				1404	D						
				0	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Analysis of Immune Responses			Mouse	0	B	☑	☑	☐	☐	☑	☑
				36450	C						
				10860	D						
				0	E						
The functional role of Alzheimer's Disease-related genes			Mouse	0	B	☐	☐	☐	☐	☐	☑
				3980	C						
				0	D						
				0	E						
Murine models for the study of systemic autoimmune disease			Mouse	0	B	☑	☐	☐	☐	☑	☑
				7323	C						
				60	D						
				1744	E						
Biodistribution and pharmacokinetics of biomarkers with detection by imaging			Mouse	0	B	☐	☐	☐	☐	☑	☑
				765	C						
				1200	D						
				0	E						
Small Animal Imaging Core Service Animal Protocol: PET/SPECT/CT and Optical Imaging			Mouse	0	B	☐	☐	☐	☐	☑	☑
				0	C						
				1000	D						
				0	E						
			Rat	0	B	☐	☐	☐	☐	☑	☑
				0	C						
				300	D						
				0	E						
Evaluation of intratumor injection dispersal/diffusion			Mouse	0	B	☐	☐	☐	☐	☑	☐
				0	C						
				16	D						
				0	E						
Transcriptional Analysis of Zebrafish Hindbrain Development			Zebrafish	0	B	☐	☐	☐	☐	☑	☐
				2200	C						
				0	D						
				0	E						
Tuberculosis Pathogenesis			Mouse	0	B	☑	☐	☐	☐	☑	☑
				7933	C						
				100	D						
				180	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC NO	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Adaptation to ceramide involves AKT/FOXO regulated novel triglyceride lipases			Mouse	0	B	☐	☐	☑	☐	☑	☑
				1225	C						
				0	D						
				200	E						
Mouse and human endocrine cell proliferation and function			Mouse	0	B	☐	☑	☑	☑	☑	☑
				6912	C						
				280	D						
				0	E						
Molecular-genetic dissection of neural circuitry regulating sleep-wake cycles			Mouse	0	B	☑	☑	☐	☐	☑	☑
				22844	C						
				5044	D						
				1824	E						
Neurophysiology of Sleep-Wake Control			Rat	0	B	☑	☐	☐	☐	☑	☑
				1608	C						
				536	D						
				0	E						
Chemotherapy of hookworm			Hamster	0	B	☐	☐	☐	☐	☑	☐
				5677	C						
				168	D						
				0	E						
Chemotherapy of intestinal nematodes			Mouse	0	B	☑	☐	☐	☐	☑	☐
				7430	C						
				240	D						
				72	E						
Chemotherapy of intestinal nematodes-rat			Rat	0	B	☐	☐	☐	☐	☑	☐
				1200	C						
				0	D						
				0	E						
Evaluation of distribution and efficacy of chemically modified oligonucleotides in large animal brains			Sheep	0	B	☑	☐	☐	☐	☑	☐
				0	C						
				52	D						
				0	E						
			Goat	0	B	☑	☐	☐	☐	☑	☐
				0	C						
				6	D						
				0	E						
An Invivo Approach to Study the Mechanism and Pharmacokinetics of RNA Interference			Mouse	0	B	☑	☐	☐	☐	☑	☑
				1594	C						
				739	D						
				0	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Functions of LIM cofactors during mouse development			Mouse	0	B	☐	☐	☐	☐	☐	☑
				9501	C						
				0	D						
				0	E						
Testing Novel Agents in Wound Repair and Regeneration			Rat	0	B	☑	☐	☐	☐	☐	☐
				0	C						
				24	D						
				0	E						
Pulmonary Immunity to Tuberculosis			Mouse	0	B	☐	☐	☐	☐	☑	☑
				7068	C						
				1400	D						
				0	E						
Studies in T Cell Activation			Mouse	0	B	☐	☐	☐	☐	☑	☑
				27744	C						
				45	D						
				0	E						
MR Signal amplification for receptor imaging			Mouse	0	B	☑	☐	☐	☐	☑	☑
				0	C						
				166	D						
				0	E						
			Rat	0	B	☑	☐	☐	☐	☑	☑
				0	C						
				81	D						
				0	E						
Modeling of Intracranial Aneurysms and Inflammation			Rabbit	0	B	☐	☑	☐	☐	☑	☑
				0	C						
				140	D						
				0	E						
Mucosal Macrophages and Post-Infectious Inflammatory Bowel Disease (IBD)			Mouse	0	B	☐	☐	☐	☐	☑	☑
				3000	C						
				0	D						
				6000	E						
Investigating the effect of mutant ALS-linked proteins on neuronal function to determine biological causes of amyotrophic lateral sclerosis (ALS)			Mouse	0	B	☑	☐	☐	☐	☑	☑
				3082	C						
				0	D						
				1807	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Vaccine Safety Assurance – Toxicity Testing			Guinea pig	0	B						
				1860	C	☐	☐	☐	☐	☑	☐
				0	D						
				0	E						
			Guinea pig	0	B						
				120	C	☐	☐	☐	☐	☑	☐
				0	D						
				0	E						
			Mouse	0	B						
				180	C	☐	☐	☐	☐	☑	☐
				0	D						
				0	E						
			Rabbit	0	B						
				120	C	☐	☐	☐	☐	☑	☐
				0	D						
				0	E						
Td Toxin Level Determination – MLD Assays			Guinea pig	0	B						
				0	C	☐	☐	☐	☐	☑	☐
				0	D						
				540	E						
			Guinea pig	0	B						
				0	C	☐	☐	☐	☐	☑	☐
				0	D						
				18	E						
Therapeutic Drug Studies in Transgenic Mouse Models of Amyotrophic Lateral Sclerosis			Mouse	0	B						
				4611	C	☑	☐	☐	☐	☑	☑
				14420	D						
				2037	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Development of Nucleic Acids Therapeutics in Transgenic Mouse Models of C9ORF72 related Amyotrophic Lateral Sclerosis			Mouse	0	B	☑	☐	☐	☐	☐	☑
				3679	C						
				12870	D						
				0	E						
Studies of Therapeutics for Dysferlinopathy			Mouse	0	B	☐	☐	☐	☐	☐	☑
				532	C						
				2358	D						
				90	E						
Development of Nucleic Acids Therapeutics in Transgenic Mouse Models of C9ORF72 related Amyotrophic Lateral Sclerosis			Mouse	0	B	☑	☐	☐	☐	☐	☑
				0	C						
				1000	D						
				0	E						
Functional and Molecular Studies in Hematopoiesis and Leukemia			Mouse	0	B	☐	☐	☐	☐	☑	☐
				34204	C						
				5748	D						
				0	E						
Human monoclonal antibodies in humanized mice			Mouse	0	B	☐	☐	☐	☐	☑	☑
				320	C						
				0	D						
				0	E						
Administration of Monoclonal Antibodies to Prevent/Treat Gastrointestinal Tract Inflammation or Infection			Mouse	0	B	☑	☐	☐	☐	☐	☐
				3272	C						
				488	D						
				0	E						
Therapeutic efficacy of anti-colonization factor antigen (CFA) and anti-heat labile toxin (LT) antibodies for prevention and treatment of enterotoxigenic E. coli (ETEC)			Mouse	0	B	☐	☐	☐	☐	☑	☐
				1260	C						
				364	D						
				672	E						
Identifying events and genetic regulators of melanoma progression			Zebrafish	0	B	☑	☑	☐	☐	☑	☑
				19860	C						
				12450	D						
				0	E						
Evaluating anti-GDF6 treatment as potential therapy for advanced melanoma			Mouse	0	B	☐	☐	☐	☐	☑	☐
				288	C						
				0	D						
				0	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Characterization and treatment parameters for metabolic disease.			Mouse	0	B						
				3902	C	☑	☐	☑	☐	☑	☑
				15704	D						
				3764	E						
			Rat	0	B						
				1728	C	☑	☐	☑	☐	☑	☑
				0	D						
				0	E						
Signal Transduction in Metabolism and Growth			Mouse	0	B						
				46518	C	☐	☐	☐	☐	☑	☑
				940	D						
				300	E						
Palatability of Oral Antibiotics in Rodents			Mouse	0	B						
				0	C	☐	☐	☑	☐	☐	☐
				80	D						
				0	E						
Final preclinical development of AAV gene therapy for atrial fibrillation			Pig	0	B						
				0	C	☑	☑	☐	☐	☑	☐
				77	D						
				14	E						
Integrative analysis of electrophysiology in the healed myocardial infarction scar			Pig	0	B						
				0	C	☑	☑	☐	☐	☑	☐
				96	D						
				0	E						
Wireless Sensor for Pressure Ulcer Prevention			Rat	0	B						
				0	C	☑	☐	☐	☐	☐	☑
				45	D						
				0	E						
Evaluation of a Post-operative Hybrid Dressing for Skin-Graft Donor Sites in a Pig Model			Pig	0	B						
				0	C	☑	☐	☐	☐	☐	☐
				1	D						
				0	E						
Control of Stem Cell Growth and Differentiation in Tissue Development and Disease			Mouse	0	B						
				644	C	☑	☐	☑	☐	☑	☑
				3198	D						
				144	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
CNS gene therapy for neurodegenerative diseases			Mouse	0	B	☑	☐	☐	☐	☑	☑
				16014	C						
				14702	D						
				0	E						
			Rat	0	B	☑	☐	☐	☐	☑	☑
				0	C						
				106	D						
				0	E						
Feasibility and Safety Study of Delivery Strategies for Oligonucleotides and AAV-mediated CNS Gene Therapy in a Non-human Primate Model			Non-Human primate	0	B	☑	☐	☐	☐	☑	☑
				0	C						
				24	D						
				0	E						
The role of chromatin regulation in stem cell self-renewal			Mouse	0	B	☐	☐	☐	☐	☑	☐
				1858	C						
				0	D						
				0	E						
Receptor-based Drug Models in Bacterial and Viral Pathogenesis			Mouse	0	B	☑	☐	☐	☐	☑	☑
				8295	C						
				0	D						
				19864	E						
Regulation of inflammation in vitro and in vivo.			Mouse	0	B	☐	☐	☐	☐	☑	☑
				17025	C						
				11640	D						
				29406	E						
Targeting molecules that regulate prostate cancer survival in response to ionizing radiation			Mouse	0	B	☐	☐	☐	☐	☑	☑
				60	C						
				60	D						
				0	E						
Modulation of Cardiovascular Disease in Mice			Mouse	0	B	☑	☐	☐	☐	☐	☑
				9165	C						
				2968	D						
				800	E						
Gene Therapy for human alpha-1 antitrypsin-Pi*Z liver disease			Mouse	0	B	☑	☐	☑	☐	☑	☑
				9765	C						
				664	D						
				54	E						

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Gene Therapy for Fatty Acid Oxidation Disorders			Mouse	8640	B	☐	☐	☑	☐	☑	☐
				2048	C						
				0	D						
				1448	E						
Vascular Injury, Repair, and Remodeling: The Role of Platelets and Innate Immunity in Atherothrombosis			Mouse	0	B	☐	☐	☐	☐	☑	☑
				6428	C						
				324	D						
				458	E						
Molecular Organization of CNS Synapses			Mouse	0	B	☐	☐	☐	☐	☑	☑
				6730	C						
				5900	D						
				150	E						
Using helper-free adeno-associated virus (AAV) and self-inactivating lenti virus for gene manipulation in mouse prefrontal cortex, hippocampus, ventral midbrain and nucleus accumbens			Mouse	0	B	☑	☐	☐	☐	☑	☑
				620	C						
				600	D						
				0	E						
Behavioral and biochemical characterization of mouse models of neuropsychiatric disorders			Mouse	0	B	☐	☐	☑	☐	☑	☑
				2508	C						
				688	D						
				2480	E						
Viral vector mediated gene transfer			Mouse	0	B	☑	☐	☐	☐	☑	☑
				14257	C						
				3294	D						
				785	E						
			Rat	0	B	☑	☐	☐	☐	☑	☑
				1070	C						
				0	D						
				0	E						
Animal Models of Frontotemporal Dementia and ALS			Mouse	0	B	☑	☐	☐	☐	☑	☐
				2050	C						
				144	D						
				0	E						
Evaluation of AAV8 and other novel AAV vectors for hepatic F.IX gene transfer in NHPs			Macaque	0	B	☐	☐	☐	☐	☑	☐
				0	C						
				21	D						
				0	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
			Rat	0	B	☑	☑	☐	☐	☑	☑
				0	C						
				80	D						
				0	E						
Brain/CNS transduction of novel AAV capsids in NHPs			Macaque	0	B	☑	☐	☐	☐	☑	☑
				0	C						
				3	D						
				0	E						
Evaluation of novel AAV vectors for retinal gene transfer in NHPs			Non-Human primate	0	B	☐	☐	☐	☐	☑	☐
				0	C						
				16	D						
				0	E						
Transcriptional Landscape of Innate Immune Cells			Mouse	0	B	☐	☐	☐	☐	☐	☑
				320	C						
				0	D						
				0	E						
Innate Immune receptors for protozoan parasites			Mouse	0	B	☐	☐	☐	☐	☑	☐
				6024	C						
				8556	D						
				3436	E						
Study of the influence of acute infection with Plasmodium in development of sepsis			Mouse	0	B	☐	☐	☑	☐	☑	☐
				2576	C						
				0	D						
				1464	E						
Novel therapies for genetic disease			Mouse	0	B	☐	☐	☑	☐	☑	☑
				1324	C						
				0	D						
				0	E						
Biological Link between Gaucher disease and Parkinsonism			Mouse	0	B	☐	☐	☐	☐	☐	☑
				435	C						
				0	D						
				0	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Phagocyte Receptors for Lipid A			Mouse	0	B	☐	☐	☐	☐	☑	☐
				986	C						
				0	D						
				1260	E						
The role of Toll-like receptor signaling in the innate immune response to Plasmodium species.			Mouse	0	B	☐	☐	☐	☐	☑	☐
				7696	C						
				0	D						
				720	E						
Inflammasome activation in Alzheimer's disease			Mouse	0	B	☐	☐	☐	☐	☑	☑
				1336	C						
				0	D						
				278	E						
Training in the Treatment of Cerebral Aneurysm and Arteriovenous Malformation Model in the Pig and Rabbit			Rabbit	0	B	☑	☐	☐	☐	☑	☑
				0	C						
				60	D						
				0	E						
			Pig	0	B	☑	☐	☐	☐	☑	☑
				0	C						
				81	D						
				0	E						
Stroke Treatment in a Large Animal Model			Dog	0	B	☑	☐	☐	☐	☑	☑
				0	C						
				182	D						
				0	E						
Image-Guided Vascular Remodeling for the Treatment of Brain Aneurysms			Rabbit	0	B	☑	☑	☐	☐	☑	☑
				0	C						
				159	D						
				0	E						
			Dog	0	B	☑	☑	☐	☐	☑	☑
				0	C						
				4	D						
				0	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
			Mouse	0	B	☐	☐	☐	☐	☐	☑
				0	C						
				200	D						
				0	E						
Mechanical Revascularization for the Treatment of Embolic Vacular Occlusion in Swine and Rabbit Models			Pig	0	B	☑	☐	☐	☐	☑	☑
					C						
				32	D						
				0	E						
			Rabbit	0	B	☑	☐	☐	☐	☑	☑
				0	C						
				75	D						
				0	E						
Unruptured Intracranial Aneurysms: Rupture-Risk Assessment by Non-Invasive Molecular Imaging			Rabbit	0	B	☑	☐	☐	☐	☑	☐
				0	C						
				79	D						
				0	E						
Image-Guided Endovascular Neurosurgery: High-Resolution Cerebrovascular Imaging			Pig	0	B	☑	☐	☐	☐	☑	☑
				0	C						
				1	D						
				0	E						
			Rabbit	0	B	☑	☐	☐	☐	☑	☑
				0	C						
				48	D						
				0	E						
Mechanical thrombectomy in of vascular occlusions			Pig	0	B	☑	☐	☐	☐	☑	☑
				0	C						
				21	D						
				0	E						
Endovascular CSF Access: Proof-of-Concept Study			Macaque	0	B	☑	☐	☐	☐	☑	☑
				0	C						
				6	D						
				0	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Bone Erosion in Rheumatoid Arthritis (RA) and the Mechanisms of Enthesial and Periosteal Bone Formation in Spondyloarthropathy			Mouse	0	B	☐	☐	☐	☐	☑	☐
				616	C						
				0	D						
				468	E						
Testing of novel therapeutics in large animal models of neurodegenerative disease.			Goat	0	B	☑	☑	☐	☐	☑	☑
				0	C						
				24	D						
				20	E						
			Sheep	0	B	☑	☑	☐	☐	☑	☑
				0	C						
				292	D						
				87	E						
Identifying factors that contribute to breast cancer and rare genetic diseases			Mouse	0	B	☑	☐	☐	☐	☑	☐
				2509	C						
				1180	D						
				0	E						
Identification and validation of putative oncogenes and tumor suppressor genes using genome-wide RNA interference screening combined with tumor formation in nude mice			Mouse	0	B	☐	☐	☐	☐	☑	☐
				660	C						
				0	D						
				0	E						
Factors controlling tumor and metastasis development in mice			Mouse	0	B	☐	☐	☐	☐	☑	☐
				2131	C						
				649	D						
				230	E						
Anatomical and Functional Characterization of Chemosensory Cells			Mouse	0	B	☐	☐	☐	☐	☐	☑
				10796	C						
				0	D						
				0	E						
Rat models of immunity, regeneration, and infection			Rat	0	B	☑	☑	☐	☐	☑	☑
				1500	C						
				6368	D						
				0	E						
Humanized Mouse Core			Mouse	0	B	☑	☐	☐	☐	☑	☑
				22140	C						
				1000	D						
				0	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
In vivo analysis of growth control			Mouse	0	B	☐	☐	☐	☐	☑	☑
				22504	C						
				712	D						
				1488	E						
Optical Imaging and Photodynamic Therapy of Tumor in Mice Model			Mouse	0	B	☐	☐	☐	☐	☑	☑
				0	C						
				800	D						
				0	E						
Determining the factors that contribute to autoimmune skin disease: melanocyte destruction in vitiligo and melanoma, fibrosis in systemic sclerosis (scleroderma) and granuloma formation in sarcoidosis.			Mouse	0	B	☑	☑	☐	☐	☑	☑
				4699	C						
				4462	D						
				48	E						
Rodent Models of ALS and Periodic Paralysis			Mouse	0	B	☐	☐	☐	☐	☑	☑
				36	C						
				1158	D						
				288	E						
Using Sarm knockout to block ischemic and traumatic axonal injury in mouse.			Mouse	0	B	☑	☐	☐	☐	☑	☑
				1474	C						
				216	D						
				0	E						
Trauma brain injury accelerated neurodegeneration			Mouse	0	B	☑	☑	☐	☐	☐	☑
				100	C						
				480	D						
				1340	E						
Small molecules and Molecular machinery controlling nuclear hormone receptors and inflammation			Mouse	0	B	☐	☐	☐	☐	☑	☐
				14710	C						
				0	D						
				1950	E						
			Rat	0	B	☐	☐	☐	☐	☑	☐
				48	C						
				0	D						
				0	E						
Analysis of the effects of TCR/MHC + peptide affinity and specificity on T cell development and immune responses			Mouse	0	B	☐	☐	☐	☐	☑	☑
				16248	C						
				0	D						
				0	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Chromatin Remodeling Factors in Development and Differentiation			Mouse	0	B	☐	☐	☐	☐	☐	☑
				576	C						
				0	D						
				0	E						
Conditional Gene Targeting Studies of Inflammation in Mice			Mouse	0	B	☐	☐	☐	☐	☑	☑
				8696	C						
				4378	D						
				6	E						
Collection of Syphacia pinworms from privately-owned pet mice and rats for decontamination experiments			Mouse	0	B	☐	☐	☐	☐	☑	☐
				30	C						
				0	D						
				0	E						
			Rat	0	B	☐	☐	☐	☐	☑	☐
				30	C						
				0	D						
				0	E						
Glioma tumor formation and hydrocephalus in the brain			Mouse	0	B	☑	☑	☐	☐	☑	☑
				300	C						
				360	D						
				0	E						
Ethanol Consumption and the Development of Idiopathic Normal Pressure Hydrocephalus			Mouse	0	B	☐	☐	☐	☐	☐	☑
				360	C						
				0	D						
				0	E						
Molecular Basis of T Cell Lineage Commitment			Mouse	0	B	☐	☐	☐	☐	☑	☑
				6432	C						
				600	D						
				0	E						
Costimulatory Regulation of T cell Activation			Mouse	0	B	☐	☐	☐	☐	☑	☑
				4242	C						
				120	D						
				0	E						
The role of Ripk1 in TNF signal transduction and Mechanism(s) of Tal1/scl-mediated Leukemogenesis			Mouse	0	B	☑	☐	☐	☐	☑	☑
				4191	C						
				204	D						
				942	E						

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
			Zebrafish	0	B						
				1806	C	☑	☐	☐	☐	☑	☑
				200	D						
				0	E						
Development of RNAi-based therapeutics			Mouse	0	B						
				2158	C	☑	☐	☐	☐	☑	☑
				2567	D						
				775	E						
			Rat	0	B						
				2158	C	☑	☐	☐	☐	☑	☑
				2354	D						
				0	E						
Evaluation of distribution, efficacy, and safety of chemically modified oligonucleotides in a non-human primate model.			Non-Human primate	0	B						
					C	☐	☑	☑	☐	☑	☑
				36	D						
				0	E						
UMass Mouse Phenotyping Center			Mouse	0	B						
				5100	C	☑	☑	☑	☑	☑	☑
				100	D						
				5800	E						
Examining the effects of perturbing toxic metabolite pathways on the growth of cancer cells in xenograft tumors			Mouse	0	B						
				0	C	☑	☐	☐	☐	☑	☐
				506	D						
				0	E						
Conjugated nanoparticles and Prodigiosin Drug for Specific Targeting and localized Drug Delivery for Tumor Shrinkage (Treatment) of Early, Mid Stage and late Stage Xenograft Tumor of Triple Negative Breast			Mouse	0	B						
				210	C	☐	☐	☐	☐	☑	☑
				0	D						
				0	E						
Fluorescent Imaging of Cardiac Efflux			Guinea pig	0	B						
				0	C	☐	☐	☐	☐	☐	☑
				180	D						
				0	E						
			Rat	0	B						
				0	C	☐	☐	☐	☐	☐	☑
				150	D						
				0	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Diabetes susceptibility to Tuberculosis			Mouse	0	B	☑	☐	☐	☐	☑	☐
				2644	C						
				352	D						
				0	E						
Determinants of Tuberculosis Severity			Mouse	0	B	☑	☐	☐	☐	☑	☐
				2666	C						
				144	D						
				0	E						
Pattern Recognition Receptors in Innate and Adaptive Immunity			Mouse	0	B	☐	☐	☐	☐	☑	☑
				4966	C						
				408	D						
				4448	E						
Microsurgical Techniques			Rat	0	B	☐	☐	☐	☐	☐	☑
				0	C						
				153	D						
				0	E						
Characterize the role of cytoskeletal disruption in ALS			Mouse	0	B	☐	☐	☐	☐	☑	☑
				2300	C						
				0	D						
				780	E						
Innate Immunity to pathogens and recognition of endogenous danger signals in sterile inflammation			Mouse	0	B	☐	☐	☐	☐	☑	☑
				14262	C						
					D						
				1080	E						
Translational Epigenetics: From Trisomy Silencing in vitro to New Therapeutic Frontiers			Mouse	0	B	☐	☐	☐	☐	☑	☑
				1050	C						
				0	D						
				0	E						
Embryonic origins of endothelial heterogeneity			Zebrafish	0	B	☑	☐	☐	☐	☐	☑
				10500	C						
				9600	D						
				0	E						
Effects of persistent and non-persistent pollutants on the reproductive endocrine system			Mouse	0	B	☐	☐	☐	☐	☑	☑
				4380	C						
				0	D						
				0	E						

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
The Immune Response to Fungi			Mouse	0	B	☐	☐	☐	☐	☑	☐
				1800	C						
				1300	D						
				3000	E						
Effect of the microbiome on tumor progression and treatment response			Mouse	0	B	☐	☐	☐	☐	☑	☑
				0	C						
				12	D						
				0	E						
Molecular Basis of Leukemogenesis			Mouse	0	B	☐	☐	☐	☐	☑	☑
				2540	C						
				230	D						
				3620	E						
Role of Toll-like receptors and related molecules in innate immune signaling during infection and disease			Mouse	0	B	☐	☐	☐	☐	☑	☐
				5639	C						
				3844	D						
				4950	E						
Investigating Mechanisms for Resistance to Plague and the Development of Novel Anti-microbials			Mouse	0	B	☐	☐	☐	☐	☑	☐
				784	C						
				2260	D						
				7160	E						
			Rat	0	B	☐	☐	☐	☐	☑	☐
				20	C						
				40	D						
				60	E						
Evaluating specificity and efficiency of CRISPR-Gold for editing retinal genes in Ai9 mice			Mouse	0	B	☐	☐	☐	☐	☑	☐
				6	C						
				50	D						
				0	E						
Biodistribution and pharmacokinetics of radiolabeled agents in mice			Mouse	0	B	☐	☐	☐	☐	☑	☑
				0	C						
				1320	D						
				0	E						
Immunogenicity and Protection Efficacy of Flu DNA Vaccines			Rabbit	0	B	☐	☐	☐	☐	☑	☐
				0	C						
				57	D						
				0	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
The immunogenicity of HIV-1 envelope glycoprotein (Env)-based vaccines with various designs			Rabbit	0	B	☐	☐	☐	☐	☑	☐
				0	C						
				449	D						
				0	E						
Immunogenicity and innate immune responses of DNA and protein vaccines in mice			Mouse	0	B	☐	☐	☐	☐	☑	☐
				350	C						
				3125	D						
				0	E						
Immunogenicity of DNA vaccines			Rabbit	0	B	☐	☐	☐	☐	☑	☐
				0	C						
				345	D						
				0	E						
			Mouse	0	B	☐	☐	☐	☐	☑	☐
				0	C						
				765	D						
				0	E						
			Guinea pig	0	B	☐	☐	☐	☐	☑	☐
				0	C						
				65	D						
				0	E						
Epigenetic inheritance in mouse model of inflammation			Mouse	0	B	☐	☐	☑	☐	☑	☑
				2070	C						
				0	D						
				1575	E						
Mechanosensory Signaling in Muscle and Tumor Cells			Mouse	0	B	☐	☐	☐	☐	☑	☑
				2616	C						
				112	D						
				0	E						
Bivalent vaccine against Epstein-Barr virus infection using computationally determined viral epitopes			Mouse	0	B	☐	☐	☐	☐	☑	☐
				56	C						
				0	D						
				90	E						
Stem Cells and Immunological Tolerance			Mouse	0	B	☑	☐	☐	☐	☑	☑
				3918	C						
				930	D						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Steatosis, Inflammation and Cancer in the Liver			Mouse	0	B	☑	☐	☑	☐	☑	☐
				12963	C						
				7768	D						
				0	E						
Hh/Gli signaling in organogenesis and tumorigenesis			Mouse	0	B	☐	☐	☐	☐	☑	☐
				4200	C						
				192	D						
				0	E						
Regulation of synaptic plasticity by drugs of abuse in nucleus accumbens medium spiny neurons			Mouse	0	B	☑	☑	☐	☐	☑	☑
				1776	C						
				392	D						
				0	E						
Resuscitation of Warm Ischemia Damaged Livers using Machine Preservation			Rat	0	B	☐	☐	☐	☐	☐	☑
				0	C						
				310	D						
				0	E						
Gene Silencing therapy with siRNA in DCD liver grafts during Liver Machine Preservation			Mouse	0	B	☑	☐	☐	☐	☑	☑
				0	C						
				80	D						
				0	E						
			Rat	0	B	☑	☐	☐	☐	☑	☑
				0	C						
				60	D						
				0	E						
Pathogenicity of Streptococcus pneumoniae and host responses during natural colonization and invasive disease.			Mouse	0	B	☐	☐	☐	☐	☑	☐
				1324	C						
				1212	D						
				1108	E						
Mucosal Inflammation Induced by Pathogens			Mouse	0	B	☐	☐	☐	☐	☑	☐
				6106	C						
				2400	D						
				105	E						
Modulation of MDR1 by enteric pathogens			Mouse	0	B	☐	☐	☑	☐	☑	☐
				4020	C						
				0	D						
				0	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Trafficking and Regulation of Monoamine Transporters			Rat	0	B						
				140	C	☑	☐	☑	☐	☑	☑
				0	D						
				0	E						
			Mouse	0	B						
				721	C	☑	☐	☑	☐	☑	☑
				2152	D						
				0	E						
Transcription Factors and Cell Surface Receptors in Epithelial Development and Cancer			Mouse	0	B						
				1918	C	☑	☐	☐	☐	☐	☐
				904	D						
				0	E						
The mechanism of colon cancer development in hypercholesterolemic mice			Mouse	0	B						
				1736	C	☐	☐	☑	☐	☑	☑
				970	D						
					E						
The effects of type 2 diabetes on wound healing in a mouse model			Mouse	0	B						
				4205	C	☑	☐	☐	☐	☑	☑
				1395	D						
				0	E						
Bone Marrow Derived-Stem Cells in the Treatment of Atherosclerotic Peripheral Arterial Disease in Diabetic and Hypercholesterolemic Mice			Mouse	0	B						
				4162	C	☑	☑	☐	☐	☑	☑
				1638	D						
				0	E						
Role of exercise in the reduction of the incidence and severity of breast cancer in mice			Mouse	0	B						
				988	C	☑	☐	☐	☐	☑	☑
				580	D						
				0	E						
TET1 deficiency in hematopoietic stem cells increases the risk of atherosclerosis in mice			Mouse	0	B						
				1840	C	☑	☐	☐	☐	☑	☑
				40	D						
				0	E						
Improvement of Bioluminescence Imaging in vivo			Mouse	0	B						
				65	C	☑	☐	☐	☐	☑	☐
				422	D						
				25	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Virus-like Particles as Vaccines			Mouse	0	B	☐	☐	☐	☐	☑	☐
				0	C						
				4560	D						
				0	E						
Mouse Model of Pulmonary Emphysema and Fibrosis			Mouse	0	B	☑	☑	☐	☑	☑	☑
				2727	C						
				1324	D						
				0	E						
Gene Therapy for Amyotrophic Lateral Sclerosis			Mouse	0	B	☑	☐	☐	☐	☑	☐
				862	C						
				327	D						
				77	E						
TLR9 regulates Axl dependent migration of autoreactive B cells			Mouse	0	B	☐	☐	☐	☐	☑	☑
				1824	C						
				0	D						
				80	E						
Characterization of autistic animal models			Rat	0	B	☐	☐	☐	☑	☑	☑
				152	C						
				0	D						
				112	E						
Assembly of Motile and Sensory Cilia in Vertebrates			Mouse	0	B	☐	☐	☐	☐	☑	☑
				15582	C						
				120	D						
				0	E						
Photoreceptor metabolism in diseases such as Retinitis Pigmentosa and Age-related Macular degeneration			Mouse	0	B	☐	☐	☐	☐	☑	☑
				5497	C						
				18090	D						
				0	E						
Effects of diet on epigenetic information in sperm			Mouse	0	B	☑	☐	☐	☐	☑	☑
				9118	C						
				170	D						
				280	E						
PROTO201900263 - B cell response at the mucosal interface			Mouse	0	B	☐	☐	☐	☐	☑	☑
				27564	C						
				0	D						
				0	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Immune defenses against Neisseria gonorrhoeae			Mouse	0	B	☐	☐	☐	☐	☑	☐
				10068	C						
				8945	D						
				0	E						
Immunology of Infection with Streptococcus pyogenes			Mouse	0	B	☐	☐	☐	☐	☑	☐
				126	C						
				0	D						
				336	E						
Studying autoimmune skin diseases to identify new treatment options			Mouse	0	B	☐	☐	☐	☐	☑	☐
				7180	C						
				0	D						
				470	E						
Local mRNA Translation and Synaptic Plasticity			Mouse	0	B	☑	☐	☐	☐	☑	☑
				7729	C						
				1502	D						
				200	E						
Voltage-Gated Calcium Channel Studies using Primary Cells			Mouse	0	B	☐	☐	☐	☐	☐	☑
				1000	C						
				0	D						
				0	E						
Specification of Axial Development in Mammals			Mouse	0	B	☑	☐	☐	☐	☑	☐
				12027	C						
				161	D						
				0	E						
			Rat	0	B	☑	☐	☐	☐	☑	☐
				0	C						
				180	D						
				0	E						
UMMS Transgenic Animal Modeling Core (TAMC			Mouse	0	B	☑	☐	☐	☐	☑	☐
				32786	C						
				9945	D						
				0	E						
			Rat	0	B	☑	☐	☐	☐	☑	☐
				1068	C						
				1404	D						
				0	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Analysis of Immune Responses			Mouse	0	B	☑	☑	☐	☐	☑	☑
				36450	C						
				10860	D						
				0	E						
The functional role of Alzheimer's Disease-related genes			Mouse	0	B	☐	☐	☐	☐	☐	☑
				3980	C						
				0	D						
				0	E						
Murine models for the study of systemic autoimmune disease			Mouse	0	B	☑	☐	☐	☐	☑	☑
				7323	C						
				60	D						
				1744	E						
Biodistribution and pharmacokinetics of biomarkers with detection by imaging			Mouse	0	B	☐	☐	☐	☐	☑	☑
				765	C						
				1200	D						
				0	E						
Small Animal Imaging Core Service Animal Protocol: PET/SPECT/CT and Optical Imaging			Mouse	0	B	☐	☐	☐	☐	☑	☑
				0	C						
				1000	D						
				0	E						
			Rat	0	B	☐	☐	☐	☐	☑	☑
				0	C						
				300	D						
				0	E						
Evaluation of intratumor injection dispersal/diffusion			Mouse	0	B	☐	☐	☐	☐	☑	☐
				0	C						
				16	D						
				0	E						
Transcriptional Analysis of Zebrafish Hindbrain Development			Zebrafish	0	B	☐	☐	☐	☐	☑	☐
				2200	C						
				0	D						
				0	E						
Tuberculosis Pathogenesis			Mouse	0	B	☑	☐	☐	☐	☑	☑
				7933	C						
				100	D						
				180	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Tuberculosis Pathogenesis			Mouse	0	B	☐	☐	☐	☐	☑	☐
				348	C						
				20	D						
				0	E						
Neuron-glia interactions regulating nervous system development and plasticity			Mouse	0	B	☑	☑	☐	☑	☑	☑
				5814	C						
				6726	D						
				546	E						
			Rat	0	B	☑	☑	☐	☑	☑	☑
				648	C						
				0	D						
				0	E						
Regulation of B cell function			Mouse	0	B	☐	☐	☐	☑	☑	☑
				1800	C						
				0	D						
				0	E						
DNA breaks in B lymphocytes			Mouse	0	B	☑	☐	☐	☐	☑	☑
				1372	C						
				0	D						
				0	E						
Immunology of Virus Infections			Mouse	0	B	☐	☐	☐	☐	☑	☑
				4700	C						
				0	D						
				300	E						
Mechanisms of Breast Cancer Metastasis			Mouse	0	B	☐	☐	☐	☐	☑	☑
				2340	C						
				5918	D						
				0	E						
Departmental Procedure for the Adoption of Animals from the Facility			Dog	0	B	☑	☐	☐	☐	☐	☐
				0	C						
				20	D						
				0	E						
			Cat	0	B	☑	☐	☐	☐	☐	☐
				0	C						
				20	D						
				0	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Departmental Procedure for the Adoption of Animals from the Facility			Sheep	0	B						
				0	C	☑	☐	☐	☐	☐	☐
				20	D						
				0	E						
			Goat	0	B						
				0	C	☑	☐	☐	☐	☐	☐
				20	D						
				0	E						
			Macaque	0	B						
				0	C	☑	☐	☐	☐	☐	☐
				20	D						
				0	E						
			Mouse	0	B						
				0	C	☑	☐	☐	☐	☐	☐
				20	D						
				0	E						
			Rat	0	B						
				0	C	☑	☐	☐	☐	☐	☐
				20	D						
				0	E						
			Rabbit	0	B						
				0	C	☑	☐	☐	☐	☐	☐
				14	D						
				0	E						
			Hamster	0	B						
				0	C	☑	☐	☐	☐	☐	☐
				20	D						
				0	E						
			Guinea pig	0	B						
				0	C	☑	☐	☐	☐	☐	☐
				50	D						
				0	E						
			Frog	0	B						
				28	C						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Evaluation of tail maturation for distal tail biopsy methodology in male and female rat pups.			Rat	0	B	☐	☐	☐	☐	☑	☑
				17	C						
				48	D						
				0	E						
Understanding key regulators in skeletal homeostasis and development			Mouse	0	B	☑	☐	☐	☐	☑	☑
				6602	C						
				3233	D						
				1782	E						
Preclinical evaluation of targeted therapies for neuroblastoma			Mouse	0	B	☑	☐	☐	☐	☑	☑
				100	C						
				948	D						
				0	E						
Innate Immune receptors and transport proteins for Leishmania parasites and bacterial cell wall components			Mouse	0	B	☐	☐	☐	☐	☑	☐
				1292	C						
				180	D						
				8772	E						
			Hamster	0	B	☐	☐	☐	☐	☑	☐
				36	C						
				0	D						
				0	E						
Flow Cytometric Analysis of Erythropoiesis			Mouse	0	B	☐	☐	☐	☐	☑	☐
				4974	C						
				150	D						
				0	E						
Synthetic bone grafts expediting the repair of skeletal defects			Mouse	0	B	☑	☐	☑	☐	☑	☑
				462	C						
				3075	D						
				0	E						
			Rat	0	B	☑	☐	☑	☐	☑	☑
				10	C						
				1244	D						
				0	E						
Live small animal imaging using Scanco VivaCT75 scanner			Rat	0	B	☐	☐	☐	☐	☑	☑
				0	C						
				500	D						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Implant surface modification strategies against periprosthetic infections			Mouse	0	B	☑	☐	☐	☐	☑	☑
				0	C						
				370	D						
				380	E						
			Rat	0	B	☑	☐	☐	☐	☑	☑
				0	C						
				370	D						
				380	E						
Biodegradable synthetic materials for regenerative medicine applications			Mouse	0	B	☐	☐	☐	☐	☑	☑
				0	C						
				397	D						
				0	E						
Antigen Presentation and T Cell Recognition of MHC Proteins			Mouse	0	B	☐	☐	☐	☐	☑	☑
				4620	C						
				2348	D						
				0	E						
Leukemogenic and developmental roles for t(1;22)-associated gene products			Mouse	0	B	☐	☐	☐	☐	☑	☑
				2564	C						
				0	D						
				0	E						
The Immune Response of T Cells			Mouse	0	B	☑	☐	☐	☐	☑	☑
				7702	C						
				4620	D						
				1800	E						
Fatty liver, alcohol and hepatotoxicity			Mouse	0	B	☑	☐	☑	☐	☑	☑
				53826	C						
				17787	D						
				0	E						
Immunomodulation in Hepatocellular Carcinoma			Mouse	0	B	☐	☐	☐	☐	☐	☑
				592	C						
				0	D						
				0	E						
Animal model for HCV - human liver tissue/hepatocytes infected by HCV in chimeric mice			Mouse	0	B	☑	☐	☐	☐	☑	☑
				0	C						
				1154	D						
				700	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
The Role of the Reward and Withdrawal Pathways of Mouse Brains in Drug Addiction, Self-Administration, and Withdrawal			Mouse	0	B	☐	☑	☑	☐	☑	☑
				6468	C						
				6106	D						
				3540	E						
Regulation of cardiac development by chromatin modifying enzymes			Mouse	0	B	☐	☐	☐	☐	☑	☑
				4770	C						
				0	D						
				0	E						
PPARs and co-regulators in energy metabolism			Mouse	0	B	☑	☐	☐	☐	☑	☑
				4535	C						
				400	D						
				520	E						
Monoclonal Antibody Development			Mouse	0	B	☐	☐	☐	☐	☑	☑
				990	C						
				0	D						
				0	E						
Immunogenicity of novel DNA and subunit-based vaccines against HIV			Rabbit	0	B	☐	☐	☐	☐	☑	☐
				265	C						
				0	D						
				0	E						
			Mouse	0	B	☐	☐	☐	☐	☑	☐
				480	C						
				0	D						
				0	E						
Animal Models of Virus-Induced Diabetes			Rat	0	B	☐	☐	☐	☐	☑	☐
				216	C						
				726	D						
				591	E						
Development of RNA-based therapeutics			Mouse	0	B	☐	☑	☐	☐	☐	☑
				15000	C						
				10500	D						
				300	E						
			Rat	0	B	☐	☑	☐	☐	☐	☑
				400	C						
				0	D						
				0	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Maintenance and Investigation of ATX2-deficient mice			Mouse	0	B	☐	☐	☐	☐	☐	☑
				212	C						
				680	D						
				0	E						
Generation and Validation of a Tissue-specific Circadian Reporter Mouse			Mouse	0	B	☑	☐	☐	☐	☑	☑
				1157	C						
				87	D						
				0	E						
Flagellar Motility and Assembly			Mouse	0	B	☐	☐	☐	☐	☐	☑
				830	C						
				80	D						
				0	E						
Novel programmable nuclease architectures for reverse genetic approaches in zebrafish			Zebrafish	0	B	☑	☐	☐	☐	☐	☑
				1440	C						
				10000	D						
				0	E						
Production of Human/Mouse Xenochimeras			Mouse	0	B	☐	☐	☐	☐	☑	☐
				870	C						
				0	D						
				0	E						
Transgenic mouse models for neurodegenerative diseases			Mouse	0	B	☐	☐	☐	☐	☐	☑
				1700	C						
				300	D						
				150	E						
Developing models and treatment of amyotrophic lateral sclerosis			Mouse	644	B	☐	☐	☐	☐	☐	☑
				149	C						
				110	D						
				713	E						
Identification and validation of cancer genes using mouse models			Mouse	0	B	☐	☐	☑	☐	☑	☑
				2600	C						
				700	D						
				100	E						
Rat models of diabetes and related complications			Rat	0	B	☐	☑	☐	☐	☑	☑
				1500	C						
				6296	D						
				0	E						

Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	Species	# Animals Approved	Pain & Distress Category 1	Special Considerations					
						SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
			Rat	0	B	☐	☐	☐	☐	☑	☑
				15	C						
				0	D						
				0	E						
Tumorigenic Potential of Genetically Manipulated Mice			Mouse	0	B	☐	☐	☑	☐	☑	☑
				3920	C						
				150	D						
				0	E						
Molecular Genetic studies of senescence in tumor suppression and aging			Mouse	0	B	☐	☐	☐	☐	☑	☑
				6220	C						
				450	D						
				0	E						
Integration of radiosensitization and anti-STAT3 nanotechnologies for treatment of head and neck cancer			Mouse	0	B	☑	☐	☐	☐	☑	☑
				0	C						
				130	D						
				0	E						
Ca2+ signaling, ion channels and G-protein coupled receptors			Mouse	0	B	☐	☐	☐	☑	☑	☑
				3450	C						
				177	D						
				0	E						
			Guinea pig	0	B	☐	☐	☐	☑	☑	☑
				80	C						
				0	D						
				0	E						
			Rat	0	B	☐	☐	☐	☑	☑	☑
				80	C						
				0	D						
				0	E						

(1) If applicable, please provide a description / definition of any pain/distress classification used within this Appendix in the space below. If pain/distress categories are not used, leave blank.
(2) Survival Surgery (SS)
(3) Multiple Survival Surgery (MSS)
(4) Food or Fluid Regulation (FFR)
(5) Prolonged Restraint (PR)
(6) Hazardous Agent Use (HAU)