	IACUC NO			# Animals	Pain & Distress		Spe	cial Cons	A CONTRACTOR OF THE PARTY OF TH		
Protocol Title		Principal Investigator	Species	Approved	Category 1	SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Adaptation to ceramide involves AKT/FOXO regulate	<u> </u>		Mouse	0	В						
novel triglyceride lipases				1225	C	H	H	~	H	¥	<b>v</b>
1				200	D E						V
	_			0	В	_			_		
Mouse and human endocrine cell proliferation and			Mouse	6912	c	ф	•	~	•	•	
function			_	280	D	T	Ť			Ť	Γ.
				0	E						V
Molecular-genetic dissection of neural circuitry			Mouse	0	В					1	•
regulating sleep-wake cycles			-	22844	С —	•	V	中	ф	¥	<b>v</b> .
- I see a				5044	D						
				1824	E						
Neurophysiology of Sleep-Wake Control			Rat	0	В					1	
Neurophysiology of Sleep-Wake Control			-	1608	C	_ <b>•</b>	Ф	П	Ф	V	~
				536	D E	_					
4				0	В					-	Z
Chemotherapy of hookworm		Hamster			C	ф	Ĥ	ф	ф	4	
				5677 168	D	- +		T	T	Ť	
				0	E						
			Mouse	0	В						
Chemotherapy of intestinal nematodes			Wiouse	7430	СС	•	ф	ф	ф	V	
			240	D							
				72	E						
Classification of the state of		kungit kanal Ata-Aphilana a menadigi at a Chilanak, dari sengangan dari berama-etak	Rat	0	В						
Chemotherapy of intestinal nematodes-rat			-	1200	СС		ф	中	ф	¥	
				0	D						
		Section 1		0	E						
Evaluation of distribution and efficacy of chemically			Sheep	0	В		+	4	H		
modified oligonucleotides in large animal brains				0	С	_	Ш	Щ	Щ	V	H
				52	D						
		Goat			E						
					В		1		4	L	
				0	С	_	Ш	Щ	Щ	•	H
			6	D	_						
			0	Е							
An Invivo Approach to Study the Mechanism and	n and	Mouse	0	В		- I	200				
Pharmacokinetics of RNA Interference		Iviouse		1594	CC	<u> </u>	Ф	中	Ф	V	~
			739	D							
				0	E						

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Protocol Title	IACUC No	Principal Investigator		# Animals	Pain & Distress		Spe	ecial Cons	ideratio	ns	
			Species	Approved	Category 1	SS 2	MSS 3		PR 5		NCA T
Functions of LIM cofactors during mouse development			Mouse	0	В						
				9501	С						~
				0	D						
	nd Rat 0 B	E						-			
Testing Novel Agents in Wound Repair and			Rat	0	В						
Regeneration					С	<b>✓</b>					
				24	D						
Dec. 12				0	E						
Pulmonary Immunity to Tuberculosis			Mouse	0	В						
				7068	С					~	<b>✓</b>
				1400	D		-			•	•
				0	Е						
Studies in T Cell Activation			Mouse	0	В						
			Modse	27744	C					_	
				45	D					•	~
				0	E						
MR Signal amplification for receptor imaging			Mouse	0	В						
				0	С	~				•	<b>✓</b>
				166	D						
				0	E						
			Rat	0	В						
				0	С						200
				81		<b>✓</b>				<b>✓</b>	<b>✓</b>
					D						
Andalian of later with				0	Е						
Modeling of Intracranial Aneurysms and Inflammation			Rabbit	0	В	100					
				0	С		<b>✓</b>			<b>✓</b>	•
				140	D						
Assert March 1				0	E						
Aucosal Macrophages and Post-Infectious  of Inflammatory Bowel Disease (IBD)			Mouse	0	В						
manimatory bower disease (IBD)			6	3000	С					✓	•
				0	D						
				6000	E						
ivestigating the effect of mutant ALS-linked proteins			Mouse	0	В						
n neuronal function to determine biological causes			3	3082	С	~					
f amyotrophic lateral				0	D					~	•
:lerosis (ALS)				1807							
				1007	E						

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				# Animals	Pain & Distress			cial Cons			
Protocol Title	IACUC No	Principal Investigator	Species	Approved		SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Vaccine Safety Assurance – Toxicity Testing			Guinea pig	0	В					·	
Tradeline barety rissardines Toxicity resting				1860	С					<b>✓</b>	
				0	D						
				0	E						
			Guinea pig	0	В						
				120	С				[]	V	
				0	D		_	_			
				0	E						
			Mouse	0	В						
				180	С					<b>✓</b>	
				0	D	1 -					
			Í	0	E				ĺ		
			Rabbit	0	В		ĺ			ĺ	
			1.00010	120	c		[]			•	
				0	D		E,l			~	
				0	Ε	.					
Td Toxin Level Determination – MLD Assays			Guinea pig	0	В						
To Toxiii Level Determinadori - MLD Assays				0	С					<b>✓</b>	
				0	Ð			_			
			Î	540	E					٠	
			Guinea pig	0	В						
				0	С					<b>✓</b>	
				0	D				1==.7		
				18	E					1	
Therapeutic Drug Studies in Transgenic Mouse			Mouse	0	B			i			
Models of Amyotrophic Lateral Sclerosis				4611	С	✓				✓	✓
, ,				14420	D						_
				2037	Ε						
								-		ļ	
							1				
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Appendix 5: Animal Usage 000343

Protocol Title	IACUC No	Principal Investigator	G'	# Animals	Pain & Distress		<del></del>	ecial Cons	sideratio	ns	
	IACOC NO	Principal Investigator	Species	Approved	Category 1	SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA
Development of Nucleic Acids Therapeutics in Transgenic Mouse Models of C9ORF72 related			Mouse	0	В						
Amyotrophic Lateral Sclerosis				3679	C	<b>V</b>					<b>✓</b>
Any otrophic tateral Scienosis				12870	D						
				0	E	L	_[	<u> </u>			
Studies of Therapeutics for Dysferlinopathy			Mouse	0	В	Ï					
	1			532	c					ן ביו	~
				2358	D			ĺ			
				90	E	İ	İ				
Development of Nucleic Acids Therapeutics in			Mouse		В				_	_	
Transgenic Mouse Models of C9ORF72 related				0	C	<b>✓</b>					<b>✓</b>
Amyotrophic Lateral Sclerosis				1000	D	يت ا			11		~
				0	E						
Functional and Molecular Studies in Hematopoiesis			Mouse	0	B			· ·			
and Leukemia			iviouse	34204	C		_		, , , i		
				5748	D			L.J	إ ئــا	✓	
				0	<u>-</u>		ĺĺ			İ	
Human monoclonal antibodies in humanized mice			Mouse	0	В					-	
			Modse	320							
			i	0	D					<b>✓</b>	✓
				0	E				1		
Administration of Monoclonal Antibodies to			Mouse	<del>j</del>	В					_	
Prevent/Treat Gastrointestinal Tract Inflammation or			Mouse	3272	C	}					
Infection				488		<b>✓</b>					니
						ļ	ļ			ļ	
The second of th		· · · · · · · · · · · · · · · · · · ·		0	Е						
Therapeutic efficacy of anti-colonization factor antigen (CFA) and anti-heat labile toxin (LT)			Mouse	0	В	[					
entibodies for prevention and treatment of				1260	C					~	
enterotoxigenic E. coli (ETEC)				364	D	İ	İ				 
				672	E						
dentifying events and genetic regulators of	ſ		Zebrafish	0	B						
melanoma progression				19860	C	✓	<b>&gt;</b>			•	<b>✓</b>
				12450	D						رين
				0	E	ļ			J		
valuating anti-GDF6 treatment as potential therapy			Mouse	0	В	_				<del></del> +	
or advanced melanoma			IMOUSE	<del></del>					_		
,						<b>✓</b>					
					D		1	}			
				0	E	ļ	!		1	ļ	

Protocol Title	TACHE NE	Dein singl Y		# Animals	Pain & Distress			cial Cons	ideratio		
	IACUC No	Principal Investigator	Species	Approved		SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Characterization and treatment parameters for			Mouse	. 0	В						
metabolic disease.				3902	С	<b>✓</b>		•		~	<b>✓</b>
				15704	D	1,500					
				3764	E						
			Rat	0	В						
				1728	С	✓		•		<b>✓</b>	<b>✓</b>
				0	D						•
				0	Е						
Signal Transduction in Metabolism and Growth			Mouse	0	В						
659 Windowski ospodenia Applicational (2003 - In distribution for the control of				46518	С					<b>✓</b>	<b>✓</b>
				940	D						•
				300	E						
Palatability of Oral Antibiotics in Rodents			Maria	0	В						
radiability of oral Antibiotics in Rodelits			Mouse	0	C						
				80	D			•			
			Name of the last o	0	E						
Final preclinical development of AAV gene therapy for			Pig	0	В						
atrial fibrillation			l 'g	0	С	<b>✓</b>	•				
<i>*</i>				77	D	•	•			<b>✓</b>	
				14	Е						
Integrative analysis of electrophysiology in the healed			Pig	0	В				-		
myocardial			1.9	0	С	~	~			•	П
infarction scar	1			96	D						
				0	Е						
Wireless Sensor for Pressure Ulcer Prevention			Dat	0	В	-			-		
Whereas Sensor for Pressure Order Prevention			Rat	0	C						_
				45	D	<b>✓</b>					<b>✓</b>
				0	E						
Evaluation of a Post-operative Hybrid Dressing for			D'	0	В						
Skin-Graft Donor Sites in a Pig Model			Pig	0	С						
own state serior sites in a riig Wodel				1	D	•					Ш
			Name of the last o								
				0	`E						
Control of Stem Cell Growth and Differentiation in			Mouse	0	В						
Tissue Development and Disease				644	С	<b>✓</b>		✓		<b>✓</b>	<b>✓</b>
				3198	D						
				144	E						

Mouse	Protocol Title	IACUC No	Dein eine I T		# Animals	Pain & Distress			cial Cons			
16014		TACUC NO	Principal Investigator	Species			SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Rat	CNS gene therapy for neurodegenerative diseases			Mouse			-					
Rat							~				~	<b>✓</b>
Rat					14702	D						
Non-Human primate					0	E						
Peasibility and Safety Study of Delivery Strategies for Oligonucleotides and AAV-mediated CNS Gene Therapy in a Non-Human primate Wodel				Rat	0	В						
106						С						~
Respiblity and Safety Study of Delivery Strategies for Oligonucleotides and AAV-mediated CNS Gene Therapy in a Non-Human primate Model					106	D						ست
Oligonucleotides and AAV-mediated CNS Gene   Therapy in a Non-human Primate Model   Participation in stem cell self-renewal   Participation   Participation in stem cell self-renewal   Participation					0	E						
Therapy in a Non-human Primate Model	Feasibility and Safety Study of Delivery Strategies for			Non-Human primate								
Mouse   Mous	Oligonucleotides and AAV-mediated CNS Gene				0	С					~	~
The role of chromatin regulation in stem cell self-renewal    Mouse	Therapy in a Non-human Primate Model				24	D						
Receptor-based Drug Models in Bacterial and Viral Pathogenesis					0	E						
1858   C   D   D   C   C   C   C   C   C   C	The role of chromatin regulation in stem cell self-			Mouse	0	В						
Mouse   O   B					1858	С						
Mouse   0   8   8295   C   0   0   0   0   0   0   0   0   0					0	D						
Regulation of inflammation in vitro and in vivo.   Mouse   19864   E						Marie Control of the						
Nouse   Nous	Receptor-based Drug Models in Bacterial and Viral			Mouse								
Nouse   19864   E	Pathogenesis						<b>✓</b>				~	~
Mouse   C   B   17025   C   11640   D   29406   E												
17025   C												
11640   D   29406   E	Regulation of inflammation in vitro and in vivo.			Mouse								
Mouse   29406   E											~	<b>✓</b>
Mouse   0   B   60   C					11640	D						
Survival in response to ionizing radiation					29406	E						
60	Targeting molecules that regulate prostate cancer			Mouse	0	В						
60	survival in response to ionizing radiation					С						
Modulation of Cardiovascular Disease in Mice         Mouse         0         B           9165         C         2968         D           800         E    Mouse  Mouse  Mouse  Mouse  Mouse  Mouse  Mouse  O B 9765 C G64 D					60	D						
9165   C   2968   D					0	E						
Gene Therapy for human alpha-1 antitrypsin-Pi*Z liver disease  Mouse  2968  B  0  B  9765  C  664  D	Modulation of Cardiovascular Disease in Mice	-		Mouse	0	В						
Gene Therapy for human alpha-1 antitrypsin-Pi*Z liver disease  Mouse  D  Mouse  D  Mouse  O  B  9765  C  664  D					9165	С	~					
Gene Therapy for human alpha-1 antitrypsin-Pi*Z liver disease  Mouse  0 B 9765 C 664 D					2968	D						
Wouse   9765   C					800	Е						
9765 C	Gene Therapy for human alpha-1 antitrypsin-Pi*7 liver	All and the second		Mouse	0	No. of Concession,						
664 D	disease			Juse	9765							
							V		•		<b>V</b>	•
					54	E						

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Protocol Title	IACUC No	Principal Towns 1		# Animals	Pain & Distress		Spe	cial Cons	ideratio	ns	
	IACUC NO	Principal Investigator	Species	Approved		SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 1
Gene Therapy for Fatty Acid Oxidation Disorders			Mouse	8640	В						
			1	2048	С	. 🗆		•		<b>y</b>	
				0	D		İ			_	
	ļ			1448	E			ļ			
Vascular Injury, Repair, and Remodeling: The Role of			Mouse	0	В			-	Ü.		
Platelets and Innate Immunity in Atherothrombosis	Ì		1	6428						<b>✓</b>	<b>✓</b>
			<b>j</b>	324	D					_	
				458	E					İ	ı
Molecular Organization of CNS Synapses			Mouse	0	В				-		
	;		i	6730	C					<b>✓</b>	<b>✓</b>
				5900	D			ĺ			ري.
			<u>.i</u>	150	E	ĺ				ļ	
Using helper-free adeno-associated virus (AAV) and			Mouse	0	В						
self-inactivating lenti virus for gene manipulation in			Modse	620	C	<b>y</b>					
mouse prefrontal cortex, hippocampus, ventral				600	D	<b>Y</b>	ļ		l	✓	<b>✓</b>
midbrain and nucleus accumbens				0	E						ĺ
Behavioral and biochemical characterization of mouse			Mouse	0	В				_		
models of neuropsychiatric disorders				2508	С			•			<b>✓</b>
				688	D	,				•	<b>Y</b>
	_			2480	E		İ			-	
Viral vector mediated gene transfer		<u> </u>	Mouse	0	В	_				_	
-				14257	С	<b>✓</b>					✓
				3294	D					•	~
			İ	785	E						
			Rat	0	B						
			1.00	1070		[	_ i		1		
				0		✓				✓	✓ (
				<del>-</del>		1	ļ	ĺ			
Animal Market Co			· · · · · · · · · · · · · · · · · · ·	0	<u>Е</u> В						
Animal Models of Frontotemporal Dementia and ALS			Mouse				,		_ [		
				2050	C	✓				$\checkmark$	
				144	D						į
		·		0	E						
Evaluation of AAV8 and other novel AAV vectors for			Macaque	0	B						
hepatic F.IX gene transfer in NHPs				0	c					<b>✓</b>	
	ł			21	D			_			_
			1	0	E	1	}			ĺ	- 1

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				# Animals	Pain & Distress			cial Cons			
Protocol Title	IACUC No	Principal Investigator	Species	Approved	Category 1	SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA :
			Rat	0	В						
				0	С	~	<b>✓</b>			<b>✓</b>	<b>✓</b>
				80	D	<b>V</b>					30000
	80 D   0 E   Macaque   0 B										
Brain/CNS transduction of novel AAV capsids in NHPs			Macague	0	В	<b>V</b>			~		
,,				0	С					<b>✓</b>	<b>✓</b>
				3	D					<u>د</u>	
				0	E						
Evaluation of novel AAV vectors for retinal gene			Non-Human primate	0	В						
transfer in NHPs			Non-Human primate	0	С					•	
				16	D	1 -				_	
				0	E						
Transcriptional Landscape of Innate Immune Cells			Mouse	320	В	1 _		_	_		
			-	0	C D						<b>✓</b>
			-	0	E						
				0	В					-	
Innate Immune receptors for protozoan parasites			Mouse	6024	С						
			AND THE PROPERTY OF THE PROPER	8556	D					✓	
				3436 0	E						
Study of the influence of acute infection with			Mouse		В			V00000000	_	26-50	
Plasmodium in development of sepsis				2576	С			✓		~	
				0	D						
				1464	E						
Novel therapies for genetic disease			Mouse	0	В						
				1324	С			✓		<b>✓</b>	~
				0	D						
				0	E						
Biological Link between Gaucher disease and			Mouse	0	В						
Parkinsonism			Wouse	435	С						<b>✓</b>
				0	D						•
				U					_		
	0 B 0 E										

				# Animals	Pain & Distress			cial Cons			
Protocol Title	IACUC No	Principal Investigator	Species	Approved	Category 1	SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Phagocyte Receptors for Lipid A			Mouse	0	В				Vac. 4-10		
				986	С					~	
		· ·		0	D	-					
				1260	E						
The role of Toll-like receptor signaling in the innate			Mouse	0	В						
immune response to Plasmodium species.				7696	С					<b>✓</b>	
57				0	D						
				720	E						
Inflammasome activation in Alzheimer's disease			Mouse	0	В						
				1336	С					~	~
				0	D						
*				278	Е						
T			Rabbit	0	В	-		-			
Training in the Treatment of Cerebral Aneurysm and Arteriovenous Malformation Model in the Pig and			1.0001	0	С	~				<b>✓</b>	
Rabbit				60	D	~				<b>~</b>	✓
						1					
			6:	0	E						
			Pig	0	В						
				0	С					<b>✓</b>	<b>✓</b>
				81	D						
				0	Е						
Stroke Treatment in a Large Animal Model			Dog	0	В	-					
			-	0	С	<b>✓</b>				~	<b>✓</b>
9			-	182	D						
				0	E				V		
Image-Guided Vascular Remodeling for the Treatment			Rabbit	0	В						
of Brain Aneurysms				0	С	<b>✓</b>	~			~	~
,				159	D						
				0	Е						
			Dog	0	В						
			Jog	0	C	<b>_</b>					
							✓			✓	~
				4	D						
				0	E						
,				0 E							

				# Animals	Pain & Distress		Spe	cial Cons	ideratio	ns	
Protocol Title	IACUC No	Principal Investigator	Species	Approved	Category 1	SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA
			Mouse	0	В						
				0	С						
	200 D   0 E   Pig										
1echanical Revascularization for the Treatment of		Pig 0 B C C 32 D 0 E									
mbolic Vacular Occlusion in Swine and Rabbit Models					С	✓				<b>✓</b>	V
				32	D						
				0	E						
			Rabbit	0	В						
				0	С	<b>✓</b>				~	V
				75	D	>					
				0	E						
nruptured Intracranial Aneurysms: Rupture-Risk			Rabbit	0	В						
ssessment by Non-Invasive Molecular Imaging				0	С	~				<b>✓</b>	
,				79	D	C					
				0	The state of the s						
nage-Guided Endovascular Neurosurgery: High-			Pig	0							
esolution Cerebrovascular Imaging				0		<b>V</b>			Ш	<b>✓</b>	v
				1	D						
				0	E						
			Rabbit	0	В						
				0	С	~				<b>✓</b>	-
				48	D						
				0	Е						
lechanical thrombectomy in of vascular occlusions			Pig	0	В						
rectianical thrombectority in or vascular occidsions		2	9	0	С	~				<b>✓</b>	V
				21	D					72222	
				0	E						
ndovascular CSF Access: Proof-of-Concept Study			Macaque	0	В						
3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3				0	С	~				<b>✓</b>	V
			6 D								
	0 E										
			Maria Cara								
			1								

	<u> </u>			# Animals	Pain & Distress				ideratio		,
Protocol Title	IACUC No	Principal Investigator	Species	Approved	Category 1	SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Bone Erosion in Rheumatoid Arthritis (RA) and the			Mouse	0	В						
Mechanisms of Enthesial and Periosteal Bone				616	С					✓	
Formation in	tion in lyloarthropathy g of novel therapeutics in large animal models			0	D	-		:			
Spondyloarthropathy			468	E			i				
Testing of novel therapeutics in large animal models		Goat	0	В	-		{				
of neurodegenerative disease.		;	0	С	✓	✓			✓	•	
			24	D	-				•		
			20	E		İ	ļ		İ		
		Sheep	0	В		ļ			}	; 	
			0	С	<b>✓</b>	✓			✓	•	
			292	D			:		Ì	į ,	
				87	E						
			Mouse	0	В						
		Monze	2509	C					<b>✓</b>		
and rare genetic diseases				1180	D		·		_	1.*	
				0	E						
Identification and validation of nutative oncogenes	on and validation of putative oncogenes suppressor genes using genome-wide RNA e screening combined with tumor	4-	Mouse	0	В						
and tumor suppressor genes using genome-wide RNA			660	С					<b>✓</b>		
interference screening combined with tumor			0	D	_						
formation in nude mice				0	E						
Factors controlling tumor and metastasis			Mouse	0	В	-					
development in mice				2131	С					•	
				649	D	_					
				230	Е						
Anatomical and Functional Characterization of		<u></u>	Mouse	0	В				-		
Chemosensory Cells				10796	С						✓
				0	D						
				0	E	_					
Rat models of immunity regeneration, and infection		···· -	Rat	0	В В	-					
Tracinodels of miniating, regeneration, and integral	nodels of immunity, regeneration, and infection			1500	С	✓	✓			✓	✓
			6368	D							
				0	E					i	Ì
			Mouse <sup>*</sup>	0	В						
nanized Mouse Core		Mode	22140	С	<b>✓</b>				✓	<b>✓</b>	
				1000	D						
1	[		•			_					1

				# Animals	Pain & Distress		Spe	cial Cons	ideratio	ns	
Protocol Title	IACUC No	Principal Investigator	Species	Approved		SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA
In vivo analysis of growth control			Mouse	0	В		-	70-00	80 - 111		
in vivo analysis of growth control				22504	С					~	
				712	D						
				1488	Е						
Optical Imaging and Photodynamic Therapy of Tumor		0 800 0 0 Mouse	В					9.00			
in Mice Model					С					<b>✓</b>	
					D	-					
					E						
Determining the factors that contribute to			Mouse		С	-					_
autoimmune skin disease: melanocyte destruction in				4699		✓	<b>✓</b>			<b>✓</b>	
vitiligo and melanoma, fibrosis in systemic sclerosis				4462	D	-					
(scleroderma) and granuloma formation in sarcoidosis.	rcoidosis. 48 E Mouse 0 B										
Rodent Models of ALS and Periodic Paralysis			Mouse								
				36 1158	C D	- 0				<b>✓</b>	•
				288	E	+					
	-		-	0	В	_					
Using Sarm knockout to block ischemic and traumatic			Mouse	1474	С	<b>✓</b>				•	[
axonal injury in mouse.				216	D						
				0	Е						
			Mouse	0	В						
Trauma brain injury accelerated neurodegeneration			Mouse	100	С	<b>✓</b>	<b>✓</b>				1
				480	D					32.00	-
				1340	Е						
			Mouse	0	В						
Small molecules and Molecular machinery controlling				14710	С	1 -				~	
nuclear hormone receptors and inflammation				0	D						
				1950	Е						
			Rat	0	В						
		48 C	1 —				~				
	0 D 0 E	1 -			Ш.						
					CONTRACTOR OF THE PARTY OF THE	-					-
Analysis of the effects of TCR/MHC + peptide affinity	eptide affinity and immune OB B 16248 C	Mouse			1 0					-	
and specificity on T cell development and immune							<b>✓</b>				
responses	0 D			-							
				0	E						

Appendix 5: Animal Usage 000343

				Pain & Distress			cial Cons				
Protocol Title	IACUC No	Principal Investigator	Species	Approved	Category 1	SS 2	MSS 3	FFR 4	FR 5	HAU 6	NCA 7
Chromatin Remodeling Factors in Development and			Mouse	0.	В						
Differentiation				576	С						<b>✓</b>
			100 100 100 100 100 100 100 100 100 100	0	D						
				0	E						
Conditional Gene Targeting Studies of Inflammation			Mouse	0	В						
in Mice				8696	С					~	<b>✓</b>
				4378	D						_
				6	E						
Collection of Syphacia pinworms from privately-			Mouse	0	В						
owned pet mice and rats for decontamination				30	С					<b>✓</b>	
experiments				0	D						
				0							
			Rat	0	E						
			Kat	30	B C						
				0	D					✓	Ш
				0	E						
Clioma tumor formation and hudra and all visits				0	В						
lioma tumor formation and hydrocephalus in the			Mouse	300	C					_	
brain				360	D	✓	✓			•	✓
				0	E						2
				0	В						
Ethanol Consumption and the Development of			Mouse	360	С						
Idiopathic Normal Pressure Hydrocephalus			-								<b>✓</b>
			-	0	D						
				0	Е						
Molecular Basis of T Cell Lineage Commitment			Mouse	0	В						
3				6432	С					~	<b>✓</b>
				600	D	2.000000					
				0	E						
Costimulatory Regulation of T cell Activation			Mouse	0	В						
Costimulatory Regulation of T cell Activation			Mouse	4242	С					<b>✓</b>	<b>✓</b>
				120	D				-		•
				0	E						
				0	В						
The role of Ripk1 in TNF signal transduction and			Mouse	4191	С						
Mechanism(s) of Tal1/scl-mediated Leukemogenesis			-			~				✓	<b>✓</b>
				204	D						
				942	Е						

									ideration		
Protocol Title	IACUC No	Principal Investigator	Species	Approved		SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
			Zebrafish	0	В						'
	Zebransii			1806	С	✓				•	<b>√</b>
			200	D	1						
				0	Е						
Development of RNAi-based therapeutics			Mouse	0	В	-					
Development of KitAl-based therapeutics				2158	С	<b>✓</b>				<b>✓</b>	✓
				2567	D	]					
				775	E						
	Rat	Rat	0	В			İ				
			2158	С	<b>V</b>				<b>✓</b>	<b>✓</b>	
				2354	D						
				0	E						
				0	В						
Evaluation of distribution, efficacy, and safety of chemically modified oligonucleotides in a non-human primate model.  UMass Mouse Phenotyping Center  Mouse	Non-Human primate		C		<b>✓</b>	<b>✓</b>		•	✓		
		36	D	1 🗀		<u>~</u>			<u>V</u>		
			0	E	1						
	1		Mouse	0	В						
OMass Mouse Phenotyping Center			Modese	5100	С	<b>✓</b>		V	<b>✓</b>	<b>✓</b>	V
				100	D						
				5800	E				İ	ļ	
Examining the effects of perturbing toxic metabolite			Mouse	0	В		ĺ		,		
pathways on the growth of cancer cells in xenograft	· .			0	С	<b>V</b>				<b>✓</b>	
tumors				506	D	_		ĺ			
				0	E						
			Mouse	0	В	-					
Conjugated nanoparticles and Prodigiosin Drug for			Mouse	210	С					<b>✓</b>	✓
Specific Targeting and localized Drug Delivery for Tumor Shrinkage (Treatment) of Early, Mid Stage and				0	D	1 ''			-		
late Stage Xenograft Tumor of Triple Negative Breast				0	E	1					
		· · · · · · · · · · · · · · · · · · ·	Guinea pig	0	В	<u> </u>					
Fluorescent Imaging of Cardiac Efflux				0	С	1 🗆					•
				180	D	1 —		_			
				0	E	1			ļ		
			Rat	0							
		vqr	0	В						<b>✓</b>	
				┤ └ '			<u> </u>		v		
				150	D	-					
				0	E						

opendix 5: Animal Usage 000343

Diabetes susceptibility to Tuberculosis					# Animals	Pain & Distress			cial Cons			
Diabetes susceptibility to Tuberculosis   Diabetes susceptibility to Tuberculosis   Diabetes susceptibility to Tuberculosis   Diabetes susceptibility to Tuberculosis   Diabetes   Diabet	Protocol Title	IACUC No	Principal Investigator	Species	Approved		SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
2844	Diabetes susceptibility to Tuberculosis			Mouse								
Determinants of Tuberculosis Severity							✓				<b>✓</b>	
Determinants of Tuberculosis Severity					352	D						
Determinants of Lucercuoses severity					0	E						
Pattern Recognition Receptors in Innate and Adaptive	Determinants of Tuberculosis Severity			Mouse	0	В						
Pattern Recognition Receptors in Innate and Adaptive   Immunity					2666	С	<b>✓</b>				~	
Pattern Recognition Receptors in Innate and Adaptive Immunity					144	D						
Pattern Recognition Receptors in Innate and Adaptive Immunity					0	E						
Microsurgical Techniques	Pattern Recognition Recentors in Innate and Adaptive			Mouse	0	В						
Microsurgical Techniques					4966	С					~	
Rat					408	D	9					
Rat					4448	Е						
Mouse   O   C     S   S   D				-								
153   D	Microsurgical Techniques			Kat			1 _					
Characterize the role of cytoskeletal disruption in ALS	nicrosurgical Techniques						1 4					•
Characterize the role of cytoskeletal disruption in ALS  Mouse  D D Characterize the role of cytoskeletal disruption in ALS  Mouse  D D D D D D D D D D D D D D D D D D												
2300				Mouse								
Innate Immunity to pathogens and recognition of endogenous danger signals in sterile inflammation  Mouse  M	Characterize the role of cytoskeletal disruption in ALS			Mouse	2300	С	lп					
Innate Immunity to pathogens and recognition of endogenous danger signals in sterile inflammation  Mouse  14262					0	D	1 "				•	
Innate Immunity to pathogens and recognition of endogenous danger signals in sterile inflammation  Mouse  14262					780	E						
endogenous danger signals in sterile inflammation    14262				Mausa		And the second s						
Translational Epigenetics: From Trisomy Silencing in vitro to New Therapeutic Frontiers  Mouse  D 1080 E 1050 C 0 D 0 E Embryonic origins of endothelial heterogeneity  Zebrafish  Teffects of persistent and non-persistent pollutants on the reproductive endocrine system  Mouse  D 1080 B 1050 C 0 B 1050 C 0 B 10500 C 0 B 10500 C 0 B 10500 C 0 B 10500 C 0 B 10500 C 0 B 10500 C 0 B 10500 C 0 D 0 D				Mouse	14262	С						
Translational Epigenetics: From Trisomy Silencing in vitro to New Therapeutic Frontiers	endogenous danger signals in sterne innammation										•	
Translational Epigenetics: From Trisomy Silencing in vitro to New Therapeutic Frontiers  Mouse  D B 1050 C 0 D 0 E Embryonic origins of endothelial heterogeneity  Zebrafish  10500 C 9600 D 0 E  Effects of persistent and non-persistent pollutants on the reproductive endocrine system  Mouse  Mouse  Amou					1000							
Inansiational Epigenetics: From Trisomy Silencing in vitro to New Therapeutic Frontiers    1050				Summing and sold with the support and the support of the support o	DEC-MINERAL CONTRACT CONTRACT	ALCOHOLIST TO LOW SET THE PLANT						
Embryonic origins of endothelial heterogeneity  Zebrafish  Zebrafish  To B  10500 C  9600 D  0 E  Effects of persistent and non-persistent pollutants on the reproductive endocrine system  Mouse  Mouse  A380 C  0 D  0 E  10500 C  9600 D  0 D	Translational Epigenetics: From Trisomy Silencing in			Mouse			1 – 1					
Embryonic origins of endothelial heterogeneity  Zebrafish  Tebrafish  Zebrafish  O  B  10500  C  9600  D  O  E  Effects of persistent and non-persistent pollutants on the reproductive endocrine system  Mouse  Mouse  A380  C  D  D	vitro to New Therapeutic Frontiers									ш	~	~
Embryonic origins of endothelial heterogeneity  Zebrafish  O B 10500 C 9600 D  O E  Effects of persistent and non-persistent pollutants on the reproductive endocrine system  Mouse  D A380 C D D							-					
Embryonic origins of endothelial heterogeneity    10500												
Effects of persistent and non-persistent pollutants on the reproductive endocrine system  Mouse  9600 D 0 E  Mouse  0 B 4380 C 0 D	Embryonic origins of endothelial heterogeneity			Zebrafish			-			_		
Effects of persistent and non-persistent pollutants on the reproductive endocrine system  O E  Mouse  O B  4380 C  O D	2						✓					✓
Effects of persistent and non-persistent pollutants on the reproductive endocrine system  Mouse  0  B  4380  C  0  D					9600	D						
the reproductive endocrine system  4380 C					0	E						
the reproductive endocrine system  4380 C	Effects of persistent and pop-persistent pollutants on			Mouse	0	В						
0 D					4380	С					~	~
0 E	and represented characteric system				0	D			100	20.39-90 J	_	
					0	Е						

				# Animals	Pain & Distress			cial Cons		ns	
Protocol Title	IACUC No	Principal Investigator	Species	Approved	Category 1	SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
The Immune Response to Fungi			Mouse	0	В						
The miniate response to rung.				1800	С					<b>✓</b>	
				1300	D						
				3000	E						
Effect of the microbiome on tumor progression and			Mouse	0	В						
treatment response				0	С					~	<b>✓</b>
				12	D						
				0	E						
Molecular Basis of Leukemogenesis			Mouse	0	В						
violecular basis of Leukernogenesis			Modse	2540	С					<b>✓</b>	<b>✓</b>
				230	D						
19			MINISTER STATE OF THE STATE OF	3620	Е						<b>&gt;</b>
				0	В						
Role of Toll-like receptors and related molecules in			Mouse	5639	C						
nate immune signaling during infection and diseas				3844	D					•	
				4950	E						
			Mouse	0	В						
Investigating Mechanisms for Resistance to Plague			10 800 0	784	С					<b>✓</b>	
and the Development of Novel Anti-microbials				2260	D						
				7160	E	1					
			D-4								
			Rat	0	В	+					
				20	С					✓	
				40	D	-					
				60	Е						
Evaluating specificity and efficiency of CRISPR-Gold			Mouse	0	В						
for editing retinal genes in Ai9 mice				6	С					<b>✓</b>	
				50	D						
				0	E						
Biodistribution and pharmacokinetics of radiolabeled			Mouse	0	В						
agents in mice			1110000	0	С					~	<b>✓</b>
agents in timee				1320	D						
				0	E						
				0	В						
mmunogenicity and Protection Efficacy of Flu DNA			Rabbit								
57 D	С					✓					
				0	E						

			# Animals	Pain & Distress			cial Cons		ns HAU 6	
Protocol Title IACUC No	Principal Investigator	Species	Approved	Category 1	SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
The immunogenicity of HIV-1 envelope glycoprotein		Rabbit	0	В						
(Env)-based vaccines with various designs			0	С					<b>✓</b>	
(LITV)-based vaccines with various designs			449	D						
			0	E						
Immunogenicity and innate immune responses of		Mouse	0	В						
DNA and protein vaccines in mice			350	С					<b>✓</b>	
Brokem vacemes in mice			3125	D						
			0	E						
Immunogenicity of DNA vaccines		Rabbit	0	В						
immunogenicity of DNA vaccines			0	С					<b>✓</b>	
			345	D						
			0	Е						
		Mouse	0	В						
			0	С					<b>✓</b>	
			765	D	_				٠	
			0	Е						
		Guinea pig	0	В						
		Guiriea pig	0	C						
			65	D					<b>✓</b>	
			0	E						
			0	В	-		-			
Epigenetic inheritance in mouse model of		Mouse	2070	С			<b>✓</b>		<b>✓</b>	<b>✓</b>
inflammation			0	D				-		
			1575	Е						
			0	В						
Mechanosensory Signaling in Muscle and Tumor Cells		Mouse	2616	C					<b>✓</b>	<b>✓</b>
			112	D					•	•
			0	E						
			0	В	-			UMP OF STREET		
Bivalent vaccine against Epstein-Barr virus infection		Mouse	56	С	ľп	П			<b>✓</b>	
using computationally determined viral epitopes			0	D	1 -				<u>v</u>	
				E	1					
			90	the said of the last of the said of the sa						
Stem Cells and Immunological Tolerance		Mouse	0	В	-					,
			3918	С	✓				✓	<b>✓</b>
			930	D						

				# Animals	Pain & Distress			cial Consi		ns	
Protocol Title	IACUC No	Principal Investigator	Species	Approved	Category 1	SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Steatosis, Inflammation and Cancer in the Liver			Mouse	0	В						
Steatosis, illiamination and cancer in the liver				12963	С	<b>✓</b>		<b>✓</b>		~	
				7768	D						
				0	E						
Hh/Gli signaling in organogenesis and tumorigenesis			Mouse	0	В						-
This on signaling in organogenesis and tamongenesis				4200	С					•	
				192	D						
				0	E						
Regulation of synaptic plasticity by drugs of abuse in			Mouse	0	В						
nucleus accumbens medium spiny neurons				1776	С	<b>✓</b>	•			~	
, , , , , , , , , , , , , , , , , , , ,				392	D						
				0	E					HAU 6	
5 5 5 6W ( 1 1 5 1 W			Rat	0	В						
Resuscitation of Warm Ischemia Damaged Livers			Rat	0	С						
using Machine Preservation				310	D						•
				0	E						
Gene Silencing therapy with siRNA in DCD liver grafts			Mouse	0	В						
during Liver Machine Preservation				0	С	•				<b>✓</b>	•
during liver widenine rreservation				80	D						
				0	Е						
			Rat	0	В						
				0	С	V				<b>✓</b>	<b>✓</b>
				60	D				Lagand		
				0	E	1					
D 0 10 100 0 100 100 100 100 100 100 1				0	В						
Pathogenicity of Streptococcus pneumoniae and host			Mouse	1324	C					<b>✓</b>	
responses during natural colonization and invasive disease.				1212	D					•	
disease.				1108	E						
			1	0	В						
Mucosal Inflammation Induced by Pathogens			Mouse	6106	С					<b>✓</b>	
				2400	D	1 -				•	
					E	1 1					
				105	В						
Modulation of MDR1 by enteric pathogens			Mouse			-					
			PARTIES AND AND AND AND AND AND AND AND AND AND	4020	С			•		✓	
				0	D	-					
				0	E						

Appendix 5: Animal Usage 000343

	Rat 0 B										
Protocol Title	IACUC No	Principal Investigator	Species		Category 1	SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
			Rat	0	В						
Trafficking and Regulation of Monoamine Transporter				140	С	<b>✓</b>		<b>✓</b>		•	<b>✓</b>
				0	D						
				0	Е						
			Mouse	0	В						
				721	С	<b>✓</b>		<b>✓</b>		<b>✓</b>	<b>✓</b>
				2152	D			٠			
				0	Е						
				0	В						
Transcription Factors and Cell Surface Receptors in			Mouse	1918	С	<b>✓</b>				П	П
Epithelial Development and Cancer				904	D						
				0	E						
				0	В						_
The mechanism of colon cancer development in			Mouse	1736	C	1 —				~	•
hypercholesterolemic mice				970	D			<b>✓</b>		_	•
- 500 - 100			99	3,0	E						
			<b>.</b>	0	В						
The effects of type 2 diabetes on wound healing in a			Mouse	4205	С	<b>✓</b>		П	П	~	~
mouse model				1395	D						
				0	E						
				0	В						
Bone Marrow Derived-Stem Cells in the Treatment of			Mouse	4162	С	<b>✓</b>	•			•	V
Atherosclerotic Peripheral Arterial Disease in Diabetic				1638	D						
and Hypercholesterolemic Mice				0	E						
				0	В	-					
Role of exercise in the reduction of the incidence and			Mouse	988	С	<b>✓</b>				~	~
severity of breast cancer in mice				580	D	_				V	
				0	E						
				0	В	-					
TET1 deficiency in hematopoietic stem cells increases			Mouse	1840	С					~	<b>✓</b>
the risk of atherosclerosis in mice					D	<b>✓</b>				•	V
				40		+					
		2		0	E						
In a service and of Richaminessansa Imaging in vivo			Mouse	0	В						
Improvement of Bioluminescence Imaging in vivo				65	С	<b>✓</b>				<b>✓</b>	
				422	D						
				25	E						

				# Animals	Pain & Distress			cial Con			
Protocol Title	IACUC No	Principal Investigator	Species	Approved		SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Virus-like Particles as Vaccines			Mouse	0	В						
				0	С					~	
				4560	D	_					
				0	E						
Mouse Model of Pulmonary Emphysema and Fibrosis	1		Mouse	0	В	_					
Thouse model of Familianary Emphysema and Tibrosis				2727	С	✓	~		<b>✓</b>	•	~
				1324	D	_					
_				0	E	1					
Gene Therapy for Amyotrophic Lateral Sclerosis			Mouse	0	В	1				ļ	
dent merapy to many surgerine cateral severosis				862	C	. 🗸				V	
				327	D					 ;	
				77	E					İ	
			Mouse	0	В			-			
TLR9 regulates Axl dependent migration of autoreactive B cells			wouse	1824	С					V	<b>✓</b>
autoreactive B cells				0	D	1 "					<u></u>
				80	E	1					
Characterization of autistic animal models			Rat	0	В						
Characterization of addistic annual models				152	С				✓	~	•
•				0	D	_			_		
				112	E						
Assembly of Motile and Sensory Cilia in Vertebrates			Mouse	Ü	В	]					
Assembly of Motile and Bensory Cilia in Vertebrates				15582	C					<b>∠</b>	<b>⋥</b>
				120	D	j	! 				
				0	E			ļ		Ì	ļ
	ì		Mouse	0	В			ĺ		İ	
Photoreceptor metabolism in diseases such as			Mouse	5497	С					<b>✓</b>	<b>✓</b>
Retinitis Pigmentosa and Age-related Macular degeneration				18090	D						العا
a cogenication				0	E						
			Mouse	0	В	<u> </u>				-	
Effects of diet on epigenetic information in sperm			Mouse	9118	С			[-]		<b>✓</b>	<b>✓</b>
				170	D				(	اح	
				280	<u> </u>						
		<del> </del>		0	В	1		-	•		
PROTO201900263 - B cell response at the mucosal			Mouse			1 _					
interface				27564	<u>C</u>					<b>✓</b>	✓
				0	D					1	ļ
				0	E						

				# Animals	Pain & Distress			ial Cons		ns	
Protocol Title	IACUC No	Principal Investigator	Species	Approved	Category 1	SS 2	MSS 3	FFR 4	PR 5	ns HAU 6	NCA
mmune defenses against Neisseria gonorrhoeae			Mouse	0	В						
inimane detended against Neissena gonormoede	1			10068	С				[]	•	
				8945	D						
				0	E						
Immunology of Infection with Streptococcus pyogenes			Mouse	0	В						
in interior by or interior with streptococcus pyogenes				126	<u> </u>					<b>✓</b>	
				0	D						
				336	E						
Studying autoimmune skin diseases to identify new			Mouse	0	В		i				
treatment options			1	7180	С					<b>✓</b>	ļ Ľ
				0	D		-			_	İ
				470	E			ĺ			
				0	В	<u> </u>					
Local mRNA Translation and Synaptic Plasticity	on and synaptic Plasticity 7729 C	<b>✓</b>	•								
				1502	D					<b>Y</b>	<u> Y</u>
				200	Ε						
oltage-Gated Calcium Channel Studies using Primary			Mouse	0	В						
Cells			Mouse	1000	С						•
QCII3				0	D	_				1	
				o	E		Ì				
Specification of Axial Development in Mammals			Mouse	0	В		!	1			
specification of Axiai Development in Mammais				12027	С	<b>✓</b>				<b>∠</b>	
				161	D		_	_		_	
				0	E						
			Rat	0	В						
			Tur	0	C					V	
				180	D			1 1			
				0	E						
			Mouse	0	В	i i					
UMMS Transgenic Animal Modeling Core (TAMC			MINUSE	32786	С	<b>.</b>		[]		<b>✓</b>	
							<u>'</u>	I., "I			
				9945	D						
				0	E						
			Rat	0	В				_		
				1068	С	•				<b>✓</b>	
				1404	D	]			İ		
!			1	0	E						

		# Animals	Pain & Distress	2.2		cial Cons		ns	
Protocol Title IACUC No Princip	oal Investigator Species	Approved	Category 1	SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA
Analysis of Immune Responses	Mouse	0	В						
Analysis of Infiliative Responses		36450	С	<b>✓</b>	•			<b>✓</b>	~
		10860	D						
		0	E						
The functional role of Alzheimer's Disease-related	Mouse	0	В					HAU 6	
genes		3980	С						~
	199	0	D						
		0	E						
Murine models for the study of systemic autoimmune	Mouse	0	В						
disease		7323	С	<b>✓</b>				<b>✓</b>	~
	WATER AND THE PROPERTY OF THE	60	D						
9		1744	E						
	Mouse	0	В						
Biodistribution and pharmacokinetics of biomarkers with detection by imaging	Mouse	765	С						~
with detection by imaging		1200	D						
		0	E						
Small Animal Imaging Core Service Animal Protocol:	Mouse	0	В						
PET/SPECT/CT and Optical Imaging		0	С					•	1
3		1000	D						
		0	E						
	Rat	0	В						
		0	С					<b>✓</b>	<b>✓</b>
		300	D		_				
	45 ± 45 ± 45 ± 45 ± 45 ± 45 ± 45 ± 45 ±	0	E						
		0	В	-					-
Evaluation of intratumor injection dispersal/diffusion	Mouse	0	C					<b>✓</b>	
		16	D	1 4				•	
		0	E						
		0	В	-					_
Transcriptional Analysis of Zebrafish Hindbrain	Zebrafish	2200	С					<b>✓</b>	
Development		0	D	1 -				•	
		0	Е						
Tuberculosis Pathogenesis	Mouse	0	В	-		_			
		7933	С	~		Ш		<b>✓</b>	<b>✓</b>
		100	D						
		180	E						

Appendix 5: Animal Usage 000343

	IACUC No	Principal Investigator		# Animals	Pain & Distress		Spe	cial Cons	ideratio		
Protocol Title	* 1		Species	Approved	Category 1	SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Functions of LIM cofactors during mouse development			Mouse	0	В						ĺ
Tanctions of Environmental Industration	]			9501	С						V
				0	D	1		-			
			<u> </u>	0	E						
Testing Novel Agents in Wound Repair and	1		Rat	0	В						
Regeneration			1	0	С	<b>V</b>			[]		
				24	D	_					
				0	E						
Pulmonary Immunity to Tuberculosis			Mouse	0	В						
Talifornary minimum ty to Tabercalosis				7068	С					<b>V</b>	✓
				1400	D						
				0	E					İ	
		-	Mouse	0	В						
Studies in T Cell Activation			Mouse	27744	С						
,				45	D	]		_ i		( <b>~</b> _i	[2]
				0	E	1					
MR Signal amplification for recentor imaging			Mouse	0	В						
MR Signal amplification for receptor imaging			j	0	С	<b>V</b>					
				166	D			ŀ			
			ĺ	0	E			ŀ			
	[		Rat	0	В			ŀ			
				0	С	✓				•	V
				81	D		1,7=1		_		[•]
				0	E	1					
				7 0	В		1				
Modeling of Intracranial Aneurysms and Inflammation	1		. Rabbit	0	C		г.,				
				140	D	-	<b>✓</b>			✓	<b>✓</b>
			ł	0	E	1					
	1			0	B						
Mucosal Macrophages and Post-Infectious			Mouse	3000	c						
Inflammatory Bowel Disease (IBD)							السا			<b>✓</b>	•
	1			0	D	1					
				6000	E						
Investigating the effect of mutant ALS-linked proteins	1 T		Mouse	0	В	-		ļ			
on neuronal function to determine biological causes			ł	3082	С	✓				✓	
of amyotrophic lateral	1			0	D					}	
sclerosis (ALS)				1807	E						

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				# Animals	Pain & Distress	ory 1 SS 2 MSS 3 FFR 4 PR 5					<del>-</del>
Protocol Title	IACUC No	Principal Investigator	Species	Approved	Category 1	SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Vaccine Safety Assurance – Toxicity Testing			Guinea pig	0	В						
			Į	1860	С					<b></b>	
			-	0	D						
				o	E			İ			
			Guinea pig	0	В	_					
			}	120	С					✓	
	İ		1	0	D						
				0	E						
			Mouse	0	В		i				
				180	С					V	
			]	0	D	]					
				0	E						
			Rabbit	0	В			i		į	
		120	С					<b>✓</b>			
		0	D						_		
			0	E			i				
Td Toxin Level Determination – MLD Assays		Guinea pig	0	В						1	
			Į	0	С					<b>~</b>	$\Box$
			ļ.	0	D						
			1	540	E		İ			i	
			Guinea pig	0	В			İ		ļ	
				0	С					<b>.</b>	
				0	D	, ,					
				18	E		İ				
Therapeutic Drug Studies in Transgenic Mouse			Mouse	0	В				_		
Models of Amyotrophic Lateral Sclerosis				4611	C	<b>☑</b>				<b>✓</b>	$\overline{\mathbf{V}}$
				14420	D		İ				
				2037	E						
						li					
					ĺ						
							1			-	

Appendix 5: Animal Usage 000343

				# Animals	Pain & Distress		<del></del>	cial Cons			
Protocol Title	IACUC No	Principal Investigator	Species	Approved	Category 1	SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Development of Nacional Arida Therenesis in			Mouse	0	В	_					
Development of Nucleic Acids Therapeutics in Transgenic Mouse Models of C9ORF72 related				3679	C	V					
Amyotrophic Lateral Sclerosis				12870	D						
Transport opinio dottoro i parazioni				0	Е						
Charles of Thomas and in fau Dunfaulin another	-		Mouse	0	В						
Studies of Therapeutics for Dysferlinopathy				532	C						✓
				2358	D			1			
				90	E						
		<u></u>	Mouse	0	В					-	
Development of Nucleic Acids Therapeutics in Transgenic Mouse Models of C9ORF72 related			Wiodac	0	С	<b>V</b>					<b>✓</b>
Amyotrophic Lateral Sclerosis			1	1000	D						_
Arriyotropine Laterar Scierosis				0	E						i
				0	В					i	
Functional and Molecular Studies in Hematopoiesis			Mouse	34204	C						
and Leukemia				5748	D			ا لــا	i_i		니
				0	E						
				0	В		·				
Human monoclonal antibodies in humanized mice			Mouse	320	С					V	V
				0	D	1 -		-			الغا
				0	E						
			1	<del>- ŏ</del>	В		-				
Administration of Monoclonal Antibodies to			Mouse	3272	С		Ιп			[m]	
Prevent/Treat Gastrointestinal Tract Inflammation or			1	488	D		"				
Infection					<del></del>	1					
				0	E			_			_
Therapeutic efficacy of anti-colonization factor			Mouse	0	В	_			_		
antigen (CFA) and anti-heat labile toxin (LT)	1 1			1260	С	$\perp$					<b>.</b>
antibodies for prevention and treatment of				364	D						
enterotoxigenic E. coli (ETEC)	<u> </u>			672	E						
Identifying events and genetic regulators of			Zebrafish	0	В						
melanoma progression				19860	C	✓	<b>✓</b>			<b>✓</b>	<b>✓</b>
melanoma progression				12450	D			ļ			
				0	E						
			Mayra	0	В						
Evaluating anti-GDF6 treatment as potential therapy			Mouse	288	С	lп					
for advanced melanoma				0	D	1 "		'_'		'-'	
						1					
				0	E					!	

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				# Animals	Pain & Distress		Spe	cial Con	ideratio		
Protocol Title	IACUC No	Principal Investigator	Species	Approved	Category 1	SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Characterization and treatment parameters for			Mouse	0	В	_					
metabolic disease.			ļ	3902	С	<b>✓</b>		<b>√</b>		<b>✓</b>	V
			]	15704	D						
				3764	E						
			Rat	0	В						
				1728	С	✓		<b>7</b>		V	V
				0	D			.*		ت.	
				0	E			ĺ			
Signal Transduction in Metabolism and Growth			Mouse	O	В				ĺ		
signal transduction in Metabolism and Growth			Wiodasc	46518	С		! 🗆 l			V	~
				940	D		-	_	_	2.3	6.7
				300	E						
· · · · · · · · · · · · · · · · · · ·			1	0	В						
Palatability of Oral Antibiotics in Rodents			Mouse	0	C			<b>y</b> ]			
				80	D		''	<b>V</b> i			
				0	Е	1		İ			
Final preclinical development of AAV gene therapy for			Pig	0	В						
atrial fibrillation			1.19	0	С					<b>V</b>	
				77	D						
				14	E	ļ			Ī		
Integrative analysis of electrophysiology in the healed			Pig	U	В	1					
myocardial				0	С	<b>√</b>				<b>~</b>	
infarction scar				96	D						
				0	E						
			Rat	0	В						
Wireless Sensor for Pressure Ulcer Prevention			Kat	0	С						v
				45	D				''		
				0	E	1					
E. L. C. T. B. C. C. C. L. D. C. C. C. C.		· · · · ·	Pig	0	В						
Evaluation of a Post-operative Hybrid Dressing for Skin-Graft Donor Sites in a Pig Model			Pig ,	0	С						
Skiil-Statt Dollor Sites iii a Fig Model				1	D			_			
				0	E	7		İ			İ
				0	В						$\vdash$
Control of Stem Cell Growth and Differentiation in			Mouse	644	c			_			
Tissue Development and Disease				3198	D	<b>~</b>		<u>.</u>	<u>'-'  </u>	V	<b>✓</b>
						1			-		
				144	Е						

····································	_			# Animals	Pain & Distress			cial Cons		ns	
Protocol Title	IACUC No	Principal Investigator	Species	Approved	Category 1	SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA
CNS gene therapy for neurodegenerative diseases			Mouse	0	B	_					
3				16014		✓				V	Į.
				14702	D					i	
				0	E						
			Rat	0	В	- <u>-</u>	,		,,		_
				0	C	✓			[]	✓	[•
	] 1			106	·	+					
		·	_	0	E _						
easibility and Safety Study of Delivery Strategies for			Non-Human primate	0	С	1 _					[
Dligonucleotides and AAV-mediated CNS Gene				24	D				السنا		Ľ
Therapy in a Non-human Primate Model						1					
	-		·	0	Ε _	+					
The role of chromatin regulation in stem cell self-			Mouse	0 1858	В	┥ · ┌ .	_				
enewal				0	D					<b>✓</b>	
				0	E						
			Mouse	0	В						
Receptor-based Drug Models in Bacterial and Viral			Modae	8295	С	<b>.</b> ✓				<b>√</b>	[
Pathogenesis				0	D						
				19864	E						
Regulation of inflammation in vitro and in vivo.			Mouse	0	В	-					
regulation of finlantination in vide and in vivo.				17025	С					V	[
				11640	D	_					
	l i	N		29406	E						
			Mouse	0	В						
Fargeting molecules that regulate prostate cancer survival in response to ionizing radiation	1			60	C						Į [
Section 100 period to terminal sections				60	D	_					
	ļ	<u> </u>		0	E						
Modulation of Cardiovascular Disease in Mice			Mouse	0	В	-					١.
Nocada and Control of				9165	<u> </u>	✓					[
				2968	<u>D</u>	-					
				800	E	-					
Sene Therapy for human alpha-1 antitrypsin-Pi*Z liver			Mouse	0	В	4			_ :		
Gene Therapy for numan alpha- i antitrypsiii-ri Ziliver disease				9765	С	✓		✓]		<b>7</b>	[
4,0000	1			664	D	4		Ì			
	1 1			54	E			l			ļ

				# Animals	Pain & Distress			cial Con			
Protocol Title	IACUC No	Principal Investigator	Species	Approved	Category 1	SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Gene Therapy for Fatty Acid Oxidation Disorders	i		Mouse	8640	В						
				2048	C			<b>.</b>		<b>~</b> ]	
				0	D						
				1448	E						
Vascular Injury, Repair, and Remodeling: The Role of			Mouse	0	В						
Platelets and Innate Immunity in Atherothrombosis	1			6428	С					<b>✓</b>	<b>✓</b>
•				324	0	_					
				458	Е						
Molecular Organization of CNS Synapses			Mouse	0	В						
Molecular Organization of CN3 Synapses	l i		Mouse	6730	С					<b>~</b>	<b>✓</b>
				5900	D				_	وحي	
				150	E	1					
				0	В						
Using helper-free adeno-associated virus (AAV) and	] [		Mouse	620	C	_	,		r;		_
self-inactivating lenti virus for gene manipulation in				600	D	<b>7</b>		<u> </u>		V	✓
mouse prefrontal cortex, hippocampus, ventral midbrain and nucleus accumbens				0	E	1					}
			Mouse	0	В					_	
Behavioral and biochemical characterization of mouse models of neuropsychiatric disorders			Mouse	2508	С			<b>y</b>		<u>~</u>	
models of fledropsychlatric disorders				688	D	1		 		. <b>▼</b> _	[ <b>V</b> _]
				2480	Е	1					
			Mouse	0	В						
Viral vector mediated gene transfer			ſ	14257	С		r,	[_]		•	<b>✓</b>
			}	3294	D		''	`_·	·		(V)
			1								ļ
				785	E						
,			Rat	0	В						
				1070	С	✓				✓	<b>Y</b>
	1			0	D	1		İ			
				0	E						
Animal Models of Frontotemporal Dementia and ALS			Mouse	0	R	- I	_	,,	,		
				2050	С					✓	
			ļ	144	D	_	İ				
				0	E						
Evaluation of AAV8 and other novel AAV vectors for			Macaque	0	В		Ì				
hepatic F.IX gene transfer in NHPs	ļ <b>!</b>			0	С					<b>✓</b>	
	<b> </b>			21	D		_			_	
	1			0	E	1	į				
	·		<u>.</u>	U.S.	<u> </u>					-	

<b>.</b>			1 .	# Animals	Pain & Distress	<u> </u>		cial Cons		ns	1
Protocol Title	IACUC No	Principal Investigator	Species	Approved	Category 1	SS 2	MSS 3	FFR 4	PR 5	ns HAU 6	NC/
			Rat	0	B C	┨					_
				80			<b>✓</b>			✓	Ŀ
				0	E	1					i
Brain/CNS transduction of novel AAV capsids in NHPs			Macaque	0	В	<del>                                     </del>					
orally CNS transduction of novel AAV capsids in INHPS			iviacaque	0	С					V	<u> </u>
				3	D				_	1.92	
				0	E						,
valuation of novel AAV vectors for retinal gene			Non-Human primate	0	В	1					
ransfer in NHPs				0	C					<b>✓</b>	[
				16	D	_					
				0	E						
ranscriptional Landscape of Innate Immune Cells			Mouse	0	В	1			- ***	-	
·				320	C	🗆					<u> </u>
				0	D	_					
· · · · · · · · · · · · · · · · · · ·				0	E B						
nnate Immune receptors for protozoan parasites			Mouse	6024	c						
	1			8556	D			<u>  </u>		[✔]	-
				3436	Е	1					
Study of the influence of acute infection with			Mouse	Ū	В						
Plasmodium in development of sepsis				2576	С			7		<b>7</b>	
, , ,				0	D		•				
				1464	E	1		j			
lovel therapies for genetic disease			Mouse	0	В						
vover therapies for genetic disease	l			1324	С			<u>~</u>		<b>~</b>	
				0	D						
	<u> </u>			0	E						
iological Link between Gaucher disease and			Mouse	0	В						
arkinsonism				435	C						_
				0	D						
	l .			0	Ε	1 1		ľ			

	T		1 .	# Animals	Pain & Distress			tial Cons		ns	
Protocol Title	IACUC No	Principal Investigator	Species	Approved	Category 1	SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA :
Change to Branches for Cairl A			Mouse	0	В	<u> </u>			Ï		
Phagocyte Receptors for Lipid A				986	С						
				0	D			1			
				1260	Е					ns HAU 6	
The role of Toll-like receptor signaling in the innate		·····	Mouse	0	В						
immune response to Plasmodium species.				7696	С					✓	
infiltute response to masmodium species.			1	0	D						
				720	E						
ALL CARACTERS			Mouse	0	В						
Inflammasome activation in Alzheimer's disease			1110030	1336	С					<b>~</b>	<b>✓</b>
				0	D						
				278	E						
			Rabbit	0	В						
Training in the Treatment of Cerebral Aneurysm and			1.00011	0	С						
Arteriovenous Malformation Model in the Pig and			<b>{</b>	60	D	- <del></del>	'-'		11		
Rabbit						-					
				0	E						
			Pig	0	B	-					
				0	C	<b>✓</b>				✓	<b>✓</b>
	!			81	D	-			!		
				0	E						
Stroke Treatment in a Large Animal Model			Dog	. 0	. В	-					
Stroke fredament in a Earge , alma model				0	С	<b>•</b>				✓	<b>✓</b>
				182	D	_					
				0	E						
			Rabbit	0	В						
Image-Guided Vascular Remodeling for the Treatment			1	0	С		<b>✓</b>			✓	<b></b> ✓
of Brain Aneurysms			1	159	D					_	_
	i		\$	0	E						
			\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	o	В			ļ			
			Dog	-	С	1 _					_
			<b>{</b>	0		✓	<b>7</b>	ш	L_I	V	•
			i	4	D	_					
				0	E						
							i	İ			

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				# Animals	Pain & Distress			ecial Con	sideratio		
Protocol Title	IACUC No	Principal Investigator	Species	Approved	Category 1	SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
			Mouse	0	В	_					
				0	С						<b>√</b>
				200	D	4	İ				
				0	E						
Mechanical Revascularization for the Treatment of			Pig	0	В	┤ _					1
Embolic Vacular Occlusion in Swine and Rabbit Models			d .		C	✓				☑	✓
				32	D	-					1
				0	E		•				
			Rabbit	0	В	-				ľ	
				0	С						<b>✓</b>
				75	D	_					
				0	E						l
Unruptured Intracranial Aneurysms: Rupture-Risk	İ		Rabbit	0	В				i		
Assessment by Non-Invasive Molecular Imaging				0	С					<b>✓</b>	
	!			79	D				İ	_	
			Die	0	E						
Image-Guided Endovascular Neurosurgery: High-			Pig	0	В	-				ļ	
Resolution Cerebrovascular Imaging				0	C	✓.				✓	<b>✓</b>
			Į.	1	<u>D</u>						
				0	E	}					
			Rabbit	0	В	-				1	
	i		Ĭ	0	С	V				<b>⋥</b>	✓
				48	D				j		
				0	E						
Mechanical thrombectomy in of vascular occlusions	ŀ		Pig	0	В						
•	1		]	0	С					<b>₽</b>	<b>✓</b>
				21	D					ĺ	
				0	E						
Endovascular CSF Access: Proof-of-Concept Study			Macaque	0	В						
				0	С					<b>✓</b>	<b>✓</b>
	İ			6	D		İ			i	
				0	E			į			
											j
	j		1								

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				# Animals	Pain & Distress		Spe	cial Cons	ideratio	ns	
Protocol Title	IACUC No	Principal Investigator	Species	Approved	Category 1	SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Bone Erosion in Rheumatoid Arthritis (RA) and the			Mouse	0	В						
Mechanisms of Enthesial and Periosteal Bone				616	СС					✓	
Formation in				0	D		1	]			
Spondyloarthropathy			<u> </u>	468	Е						
Testing of novel therapeutics in large animal models			Goat	0	В	4					
of neurodegenerative disease.			1	0	С	<b>.</b>	✓			~	<b>V</b>
			1	24	D						
			i	20	E			ł			
			Sheep	0	В						
				0	С		✓			~	<b>V</b>
				292	D			''	''		
			Ĵ	87	E	1					
	†			0	В	<del> </del>		ì			
Identifying factors that contribute to breast cancer			Mouse	2509	c	1			_		
and rare genetic diseases				1180	D	₹		ا		✓	
				0	E						
Identification and validation of putative oncogenes		· · · · · · · · · · · · · · · · · · ·	Mouse	0	В						
and tumor suppressor genes using genome-wide RNA			Modse	660	С					<b>✓</b>	[ [
interference screening combined with tumor				0	D	1 –		' '		•	
formation in nude mice				0	Ε	1			ŀ		
Factors controlling tumor and metastasis			Mouse	0	В						
development in mice			Modse	2131	С				I1	<b>⊘</b>	
				649	D	] _				(•1	
				230	E	i i					
				0	В						$\overline{}$
Anatomical and Functional Characterization of			Mouse	10796	c						
Chemosensory Cells				0	D	`-`					V
				0	E				i		1
			<del> </del>	0	<u>-</u>						
Rat models of immunity, regeneration, and infection			Rat	1500	c	_					
				6368	D		$\checkmark$		[.]	✓	V
			j			-	İ				1
<u> </u>				0	E						
Humanized Mouse Core			Mouse	0	В		_	_			
				22140	С	<b>✓</b>				✓	✓
				1000	ם	ļ ļ					ļ
				0	E					,	

Appendix 5: Anima! Usage 000343

	1	·		# Animals	Pain & Distress		Spe	cial Cons	ideratio		
Protocol Title	IACUC No	Principal Investigator	Species	Approved	Category 1	SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
In vivo analysis of growth control		·	Mouse	0	В						
3			1	22504	С					•	
				712	D						
				1488	E						
Optical Imaging and Photodynamic Therapy of Tumor			Mouse	0	В			Ì			
in Mice Model				0	С					~	<b>✓</b>
				800	D						
				0	Ε						
Determining the factors that contribute to			Mouse	0	В	_			ï		
autoimmune skin disease: melanocyte destruction in				4699	С	V	✓			<b>✓</b>	<b>✓</b>
vitiligo and melanoma, fibrosis in systemic scierosis				4462	D						
(scleroderma) and granuloma formation in sarcoidosis.				48	Е				1		
				0	В				1		
Rodent Models of ALS and Periodic Paralysis			Mouse	36	c					<b>✓</b>	
	i !			1158	D	1 🗀 1				~	
				288	E						
Using Sarm knockout to block ischemic and traumatic		•	Mouse	0	В						
axonal injury in mouse.			Wiouse	1474	С					•	
axonar injury in mouse.				216	D	] "•]	_			الحا	ا الح
				0	Е	]	Í		ļ		
Trauma brain injury accelerated neurodegeneration			Mouse	Ü	В						
Trauma bram injury accelerated neurodegeneration			Wodse	100	С		<b>✓</b>		[-]	1]	<b>✓</b>
				480	a					,	
				1340	Е	] [					
			Mouse	0	В						
Small molecules and Molecular machinery controlling			Nouse	14710	C					-	
nuclear hormone receptors and inflammation			Į.	<u> </u>	D	-	<u>;</u> ,	LJ	ll	<b>.</b>	l Li
						-	ŀ				
				t	E		ļ	1			
			Rat		В	_	_	_	_		
			0 1950 Rat 0 48	С					V		
				0	· D						
				0	E						
Applying of the officers of TCD/MAUC - mantide officials			Mouse	0	В						
Analysis of the effects of TCR/MHC + peptide affinity and specificity on T cell development and immune			Mode	16248	С		[]			✓	<b>✓</b>
responses			Mouse	0	D	-			_		
				0	E						. [
					ļ <u></u>						

Protocol Title	IACUC No	Principal Investigator	Species	# Animals	Pain & Distress	CC 3	Spe MSS 3	FFR 4	ideratio PR 5		- Nic
· · · · · · · · · · · · · · · · · · ·	TACUC NO	Principal Investigator	<u> </u>	Approved 0	Category 1 B	SS 2	M22 3	FFK 4	PK 5	HAU	INC
Chromatin Remodeling Factors in Development and Differentiation			Mouse	576	С				r I		
Differentiation				0	D	7 –		1			'
				0	E	]					
Conditional Gene Targeting Studies of Inflammation			Mouse	0	В						Г
n Mice				8696	С					•	
				4378	D	_					
				6	E						
Collection of Syphacia pinworms from privately-			Mouse	0	В						
owned pet mice and rats for decontamination				30	С					✓.	
experiments				0	D	-		İ			
				0	E						
			Rat	0	В						
				30	С					✓	
				0	D	-					
				0	<u>Е</u> В						_
Glioma tumor formation and hydrocephalus in the			Mouse	300	С			F1	[-]		
orain				360	D	<b>V</b>	<b>✓</b>			V	
				0	E						
			Mouse	0	В						_
thanol Consumption and the Development of diopathic Normal Pressure Hydrocephalus			Wouse	360	С						
alopathic Normal Pressure Tryarocephalas				0	D	]					ĺ
	1			0	E	1					
	<del>                                     </del>		Marian	0	В						
Molecular Basis of T Cell Lineage Commitment	1		Mouse	6432	C					~	
				600	D			_	_	1♥.1	
				0	E						
Costimulatory Regulation of T cell Activation		·····	Mouse	0	В						
Costimulatory Regulation of T cell Activation				4242	С				l [	<b>✓</b>	
				120	D	1	1			-	
				0	E						Ĺ
Floring COVID 10 TNE Start From 1 1 2			Mouse	0	В						
The role of Ripk1 in TNF signal transduction and Mechanism(s) of Tal1/scl-mediated Leukemogenesis			INIOUSE	4191	С					<b>✓</b>	
viechanishi(s) or ranysor-mediated ceukenlogenesis				204	D	]			_		
	1 1		I			1	1				1

· · · · · · · · · · · · · · · · · · ·		:	T	# Animals	Pain & Distress		Spe	cial Con:	sideratio	ns	
Protocol Title	IACUC No	Principal Investigator	Species	Approved	Category 1	SS 2	MSS 3	FFR 4	PR 5	ns HAU 6	NCA
			Zebrafish	0	В	_	_	_	_		1
	1			1806	C	· •				₹.	
				200	D	-					1
				0	E						_
Development of RNAi-based therapeutics	1		Mouse	0	В	+			(···)	_	_ ا
,			ł	2158	С	•	LJ			✓	☑
			i	2567	D_	-					
			1	775	E						
			Rat	0	В	_					
	ļ <u>i</u>			2158	С	. 🔽				✓	
	1			2354	D	_				•	
				0	Е	į					
ivaluation of distribution, efficacy, and safety of			Non-Human primate	0	В						
hemically modified oligonucleotides in a non-human			i '		С		✓	✓		~	
primate model.				36	D	-					
				0	E B	<del>                                     </del>					_
JMass Mouse Phenotyping Center	1		Mouse	5100	C	-		_	-1	l al	Ι.
				100	D	<b>∠</b>	<b>✓</b>	. <b>∡</b>	✓	✓	Ŀ
				5800	E	1	i				
			<u>-</u>	3600	В						
xamining the effects of perturbing toxic metabolite			Mouse	0	c	<b>~</b>				<b>~</b>	[
pathways on the growth of cancer cells in xenograft	!			506	D		<u></u>			15.1	
umors				0	E						
				0	В	<del>-</del>				-	
Conjugated nanoparticles and Prodigiosin Drug for			Mouse	210	C					V	_
pecific Targeting and localized Drug Delivery for				0	D	1 💛				<u>i~1</u>	
Tumor Shrinkage (Treatment) of Early, Mid Stage and ate Stage Xenograft Tumor of Triple Negative Breast				0	E						
ate Stage kenograft Turnor of Triple Negative Breast	<del> </del>		Guinea pig	0	В						
luorescent Imaging of Cardiac Efflux			Guillea pig	0	c				[]		
					D	1 "					"
				180	<del>                                       </del>	-					
				0	E						
			Rat	0	В			; ¬			_
				0	C			<u></u> ,	Li	<u> </u>	
				150	D						
				0	E	1					1

Protocol Title	IACUC No	Principal Investigator	Species	# Animals	Pain & Distress	SS 2	Spe MSS 3	cial Con	ideratio PR 5	ns HAU 6	NC4
	TACUC NO	Principal Investigator		Approved 0	Category 1	33 2	10133 3	FFN 4	FNJ	пдо о	INCA
Diabetes susceptibility to Tuberculosis	]		Mouse	2644	С		l 🖂 !				i [
	1		ł	352	D		_	_		14.3	
				0	E						
Determinants of Tuberculosis Severity			Mouse	0	В						
Determinants of Tuberculosis Seventy				2666	С					V	
				144	D	_					1
				0	E						
tern Recognition Receptors in Innate and Adaptiv			Mouse	4066	С		_	[7]			_ ا
mmunity				4966		$+$ $\Box$		l		V	5
	1		ł	408	D						i
				4448	Е						_
Microsurgical Techniques			Rat	0	B C	-	_				_ ا
Microsurgical Techniques				153	D				ا اـ.ا		[
			l	0	E	-					l
			Mouse	0	В						_
Characterize the role of cytoskeletal disruption in ALS			IVIOUSE	2300	С					V	[
				0	D						
				780	E						
Innate Immunity to pathogens and recognition of		•	Mouse	0	В					Ĭ i	
endogenous danger signals in sterile inflammation			;	14262	C					<b>I</b>	[
5 5 5			]		D	_					i
	<u></u>			1080	E						
Translational Epigenetics: From Trisomy Silencing in			Mouse	0	В						
vitro to New Therapeutic Frontiers			1	1050	C					<b>✓</b>	,
·				0	D	_					
				0	E						
Embryonic origins of endothelial heterogeneity			Zebrafish	0	В	-					_
, , ,			1	10500	C	✓				Li	
			1	9600	D	-					
				0	E						
Effects of persistent and non-persistent pollutants on			Mouse	0	В	- ⊢	_	_	_		
the reproductive endocrine system				4380	С					V	[
•				0							
				1 0	E						1

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				# Animals	Pain & Distress				ideratio		
Protocol Title	IACUC No	Principal Investigator	Species	Approved		SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
The Immune Response to Fungi			Mouse	0	В						
· · · · · · · · · · · · · · · · · · ·				1800	С					<b>(</b>	
				1300	D			]			ļ
		·- ····		3000	Е		· ļ	i			
Effect of the microbiome on tumor progression and			Mouse	0	В	_					
treatment response				0	С					<b>v</b>	<b>✓</b>
•				12	D	_		Į			
				0	E			j			
Molecular Basis of Leukemogenesis			Mouse	Ü	В	-		ĺ			
TWO Cedial Basis of Leakernogenesis	1			2540	С					<b>✓</b>	<b>✓</b>
				230	D						
				3620	E						
			Marria	0	В				-		
Role of Toll-like receptors and related molecules in			Mouse	5639	С					<b>✓</b>	
innate immune signaling during infection and disease				3844	D	- 1	''			Y	
				4950	E						
Investigation Machanisms for Resistance to Plance			Mouse	0	В						
Investigating Mechanisms for Resistance to Plague and the Development of Novel Anti-microbials			1	784	С					•	
and the Development of Novel And Interoolars			ſ	2260	D					-	
			1	7160	E						
			Rat	0	В						
	1		Nat	20	C					<b>✓</b>	
		-		40	D			1		•	
	1					_		-			
				60	E						
Evaluating specificity and efficiency of CRISPR-Gold	]		Mouse	0	В			1			
for editing retinal genes in Ai9 mice				6	С					✓	Ш
	1			50	D	1					
				0	Е						
Biodistribution and pharmacokinetics of radiolabeled			Mouse	0	В _		_	_	_		
agents in mice	1			00	С					<b>✓</b>	✓
	1			1320	D						
				0	E						
	i i	·	Rabbit	0	В						
Immunogenicity and Protection Efficacy of Flu DNA			Nabbit	0	С					✓	
Vaccines				57	D	1			_		
			I	0	E		1				1

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	· ·			# Animals	Pain & Distress		Spe	cial Cons	ideratio		
Protocol Title	IACUC No	Principal Investigator	Species	Approved	Category 1	SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
The immunogenicity of HIV-1 envelope glycoprotein	<del></del>	· · · · · · · · · · · · · · · · · · ·	Rabbit	0	В						_
(Env)-based vaccines with various designs				0	С					✓	
(Eliv)-based vaccines with various designs				449	D	_					ĺ
			<u> </u>	0	E						L
In a serior and in a serior and in a serior and a serior			Mouse	0	В						
Immunogenicity and innate immune responses of DNA and protein vaccines in mice				350	С					•	
DIVA and protein vaccines in time				3125	D						ĺ
				0	E						
			Rabbit	0	В					-	
Immunogenicity of DNA vaccines			1	0	С					~	
			1	345	D						
			1	0	Е						
			Mouse	0	В						
			I Wiodasc	0	C					✓	
			4	765	D	┧			1		
						-{					ĺ
				0	E						
			Guinea pig	0	B	_				_	ļ ,
				0	С					•	
				65	D	-		İ			ŀ
	1			0	E						<b>—</b>
Epigenetic inheritance in mouse model of			Mouse	0	B			_	1:1	_	۱ _
inflammation				2070	С			<u> </u>		✓	•
			1	0	D	4					
				1575	E					_	
A4 - Land Carolina in Musels and Turner Colle			Mouse	0	В						
Mechanosensory Signaling in Muscle and Tumor Cells				2616	C					<b>✓</b>	V
				112	D						
				0	E	_					
			Mouse	0	В				<u> </u>		
Bivalent vaccine against Epstein-Barr virus infection	1 1		Wouse	56	С					✓	
using computationally determined viral epitopes				0	D						
				90	É						1
	+	······································		0	В						
Stem Cells and Immunological Tolerance			Mouse	3918	C	✓				<b>✓</b>	~
					-	<b>-</b>		"			🔼
				930	D		<u> </u>				

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				# Animals	Pain & Distress		Spec	ial Cons			
Protocol Title	IACUC No	Principal Investigator	Species	Approved	Category 1	SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Steatosis, Inflammation and Cancer in the Liver			Mouse	0	В						
Steatosis, inhammation and Cancer in the liver				12963	C	<b>V</b>		<b>✓</b>		•	
	1			7768	D			·			
				0	E						
LIL (C) singular in a superposis	<del>- 1</del>		Mouse	0	В						
Hh/Gli signaling in organogenesis and tumorigenesis				4200	С					~	
				192	D						
	i i			0	Ε						
Describer of acceptance of abuse in	1	<del>.</del>	Mouse	- 0	В						
Regulation of synaptic plasticity by drugs of abuse in nucleus accumbens medium spiny neurons			,	1776	С		<b>Z</b>			<b>✓</b>	✓
nucleus accumbens medium spiny nedions				392	D						
				0	E						
				0	В						
Resuscitation of Warm Ischemia Damaged Livers			Rat	0	С						
using Machine Preservation				310	D	7 "					
				0	E						
G CH 1 H 1 TRNA 1 DCD Programs	<del>                                     </del>	·	Mouse	0	В						
Gene Silencing therapy with siRNA in DCD liver grafts during Liver Machine Preservation				0	С					<b>✓</b>	
during liver Machine Freservation				80	D						
				0	E						
			Rat	0	В						
				0	С					✓	<b>✓</b>
				60	D	💆			_		
				0	E	-					
				0	В	1		- !			
Pathogenicity of Streptococcus pneumoniae and host			Mouse	1324	C -		F-1		1-5		
responses during natural colonization and invasive				1212	D	1 📙	Ll		[]	✓	
disease.					<del> </del>	-					
				1108	, B				-	-	<u> </u>
Mucosal Inflammation Induced by Pathogens	1		Mouse		· · · · · · · · · · · · · · · · · · ·	1 _				_	
, , ,				6106	<u> </u>				ш	V	╽╙
				2400	D	4					
				105	E	_					
Modulation of MDR1 by enteric pathogens			Mouse	0	В	4					_
Modulation of Mokil by entend patriogens				4020	c	] $\square$		<b>✓</b>		✓	
				0	D	1					
	]			0	E						

	1		T	# Animals	Pain & Distress			cial Cons		ns	
Protocol Title	IACUC No	Principal Investigator	Species	Approved		SS 2	MSS 3	FFR 4	PR 5	ns HAU 6	NC/
Trafficking and Regulation of Monoamine Transporters			Rat	0	B	<del> </del>		_			1
			· ·	140 0	C D	<b>✓</b>		<b>⊘</b>			
						-	1	ļ			
	]		N4	0	Е В						
	i l		Mouse	721	С	<b>├</b>		· <u> </u>	J**7		١,
				2152	D D	✓		<b>7</b>		<b>V</b>	[
				0	E	1					
			Mouse	<del>0</del>							┪
Franscription Factors and Cell Surface Receptors in			Mouse	1918	С						
pithelial Development and Cancer	]			904	D						
				0	Е	]					
he mechanism of colon cancer development in ypercholesterolemic mice		<del></del>	Mouse	0	В			İ			
			Modse	1736	С			<b>√</b> .		<b>✓</b>	
			ļ	970	D	_					
					E			j			╄
The effects of type 2 diabetes on wound healing in a			Mouse	0	В	-			ı=ı		
nouse model				4205 1395	<u>C</u>	✓			[	•	
				0	E	1					
				0	В			1			$\vdash$
Bone Marrow Derived-Stem Cells in the Treatment of			Mouse	4162	С		<b>√</b>			<b>.</b>	
Atherosclerotic Peripheral Arterial Disease in Diabetic and Hypercholesterolemic Mice			İ	1638	D				1		
and Trypercholesterolentic Wilde			]	0	E	1					
-	-		14	0	В		-				<b>†</b>
Role of exercise in the reduction of the incidence and			Mouse	988	С		ורין			<b>~</b>	
everity of breast cancer in mice			1	580	D						
				0	E						
TET1 deficiency in hematopoietic stem cells increases			Mouse	0	В	-				-	
he risk of atherosclerosis in mice				1840	С	✓				✓	
				40	<u>D</u>						
				0	Е						
mprovement of Bioluminescence Imaging in vivo			Mouse	0	В						
improvement of biolonimescence imaging in wo				65	С	<b>7</b>				<b>✓</b>	
				422	D						
	1			25	E						

		D. Carlott Francisco	Caratian	# Animals	Pain & Distress				ideratio	ns HAU 6	امرد
Protocol Title	IACUC No	Principal Investigator	Species	Approved 0	Category 1 B	SS 2	MSS 3	FFR 4	PR 5	HAU	INCA
Virus-like Particles as Vaccines			Mouse	0	C					•	l r
			İ	4560	D			·1		[*]	1
				0	E						
Mouse Model of Pulmonary Emphysema and Fibrosis			Mouse	0	В						
intodae (mode) of Camionary Emphysicina and Charles				2727	C		$\overline{\mathbf{Z}}$		<b>✓</b>	<b>V</b>	[
				1324	<u>D</u>	-					
				0	E E	<u> </u>					_
Gene Therapy for Amyotrophic Lateral Sclerosis			Mouse	862	С						-
				327	D		L1		Ш	✓	
				77	E	1					
				0	В						$\vdash$
LR9 regulates Axl dependent migration of utoreactive B cells			Mouse	1824	C					Į.	
				0	D		'-'			1,50,1	
				80	E						
Characterization of autistic animal models			Rat	0	В	ļ <u>,</u> ,			_		
	1			152 0	C D				<u>.</u>	<b>~</b> ]	
				112	E	-					
				0	В.		-				-
Assembly of Motile and Sensory Cilia in Vertebrates			Mouse	15582	С			[		<b>&gt;</b>	
				120	D	1 –			_	1.5.3	'
				0	E	1					
	<del>                                     </del>		Mouse	0	В						Т
Photoreceptor metabolism in diseases such as Retinitis Pigmentosa and Age-related Macular			Wodse	5497	С					V	1
degeneration				18090	D	_					
				0	E						
Effects of diet on epigenetic information in sperm			Mouse	0	B	-				_	
, ,				9118	С	✓				<b>✓</b>	
				170	D	1					
				280	E						₩
PROTO201900263 - B cell response at the mucosal			Mouse	0	В						
interface				27564	C					<b>✓</b>	
			1	0	D	-					
			1	0	E						1

		2~		# Animals	Pain & Distress		Spe	cial Cons	ideratio	าร	
Protocol Title	IACUC No	Principal Investigator	Species	Approved	Category 1	SS 2	MSS 3	FFR 4	PR 5	ns HAU 6	NCA
Immune defenses against Neisseria gonorrhoeae		<u>.</u>	Mouse	0	В						
initially defended against Noisseria gonomioaac			1	10068	С					✓	
				8945	D		]				
				0	Е						
Immunology of Infection with Streptococcus pyogenes			Mouse	0	В						_
				126	С	. :			[]	✓	, [
				0	D	-	İ				
				336	Е						
Studying autoimmune skin diseases to identify new			Mouse	0	В	_			_		
treatment options				7180	С	. $\square$				•	l
				0	D	_					
				470	Е						
ocal mRNA Translation and Synaptic Plasticity		<del></del>	Mouse	0	В						[
				7729	С	<b>✓</b>				✓	. [
				1502	D						
				200	E						
Voltage-Gated Calcium Channel Studies using Primary			Mouse	0	В						
Cells				1000	С	. 🗆					[
				0	D	-					Į
				0	E						
Specification of Axial Development in Mammals			Mouse	0	В	-			.—.	_	
			ļ	12027	C	•				~	
				161	D			1			
				0	Е						
			Rat	0	В						
				0	C	✓				✓	[
				180	D		i				
				0	E						
UMMS Transgenic Animal Modeling Core (TAMC			Mouse	Ö	В						
SWING Transgenic Ammar Wodering Core (FAWC				32786	С	•				✓	[
				9945	D	]					
				0	E		1				1
			Rat	o	В						ı
			]	1068	C	· .				✓.	[
			i	1404	D		-	_	_	. ▼	
				1404	E	4	ł l				1

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		···		# Animals	Pain & Distress		Spe	cial Cons	ideratio		
Protocol Title	IACUC No	Principal Investigator	Species	Approved	Category 1	SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Analysis of Immune Responses			Mouse	0	8						
Analysis of infinitine Responses	1			36450	С	•	<b>₽</b>			✓	V
	1			10860	D			İ			
				0	E				j		
The functional role of Alzheimer's Disease-related		*	Mouse	0	В				Ì		
genes				3980	C				$\Box$		V
genes				0	D				İ		
				0	E			İ			
Musing an adole for the study of systemic outcimmung			Mouse	0	B	_					
Murine models for the study of systemic autoimmune disease			1110030	7323	С					<b>✓</b>	✓
uisease				60	D						_
				1744	E	1					
				0	В						
Biodistribution and pharmacokinetics of biomarkers	1		Mouse	765	C					V	V
with detection by imaging				1200	D	1 🗀			1	Į <b>Y</b>	
				0	Е	1		[			
		• • • • • • • • • • • • • • • • • • • •	Mouse	0	В						
Small Animal Imaging Core Service Animal Protocol: PET/SPECT/CT and Optical Imaging	i I		1	0	С					<b>✓</b>	<b>V</b>
PET/SPECI/CT and Optical imaging			ſ	1000	D	1				C-2.	
	1		1	0	E	1			1		
			Rat	0	В						
			Nat	0	C						
			`			┨			ا ا <sup>لـــــا</sup>	<b>✓</b>	[ <b>✓</b> ]
				300	D	-					
				0	<u>E</u>						
Evaluation of intratumor injection dispersal/diffusion			Mouse	0	В						
available of moral and injection ampoints, and				0	С					✓	
				16	D	_			Ì		
				0	E						
Transcriptional Analysis of Zebrafish Hindbrain			Zebrafish	0	В	_		_			
Development 2 Development				2200	С					<b>/</b>	
				0	D						
·	-		ļ	0	E						
	1	· · <u>-</u>	Mouse	0	В						
Tuberculosis Pathogenesis			iviouse	7933	С	✓				✓	<b>.</b>
				100	D			_	_		
				180	E	1					
				180			[				<u> </u>

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	<u> </u>			# Animals	Pain & Distress			cial Cons			
Protocol Title	IACUC No	Principal Investigator	Species	Approved	Category 1	SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Tuberculosis Pathogenesis	-	· <u> </u>	Mouse	0	В						
Tuberculosis Pathogenesis	1			348	С					<b>~</b> ]	
			1	20	D		!				ļ
		_		. 0	E		1				
Nisses alle interestions regulating paragraphs			Mouse	_0	В						
Neuron-glia interactions regulating nervous system development and plasticity			)	5814	C		✓		✓	V	<b>✓</b>
development and plasticity				6726	D						
				546	E						
	1		Rat	0	В						
				648	С		V		V	$\checkmark$	V
			1	0	D						
				0	E	1		1			
				0	В	-			_		-
Regulation of B cell function			Mouse	1800	c -				V	V	<b>✓</b>
				0	D	┧ 凵			$\checkmark$	•	~
				0	E	1					
			Mouse	ō	В	†	-				
DNA breaks in B lymphocytes			viouse	1372	С					<b>&gt;</b>	
				0	D			,		L-3	CF
				0	E	· .					
	-	<del>, , , , , , , , , , , , , , , , , , , </del>	Mouse	0	В						
Immunology of Virus Infections	1		Modse	4700	С					✓.	V
				0	D						
			1	300	E						
				0	В						
Mechanisms of Breast Cancer Metastasis			Mouse	2340	C					<b>✓</b>	<b>✓</b>
				5918	D	┦ '	"	11		•	
				0	E	1					Ì
	1		Dog	0	В	_					
Departmental Procedure for the Adoption of Animals	.		Dog	0	C	<b>✓</b>					1 _
from the Facility					<u>a</u>		"	'-			
,	i l			20		-					
				0	E						
			Cat	0	В	<b>⊣</b> _					_
				0	С	_ ✓					
				20	D	_					
				0	E						

	<del>- 1</del>			# Animals	Pain & Distress			cial Cons			
Protocol Title	IACUC No	Principal Investigator	Species	Approved	Category 1 B	SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA
partmental Procedure for the Adoption of Animals			Sheep	0	С	<b>/</b>					
n the Facility				20	D		'-'			I.—	L
				0	E	-	!		ļ		
			Goat	0	В						
			Goat	0	С	✓					
				20	D	1 "					
				0	E	7					
			Macaque	0	В						1
				0	С						
				20	D						1
				0	E						ı
			Mouse	0	В				_		
				0	C						
				20	D					l	
		E									
			Rat	0	В	4	_	,,			ا ر
				. 0	С						
				20	D	_				1	
				0	E						
			Rabbit	0	B					, 🗆	Γ
				0 14			L!				Ι΄
				0	E E	-	!				ĺ
	1		Hamster	0	В						
			Hamstei	0	C						[
				20	D		-				
				0	E	_					
			Guinea pig	0	В						
				0	С						[
				50	D						
				0	E	1					
			Frog	0	В						
			1	28	С						

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· · · · · · · · · · · · · · · · · · ·				# Animals	Pain & Distress	Ì	Spe	cial Cons	sideratio	ns	
Protocol Title	IACUC No	Principal Investigator	Species	Approved	Category 1	SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Evaluation of tail maturation for distal tail biopsy			Rat	0	В						
methodology in male and female rat pups.	}			17	С					<b>√</b>	•
, , , , , , , , , , , , , , , , , , ,	1			48	D	_			}		
				0	E						
Understanding key regulators in skeletal homeostasis			Mouse	0	В						
and development	•			6602	С	<b>.</b>				<b>☑</b>	✓
<u>'</u>				3233	D					, !	
				1782	E						
Preclinical evaluation of targeted therapies for			Mouse	0	В.	T					
neuroblastoma				100	С					<b>₽</b>	<b>✓</b>
				948	D						
				0	E	.					
	i i		Mouse	0	8	į į					
Innate Immune receptors and transport proteins for Leishmania parasites and bacterial cell wall				1292	С	] 🗆				V	
components			1	180	D	1		. , .	_	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
components			1	8772	E	1				.	
			Hamster	0	B B						
			Tamster	36	C					<b>✓</b>	
	i i			0	D D	1 🗀	''				
				0	E	1					
	1		1.4	Ü	В В						
Flow Cytometric Analysis of Erythropoiesis			Mouse	4974	С					v	
				150	D	1 "	11				
				0	E	1				, !	
			Mouse	0	В						
Synthetic bone grafts expediting the repair of skeletal			Mouse	462	C	┨		_			
defects					· · · · · · · · · · · · · · · · · · ·		السا	<b>⋥</b>		✓	<b></b>
				3075	D	1				i /	
				0	E						
			Rat	0	В	-				. !	
				10	_ C			✓		✓	<b>✓</b>
		1244	D								
				0	E						
	<b></b>		,12			1					
and the contract of the contra	1		Rat	0	В	1		1	ļ	' '	1
Live small animal imaging using Scanco VivaCT75 scanner			Rat	0	C					v	

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			· "	# Animals	Pain & Distress			cial Cons			
Protocol Title	IACUC No	Principal Investigator	Species	Approved	Category 1	SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
Implant surface modification strategies against		<del></del>	Mouse	0	В						
periprosthetic infections				0	C					<b>√</b>	<b>√</b> ]
penpiosarette imedians	1			370	D			1			
			1	380	E						
			Rat	0	В						
				0	С	✓				<b>✓</b>	V
				370	D		1 .,			1.	[.Ψ_1
				380	Е	1					
			-	- 0							
Biodegradable synthetic materials for regenerative			Mouse	0	С					<b>✓</b>	v
medicine applications				397	D	1 -				<u>(*)</u>	
					E	1					
				0							
Antigen Presentation and T Cell Recognition of MHC			Mouse	0 4620	B C	- <u>-</u> ,			r	_	
Proteins				2348	D					<b>✓</b>	✓
				0	E	-	ļ				
				0	В						
Leukemogenic and developmental roles for t(1;22)-			Mouse	2564	C					l el	
associated gene products			·	0	D 0	┪ 凵	'-'	l}		V	•
				0	E	1					
	<del>                                     </del>			0	<u> </u>		1				
The Immune Response of T Cells			Mouse	7702	c	1					V
				4620	D	₹				<b>✓</b>	
	l i					-					
				1800	ΕΕ				_		
Fatty liver, alcohol and hepatotoxicity			Mouse	0	В	4	_				
Tacty wat, alcohol and hepatotokady	1			53826	С	✓		✓		V	✓
				17787	D	4					
				0	E						
Immunomodulation in Hepatocellular Carcinoma		, "	Mouse	0	В	-					
	1			592							
	1			0	D		] :				
				0	E						
	+ -		Maura	0	В	<u> </u>					
Animal model for HCV - human liver			Mouse	0	С					<b>✓</b>	<b>✓</b>
tissue/hepatocytes infected by HCV in chimeric mice		*		1154	D	┤ 💌	'-'			لع	-
					E	1					
				700	<u> </u>	1					

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Protocol Title			# Animals	Pain & Distress	Special Considerations						
	IACUC No	Principal Investigator	Principal Investigator Species	Approved	Category 1	SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
	22.000		Mouse	0	В						
The Role of the Reward and Withdrawal Pathways of			Wiouse	6468	С		<b>✓</b>	<u>.</u>			<b>✓</b>
Mouse Brains in Drug Addiction, Self-Administration,				6106	D						,
and Withdrawal			ŀ	3540	E						
	-	<del></del>	Mouse	0	В						
Regulation of cardiac development by chromatin			Mouse	4770	С					V	
modifying enzymes				0	D						i — I
			1	0	E						
			Mouse	0	В						
PPARs and co-regulators in energy metabolism			Wouse	4535	c					<b>✓</b>	✓
				400	D	1					'
				520	E	1					'
		<u> </u>		0	В						
Monoclonal Antibody Development			Mouse	990	C					•	
	l i			0	D	1 '-'				Į <b>v</b>	[*]
				0	E	7					<u></u>
			Rabbit	0	В					V	
Immunogenicity of novel DNA and subunit-based vaccines against HIV			1	265	С						
	1		1	0	D						
			í	0	E						
			Mouse	0	В		!			}	
			Wouse	480	C					<b>✓</b>	
	1			0	D	-			ت کی		
					E	-					
				0		<del>                                     </del>	<del> </del>				
Animal Models of Virus-Induced Diabetes			Rat	0 216	В			<u> </u>			
				726	D	1 📙	-			<b>✓</b>	
					E	-				İ	
				591 0	B	+	<del> </del>	ļ	1		<del></del>
Development of RNA-based therapeutics			Mouse		<del>                                     </del>	+ $-$					
	1 1		Į	15000 C		<b>!</b>					
	l			10500_	D	-	ļ		!		
				300	E						
			Rat	0	В	4					
				400	c		~				<b>✓</b>
				0	D						
				0	Е						

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Protocol Title				# Animals	Pain & Distress	Special Consideration					
	IACUC No Principal Investigator	Species	Approved	Category 1	SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7	
Maintenance and Investigation of ATX2-deficient mice	-		Mouse	0	В					1	
	i i		1110000	212	C				[]		<b>₽</b>
				680	D						
				0	E						
	-		Mouse	0	В						
Generation and Validation of a Tissue-specific Circadian Reporter Mouse			Mode	1157	C	<b>.</b>			Γ.]	<b>√</b>	$\overline{\mathbf{v}}$
Circadian Reporter Mouse				87	D						l
				0	E						
El Handaria and Assaultha			Mouse	0	В						
Flagellar Motility and Assembly				830	С						✓.
				80	D		i				
				O	E						
			7 1	0	В						
Novel programmable nuclease architectures for			Zebrafish	1440	C						
reverse genetic approaches in zebrafish	1			10000	D						(•.,
	1			0	E	]					
Production of Human/Mouse Xenochimeras			Mouse	0	В						
			1,100,50	870	<u>c</u>					✓	
				0	D						
	1			0	E						
			Mouse	0							
Transgenic mouse models for neurodegenerative			17.0000	1700	C						✓
diseases				300	D						
				150	E						
		<u> </u>	Mouse	644	В						
Developing models and treatment of amyotrophic lateral sclerosis		Moose	149	С							
				110	D			_			
				713	E						
			Maria	0	В		· · · · ·				
Identification and validation of cancer genes using mouse models			Mouse	2600	С	] _	["]	✓		<b>✓</b>	<b>✓</b>
				700	D D	] ''					
				100	E						
	-			0	В	+	-				
Rat models of diabetes and related complications			Rat	1500	С	1 _				<b>~</b>	
<u>'</u>					·		$\checkmark$		()		
				6296	, D	-					
				0	E		<u> </u>				<u> </u>

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Protocol Title	IACUC No Principal Invest		Species	# Animals	Pain & Distress	Special Considerations					
		Principal Investigator		Approved	Category 1	SS 2	MSS 3	FFR 4	PR 5	HAU 6	NCA 7
			Rat	0	В.						
				15	С					<b>√</b>	<b>✓</b>
				0	D						
·				0	E						
Tumorigenic Potential of Genetically Manipulated Mice			Mouse	0	В						
Tamongania ( Startial St. Sarias Sariy Manipatana Masa				3920	C			✓		<b>~</b>	<b>√</b>
				150	D	-					
•			<u></u>	0	E						
Molecular Genetic studies of senescence in tumor			Mouse	- 0	В	-					
suppression and aging				6220	С					✓	✓
5 5				450	D	_					
				0	Ê						
Integration of radiosensitization and anti-STAT3 nanotechnologies for treatment of head and neck cancer			Mouse	0	В				[]	V	
	1			0	С						✓
				130	D						
				0	E						
Ca2+ signaling, ion channels and G-protein coupled receptors			Mouse	0	В				<b>_</b>	<b>✓</b>	
	1			3450	С						<b>✓</b>
			Į	177	D	-					
				0	E						
			Guinea pig	0	В						
			]	80	С				V	✓	<b>▽</b>
				0	D						
			<b>\</b>	0	E						
			Rat	0	В						
				80	c				•	₹	<b>✓</b>
				0	D	1 "			<u> </u>	نٽ	
				0	Е	1					

- (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)