Summary of Studies (Animal) Listed in Column E

<u>Title:</u> (b)(4) • 14 s.,	
Squirrel monkeys are used in drug discrimination studies for studies of (b)(4) (b)(4) (b)(4) In these studies, (b)(4) drugs with differing of the profiles of (b)(4) are evaluated. The objective is to identify and components of drug action that underlie potential for abuse. It should be noted alternative species, rats, is used for most of these studies and squirrel monkeys lesser extent.	study those that an
Squirrel monkeys are trained to discriminate between a reference drug, such as (b)(4) Monkeys are loosely so chair during these studies. During the training phase and as an aversive stimular during discrimination trials, a (b)(4) stimulus may be do monkey's tail after 5 seconds from the beginning of the trial. The monkeys car trial and prevent the (b)(4) by pushing on one of two levers (corresponderence drug or the placebo). The monkeys quickly learn to avoid the stimular during the five seconds after the start of the trial. After the initial training session rarely, if ever, receive an (b)(4) stimulus. The monkeys quickly learn to avoid the stimular during the five seconds after the start of the trial. After the initial training session rarely, if ever, receive an (b)(4) stimulus. The monkey given indiscriments are never given indiscriments are never given indiscriments.	eated in a primate us to respond elivered to the a terminate the nding to the us by responding on, the monkeys inately or without
Pain-relieving drugs are not used in these studies because any pain experienced (one second or less) and the animal can take action to avoid all pain (by pushing seconds of a clear cue). Additionally, pain-relieving drugs, such as narcotics, we pharmacological effects of the (b)(4)	g a lever within 5
Title: (b)(4) • 3 R	
Disorders affecting (b)(4) such as (b)(4) are as disrupted sleep patterns and arousal. Rhesus monkeys are used in this study to cellular mechanism of these sleep disorders and how medications act and can be manage them. Nonhuman primates given the (b)(4) are used as a manage them. Induction of (b)(4) causes (b)(4) This condition cannot be according to the condition of the condition cannot be according to the condit	e better used to nodel of
(b)(A)	
(b)(4) (b)(4) (b)(4)	lers the use of
anesthetics, analgesics and tranquilizers to relieve pain or distress, it should be a more specific and appropriate intervention, may be	used that
(b)(4) a more specific and appropriate intervention, may be in animals on this study.	100000
Title: (b)(4) • 4 R	

Human patients with a wide range of illnesses may exhibit a high rate of depression mediated by activation of the immune system and the release of the brain leading to altered behavior. For example, about 50% of humans given the (b)(4)

Confidential & Proprietary Information

(b)(4) therapeutically develop depression. In these studies, the administration of causes chronic immune activation and a (b)(4) similar to depression in humans. Monkeys given the (b)(4) are used to study how it disrupts brain neurochemistry and to develop treatment interventions. The (b)(4) may also be (b)(4)

(b)(4) Potentially animals may also experience heightened sensitivity to painful stimuli and other neurological abnormalities (b)(4)

(b)(4)

Attachments to APHIS Form 7023

(b)(4)

Exceptions to Regulations and Standards

Isolation	t and Exemptions from Social 1	Emicimient for Nonnuman	Primates: Social
There ere a remine			
There are a varie	y of human diseases (Parkinsor	n's Disease, Huntington's D	isease, progressive
	y, narcolepsy, and periodic leg		nat are associated
with uncontrolled	movements in slean that agua-		monkeys
(b)(4)			Monkeys
(15)(4)	Commence Service for perio	as of three days after drug a	administration while
(b)(4) and its $(b)(4)$	are excreted. On	<u>i a sched</u> uled basis afterwar	
placed in a cage s	pecially designed for (b)(4)	and _{(b)(4)}	in a room
	e other monkeys. Individual in	onkeys may be maintained:	
	m for a maximum of 7 days and		
	monkeys of the same species f		
	ys is necessary in order to pern		
other monkeys or	human traffic in and out of the		
with(b)(4)	which telemeter their		This telemetric
	tudying sleep behavior in mon	TAVE TO THE STATE OF THE STATE	n addition, physical
restraint in a chair	is done(b)(4)		
facilitate (b)(4)			
(b)(4)			
• Title:	b)(4)		
• Title:	b)(4)		
• Title:	b)(4)		
l			· :
Physical Restrain			
Monkeys in these lever, touching a controlling a joys (b)(4)	studies are trained to do simple arget on a video screen, depressick to move a cursor to a target	sing a key to make <u>a video t</u>	
Monkeys in these lever, touching a controlling a joys (b)(4)	studies are trained to do simple arget on a video screen, depressick to move a cursor to a target	sing a key to make <u>a video t</u>	
Monkeys in these lever, touching a controlling a joys (b)(4) (b)(4) • Title:	studies are trained to do simple arget on a video screen, depressick to move a cursor to a target	sing a key to make <u>a video t</u>	
Monkeys in these lever, touching a controlling a joys (b)(4) (b)(4) • Title:	studies are trained to do simple arget on a video screen, depressick to move a cursor to a target	sing a key to make <u>a video t</u>	
Monkeys in these lever, touching a controlling a joys (b)(4) (b)(4) Title: Title:	studies are trained to do simple arget on a video screen, depressick to move a cursor to a target	sing a key to make <u>a video t</u>	
Monkeys in these lever, touching a controlling a joys (b)(4) (b)(4) Title: Title:	studies are trained to do simple arget on a video screen, depressick to move a cursor to a target	sing a key to make <u>a video t</u>	
Monkeys in these lever, touching a controlling a joys (b)(4) (b)(4) Title: Title:	studies are trained to do simple arget on a video screen, depressick to move a cursor to a target	sing a key to make <u>a video t</u>	
Monkeys in these lever, touching a controlling a joys (b)(4) (b)(4) • Title:	studies are trained to do simple arget on a video screen, depressick to move a cursor to a target b)(4)	sing a key to make <u>a video t</u>	
Monkeys in these lever, touching a controlling a joys (b)(4) (b)(4) Title: Title:	studies are trained to do simple arget on a video screen, depressick to move a cursor to a target b)(4) b)(4)	sing a key to make a video t	arget appear, or
Monkeys in these lever, touching a controlling a joys (b)(4) (b)(4) Title: Title: Title: Physical Restraint	studies are trained to do simple arget on a video screen, depressick to move a cursor to a target b)(4) b)(4) (4) and Exemptions from Social E	sing a key to make a video t	arget appear, or
Monkeys in these lever, touching a controlling a joys (b)(4) (b)(4) Title: Title: Title: Physical Restraint housing In Sight a	studies are trained to do simple arget on a video screen, depressick to move a cursor to a target b)(4) b)(4) and Exemptions from Social E and Sound of Conspecifics:	nrichment for Nonhuman P	rimates: Single-
Monkeys in these lever, touching a controlling a joys (b)(4) (b)(4) Title: Title: Physical Restraint housing In Sight a Included in this se	studies are trained to do simple arget on a video screen, depressible to move a cursor to a target b)(4) b)(4) and Exemptions from Social End Sound of Conspecifics: ction are primates that were how	nrichment for Nonhuman P	rimates: Single-
Monkeys in these lever, touching a controlling a joys (b)(4) • Title: • Title: • Title: • The (b) Physical Restraint housing In Sight a Included in this se housing for any si	studies are trained to do simple arget on a video screen, depressick to move a cursor to a target b)(4) b)(4) and Exemptions from Social E and Sound of Conspecifics: ction are primates that were horganificant period of time. For e	nrichment for Nonhuman Pused in any condition other xample, study subjects disc	rimates: Single- than group or pair ussed below include
Monkeys in these lever, touching a controlling a joys (b)(4) (b)(4) Title: Title: Physical Restraint housing In Sight a Included in this se housing for any si those that were housed in the second in the secon	studies are trained to do simple arget on a video screen, depressick to move a cursor to a target b)(4) (4) and Exemptions from Social E and Sound of Conspecifics: ction are primates that were horganificant period of time. For e used continuously in protected-	nrichment for Nonhuman Pused in any condition other xample, study subjects discontact housing, and those	rimates: Single- than group or pair ussed below include housed in protected
Monkeys in these lever, touching a controlling a joys (b)(4) (b)(4) Title: Title: Title: Physical Restraint housing In Sight a Included in this se housing for any si those that were ho contact and/or gro	studies are trained to do simple arget on a video screen, depressick to move a cursor to a target b)(4) b)(4) and Exemptions from Social E and Sound of Conspecifics: ction are primates that were horganificant period of time. For e used continuously in protected-up or pair housing for a significant period of the significant period of the significant period of time.	nrichment for Nonhuman Pused in any condition other xample, study subjects discontact housing, and those	rimates: Single- than group or pair ussed below include housed in protected
Monkeys in these lever, touching a controlling a joys (b)(4) • Title: • Title: • Title: • Title: b)(4) Physical Restraint housing In Sight a Included in this se housing for any si those that were ho contact and/or grocovered in this rep	studies are trained to do simple arget on a video screen, depressick to move a cursor to a target bl(4) bl(4) and Exemptions from Social End Sound of Conspecifics: ction are primates that were horgalificant period of time. For e used continuously in protected-up or pair housing for a significant.	nrichment for Nonhuman Pused in any condition other xample, study subjects discontact housing, and those cant portion, but not the enti-	rimates: Single- than group or pair ussed below include housed in protected rety of the period
Monkeys in these lever, touching a controlling a joys (b)(4) (b)(4) Title: Title: Title: Physical Restraint housing In Sight a Included in this se housing for any si those that were ho contact and/or grocovered in this rep A. Some anim	studies are trained to do simple arget on a video screen, depressick to move a cursor to a target bl(4) bl(4) and Exemptions from Social End Sound of Conspecifics: ction are primates that were horganificant period of time. For e used continuously in protected-up or pair housing for a significant. hals used under these conditions	nrichment for Nonhuman Pused in any condition other xample, study subjects discontact housing, and those cant portion, but not the entities are in studies of normal co	rimates: Single- than group or pair ussed below include housed in protected rety of the period
Monkeys in these lever, touching a controlling a joys (b)(4) • Title: • Title: • Title: • Title: O)(4) Physical Restraint housing In Sight a Included in this se housing for any si those that were ho contact and/or grocovered in this rep A. Some anim or motion disorder	studies are trained to do simple arget on a video screen, depressick to move a cursor to a target b)(4) b)(4) and Exemptions from Social E and Sound of Conspecifics: ction are primates that were horganificant period of time. For e used continuously in protected-up or pair housing for a significant significant significant significant period of time. The sused continuously in protected-up or pair housing for a significant	nrichment for Nonhuman Pused in any condition other xample, study subjects discontact housing, and those cant portion, but not the enties are in studies of normal congiven (b)(4) may be kept in the enties are in studies of normal congiven (b)(4) may be kept in the enties are in studies of normal congiven (b)(4) may be kept in the enties are in studies of normal congiven (b)(4) may be kept in the entire transfer of the entire transfe	rimates: Single- than group or pair ussed below include housed in protected rety of the period
Monkeys in these lever, touching a controlling a joys (b)(4) • Title: • Title: • Title: • Title: O)(4) Physical Restraint housing In Sight a Included in this se housing for any si those that were ho contact and/or grocovered in this rep. A. Some anim or motion disorder for periods of three contacts of three contac	studies are trained to do simple arget on a video screen, depressick to move a cursor to a target bl(4) bl(4) and Exemptions from Social End Sound of Conspecifics: ction are primates that were horganificant period of time. For e used continuously in protected-up or pair housing for a significant. hals used under these conditions	nrichment for Nonhuman Pused in any condition other xample, study subjects discontact housing, and those contact housing, and those cant portion, but not the enties are in studies of normal congiven (b)(4) may be kept in and while (b)(4)	rimates: Single- than group or pair ussed below include housed in protected rety of the period ntrol of movement n social isolation are

	Linhierm's turoutientou
simple motor tasks such as reaching, touching	a target on a video screen, depressing a key to
make a video target appear, and controlling a	joystick to move a cursor to a target on a video
	e loosely restrained in a chair and typically spend
(b)(4) in the laboratory. Di	ring these periods, monkeys with head appliances
may also undergo short-term fixed head restra	int to access the appliances for (b)(4)
201200	e administration of the (b)(4) to induce
(b)(4) causes of pruning in the social order and wounding	physical impairments that put such animals at risk
	ally housed singly, but in colony rooms within
sight, sound and close physical proximity of or	
prevent damage to expensive and sensitive sur	
monkeys may be housed singly, but otherwise	within cight and govern
• Title:(b)(4)	
• Title: (b)(4)	
• (b)(4)	
B. In the study of (b)(4)	tudied following injections of
(b)(4)	The safety and efficacy of
surgery for 6 to 16 weeks to evaluate behavior	gle or protected contact housing is required after
(b)(4)	
(3)(4)	
(b)(4)	
C. Experiments to test whether(b)(4)	
(b)(4)	
contact housing is required during this peri	od to avoid removal of catheters by cagemates.
	ogy of puberty: 44 rhesus macaques
The state of the s	by or prooff, 4. Micros Microsques
D. (b)(4)	
(5)(4)	anness nom me group for 48 hours for timed
blood collections.	
(b)(4)	
R Infectious disease vaccine development stu	dies may require single housing to prevent disease
agent transmission. Some of the studies de	scribed here involve the development of a
	of host immune response in protecting against or
contributing to the appearance of immune s	system damage following AIDS infection,
evaluation of the function of the thymus du	
	viruses that develop over time in chronically
	dency on the progression of AIDS, and the testing
	erent AIDS vaccines and treatment regimens.
	come vicus io incveiu dousidiissuul (il Vicus 1989)

animal to animal. In addition, the animals need to be accessed frequently for blood draws. The experimental design requires that the efficacy of vaccines will be assessed after a single exposure and without the possible confound of exposure to mutant viruses. Infected animals

in an experimental group will be housed together after approximately one month. In some experiments, animals are singly housed one month prior to inoculation to allow sufficient time for acclimatization to the new housing arrangement so that the stress of separation doesn't influence susceptibility to or course of infection.

A study testing the effects of (b)(4) requires frequent antibody infusions and orood draws during the first 3 weeks of the treatment (animals are assessed up to 4 times per week), followed by weekly blood draws for the remainder of the study, which lasts 2 months. Because these animals will be frequently handled for testing, animals are housed in protected contact housing.

(b)(4) are being done to develop a vaccine and to provide antigens for serologic and molecular studies, genomic libraries, antibody production, and gametocytes for infection of mosquitoes. Other related studies are looking at (b)(4)

(b)(4)

Cages. This is usually required for a period of 1-2 months. It is also necessary to house the animals indoors to prevent contact with the local mosquito population. Following blood collections and treatment of the malaria infection, the animals are returned to their normal housing environment. Protected-contact housing is utilized in other malaria vaccine studies in monkeys due to the requirement of daily heel or ear sticks (as well as blood collection and immunization), as well to avoid frequent reunions following stressful procedures. During the period to evaluate viral load and safety testing of gene therapy in a hepatitis C study, it is necessary to maintain the animals in metabolism cages. This is due to frequent blood collections and surgical interventions during the initial 4—6 weeks on study.

- Core A: Preclinical trials and pathology (Part of NCVDG Grant: DNA and protein immunogens for SIV/HIV vaccines): 77 rhesus macaques
- Core A: Nonhuman primates (Program Project Grant): 37 rhesus macaques
- New live viral vectors in candidate AIDS vaccines: animal trials core: 44 rhesus macaques
- Cellular immune responses and AIDS pathogenesis: 22 rhesus macaques and 16 mangabeys
- Induction of P vivax, P ovale, P malariae and other plasmodium infections in chimpanzees to obtain large volumes of parasites for malaria vaccine studies: 7 chimpanzees
- Molecular evolution of multiply deleted SIV in vitro: 24 rhesus macaques
- Core C: Primate Studies: 88 rhesus macaques
- Infant immunoprophylaxis against a primate lentivirus: 30 rhesus macaques
- Mechanism of oral SIV transmission: 5 rhesus macaques
- Analysis of thymic function during SIV infection: 6 mangabey, 1 rhesus macaque
- T cell turnover in normal and SIV infected sooty mangabeys: 3 mangabeys
- SHIV macaque model of oral immunization against sexually transmitted HIV: 4 rhesus macaques and 8 pigtail macaques
- Replication defective HIV vaccine: 6 rhesus macaques
- Role of virus specific immunity in primate AIDS: 3 mangabeys, 20 rhesus macaques
- Molecular analysis of antigenic variation in malaria: 17 rhesus macaques
- Malaria, pregnancy and immunophysiopathology: 1 rhesus macaque

- In vivo evaluation of candidate drugs: 11 rhesus macaques
- AIDS & opiates: a monkey model: 20 rhesus macaques
- Combination DNA and attenuated virus vaccine for SIV: 14 rhesus macaques
- Immune modulation of neurotropin in SIV infection: 23 rhesus macaques
- Experimental Inoculations of Macaques with Rotavirus: 6 rhesus macaques, 12 pigtail macaques
- Face Processing in Chimps Using PET: 4 chimpanzees
- Environmental Enrichment of Yerkes Primate Center Animal Colony: 2 rhesus macaques
- Colony Management Support: 131 rhesus macaques (Recently received animals in quarantine)
- Project 3: attenuated listeria vectors as an AIDS vaccine in macaques: 28 rhesus macaques
- Pox virus immunity and DNA/MVA HIP vaccines: 16 rhesus macaques
- Therapeutic vaccine for HIV: 9 rhesus macaques
- Immune modulation of neurotropin in SIV infections: 17 rhesus macaques
- Safety testing of AAV vectors in the liver of hepatitis C virus infected chimpanzees: 4 chimpanzees
- F. Studies of dose and delivery vehicle in non-human primates have become a critical step to prepare for human clinical trials in lumber from (b)(4)

 (b)(4)

 Then wound.
 - Use of osteoinductive factors to enhance spine fusion: 10 rhesus macaques
 - Use of osteoinductive factors (BMP2)—spine fusion: 3 rhesus macaques
- G. (b)(4)

 (b)(4)

 (c)(c)(d)

 (d)(d)

 (d)(d)

 (d)(d)

 (e)(d)

 (f)(d)

 (f)(d)
 - Safety evaluation of anti-APO-1/Fas antibody in the chimpanzee: 10 chimpanzees
- H. The integration of functional MRI (fMRI) technology with proven utility will significantly advance research efforts in biomedical and behavioral sciences. One proposal is directed towards brain activation studies during access (b)(4)

 [b)(4)

 In studies on

experiments involving the placement of an indwelling venous catheter for drug delivery during daily sessions lasting 1-2 hours. Some animals also have indwelling guide cannulae. The catheters and guide cannulae must be protected from contact by other animals. If contact is allowed, the preparations can be compromised with the risk of physical injury and infection. Protected contact housing reduces the risk since both animals can control proximity to others. The animals may require single housing if they persistently place themselves at risk to damage their indwelling venous catheters or guide cannulae, or that demonstrate a proclivity to damage another animal's catheter.

Determining the relationship between prefrontal cortical circuitry and components of dopaminergic neurotransmission is the focus of one research study that will enhance

understanding of the cognitive processes subserved by the prefrontal cortex. This will hopefully shed light on human disease states, notably schizophrenia. In order to identify particular neural connections in the prefrontal cortex of macaques, axonal tracers will be injected intracerebrally. Following stereotaxic surgery, craniotomies will be made over the prefrontal cortex. Subjects must be in protected contact housing to protect craniotomy sites and sutures.

Assessment of specific roles of separate neuronal structures are performed on monkeys to evaluate the brain's response to domest at 1/32 (b)(4)

(b)(4)

Implants may require single cage housing to prevent damage to implants in incompatible animals.

- Transition states of drug addiction in nonhuman primates: 12 rhesus macaques
- Development of functional magnetic resonance imaging (MRI) for behavioral studies in nonhuman primates: 8 Rhesus Macaques
- Cocaine use and pharmacotherapy effectiveness in monkeys: 5 Rhesus macaques
- PET neuroimaging and cocaine neuropharmacology in monkeys: 26 Rhesus macaques
- Cocaine use and monoamine function in nonhuman primates: 39 squirrel monkeys
- Cortical circuitry related to neurotransmission proteins: 2 rhesus macaques
- Analysis of the neuronal microcircuitry basal ganglia: 1 squirrel monkey
- Orbitofrontal limbic ontogeny and early dysfunction: 12 rhesus macaques
- Development of reversible inactivation technique: 2 rhesus macaques
- Development of medial temporal lobe function: 6 rhesus macaques
- I. Visual, vestibular and oculomotor systems must work together for normal visual function. Various disease processes or injuries can compromise the normal interaction of these systems. Research in this area will provide a basic science foundation for understanding eye movement control in humans. Primates are used since they exhibit the same set of eye movements as humans. To facilitate the research, scleral search-coils are implanted to precisely measure eye movement. In addition, head movements need to be restricted during visual testing to allow accurate tracking of visual targets. Therefore, a stainless-steel receptacle is implanted. It is sometimes necessary to house animals in protected housing when they have surgical implants. This is to protect the animal from any injury due to aggressive behavior of other animals. Animals also sometimes wear goggles which may be removed during paired housing.
 - Neural control of visual vestibular behavior: 2 rhesus macaques
 - Visual Processing and Smooth Eye Movement: 11 rhesus macaques
 - Binocular coordination of eye movements in monkeys: 6 rhesus macaques
- J. Studies of pancreas, kidney, and bone marrow transplants as well as arterial grafts are investigating the ability of costimulation blockade to protect the organs from rejection. For experiments involving bone marrow transplantation, single housing is required for the first 75-100 days following the transplant due to the potential complications including immunosuppression, anemia, leukopenia and thrombocytopenia. After that time, the animals may be paired with same sex and age animals. In the pancreatic islet cell transplant model, daily monitoring of urine and stool output are necessary to diagnose steatorrhea, polyuria and ketoacidosis. In addition, pancreatic enzyme replacement and Rapamycin are administered orally in a treat and it is essential that the amount consumed by each animal is recorded.

Attachments to APHIS Form 7023
Page 8

Confidential & Proprietary Information

Following renal transplantation, animals will require protected housing so that an accurate assessment of daily food/water intake and urine/feces production be accounted. Prior to surgery, animals may be pair-housed. With immunosuppressive therapy, healing can be delayed.

- Non-human primate pancreatic islet cell transplantation: 16 rhesus macaques, 8 baboons
- The effect of dosing strategy for LEA29Y on renal allograft survival in rhesus macaques: 23 rhesus macaques
- Activation, apathy, anergy, and apoptosis in transplantation: 6 rhesus
- Transplant Tolerance Project 2: 11 rhesus macaques
- Transplant Tolerance in Non-Human Primates: Costimulation, chimerism and tolerance in transplantation (Project 3): 52 rhesus macaques
- K. In this study to evaluate replacement of arteries with vascular grafts, subjects will have aortoiliac graft implants. Animals are singly housed to permit healing following this major surgery and evaluation of complications. Animals remain on study 1 month following surgery.
 - Evaluation of small vessel prostheses: 20 baboons

Physical Restraint, Exemptions from Social Housing, and Food or Water Restriction of Nonhuman Primates

Nonhuman primates used under these conditions are in motion disorder studies or studies of brain function. Most of the animals are used to research the cause and treatment of Parkinson's Disease (PD) because of the great similarity of brain function and that (b)(4)

(b)(4) Monkeys in these studies Monkeys in these studies of the brain is affected.

These monkeys have only slight deficits in precise control of movements on one side of the body and have no substantial movement problems. In general, isolation housing is only done for a 3 day period immediately after administration of (b)(4) during the time of excretion of the neurotoxin in the feces and urine. Otherwise, monkeys in these studies are housed within sight and sound of other animals of the species and permitting physical contact with a compatible conspecific.

Monkeys in studies requiring food or water restriction are provided ad libitum food and water on weekends according to standard husbandry practices. During weekdays, food or water is restricted overnight and in the morning (12-15 hours total) and then food or water is provided to satiety during morning or afternoon test sessions as an inducement to perform video-based tasks. Single housing is necessary to facilitate food or water restriction – otherwise a conspecific would be subjected to unnecessary restriction or food sharing might occur. Monkeys are trained using food or water as an inducement to perform simple motor tasks such as reaching, touching a target on a video screen, depressing a key to make a video target appear, and controlling a joystick to move a cursor to a target on a video screen. These monkeys, except as indicated, are loosely restrained in a chair and typically spend 4-6 hours per daily session in the laboratory. During these periods, the monkeys with head appliances may also undergo short-term fixed head restraint to access the appliances for neurophysiologic recording and microdialysis. Water or food is provided during and immediately after the testing session to meet the daily ration. The total intake of the restricted material, food or water, is recorded daily and the animal's body weight is checked and recorded at least twice weekly to ensure that are being well maintained.

- 1. Food restricted, but provided during and after laboratory testing sessions:
 - Title: Basal ganglia discharge patterns in Parkinsonism: 5 rhesus monkeys
 - Title: Influence of subthalamic nucleus on striatal dopamine: 4 rhesus monkeys
 - Title: Pathophysiology of the basal ganglia in Parkinsonism: 5 rhesus monkeys
 - Title: Deep brain stimulation in the Parkinsonian monkey: 6 rhesus monkeys
 - Title: Cortical mechanisms of motor processing: 4 rhesus monkeys
 - Title: Development of gaze-holding abilities: 6 rhesus macaques
- 2. Short-term physical restraint only:
 - Title: Transition states of drug addiction in nonhuman primates: 12 rhesus macaques
 - Title: Glutamate in Parkinson's disease: 6 rhesus macaques
 - Title: PET neuroimaging and cocaine neuropharmacology in monkeys: 26 rhesus macaques
 - Title: Cocaine use and pharmacotherapy effectiveness in monkeys: 5 Rhesus macaques
 - Title: Cocaine use and monoamine function in nonhuman primates: 39 squirrel monkeys
 - Title: The error signal for postnatal eye growth in the primate: 3 rhesus macaques
 - Title: Emotional and Endocrine Covariates of Macaca mulatto: 48 rhesus macaques
 - Title: Orbitofrontal limbic ontogeny and early dysfunction: 12 rhesus macaques
 - Title: Development of reversible inactivation technique: 2 rhesus macaques
 - Title: Development of medial temporal lobe function: 6 rhesus macaques

Exemptions from Exercise for Dogs

Dogs with an inherited motoneuron disease may be restricted from exercise for 3-4 days while acutely recovering from surgery.

• Title: Functional studies in motoneuron disease: 14 dogs.

Food or Water Restriction of Swine

Swine to undergo survival bowel surgery are restricted from solid food and given an all-liquid diet for 2-3 days prior to surgery in order to fully cleanse the gastrointestinal tract including the lengthy spiral colon.

• Title: Laparoscopic ureteral replacement with reconfigured colon: 1 pig.

JAN 0 6 2003 deliberal information.

Interagency Report Control No.:

UNITED STATES DEPARTMENT OF AGRICULTURE ANIMAL AND PLANT HEALTH INSPECTION SERVICE

1. CERTIFICATE NUMBER: 57-R-0003

CUSTOMER NUMBER: 896

FORM APPROVED OMB NO. 0579-0038

ANNUAL REPORT OF RESEARCH FACILITY
(TYPE OR PRINT)

Emory University
Whitehead Biomedical Research Bidg
615 Michael Street Suite G02
Atlanta, GA 30322

Telephone: (404) -727-7428

3, REPORTING FACILITY (List all locations where snims is were housed or used in actual research, testing, or experimentation, or held for these purposes. Attach additional sheets if necessary)

FACILITY LOCATIONS (Sites) - See Alached Listing

Animals Covered By The Animal Welfare Regulations	B. Number of animal being bred, conditioned, or neid for use in teaching, tasting, experiments, research, or surgery but not ye used for such purposes.	C. Number of animals upon which teaching, research, experiments, or tests were conducted involving no pain, distress, or use or pain-relieving drugs.	D. Number of enimals upon which experiments, teaching, research, surgery, or tests were conducted involving eccompanying pain or distress to the animals an for which appropriate anesthetic, analysaic or tranquilizing drugs were used.	E. Number of animals upon which teaching, experiments, research, surgery or tests were conducted involving accompanying pain or distress to the animals and for whithe use of appropriate anesthatic, aregisestic, or tranquilized upon would have activerably affected the procedures, residently in the procedures, residently, restance, experiments, surgery, or tests. (An explanation of the procedures producing pain or distress in these extends and the rease such drugs were not used must be attached to this report	F. TOTAL NUMBER OF ANIMALS (COLUMNS C + D + E)
). Doga	6	15	100	0	115
3. Cals	0	0	64	0	64
. Guinea Piga	0	0	34	0 .	·34
, Hamsters	0	0	0	0	0
. Rabbits	0	189	44	0	. 233
Non-human Primates	2000	7620	1541	21	2324
0. Sheep	0	7	26	. 0	33
į, Pigs	0	0	379	0	379
2 Other Farm Animals					
VOLES	0	462	908		1370
3. Other Animals					
					· · · · · · · · · · · · · · · · · · ·
1					

ASSURANCE STATEMENTS

- 1) Professionally acceptable standards governing the care, treatment, and use of animals, including appropriate use of anisatetic, analgesic, and tranquilizing drugs, prior to, during, and following actual reset traching, testing, surgery, or expanimentation were followed by this research facility.
- 2) Each principal investigator has considered atternatives to painful procedures.
- 3) This facility is adhering to the standards and regulations under the Act, and it has required that exceptions to the standards and regulations be specified and explained by the principal investigator and applicable institutional Antimal Care and Use Committee (IACUC). A summery of all autonomous exceptions is attached to this annual report, in addition to identifying the IACUC-approved exceptions, this automory into brief explanation of the exceptions, as well as the species and number of animals affected.
- 4) The attending veterinarian for this research facility has appropriate authority to ensure the provision of adequate veterinary care and to oversee the adequacy of other aspects of animal care and use.

CER	TIFICATION BY HEADQUARTERS RESEARCH FACILITY O	FFICIAL
	lief Executive Officer or Legalty Responsible Institutional Officer	dal)
	NAV	DATE SIGNED
·	flich (a obsdete.)	101/00

Ran

Annual Report to USDA Facility Locations

Peavine Creek Kennels, Emory University
O. Wayne Rollins Research Center, Emory University
Woodruff Memorial Research Building, Emory University
Wesley Woods, Emory University
Dental Building, Emory University
South Clinics (Winship Cancer Center and Eye Center), Emory University
Briarcliff Campus Building, Emory University
Cardiothoracic Research Labs at Crawford Long Hospital, Atlanta, GA
Yerkes National Primate Research Center, Emory University
Yerkes Field Station, Lawrenceville, GA
Whitehead Memorial Research Building, Emory University