

UNITED STATES DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

1. REGISTRATION NO. 51-R-0006	CUSTOMER NO. 81	FORM APPROVED OMB NO 0579-0036
----------------------------------	--------------------	-----------------------------------

ANNUAL REPORT OF RESEARCH FACILITY
(TYPE OR PRINT)

NOV 29 2006

2. HEADQUARTERS RESEARCH FACILITY (Name and Address, as registered with USDA, include Zip Code)

JOHNS HOPKINS UNIVERSITY, THE
459 S ROSS BUILDING, 720 RUTLAND AVE
BALTIMORE, MD 21205
(410) 502-0421

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

FACILITY LOCATIONS(sites)

See Attached Listing

REPORT OF ANIMALS USED BY OR UNDER CONTROL OF RESEARCH FACILITY (Attach additional sheets if necessary or use APHIS FORM 7023A)

A. Animals Covered By The Animal Welfare Regulations	B. Number of animals being bred, conditioned, or held for use in teaching, testing, experiments, research, or surgery but not yet used for such purposes.	C. Number of animals upon which teaching, research, experiments, or tests were conducted involving no pain, distress, or use of pain-relieving drugs	D. Number of animals upon which experiments, teaching, research, surgery, or tests were conducted involving accompanying pain or distress to the animals and for which appropriate anesthetic, analgesic, 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 which the use of appropriate anesthetic, analgesic, or tranquilizing drugs would have adversely affected the procedures, results, or interpretation of the teaching, research, experiments, surgery, or tests. (An explanation of the procedures producing pain or distress in these animals and the reasons such drugs were not used must be attached to this report)	F. TOTAL NO. OF ANIMALS (Cols. C + D + E)
4. Dogs		9	203		212
5. Cats		62	82		144
6. Guinea Pigs	2	648	643	12	1305
7. Hamsters		111	82		193
8. Rabbits		280	801		1081
9. Non-Human Primates	261	74	267	1	603
10. Sheep			39		39
11. Pigs		27	854		881
12. Other Farm Animals					
13. Other Animals					
Chinchilla		12	36		48

ASSURANCE STATEMENTS

- 1) Professionally acceptable standards governing the care, treatment, and use of animals, including appropriate use of anesthetic, analgesic, and tranquilizing drugs, prior to, during, and following actual research, teaching, testing, surgery, or experimentation were followed by this research facility
- 2) Each principal investigator has considered alternatives 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 approved by the Institutional Animal Care and Use Committee (IACUC). A summary of all the exceptions is attached to this annual report. In addition to identifying the IACUC-approved exceptions, this summary includes a 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.

CERTIFICATION BY HEADQUARTERS RESEARCH FACILITY OFFICIAL
(Chief Executive Officer or Legally Responsible Institutional official)

I certify that the above is true, correct, and complete (7 U.S.C. Section 2143)

SIGNATURE: (b)(6), (b)(7)c

(Type or Print)

DATE SIGNED

11/27/06

APHIS (AUG 91)

PART 1 - HEADQUARTERS

Handwritten initials: PGN

Column E Explanation

This form is intended as an aid to completing the Column E explanation. It is not an official form and its use is voluntary. Names, addresses, protocols, veterinary care programs, and the like, are not required as part of an explanation. A Column E explanation must be written so as to be understood by lay persons as well as scientists.

1. Registration Number: 51-R-0006

2. Number 1 of animals used in this study.

3. Species (common name) squirrel monkey of animals used in the study.

4. Explain the procedure producing pain and/or distress.

The procedure involves the administration of neurotoxic substances, the highest doses of which have the potential to cause hyperthermia resulting in some discomfort or distress for the animal. The animal's temperature is monitored closely by telemetry and intervention with artificial cooling occurs if it reaches 41.5 C.

5. Provide scientific justification why pain and/or distress could not be relieved. State methods or means used to determine that pain and/or distress relief would interfere with test results. (For Federally mandated testing, see Item 6 below)

Drugs can not be given to alleviate distress because hyperthermia and associated behavior are part of the pathogenetic process which results in the neurotoxic phenomenon that is being studied. All of the available analgesics will alter either the hyperthermia or the behavior of the animal under study. Veterinary staff will be consulted if animals become sick and animals not responding to treatment will be withdrawn from the study and euthanized.

6. What, if any, federal regulations require this procedure? Cite the agency, the code of Federal Regulations (CFR) title number and the specific section number (e.g., APHIS, 9 CFR 113.102):

Agency _____ CFR _____

Column E Explanation

This form is intended as an aid to completing the Column E explanation. It is not an official form and its use is voluntary. Names, addresses, protocols, veterinary care programs, and the like, are not required as part of an explanation. A Column E explanation must be written so as to be understood by lay persons as well as scientists.

1. Registration Number: 51-R-0006

2. Number 12 of animals used in this study.

3. Species (common name) Guinea pig of animals used in the study.

4. Explain the procedure producing pain and/or distress.

The procedure involves anesthesia, surgical preparation, and injection of labelled beads into the brainstem and injection of tracers at various locations in the intra- and extra-thoracic trachea. In a small subset of negative control animals, recovery from surgery without additional analgesics, under close observation, is necessary.

5. Provide scientific justification why pain and/or distress could not be relieved. State methods or means used to determine that pain and/or distress relief would interfere with test results. (For Federally mandated testing, see Item 6 below)

All of the available analgesics (opioids and NSAIDs) have a modulating effect on the cough reflex and would compromise the experiments. Animals showing signs of distress such as hunching, immobility, or weight loss will be euthanized by approved methods.

6. What, if any, federal regulations require this procedure? Cite the agency, the code of Federal Regulations (CFR) title number and the specific section number (e.g., APHIS, 9 CFR 113.102):

Agency _____ CFR _____

IACUC approved exceptions to AWA regulations:

A. Not cleaning or sanitizing at required frequencies.

1. Two cats are used for studies involving human allergy to cats. These animals are housed in a small room resembling an apartment to replicate conditions in a normal human household. The room has a rug, a bed with sheets, litter pans, food and water containers and portable cages. The cats deposit hair, dander, and other allergens on the sheets. Humans are exposed to these allergens by either entering the housing room, or by exposure to air from the room. At the request of the investigator, and approved by the IACUC the following room husbandry procedures are followed:
 - a. The room floor is mopped with clean water only
 - b. The sheets are laundered only when changed by the investigator
 - c. The rug is not vacuumed or shaken except by the investigator when they collect material for experimental challenges.

2. A number of baboon cages are machine sanitized at 3-5 week intervals rather than the required two-week interval. These are cages in which baboons have been fitted with chronically indwelling intravenous or intragastric catheters, which are protected by a tether and harness system. The back of the cage contains an instrument panel with levers and lights that the baboon uses to produce food pellets and /or drug delivery. To sanitize the cages, the animals must be chemically restrained (ketamine hydrochloride), and the system must be dismantled. The baboon must be chemically restrained on ketamine until the cage wash is complete and the system reassembled (about 30 min). (This time is used to perform a physical examination of the baboon, shave and scrub the catheter exit site, clip nails, clean teeth, obtain a body weight, etc). For some studies, the administration of a drug like ketamine and the interruption of daily experimental assessment would introduce a potentially confounding variable if an arbitrary two-week (or shorter) interval were chosen. At the request of the investigator, the IACUC approved a maximum interval of up to 5 weeks between machine sanitization. All other routine husbandry procedures, including the cleaning of cage pans, are done on schedule. In addition some cleaning of the cage bars can be accomplished as needed when the baboon is in the cage to maintain the environment as clean as possible.

B. Providing space outside of that specified by the standards.

1. We occasionally house two juvenile monkeys in cages that contain a total of 6 square feet of floor space. These cages are 60 inches high however, so they contain a total of 30 cubic feet. The veterinary medical officer felt that with the installation of additional perches these cages could be approved by the IACUC

for holding two juvenile animals. AS necessary and when additional perches are installed animals will be pair housed in these cages.

2. As part of a vaccine study, monkeys will be pair housed in a 4 sq ft Horsfall isolator for up to 21 days to prevent exposure of personnel to infectious agents. Monkeys will be returned to normal after confirmation that they are no longer shedding the infectious agents.
3. As part of imaging studies, dogs will be housed in a 9.2 sq ft, 35.5 inch high cage for up to 10 days to contain radionuclides used in the study. This housing is required to assure personnel safety and prevent environmental contamination.
4. As part of other radioactive tracer blood distribution kinetics studies, dogs will be housed in transport cages (ranging in size from 2'X3.5' to 3'X4') for radioactive material containment for 48 hours. Feed water, waste removal will be done by radioactive trained personnel. During this time, dogs will also be exempt from the exercise plan. This housing is required to assure personnel safety and prevent environmental contamination.

C. Exemption from the institution's environmental enrichment program and use of alternative programs during study.

1. - The investigator requested and obtained an exemption from the IACUC from the requirement for social housing and/or environmental enrichment as described in the institution's Primate Environmental Enrichment Program. Prior to behavioral training, or viral infection we routinely house compatible animals together in pairs, triples or groups, depending on their age and sex. In addition, the standard cage enrichment and novel food enrichments are made available. However, if there is a behavioral component to the study, animals must be individually housed for training on to the tasks using computerized response boards (food pellet reward), or non-computerized manual dexterity devices (raisin puzzle feeder). During this time other enrichment devices may not be used. It is important to consider, however, that the animal's use of the computerized board or manual device certainly provides enrichment. The investigators will try to pair house animals during the weekends if it does not interfere with the training. During the infections animals may or may not be pair housed. Animals will be singly housed if necessary to complete the study goals.

2. As part of a study of control of appetite, satiety and gastric motility non human primates will be singly housed, however, they will be provided toys, remain within visual and olfactory contact with other monkeys, and will interact with humans.

D. Exemption from normal environmental temperature requirements.

1. As part of a study of effects of different drugs on the brain, squirrel monkeys will be maintained in an environmental chamber at 33°C {91.4°F} for 12 hours.