

UNITED STATES DEPARTMENT OF AGRICULTURE  
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

1. CERTIFICATE NUMBER: 14-F-0002  
CUSTOMER NUMBER: 446

FORM APPROVED  
OMB NO. 0579-0036

**ANNUAL REPORT OF RESEARCH FACILITY**  
( TYPE OR PRINT )

U.S.Army Research Institute Of  
Environmental Medicine  
15 Kansas Street, Bldg 42  
Natick, MA 01760

NOV 01 2005

Telephone: (508) -651-4866

3. REPORTING FACILITY ( List all locations where animals were housed or used in actual research, testing, 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 animal 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 an 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 wh the use of appropriate anesthetic, analgesic, or tranquiliz drugs would have adversely affected the procedures, res or interpretation of the teaching, research, experiments, surgery, or tests. ( An explanation of the procedures producing pain or distress in these animals and the reas such drugs were not used must be attached to this report	F. TOTAL NUMBER OF ANIMALS ( COLUMNS C + D + E )
4. Dogs					0
5. Cats					0
6. Guinea Pigs					0
7. Hamsters					0
8. Rabbits					0
9. Non-human Primates					0
10. Sheep					0
11. Pigs					0
12. Other Farm Animals					0
					0
13. Other Animals					
Non-Regulated					
Mice		180	8	96	248
Rats		35	0	45	80

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 rese 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 ap Institutional Animal Care and Use Committee (IACUC). A summary of all such exceptions is attached to this annual report. In addition to identifying the IACUC-approved exceptions, this summary inc 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 )

DATE SIGNED

(b)(6), (b)(7)c



## 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 understood by lay persons as well as scientists.

NOV 04 2005

1. Registration Number: 14-F-0002 Customer ID 446.
2. Number 45 of animals used in this study.
3. Species (common name) Rat of animals used in study.
4. Explain the procedure pain and/or distress.

Justification as indicated in the Protocol: Anesthesia will be employed for pain relief during and after implantation of transmitters and data loggers and during exsanguination by cardiac puncture followed by thoracotomy in the process of tissue collection. An anti-inflammatory agent (Ibuprofen) will be administered just prior to completion of surgery and provided in the water post surgery. Since these agents influence temperature regulation and cytokine metabolism, both of which are integral to the parameters under study, a minimum of one week in the absence of analgesia will be required before start of the experimentation.

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.)

Pain relief cannot be instituted during the post cooling/recovery system exposure, since the process of its administration would induce ancillary stress. This and the capacity of analgesia to alter physiological responses would confound the hypothermia findings. While the use of analgesics may be germane to Military Operational Stress (MOS), since Ranger trainees likely employed them, the influence of such agents on experimental MOS modeling can only be explored after understanding what occurs in their absence. As such, the use of analgesics pre and post experimental procedures must wait until the model of MOS is fully defined and characterized.

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 \_\_\_\_\_

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NOV 04 2005

1. Registration Number: 14-F-0002 Customer ID 446.
2. Number 96 of animals used in this study.
3. Species (common name) Mice of animals used in study.
4. Explain the procedure pain and/or distress and 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.)

Heat stress is considered to be distressful to mice. We are unable to alleviate the distress of heat stress exposure due to the depression of thermoregulatory processes by anesthesia.

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 \_\_\_\_\_.