

Institutional Animal Care & Use Committee
ANIMAL BREEDING
ANIMAL USE PROTOCOL IACUC Admin Use Only



I. GENERAL COLONY INFORMATION

A. Colony Name: _____

B. Project Type: ☐ New protocol ☐ Amendment to protocol number: _____
☐ 3rd Year Resubmission – Provide previous protocol number: _____

Complete an [Attachment M](#) – Three-Year Progress Report and include it with your protocol

C. Proposed Project Start Date: _____ Proposed Project End Date: _____ (amendments use original protocol dates)

D. Contact Information: (each protocol must include two emergency contacts)

	Colony Director	Emergency Contact 1	Emergency Contact 2
Name			
Campus Phone			
Emergency Phone			
Email Address			
Campus Box No.			
Are emergency contacts to be copied on correspondence?	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO

E. Project Personnel: Complete an [Attachment L – Personnel](#) and include it with your protocol.

F. Funding Source: Check all sources that will provide funding to support activities described in this protocol.

- ☐ Not funded
☐ UNC funding - Type: [\(e.g., Provost's Fund, REAP Award, School support, etc.\)](#)
☐ State/Federal funding – Grant Number & award start and end dates: _____
☐ Other external grant – Sponsor Name & award start and end dates: _____

II. ANIMAL SUMMARY: Identify the animals that will be involved on this protocol.

Genus/Species/Strain, subspecies, breed (Animal ID)	Common Name	Source/Vendor

To add rows, place the cursor at the end of the text in the last cell of the table and hit the TAB key.

III. ANIMAL HOUSING

A. Location(s): Indicate locations where animals will be housed. If animals will require non-standard housing and/or special care, describe in detail below in III-B. If needs differ for different species/strains/etc. complete a separate table for each, otherwise use one table for all.

Animal:				
Bldg & Room #	Responsible Parties:	ARF	PI Lab	Other Special Requirements
	Feeding & watering animals	<input type="checkbox"/>	<input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
	Changing/cleaning cages	<input type="checkbox"/>	<input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
	Monitoring animal health	<input type="checkbox"/>	<input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>

Animal:

Bldg & Room #	Responsible Parties:	ARF	PI Lab	Special Requirements
	Feeding & watering animals	<input type="checkbox"/>	<input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
	Changing/cleaning cages	<input type="checkbox"/>	<input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
	Monitoring animal health	<input type="checkbox"/>	<input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>

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Bldg & Room #	Responsible Parties:	ARF	PI Lab	Special Requirements
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	Changing/cleaning cages	<input type="checkbox"/>	<input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
	Monitoring animal health	<input type="checkbox"/>	<input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>

Animal:

Bldg & Room #	Responsible Parties:	ARF	PI Lab	Special Requirements
	Feeding & watering animals	<input type="checkbox"/>	<input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
	Changing/cleaning cages	<input type="checkbox"/>	<input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
	Monitoring animal health	<input type="checkbox"/>	<input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>

Animal:

Bldg & Room #	Responsible Parties:	ARF	PI Lab	Special Requirements
	Feeding & watering animals	<input type="checkbox"/>	<input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
	Changing/cleaning cages	<input type="checkbox"/>	<input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
	Monitoring animal health	<input type="checkbox"/>	<input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>

B. Special Housing/Routine Care Needs:

If you indicated a need for special requirements, describe in detail what will be required, including issues such as food/water treatments and/or restrictions and the need for non-standard housing.

To add rows, place the cursor at the end of the text in the last cell of the table and hit the TAB key.

C. If the PI Lab will be responsible for any aspects of animal care, specify what individuals will provide the care and what training has been provided for them.
☐ N/A

IV. JUSTIFICATION

Justification of Colony: In the space below, explain why it is necessary to breed these animals (e.g., animals are not commercially available). If applicable, include a brief description of the transgene(s) or knockout gene(s) of interest. This is not to justify how animals will be used when transferred to research/teaching protocols, but rather why it is necessary to breed the animals.

NOTE: The cost of using commercially available animals is NOT an acceptable justification and will not be approved by the IACUC.

V. ANIMAL INFORMATION

A. What is the source of original breeding stock (vendor, UNC colony, other institution colony, etc.)?

B. What is the source of replacement breeding stock?

C. What is the expected breeding life of these animals?

D. What will be the final disposition of any retired breeders and/or offspring that are not used in a research or teaching protocol?

E. List each species/strain being bred using standard genetic nomenclature, and provide any lab abbreviations/nicknames used for each strain. Current nomenclature guidelines for mice and rats are available on the [Jackson Laboratory website](#).

F. Describe any known or expected phenotypes of animals in the colony (e.g., behavioral, anatomical, physiological). Discuss whether the generated mice are expected to experience any significant health problems associated with their genetic status (e.g., immunodeficiency, musculoskeletal deficiencies, any problems associated with eating, drinking, metabolism, spontaneous neoplasia) which will require special care or result in pain or distress. Discuss the severity of symptoms expected in these animals and what measures will be used to assess the symptoms and provide relief from pain or distress, including euthanasia, if necessary.

G. Is the lifespan of the animals being bred shortened because of their genetics? ☐ YES ☐ NO If yes, provide an explanation:

H. Are the animals known to carry disease or other condition? ☐ YES ☐ NO ☐ UNKNOWN If yes, provide an explanation:

I. Will the colony produce animals, carcasses, or other wastes that will or could be:

I.1. Biohazardous ☐ YES ☐ NO

I.2. Radioactive ☐ YES ☐ NO

I.3. Carcinogenic or chemically hazardous ☐ YES ☐ NO

I.4. Will controlled substances be used? ☐ YES ☐ NO

If you answered yes to any of the above, complete and submit an [Attachment K](#).

VI. COLONY MANAGEMENT [[Jackson Laboratory's Colony Database Management System](#) – free download]

A. **Breeding Scheme:** Describe the breeding scheme that will be used for each genetic line/strain (e.g., monogamous pairs, trios [1 male, 2 females per cage], etc.). Indicate when males will be removed from pregnant females (if applicable), if pregnant or nursing females are housed singly, if females are re-bred immediately post-parturient (as in monogamous pair mating) or post-weaning of their litter, and at what age pups are weaned or euthanatized.

Include a description of other aspects of the breeding scheme such as whether lines are bred as homozygote/heterozygote, hybrids, chimeras, used for backcrossing or inbreeding, or if there will be use of genetic technologies such as Cre-lox or FLP-FRT strains. USE AS MUCH SPACE AS NECESSARY to provide a thorough description.

B. Maintenance:

	ACUP	PI	Other (Specify)
A.1. Who will set up breeding pairs:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

A2. Who will check the colony daily for births:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A3. Who will wean pups?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A4. Who will document transfer of animals to research/training protocols?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- C. Recordkeeping:** Describe how the management of the colony is to be recorded. Records should include a brief description of pedigree records and records of breeding performance (e.g., number of pups born, number of each sex weaned, etc.). You may also attach a copy of your record keeping system.

D. Animal Identification

- ☐ Cage Card Only
☐ Ear Notch/Punch
☐ Ear Tag
☐ Other: _____

If you will use ear tag, ear punch, or any other invasive procedure, complete the following:

D1. Will analgesics, anesthetics or sedatives be used? ☐ YES ☐ NO – If yes, submit an [Attachment F](#).

D2. Explain disinfection procedures:

E. Animal Screening

E1. Will recovery bleeding be done on colony animals? ☐ YES ☐ NO – If yes, complete the following four questions:

- What route will be used? _____
- What volume of blood/gram of animal will be taken? _____
- Will analgesics, anesthetics or sedatives be used? ☐ YES ☐ NO – If yes, submit an Attachment F.
- Will there be more than one bleeding per animal? ☐ YES. Number of bleeds: _____ ☐ NO

E2. Will recovery tail tip amputations be performed on colony animals? ☐ YES ☐ NO If yes, complete the following:

- Provide a justification:

b. Will animals be sedated or anesthetized? ☐ YES ☐ NO – If yes, submit an Attachment F.

c. Describe the amputation procedure, including disinfection, etc.:

d. Will more than one tail tip amputation be performed on one animal? ☐ YES ☐ NO – If yes, provide a justification:

VII. PAIN & DISTRESS CATEGORIES: [ASSISTANCE](#) for determining and categorizing pain and distress classifications

Use the tables below to classify the levels of pain and/or distress animals are anticipated to experience while in the colony. Indicate animal numbers in each P&D category.

Genus / Species / Strain, Etc.	Year One				Year Two			
	B	C	D	E	B	C	D	E

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To add rows, place the cursor at the end of the text in the last cell of the table and hit the TAB key.

Genus / Species / Strain, Etc.	Year Three				TOTALS			
	B	C	D	E	B	C	D	E

To add rows, place the cursor at the end of the text in the last cell of the table and hit the TAB key.

VIII. EUTHANASIA: If any animals in the colony will be euthanized, include an [Attachment B](#).

IX. ANIMAL NUMBERS:

A. Indicate the total number of animals that you anticipate having in the colony: Year 1: _____ Year 2: _____ Year 3: _____ TOTAL: _____

B. Indicate the maximum anticipated daily animal census: Year 1: _____ Year 2: _____ Year 3: _____

C. For each year of the protocol, and for each species/strain/line, provide the following information:

YEAR ONE BREEDERS			YEAR ONE PROGENY			
Animal ID	Numbers		Numbers and Anticipated Use of Progeny			
	Female	Male	Estimated Total #	Unusable	Transfer to Protocol	* Protocol # - Protocol PI

To add rows, place the cursor at the end of the text in the last cell of the table and hit the TAB key.

YEAR TWO BREEDERS			YEAR TWO PROGENY			
Animal ID	Numbers		Numbers and Anticipated Use of Progeny			
	Female	Male	Estimated Total #	Unusable	Transfer to Protocol	* Protocol # - Protocol PI

To add rows, place the cursor at the end of the text in the last cell of the table and hit the TAB key.

YEAR THREE BREEDERS			YEAR THREE PROGENY			
Animal ID	Numbers		Numbers and Anticipated Use of Progeny			
	Female	Male	Estimated Total #	Unusable	Transfer to Protocol	* Protocol # - Protocol PI

To add rows, place the cursor at the end of the text in the last cell of the table and hit the TAB key.

* If the number of a protocol to which animals are transferred changes due to a resubmission of that protocol, the new protocol number must be provided in your next annual review.

D. In the space below, provide any supplemental information necessary to further explain the numbers from the animal number tables (e.g., issues with fertility, litter size, or other phenotypes affecting breeding that will necessitate greater numbers of animals.)

X. CHECKLIST OF PROCEDURES USED IN THIS PROJECT: This table contains commonly employed procedures that must include additional considerations and provisions for ensuring that animal welfare has been adequately addressed. Check each that applies to this protocol, and complete the relevant attachment. Note that each attachment has additional instructions and clarifications that may help to determine if it should be used.

<u>PROCEDURES / ACTIVITIES</u>	<u>ATTACHMENT</u>
<input type="checkbox"/> Pain or Distress Category D or E _____	Attachment A
<input type="checkbox"/> Euthanasia _____	Attachment B
<input type="checkbox"/> Fluid Collection _____	Attachment C
<input type="checkbox"/> Substance Administration (Antigens, Antibodies, Vaccines, Toxins, Microorganisms, etc.) _____	Attachment D
<input type="checkbox"/> Use of anesthetics, analgesics, sedatives, paralytics (Don't complete if use is for euthanasia only) _____	Attachment F
<input type="checkbox"/> Hazardous & controlled substances _____	Attachment K
<input type="checkbox"/> Personnel _____	Attachment L
<input type="checkbox"/> Three-year progress report _____	Attachment M

XI. ACUP MANAGER ASSURANCE:

I have reviewed this protocol as it relates to needs for Animal Research Facility space, equipment, supplies and ACUP staff effort, and I assure that the needs as described in the protocol can be met by the Animal Care and Use Program.

Animal Care & Use Program Manager Signature

Date

XII. INVESTIGATOR ASSURANCES:

As Principal Investigator on this protocol, I certify that I have read and certify my agreement with all of the following statements:

1. This project does not unnecessarily duplicate previous work.
2. Animals on this protocol may receive medical care by or as directed by the attending veterinarian.
3. All personnel involved on this protocol are or will be adequately trained in the procedures in which they are involved, are aware of responsibilities and ethical conduct in animal research activities, have received adequate training in the biology, handling and care of this species; aseptic surgical methods and techniques (if necessary); the concept, availability, and use of research or testing methods that limit the use of animals or minimize pain and/or distress; the proper use, as applicable, of anesthetics, analgesics, and tranquilizers; and the UNC IACUC procedures for reporting animal welfare concerns.
4. All activities and procedures will be conducted in a manner to minimize pain and/or distress to the animals on the protocol; and I will report any unanticipated pain and/or distress, morbidity or mortality to the attending veterinarian and the IACUC
5. I understand that the UNC IACUC has the authority to suspend an approved protocol by a majority vote of a convened quorum if there is evidence of lack of adherence to any aspect of this protocol or to federal and/or state laws and regulations governing laboratory animal welfare. Any suspended protocol or other disciplinary action taken by the IACUC will be reported to federal agencies as required by law and to the UNC Institutional Official.
6. All personnel on this project, including myself, are familiar with and will comply with all pertinent institutional, federal, state, and local laws and regulations regarding the use of animals in research, testing or teaching.
7. Prior to their starting work, I will inform all project personnel of all potential hazards and health risks associated with the work they will be performing on the project.
8. Prior to implementing any significant change, as defined by the UNC IACUC, to this application, I will obtain IACUC approval of an amended protocol.

Principal Investigator Signature

Date

XIII. ATTENDING VETERINARIAN APPROVAL (Required prior to protocol submission if animals are classified in pain/distress category D or E)

The PI has consulted with me regarding the need/justification for and the procedures resulting in classification of animals in USDA pain and distress category D and/or E.

Attending Veterinarian Signature

Date

IX. INSTITUTIONAL CARE & USE COMMITTEE APPROVAL

The University of Northern Colorado Institutional Care & Use Committee has approved the use of animals as described in this protocol. The Committee will continue to do post-approval monitoring to ensure that work on the project is in compliance with the protocol, and will perform a formal review of the protocol and related activities at one year intervals during the three-year protocol period.

Approval of this protocol is effective from _____ through _____. If work on the project will continue beyond the approved period a new protocol must be approved before this ending date. If a new protocol is not approved, all work other than animal care will be stopped until such time as a new protocol is approved.

IACUC Chair Signature

Date

NOTE: The protocol is not approved and work cannot be started until all signatures are in place.