### PROTOCOL FOR ANIMAL USE AND CARE

*Handwritten forms are not accepted*

#### CRPRC

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last Name:</td>
<td>Last Name:</td>
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<tr>
<td>First:</td>
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<td>Middle:</td>
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<td>email:</td>
<td>email:</td>
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<td>Department:</td>
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<tr>
<td>Phone:</td>
<td>Phone:</td>
</tr>
<tr>
<td>Fax:</td>
<td>Fax:</td>
</tr>
</tbody>
</table>

#### Species (common names): Number: Source:

<table>
<thead>
<tr>
<th>Species</th>
<th>Number</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rhesus macaque</td>
<td>2,500+</td>
<td>CRPRC</td>
</tr>
<tr>
<td>Long-tailed macaque</td>
<td>200+</td>
<td>CRPRC</td>
</tr>
</tbody>
</table>

#### Project Title

DNA Banking of Non-Human Primates

#### Overnight housing location:

CRPRC  
Day use only: __________

#### Animals will be maintained by:

[ ] Vivarium  [ ] Investigator (If investigator maintained, attach husbandry SOPs.)  [X] CRPRC

#### Procedures:

Provide a one or two sentence layman's description of the procedures employed on the animals in this project. This information will help the animal care staff understand any conditions they may encounter while caring for your animals.

Blood and tissues will be collected from monkeys from the CRPRC colony for DNA isolation for the CRPRC Genetics Core and/or for distribution to approved investigators. Samples will be collected when animals are sedated for routine health assessments or at other scheduled times.

#### Special Husbandry Requirements:

Describe any special requirements your animals have with respect to food, water, temperature, humidity, light cycles, caging type, bedding, or any other conditions of husbandry.

None

#### Other instructions for animal care staff: (check applicable entries)

- **Sick Animals**
  - [X] Call Investigator if assigned to study or notify veterinary staff
  - [ ] Clinician to treat
  - [ ] Terminate
  - [ ] Necropsy

- **Dead Animals**
  - [X] Call Investigator if assigned to study or notify veterinary staff
  - [ ] Save for Investigator
  - [ ] Bag for disposal
  - [ ] Necropsy

- **Pest Control**
  - [X] Call Investigator if assigned to study or consult veterinary staff
  - [ ] OK to use pesticides
  - [ ] No Pesticides in animal area

#### Hazardous Materials (only if in the animal room):

<table>
<thead>
<tr>
<th>Infectious Agents?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agent(s):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radioisotopes?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Agent(s):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemical Carcinogens?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Agent(s):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toxic Chemicals?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Agent(s):</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Summary of Procedures:

a) Briefly describe the overall intent of the study. Include in your description a statement of your hypothesis, the objectives and significance of the study. Your target audience is a faculty member from a discipline unrelated to yours. Do not use jargon.

This proposal is for banking DNA on the monkey colony for use and distribution to approved investigators. This DNA bank will alleviate extra samplings of primates since a central source for DNA, tissue, and fibroblast (skin) and B cell cultures will be available. This protocol has no experimentation.

b) Procedures employed in this project:

Please check the appropriate boxes if any of these procedures will be employed in your project:

- [ ] Monoclonal Antibody Production
- [ ] Polyclonal Antibody Production
- [ ] LD 50 or ID50 studies.
- [x] catheters, blood collection, intubation
- [x] Prolonged restraint (8 hrs+)
- [ ] Fasting prior to a procedure.
- [ ] Food or water restriction
- [ ] Non-recovery surgical procedures
- [ ] Survival surgical procedures
- [ ] Multiple survival surgery
- [ ] Induced illness, intoxication, or disease
- [ ] Death as an endpoint (see i below)
- [ ] Trapping, banding or marking wild animals
- [ ] Special diets; food or water treatment.
- [ ] Behavioral modification.
- [ ] Aversive conditioning.

** If this protocol only describes antibody production, you may use the attached antibody production page in lieu of completing section c below.
c) **Describe the use of animals in your project in detail**, with special reference to any of procedures checked above. Include any physical, chemical or biological agents that may be administered. List each study group, and describe all the specific procedures that will be performed on each animal in each study group. Use terminology that will be understood by individuals outside your field of expertise. *(Note: This cell will expand to whatever length you require. You may make this section as long as you wish, but try to be concise. Some projects may require one or two pages.)*

Monkeys in the CRPRC colony will have a blood or tissue sample collected for DNA banking. Samples may be whole blood collected into EDTA (obtained from a peripheral vessel; ~1-5 ml depending on age and size of the animals) and/or a skin biopsy for obtaining fibroblasts. Animals will be sampled once during routine round-up or at a designated time, either under ketamine or telazol. Blood will be drawn using standard procedures by the CRPRC animal care staff, and two 4 mm skin biopsies will taken using standard sterile techniques and procedures by the veterinary staff. Samples may also be taken when an animal requires care in the CRPRC clinic or at the time of necropsy. Spleen, kidney and other tissues may also be collected at the time of necropsy. All samples collected from animals on studies will have prior approval of the investigators, all with approved protocols.

d) **Study Groups and Numbers:** Define, in the form of a table, the numbers of animals to be used in each experimental group described above. The table may be presented on a separate page as an attachment to this protocol if you prefer. The Normal format should be three columns: Study Group, Procedure, Number of animals. The number of rows should follow from the number of study groups; **you may add as many rows as you require.** The chart must fully account for the number of animals you intend to use under this protocol. Assign each group to an invasiveness category according to the chart below.

<table>
<thead>
<tr>
<th>Group</th>
<th>Procedures / Drugs</th>
<th>Number of Animals</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Blood sample collection and skin biopsy</td>
<td>All</td>
<td>2</td>
</tr>
</tbody>
</table>
### Categories of invasiveness

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
</table>
| 1        | Little or no discomfort or stress  
**Examples:** domestic flocks or herds being maintained in simulated or actual commercial production management systems; the short-term and skillful restraint of animals for purposes of observation or physical examination; blood sampling; injection of material in amounts that will not cause adverse reactions by the following routes: intravenous, subcutaneous, intramuscular, intraperitoneal, or oral. |
| 2        | Minor stress or pain of short duration  
**Examples:** cannulation or catheterization of blood vessels or body cavities under anesthesia; minor surgical procedures under anesthesia, such as biopsies or laparoscopy; short periods of restraint beyond that required for simple observation or examination, but consistent with minimal distress |
| 3        | Moderate to severe distress  
**Examples:** major surgical procedures conducted under general anesthesia, with subsequent recovery; prolonged (several hours or more) periods of physical restraint; induction of behavioral stresses such as maternal deprivation |
| 4        | Severe pain near, at or above the pain tolerance threshold  
**Examples:** exposure to noxious stimuli or agents whose effects are unknown; exposure to drugs, chemicals, or infectious agents at levels that markedly impair physiological systems and which cause death, severe pain, or extreme distress; Surgical experiments which have a high degree of invasiveness. |

Further descriptions of these categories are included in the instructions following this document.

e) **Rationale for species and numbers:** How did you determine that 1) the species choice was appropriate and 2) the number of animals in each study groups was the minimum number necessary to achieve sound scientific results?

Macaques are a very important animal model for human disease. DNA banking will allow investigators to select animals of specific genotypes prior to study assignment. DNA banking by the Genetics Core will alleviate extraneous sampling of the animals. All animals in the colony are included because some studies may require knowledge of family groups.

f) **Surgery:** If the project involves survival surgery, where will the surgery be conducted?

<table>
<thead>
<tr>
<th>Building</th>
<th>Room</th>
</tr>
</thead>
</table>

Who will be the surgeon?


g) **Anesthetics, Analgesics, Tranquilizers, Neuromuscular blocking agents:**

Post procedural analgesics should be given whenever there is possibility of pain or discomfort that is more than slight or momentary. If postoperative analgesics are not to be given, justify the practice under part (i) below.

Provide the following information about any of these drugs that you intend to use in this project.

<table>
<thead>
<tr>
<th>Species</th>
<th>Drug</th>
<th>Dose (mg/kg)</th>
<th>Route</th>
<th>When and how often will it be given?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monkey</td>
<td>Ketamine</td>
<td>10</td>
<td>IM</td>
<td>once</td>
</tr>
<tr>
<td>Monkey</td>
<td>Telazol</td>
<td>5–8</td>
<td>IM</td>
<td>once</td>
</tr>
</tbody>
</table>

h) **Neuromuscular blocking agents** can conceal inadequate anesthesia and therefore require special justification. If you are using a neuromuscular blocking agent, please complete the following:

Why do you need to use a neuromuscular blocking agent?

What physiologic parameters are monitored during the procedure to assess adequacy of anesthesia?
Under what circumstances will incremental doses of anesthetics-analgesics be administered?

i) **Adverse effects:**

Describe any potential adverse effects of the experiment on the animals (such as pain, discomfort; reduced growth, fever, anemia, neurological deficits; behavioral abnormalities or other clinical symptoms of acute or chronic distress or nutritional deficiency)

| No adverse effects are anticipated. These are routine techniques performed at the CRPRC. Skin biopsies have a possibility of infection if not adequately sutured or if some other trauma opens the suture site. |

How will the signs listed above be ameliorated or alleviated? If signs are not to be alleviated or ameliorated by means of post-operative analgesics or other means, explain why this is necessary.

| Technician should evaluate suture site prior to animals release to ensure proper closure. |

the steps taken to mitigate them must be submitted to the committee as an amendment to this protocol.

Is death an endpoint in your experimental procedure?  [ ] Yes  [X] No

(Note: “Death as an endpoint” refers to acute toxicity testing, assessment of virulence of pathogens, neutralization tests for toxins, and other studies in which animals are not euthanized, but die as a direct result of the experimental manipulation). If death is an endpoint, explain why it is not possible to euthanize the animals at an earlier point in the study. If you can euthanize the animals at an earlier point, describe the clinical signs which will dictate that an animal will be euthanized.

j) **Literature search** for alternatives and unnecessary duplication:

This section is specifically required by Federal law. You are required to conduct a literature search to determine that either 1) there are no alternative methodologies by which to conduct this study, or 2) there are alternative methodologies, but these are not appropriate for your particular study. “Alternative methodologies” refers to reduction, replacement, and refinement (the three R’s) of animal use, not just animal replacement. You must also show that the study is not unnecessarily duplicative of other studies.

What was the date on which you conducted this search?  8/1/01

List the databases searched or other sources consulted (there should be more than one). Include the years covered by the search.

<table>
<thead>
<tr>
<th>Database Name</th>
<th>Years Covered</th>
<th>Keywords / Search Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>PubMed</td>
<td>1980–current</td>
<td>DNA banking, monkey, primate colonies</td>
</tr>
<tr>
<td>Current contents</td>
<td>Most recent pubs</td>
<td>DNA banking, monkey, primate colonies</td>
</tr>
</tbody>
</table>

What were your findings with respect to alternative methodologies?

| There are no alternatives for these procedures. |

Has this study been previously conducted?  [ ] Yes  [X] No

If the study has been conducted previously, explain why it is scientifically necessary to replicate the experiment.
k) **Disposition of animals:** At what point in the study, if any, will the animals be euthanized?

All animals will be returned and maintained in the colony. Samples that are collected at necropsy will be disposed of in accordance with the principle investigators animal protocol.

l) **Methods of euthanasia:** Even if your study does not involve killing the animals, you should show a method that you would use in the event of unanticipated injury or illness. If anesthetic overdose is the method, show the agent, dose, and route.

<table>
<thead>
<tr>
<th>Species</th>
<th>Method</th>
<th>Drug</th>
<th>Dose (mg/kg)</th>
<th>route</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monkey</td>
<td>Overdose</td>
<td>Pentobarbitol</td>
<td>60</td>
<td>IV</td>
</tr>
</tbody>
</table>

m) **Surplus animals:** What will you do with any animals not euthanized at the conclusion of the project?

All animals will be returned and maintained in the colony.
n) Project Roster: Please provide the names of all the individuals who will work with animals on this project. This page will not be made available to the public. Give either the University Employee ID # or a valid UC Davis email address so that we can document training and occupational health compliance for regulatory agencies. Include all investigators, student employees, post-doctoral researchers, staff research associates, post-graduate researchers and laboratory assistants who will actually work with the animals. You don’t need to include the staff of the vivarium in which your animals will be housed.

The principal investigator is responsible for keeping this roster current. If any staff is added or subtracted from this project, you must amend the protocol by sending the campus veterinarian a memo describing any changes.

<table>
<thead>
<tr>
<th>Last Name</th>
<th>First Name</th>
<th>Middle Name</th>
<th>UC ID Number or SSN</th>
<th>Email Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRPRC staff</td>
<td></td>
<td></td>
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</table>

Occupational Health Program:
Supervisors must enroll their employees in the campus Occupational Health Program if the workers are at increased risk of illness or injury (such as allergy, physical injury, or infectious disease) because of their work. Enroll workers by having them complete an "Animal Contact History Form", available from Employee Health Services (phone 752-2330). For further information, visit our web site at [http://clueless.ucdavis.edu/health/](http://clueless.ucdavis.edu/health/) or read the UC Davis Policy & Procedure Manual 290-25.

Training:
Supervisors are responsible for insuring that their employees are adequate trained, both in the specifics of their job and in the requirements of the Federal Animal Welfare Act. EH&S offers free, basic wet labs in laboratory animal handling and techniques, and lecture format classes in the requirements of the Animal Welfare Act. To schedule a class for your unit, contact EH&S at 2-2364. Autotutorials are also available on the world wide web at [http://clueless.ucdavis.edu/](http://clueless.ucdavis.edu/).
Assurances for the Humane Care and Use of Vertebrate Animals:

Principal Investigator's Statement:

I have read and agree to abide by the UC Davis Policy and Procedure Manual section 290-30 (Animal Use and Care). This project will be conducted in accordance with the ILAR Guide for the Care and Use of Laboratory Animals, and the UC Davis Animal Welfare Assurance on file with the US Public Health Service. (These documents are available from the Campus Veterinarian and at http://ehs.ucdavis.edu/). I will abide by all Federal, state and local laws and regulations dealing with the use of animals in research.

I will advise the Animal Use and Care Administrative Advisory Committee in writing of any significant changes in the procedures or personnel involved in this project.

Principal Investigator: __________________________ Rank / Title: __________________________ Date: __________________________

Committee Use Only Below

** Conditions necessary for Committee Approval:

Final Disposition of this protocol:

__________ Approved

__________ Not Approved

__________ Withdrawn by Investigator

Date of Action: ______/_____/______

I verify that the Institutional Animal Care and Use Committee of the University of California, Davis, acted on this protocol as shown above.

Campus Veterinarian: __________________________ Date: __________________________