

INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE (IACUC)
CALIFORNIA STATE UNIVERSITY, BAKERSFIELD
9001 Stockdale Highway, Bakersfield, CA 93311-1099

MINUTES OF MEETING
Friday 10 October 2008
Stockdale Room

Members Present:

Scientific Concerns: Todd McBride, Steve Suter, David Germano
Non-Scientific Concerns: Andrew Troup, Liora Gubkin
Community Issues: Debby Kroeger
Veterinarian: Mylon Filkins

Members Absent:

Community Issues: Eugene Couture
Safety and Risk Management: David Beadle
Ex-Officio: Robert Horton

Visitors:

Matt Leon for Protocol 08-02
Observers: Carol Raupp, Aldo Amaya, Jesus Calderon, Vanessa Rodriguez-Barrera,
Isabel Sumaya

Meeting was called to order by Chair Steve Suter at 12:55 PM.

I. ANNOUNCEMENTS:

- A. The Animal Facility will be inspected after the meeting.
- B. Terms of 6 IACUC members will be ending 31 December 2008. The respective members indicated, or had already communicated via e-mail, that Kroeger, Troup, Beadle, Germano, and McBride would continue to serve another term. Gubkin will conclude her service and has already suggested a nominee for her replacement. The Chair was not sure if the Academic Senate would make a general call for persons interested in serving, but would discuss possible service with the nominee.

II. PREVIOUS MINUTES:

McBride moved and Filkins seconded, a motion to approve the minutes for the IACUC meeting of 04 June 2008 with clerical corrections. The motion was approved 7-0. The Chair noted that his review of the minutes reminded him that he was charged with drafting a protocol renewal form that would systematically elicit the information that the IACUC requires in order to make a reasoned decision about renewing a protocol. He will get on that.

III. OLD BUSINESS: [none]

IV. NEW BUSINESS:

A. Review of Proposed Modifications of Active Protocols [none]

B. Review of New Protocols

1. **Protocol 08-02** (Matt Leon, Psychology) "The Neural and Pharmacological Basis of Matching Behavior in Self-Stimulating Rats"

The PI summarized. This protocol is a return to interests he had in graduate school, where he studied self-stimulation in rats to electrical stimulation of the brain [ESB] delivered within the medial forebrain bundle. He was involved in many studies involving the kinds of procedures and surgeries that would be performed in the studies proposed here. In these studies, he will look at "subjective reward magnitude" [SRM] of ESB as a function of current levels and pulse frequencies. Procedures for estimating SRM were introduced for conventional rewards, such as food or water, in 1991. This involves matching behavior [MB] in which identical rewards are available on two levers that the rat has learned to press. Then actual reward magnitude is varied on one of the levers and the distribution of the rat's behaviors between the two levers is noted. In fact, there is a tight relationship between the relative rates of reward available on the two levers, and time spent responding on the respective levers. His dissertation showed that this approach can be extended to ESB. Here he wants to study the neural substrates of how the rat is able to match its behavior to ESB magnitudes, by using scopolamine, an acetylcholine neurotransmitter blocker, and by recording electrical activity from electrodes implanted in areas implicated in timing behaviors and goal-directed activities. Questions commenced.

[Q = question A = answer C = comment]

- Q:** This would seem to involve a lot of equipment. **A:** Everything is already in place in the PI's lab.
- Q:** Who will do the surgeries? **A:** The PI will do the surgeries at first, but then the students will do the surgeries when they have been trained.
- Q:** Where do the rats come from for this protocol? **A:** They come from other protocols, in particular Dr. Sumaya's breeding and enrichment protocol.
- Q:** What are the gender of the animals. **A:** Males. This is the most common procedure in this research area.
- Q:** What is the basis for the parameters of the ESB? **A:** These are typical parameters in terms of current level and pulse frequency from other studies.
- Q:** You are administering scopolamine intraperitoneally. It crosses the blood-brain barrier, but your control form of scopolamine does not? **A:** Yes and scopolamine is a potent acetylcholine inhibitor.
- Q:** You will be doing lots of electrode implants. What is the failure rate? **A:** The success rate is about 80%, defined as getting self-stimulation for the ESB. That would indicate the electrode is in the medial forebrain bundle and it doesn't matter where it is located within that structure.

- Q:** You'll be doing histology afterward? **A:** Yes, but only for the rats who have electrodes implanted for electrical recording.
- Q:** What about other complications or mortality? **A:** These are rare and there is not much infection. Also, current thresholds for the self-stimulation effect appear to be stable across months.
- Q:** You mentioned the 20% misses. What happens to those rats? **A:** Those rats would be euthanized.
- Q:** You have described post-operative palliative treatment as being universal and as being provided only if your observations warrant. Which is it? **A:** It will be provided for all animals.
- Q:** Will you use any topical analgesia? **A:** Haven't thought of that, but might prefer that.
- Q:** Is there much movement possible in the stereotaxic device? **A:** No movement of the head is possible due to the padded ear bars and the bite bar.
- Q:** What is the typical period of time under general anesthesia? **A:** It runs about 40 minutes with an experienced surgeon.
- C:** There is a typo on the level of the anesthetic booster shot. Please correct in the protocol to read ".1cc". **A:** Will do.
- C:** Clarify in the protocol to provide the post-operative analgesia routinely, not as needed.
- Q:** How will the barbiturate euthanasia be administered? **A:** It will be intraperitoneal.
- Q:** What dosage will be used? **A:** PI will need to review that.
- Q:** Where will the drugs be stored? **A:** With other drugs in the locked cabinet in the Animal Facility.
- Q:** Will student research assistant have access to the drugs? **A:** Yes.
- C:** Better check with the Safety and Risk Officer to see if that is allowed under the DEA license to the university.
- Q:** What do the electrode caps of carriers that are cemented to the rats' heads look like? **A:** Looking down on the head it would be covered in cement with an electrode pedestal sticking upward.
- Q:** What are the expected results? Effects of scopolamine? **A:** Really can't predict.
- Q:** Give us the big picture on the potential benefits. **A:** It's about finding out about the neural substrates of the impressive matching behaviors of rats.

- Q:** Scopolamine is an amnesia-inducing drug. Do you expect any matching behavior after scopolamine? **A:** Really not sure.
- Q:** Which animals are you doing histology on? **A:** This is only needed to verify locations of recording electrodes.
- Q:** What is histology? **A:** PI explains about removing and slicing brain to get direct observation of where recording tip of the electrode was positioned.
- Q:** Where will the histology be done? **A:** Hopes to use Isabel's cryostat. Not clear beyond that.

When there were no further questions from the IACUC, the investigator was excused and questions and comments were solicited from the visitors. There were no questions or comments.

The IACUC deliberated in executive session. There was a motion for conditional approval of **Protocol 08-02**. [Germano moved, Filkins seconded -- approved 7-0]. When the PI returned the following conditions were stated:

1. In the protocol, correct the stated magnitude of the anesthetic booster.
2. Clarify that post-operative opioid palliative treatment will be provided to all animals, not on an "as needed" basis as determined by human observers.
3. Affirm that only the PI will have access to the drugs involved in this protocol. The PI may submit a protocol modification request to the IACUC later, with a justification for student access to the listed drugs.
4. Affirm that all surgeries will be performed by the PI. Any surgeries performed by students will be under his direct [in person] supervision following appropriate training, which will be documented and made available to the IACUC. The PI may submit a protocol modification to the IACUC later with a justification for surgeries to be performed by students in his absence.

C. Renewal of Protocols [none]

V. AREAS OF CONCERN: [none]

VI. NEXT MEETING:

Friday, 30 January 2009 – meeting room to be announced.

VII. ADJOURNMENT:

There being no further business, the meeting was adjourned at 2:07 PM. [Germano moved, McBride seconded – approved 7-0]

VIII. ANIMAL FACILITY INSPECTION

The group housing cages have been fortified to prevent after-hour sexual escapades by the female inmates. Dr. Sumaya thinks it might be beneficial to keep more rats in the large, enriched environments. She may submit a protocol to look at longevity. Dr. Sumaya provided an overview of the environmental enrichment study. Asked about unexpected mortality, she noted a rat had been unexpectedly found dead the previous day. Students performed a dissection of this 6-month-old rat under her supervision. When questioned about the electric lanterns in the facility, she described the several recent planned campus-wide electrical shutdowns and the provisions for lighting and ventilation of the Animal Facility. The log was satisfactory and up to date, except the personnel doing the weekly cleaning were not always logging as required. Dr. Sumaya would correct this. She noted that food, water, and lighting are checked daily. Each month cages are removed and everything is sprayed. There was a clogged drain in September 2008 that was fixed by Facilities Management.

Respectfully Submitted,

Steve Suter, Professor of Psychology, Secretary for the IACUC