

Minutes: IACUC Meeting, 1/18/2019



Meeting time:
1:07 PM - 1:38 PM

Members Present: Chair, AV, 007, 020, 021, 030, 034, 035

Members Absent: 028, 031

Guests: 027, 036

Comments: Members 034 and 035 arrived at different times after the beginning of the meeting.

Voting results are presented as follows: approve - withhold approval - abstain (e.g. 9-0-0). Any member with a conflict of interest is recused at the appropriate time and is not counted in the voting; however, the quorum is verified prior to all voting. "RM-DMR" and "RM-FCR" refer to the IACUC actions taken when substantive information is lacking from a protocol and the Committee requires a protocol response, clarification, or modification (RM) from the PI, which will be reviewed by designated members of the Committee (DMR), or by the full Committee at a convened meeting (FCR). The order that topics are presented in the minutes does not necessarily represent the order that they were presented at the meeting.

Topics

Announcements

Presenter | Chair

- 1 Schedule of upcoming meetings: February 15, 2019; March 22, 2019; April 19, 2019; May 17, 2019; June 14, 2019
- 2 Review and vote to approve minutes from the December 14, 2018 IACUC meeting
Make a note on the minutes that the meeting started late due to a mix-up with the room reservations.
Outcome: Approved 6-0-0
- 3 Rabbit Incident Report
The Chair presented a report on a rabbit that was found to be severely injured when received by the ARC. After examination, the AV concluded that the injury was most likely self-inflicted during the shipping process. The Committee deliberated and determined this incident to be an accident outside of UCSB. The Committee determined this incident required no further investigation and is not reportable to oversight agencies.
Outcome: Approved 6-0-0

Presenter | [REDACTED]

- 4 Electronic Meeting Packets
The [REDACTED] asked the Committee if anyone would prefer to start receiving their meeting packets electronically rather than a hard copy.
- 5 NABR Email List Update
The [REDACTED] asked the Committee members if anyone would like to be added to the list of UCSB personnel receiving the electronic newsletter and email updates from the National Association of Biomedical Research (NABR).

IACUC Member Continuing Education

Presenter | [REDACTED]

- 1 Lab Animal Magazine - Vol. 48, Issue 1; 7-9 (2019) Protocol Review Column; Dr. Jerald Silverman, Column Coordinator
Misunderstanding of an MOU?
The article was made available to the Committee and discussed during the meeting.

Other Animal Activity

Presenter | Committee

- 1 Animal Activity # [REDACTED] Outcome: Approved by DMR
Reviewers: Chair, 007

Protocol Modification

Presenter | Committee

- 1 Protocol [REDACTED] Major Modification (Adding a study location, a grad student to the roster, and toe-clipping for any species encountered); Outcome: Pending FCR
During the pre-review process, the AV requested this modification be reviewed at a convened IACUC meeting. The modification proposes to test the genetic basis of frog disease susceptibility and *Batrachochytrium dendrobatidis* (Bd) virulence across different habitats, and how these heritable factors influence disease dynamics in conjunction with environmental characteristics. The main points of discussion were:
1. The lab proposes to perform a toe-clip on up to 20,000 frogs in order to get, for genomic testing, both a host tissue sample and a sample of the Bd infecting the host.
 2. It was discussed whether this procedure would place the toe-clipped frogs in Pain Category C or E. While it cannot be definitively determined whether the pain or distress from this procedure is more than "momentary or slight" in amphibians, it can be inferred that this procedure would be more than "momentary or slight" in humans.
 3. While isolating Bd from a host toe-clip sample is not very efficient, it is preferable to having to euthanize the host to isolate it.
 4. The IACUC determined that it is appropriate to withholding anesthetic (i.e., MS-222) for the well-being of the animal following the procedure (i.e., avoiding predation). Based on its discussion the Committee determined that frogs undergoing a toe-clip should be considered to be in Pain Category E. The IACUC requested clarifications on the issues listed below, and other minor issues, which are all identified in the revised protocol application that was sent back to the PI.
 1. List all frogs undergoing the toe-clip procedure as Pain Category E.
 2. The number of animals the lab proposes to use is based on the numbers requested in an amendment to the PI's CDFW Scientific Collection Permit (SCP). Once the approved version of the amended permit has been received, modify the animal numbers in the protocol if they are different from what was requested in the initial amendment.
 3. The IACUC would like to be informed of the outcome of the pilot study to determine if euthanizing frogs with MS-222 has any effects on gene expression when doing transcriptome analysis.
 4. The graduate student who will be conducting the experiments needs to be trained on emergency euthanasia procedures.
- Outcome: RM-DMR 7-0-0
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- 2 Protocol [REDACTED] Major Modification (Adding the use of the CA killifish); Outcome: Pending DMR
-
- 3 Protocol [REDACTED] Major Modification (Adding an investigation of the novel CAR peptide as a potential treatment for PKD); Outcome: Pending DMR
-
- 4 Protocol [REDACTED] Major Modification (Adding the experiments from approved protocol 675.2 to protocol 931);

Outcome: Pending FCR

Protocol Closure

Presenter | Committee

- 1 Protocol [REDACTED] not renewed by PI; closed effective January 3, 2019

IACUC Guideline Review

Presenter | Committee

- 1 IACUC Guideline Antibody Production Modification (Adding text about using Gateway Procurement to order custom antibodies); Outcome: Pending FCR
The Committee did not have any questions or comments regarding the changes to the Guideline.
Outcome: Approved 6-0-0

Action Items

Open Issues Coming Out of Meeting

Protocol Modification

Presenter |

- 1 Protocol [REDACTED] Major Modification (Adding the use of the CA kilifish); Outcome: Pending DMR
- 2 Protocol [REDACTED] Major Modification (Adding the experiments from approved protocol [REDACTED] to protocol [REDACTED]); Outcome: RM-DMR

Previously Open Issues Completed

Protocol Modification

Presenter |

- 1 Protocol [REDACTED] Major Modification (Adding a study location, a grad student to the roster, and toe-clipping for any species encountered); Outcome: Approved by DMR
Reviewers: AV, Chair
- 2 Protocol [REDACTED] Major Modification (Adding an investigation of the novel CAR peptide as a potential treatment for PKD); Outcome: Approved by DMR
Reviewers: AV, Chair

Minutes: IACUC Meeting, 2/15/2019



Meeting time:
1:00 PM - 4:00 PM

Members Present: AV, Chair, 007, 029, 030, 034, 035
Members Absent: 020, 021, 034
Guests: 027
Comments:

Voting results are presented as follows: approve - withhold approval - abstain (e.g. 9-0-0). Any member with a conflict of interest is recused at the appropriate time and is not counted in the voting; however, the quorum is verified prior to all voting. "RM-DMR" and "RM-FCR" refer to the IACUC actions taken when substantive information is lacking from a protocol and the Committee requires a protocol response, clarification, or modification (RM) from the PI, which will be reviewed by designated members of the Committee (DMR), or by the full Committee at a convened meeting (FCR). The order that topics are presented in the minutes does not necessarily represent the order that they were presented at the meeting.

Topics

Announcements

Presenter | Chair

- 1 Schedule of upcoming meetings: March 22, 2019; April 19, 2019; May 17, 2019; June 14, 2019
- 2 Review and vote to approve minutes from the January 18, 2019 IACUC meeting
Outcome: Approved 5-0-2
- 3 Protocol [REDACTED] Investigation
The Chair presented an investigation report describing the repeated failure of the lab to ensure their rats had *ad libitum* access to drinking water. The drinking water for these rats is medicated as part of the lab's experiment, therefore the lab personnel have taken on the responsibility of providing drinking water to the rats. Following a discussion of this situation at the December 14, 2018 IACUC meeting, the following post-approval monitoring procedures were implemented: 1) The postdoc responsible for the rat colony will email the IACUC with weekly updates on whether any of the rats' bottles had leaked that week. 2) Lab personnel must check that the rats have water each day. If a water bottle is changed, the lab member must return within approximately two hours to ensure that the bottle has not leaked. Both of these checks will be documented on a log that will be kept in the room with the rats. 3) The postdoc will maintain a daily schedule for the lab members who are providing the rats with medicated water to ensure that someone is always available to check and change the waters. 4) Each cage of rats will be provided with two water bottles instead of only one. The Committee deliberated and determined that the protocol does not need to be suspended, but the post-approval monitoring procedures will remain in place until the IACUC determines otherwise. No other corrective actions were implemented at this time. The species involved was not regulated by the USDA and no federal funds were used to house or study these animals during the period of noncompliance.
Outcome: Approved 7-0-0; Not Reportable 7-0-0

Presenter | [REDACTED]

- 4 New Subaward to [REDACTED]
The Coordinator informed the Committee of a subaward to a PI at the [REDACTED]. The PI will be using mice to create cell cultures for studying Alzheimer's Disease. The IACUC will initiate an MOU with [REDACTED] because the funds are coming from the Department of Defense.

5 21st Century Cures Act Request for Comments

In November 2018, NIH issued a request for comments on a draft report of recommendations from the 21st Century Cures Act Working Group. The primary objective of this Act is to reduce administrative burden from various oversight agencies for researchers working with animals. One of the top recommendations from the Working Group was to harmonize or combine the requirements of the oversight agencies, particularly when it comes to reporting. One of the broader recommendations from the Working Group was for agencies to clarify their guidance on topics such as non-regulated animal use or non-pharmaceutical grade compounds. The UC campuses are in the process of coordinating a response to the draft report recommendations and will be submitting a systemwide response through UCOP.

Presenter | AV, [REDACTED]

6 Summary from UC IACUC/AV meeting at [REDACTED]

The AV provided a summary of the recent meeting at [REDACTED] with the IACUC [REDACTED] and the AVs from the other UC campuses. The main points of discussion were:

1. The 21st Century Cures Act request for comments. A draft of the UC system's collected comments regarding the Act was reviewed and discussed.
2. Increasing emphasis being placed on researcher field safety. While UCOP is encouraging all UC campuses to develop a field safety program, the review of field safety plans are handled somewhat differently at each of the campuses.
3. The need to increase animal research transparency and outreach in an effort to educate the lay public regarding the continued need to use animals in research.
4. The new policy at [REDACTED] requiring a PI to confirm the congruence of their protocols with their grants, instead of having the IACUC Office perform the congruence check. This was put into practice in order to reduce administrative burden for their IACUC Office.
5. A lawsuit brought against [REDACTED] by PETA. PETA submitted a public records request, and [REDACTED] withheld certain videos of behavioral primate research because the data within had not yet been mined or analyzed.
6. Differences between how DEA Field Agents/Offices interpret Controlled Substance Research Registration: some require individual PIs to hold their own registration, per location; some allow a single Institution registration to be shared between PIs at the Institution.

Protocol Review

1 Protocol [REDACTED] and aquatic housing SOP

This protocol application proposes to study the mechanism by which ostracods are able to avoid being eaten by fish. The main points of discussion were:

1. The PI lists five different hypotheses on how ostracods avoid being eaten. These include the ostracods bioluminescent chemicals having a bad taste, their shells being hard enough to prevent being consumed, their bioluminescence startling the fish and causing it to release the ostracod, the bioluminescence potentially attracting a larger fish that would prey on the smaller fish, or something else that the ostracod might be doing besides emitting light.
2. Midshipmen fish also have the ability to generate bioluminescence. They produce the enzyme luciferase themselves, but must get the chemical luciferin from their diet in order to produce light.
3. The fish will not be used in any painful or distressful procedures.

The IACUC requested clarifications on the issues listed below, and other minor issues, which are all identified in the revised protocol application that was sent back to the PI.

1. Is ostracod luciferase a secreted protein? If it is, then how is the source for this protein distinguished between an ostracod and midshipman when the crude protein is extracted from the midshipmen sample?
2. The use of long-line fishing methods are not mentioned in the main protocol description, but are mentioned elsewhere. Clarify what methods will be used to catch fish.
3. The funding source for this protocol needs to be identified.
4. Clarify in the housing SOP that carcasses are not "biological waste".

Outcome: RM-DMR 7-0-0

2 Protocol [REDACTED]

This renewal application proposes to study multiple farnesyltransferase inhibitors (FTIs), their effects on farnesyltransferase in the brain, their potential toxicology, and their effective dosages. The main points of discussion were:

1. The first stage of this protocol will evaluate the FTIs ability to cross the blood brain barrier.
2. The lab will continue to study the FTIs that are able to cross the blood brain barrier to determine if they reduce the amount of pathological tau that accumulates in brain tissue.
3. Once an FTI has been determined to be able to cross the blood brain barrier and reduce tau levels in brain tissue, the lab will study the dosages required for these effects and any potential toxicity that may also occur.

The IACUC requested clarifications on the issues listed below, and other minor issues, which are all identified in the revised protocol application that was sent back to the PI.

1. Mice should be anesthetized when blood is being drawn retro-orbitally. List the anesthetic to be used in Question 11.
2. Remove the name of the other UCSB PI that uses Tg4510 mice.
3. One of the mouse cohorts receiving doxycycline is listed as a positive control. However, this should be described be a negative control.
4. The first sentence needs to be rephrased.

Outcome: RM-DMR 7-0-0

3 Protocol [REDACTED] and aquatic housing SOP

This protocol application and the associated aquatic housing SOP are part of an [REDACTED] teaching and outreach program that highlights marine research conducted at UCSB through an introduction to the organisms under study. The main points of discussion were:

1. While this program uses many student docents to run the hands-on outreach program, only experienced staff will deal with potentially dangerous species. Most animals will have minimal human contact.

The IACUC requested clarifications on the issues listed below, and other minor issues, which are all identified in the revised protocol application that was sent back to the PI.

1. Are there some species of bony fish that should not be netted and transferred to a viewing tray?

2. Do fish ever reproduce at the [REDACTED] facility? If so, what is done with the offspring?
 3. Confirm that the lab is disposing of animal carcasses according to the description in their housing SOP.
- Outcome: RM-DMR 7-0-0

4 Protocol [REDACTED]

This protocol proposes to study the association between schooling fish behavior on coral reefs by investigating nutrient levels and parasite load in surgeonfish. The main points of discussion were:

1. Fish will be collected using spearguns. The PI is responsible for ensuring that researchers are properly trained on speargun fishing techniques. Proficiency with a speargun is essential for minimizing the chance that fish are not immediately killed by spearing. If a fish is not killed immediately by spearing, researchers can quickly retrieve the fish and euthanize it via decapitation.
2. The Pain Category listed for the fish is 'N/A' because the spearing of fish does not fit well into the definitions of Pain Categories B through E.

The IACUC requested clarifications on the issues listed below, and other minor issues, which are all identified in the revised protocol application that was sent back to the PI.

1. The project summary needs to be rewritten to be more understandable to a lay audience.
2. With what frequency are fish not immediately killed by spearing? Fish that need to be euthanized following spearing may need to be listed as Pain Category D.
3. Provide a reference to justify the proposed sample size.
4. Since the study is taking place outside of the United States, the PI must respond to the question about consulting a travel physician.

Outcome: RM-DMR 6-0-0

Other Animal Activity

Presenter | Committee

1 Animal Activity # [REDACTED] Outcome: Pending FCR

This animal activity proposes to study the mechanical properties of the egg cases of swell sharks. The main points of discussion were:

1. The embryo in the egg case will be euthanized by the lab once they are removed from the egg cases. The lab has consulted with the AV on appropriate euthanasia methods.
2. A full protocol is not needed for this study since the embryo is being removed from the egg case before hatching and, therefore, is not considered a vertebrate animal.
3. While the lab can go into the field to collect the egg cases, it has also been working with the UCSB [REDACTED] and [REDACTED] to receive the egg cases from them.

The IACUC requested clarifications on the issues listed below, and other minor issues, which are all identified in document that was sent back to the PI.

1. Confirm that the lab will attempt to obtain egg cases from the UCSB [REDACTED] and [REDACTED], before collecting egg cases from the field.
2. Confirm that if egg cases will be taken from the field, the lab will attempt to collect cases that do not contain an embryo, if available.
3. Do egg cases need to be used within a certain period of time from when the embryo is removed and euthanized?

Outcome: Approved w/ minor clarifications 7-0-0

Protocol Modification

Presenter | [REDACTED]

1 Protocol [REDACTED] Minor Modification (Removing a funding source and adding another); Outcome: Administratively confirmed by the IACUC [REDACTED]

2 Protocol [REDACTED] Minor Modification (Removing the term "Senior" from the training roster); Outcome:

Administratively confirmed by the IACUC [REDACTED]

Presenter | Committee

- 3 Protocol [REDACTED] Major Modification (Adding the experiments from approved protocol [REDACTED] to protocol [REDACTED]); Outcome: Pending FCR
The PI has proposed combining his/her two teaching protocols into one. The main points of discussion were:
 1. Most of the procedures being added are post-mortem tissue collection. The PI or TA will be performing the euthanasia procedures that are being added to the protocol.
 2. The mouse ear edema assay will cause, at least, a minimal discomfort to the mice.The IACUC requested clarifications on the issues listed below, and other minor issues, which are all identified in the revised protocol application that was sent back to the PI.
 1. Provide justification for why the assay to test the efficacy of anti-inflammatory drugs does not need to be listed as a painful/distressful procedure.
 2. EMLA cream is no longer being used and can be removed from the protocol list of anesthetics.
 3. Some of the hazards added to the "tissues, cells, or biological fluids" hazards section should be moved to the chemical hazards section.Outcome: RM-DMR 7-0-0
- 4 Protocol [REDACTED] Major Modification (Extending the allowable time for keeping experimental mice after the surgical implant from 6 to 10 months); Outcome: Approved by DMR
Reviewers: Chair, AV
- 5 Protocol [REDACTED] Major Modification (Increasing the length of time mice will be housed before being euthanized due to a distressful phenotype); Outcome: Approved by DMR
Reviewers: Chair, AV
- 6 Protocol [REDACTED] Major Modification (Adding most procedures and compounds from protocol [REDACTED], updating the funding source, and updating the training roster); Outcome: Approved by DMR
Reviewers: Chair, AV
- 7 Protocol [REDACTED] Major Modification (Adding a study to investigate the effects of dIgA monoclonal antibodies on cyst growth); Outcome: Pending DMR
- 8 Protocol [REDACTED] and aquatic housing SOP (Adding a new study to focus more on the long-term effects of coral-CAFI relationships and how those are driven by changes in coral colony configuration); Outcome: Pending DMR

Protocol Closure

Presenter | Committee

- 1 Protocol [REDACTED] not renewed by PI; closed effective January 31, 2019

Action Items

Previously Open Issues Completed

Protocol Review

Presenter |

- 1 Protocol [REDACTED] and aquatic housing SOP; Outcome: Approved by DMR
Reviewers: Chair, 007

IACUC Meeting | 2/15/2019

- 2 Protocol [REDACTED] and aquatic housing SOP; Outcome: Approved by DMR
Reviewers: Chair, 007
- 3 Protocol [REDACTED]; Outcome: Approved by DMR
Reviewers: Chair, AV
- 4 Protocol [REDACTED]; Outcome: Approved by DMR
Reviewers: Chair, AV

Other Animal Activity

Presenter |

- 1 Animal Activity # [REDACTED] Outcome: Clarifications accepted by meeting reviewers
Reviewers: Chair, AV

Protocol Modification

Presenter |

- 1 Protocol [REDACTED] Major Modification (Adding the experiments from approved protocol [REDACTED] to protocol [REDACTED]);
Outcome: Approved by DMR

Minutes: IACUC Meeting, 3/22/2019



Meeting time:
1:00 PM - 4:00 PM

Members Present: AV, Chair, 007, 020, 021, 028, 030, 031, 035
Members Absent: 034
Guests: 027
Comments: Member 007 left the meeting early.

Voting results are presented as follows: approve - withhold approval - abstain (e.g. 9-0-0). Any member with a conflict of interest is recused at the appropriate time and is not counted in the voting; however, the quorum is verified prior to all voting. "RM-DMR" and "RM-FCR" refer to the IACUC actions taken when substantive information is lacking from a protocol and the Committee requires a protocol response, clarification, or modification (RM) from the PI, which will be reviewed by designated members of the Committee (DMR), or by the full Committee at a convened meeting (FCR). The order that topics are presented in the minutes does not necessarily represent the order that they were presented at the meeting.

Topics

Announcements

Presenter | Chair

- 1 Schedule of upcoming meetings: April 19, 2019; May 17, 2019; June 14, 2019; September 20, 2019; October 18, 2019; November 15, 2019; December 13, 2019; January 17, 2020; February 14, 2020; March 20, 2020; April 17, 2020; May 15, 2020; June 19, 2020
- 2 Review and vote to approve minutes from the February 15, 2019 IACUC meeting
Outcome: Approved 7-0-2
- 3 Reactivation of protocols [REDACTED], and [REDACTED]
The PI of protocols [REDACTED], and [REDACTED] has been reinstated by the university administration and legal counsel on a limited basis and will be allowed back on campus to care for her/his vertebrate animals. The AV and IACUC Chair were notified of this development after-the-fact and requested the IACUC consider the protocols reactivation through Designated Member Review. After no call for Full Committee Review, the protocols were reactivated and the PI was informed by the Chair.
- 4 Protocol [REDACTED] Incident Discussion
On March 6, 2019, an animal care technician reported to the AV that rats had been returned to the vivarium with ataxic and uncoordinated movements. These rats had been used in laboratory experiments in the PIs lab. The AV examined the animals and spoke with the undergraduate students that were running the experiment. The AV was informed that low-dose ketamine had been administered to the rats. The AV confirmed that this treatment was not described in the protocol. Subsequently when the AV and IACUC Chair spoke with the PI, it was mentioned that all the ketamine-induced locomotion experiments had been completed. The PI submitted a protocol modification to the IACUC, after the fact. This will be sent to the IACUC for review, but it was made clear to the PI that there would be no retroactive approvals. After meeting with the PI, the AV discovered that there was a journal article that had just been published that uses the data from the ketamine experiments. The Chair and AV will need to meet with the PI again to discuss the published article. An investigation report will be presented at a future IACUC meeting. This incident has led to a broader discussion about how to ensure that all researchers working with animals have read and are familiar with the current version of their protocol.

Presenter | [REDACTED]

- 5 Protocol [REDACTED] PAM
The IACUC [REDACTED] has been receiving weekly reports from the postdoc regarding the rat water bottles that are used for providing medicated water to experimental animals. There have been no issues with the water bottles over the past month.
- 6 Spring 2019 Semiannual Facility Inspections and Program Review
The [REDACTED] distributed the Semiannual Facility Inspection Useful Tools document to the Committee and announced that the Spring 2019 Semiannual facility inspections will begin in April. The Semiannual Program Review will take place later in the month. The [REDACTED] will contact the Committee for their schedules.
- 7 Lab Animal Magazine - Vol. 48, Issue 3; 69-70 (2019) Protocol Review Column; Dr. Jerald Silverman, Column Coordinator
Showtime! Should an IACUC oversee companion animal exhibition activities on campus?
The article was made available to the Committee and discussed during the meeting.

Presenter | AV

- 8 Regulatory updates from AAALAC, USDA, DEA and CBRA
The AV summarized regulatory updates presented by the respective agencies at the California Laboratory Animal Medicine meeting. According to AAALACi, IACUCs should begin covering cephalopod care and use in their animal care and use program, and that AAALACi site visitors will be expecting to see areas where cephalopods are housed and used. Further, AAALACi will be modifying its Program Description template to include descriptions of the care and use of cephalopods; however, a timeline has not been given for this change. USDA-APHIS has accepted the recommendation to eliminate protocol renewals on an "at least" annual basis, but there is no indication when this regulatory change will be implemented. Finally, CBRA presented an update on state regulations of concern to the research community: California Assembly Bill 889 would require all animal research facilities to register with the State Department of Public Health and for the Department and submit an annual report. The reports will be used to develop a searchable database of all research animals.

Protocol Review

Presenter | Committee

- 1 Protocol [REDACTED]
The IACUC was unable to review this protocol application at the convened meeting due to time constraints. The application was subsequently sent to the IACUC for Designated Member Review and there were no calls for a Full Committee Review.
Outcome: Approved by DMR
- 2 Protocol [REDACTED]
This protocol proposes to study how neural circuits work, focusing upon the visual system as a model, and develop new technology to measure neural circuit activity. The main points of discussion were:
1. As the lab develops and refines their novel multiphoton excitation-based imaging techniques, the techniques will be used on mice to assess their effectiveness and investigate new opportunities for development.
2. A surgical procedure (craniotomy) is required to be performed in order to use imaging modalities to measure neuronal activity or to perform direct electrophysiological measurements of neural activity.
3. Mice will also need to be restrained in order to perform these measurements, and they will be acclimated to physical restraint.

4. Mice will also be trained on behavioral tasks using food and water restriction.
5. Intracranial injections of viral vectors will be used to restrict expression of genes of interest to specific regions, pathways, and/or sparse subsets of neuronal populations.

The IACUC requested clarifications on the issues listed below, and other minor issues, which are all identified in the revised protocol application that was sent back to the PI.

1. The protocol application states that the studies will examine both developing and adult mice. What experiments will the "developing mice" be involved in? What is their age range? Will they be subjected to food and water restriction?
2. How is fiber optic light delivered through the cranial window?
3. What constitutes a "failed experiment"? How are the causes of these failures minimized?
4. Since water restriction seems to be a better motivator for training for behavioral tasks, will food restriction be needed for training?

Outcome: RM-DMR 9-0-0

3 Protocol [REDACTED] and associated housing SOP

The IACUC was unable to review this protocol application and SOP at the convened meeting due to time constraints. The application and SOP were subsequently sent to the IACUC for Designated Member Review and there were no calls for a Full Committee Review.

Outcome: Approved by DMR

4 Protocol [REDACTED]

This protocol proposes to study the biological process (at the single-cell level) that builds and supports the ascending reticular activating system (ARAS) in the brain. The main points of discussion were:

1. The lab will be visualizing fibers in the ARAS, including a subset of fibers that are relatively deep within the brain.
2. Mouse and rat neonates will be genotyped and identified using toe-clipping.
3. The lab will try two different fixation methods because of the strong signal from serotonin (5-HT) in blood platelets.
4. A transgenic mouse model will be used that produces combinations of red, green, and blue fluorophores in serotonergic neurons.

The IACUC requested clarifications on the issues listed below, and other minor issues, which are all identified in the revised protocol application that was sent back to the PI.

1. A lay description of what is being imaged should be included in the Project Summary.
2. Define the acronym ARAS.
3. A chemical handling SOP for tamoxifen needs to be developed in coordination with EH&S.
4. Some personnel listed on the training roster still need to complete the 'Working with Rats in Research Settings' Citiprogram.org training course.

Outcome: Approved w/ minor clarifications 9-0-0

5 Protocol [REDACTED]

This renewal protocol proposes to study the mechanisms that lead to different disease outcomes amongst *Batrachochytrium dendrobatidis* (Bd) infected amphibian populations. The main points of discussion were:

1. The lab proposes to collect mucus samples from the amphibians for mucosomal analysis by soaking animals in "sterile water" and then filtering the water to collect the mucus samples. Depending on the osmolarity of the "sterile water", the animals may suffer an osmotic shock/stress.
2. The scientific justification for not using an anesthetic during PIT tagging and toe-clipping procedures was discussed during the pre-review process and by the Committee.
3. The majority of the procedures being conducted are non-invasive skin swabs to test for Bd infection and the intensity of that infection.
4. The lab will be revisiting sites where they have previously collected and marked specimens to conduct re-capture studies in order to assess disease outcomes.

The IACUC requested clarifications on the issues listed below, and other minor issues, which are all identified in the revised protocol application that was sent back to the PI.

1. The IACUC recommends removing the part of a quote from the lab's USFWS permit that says colored elastomers will be used, because they are not being used.
2. One of the personnel listed on the roster needs to begin their IACUC training.
3. The mucosomal analysis procedure is also described on the PI's protocol application [REDACTED]. Why does this procedure need to be included on both protocols?

Outcome: RM-DMR 8-0-0

6 Protocol [REDACTED] and associated housing SOP

This renewal protocol proposes to study the coinfection of frogs with up to three pathogens and how factors such as stress affect disease transmission and progression. The main points of discussion were:

1. Frogs will initially be infected with either *Batrachochytrium dendrobatidis* (Bd), ranavirus, or a *Ribeiroia* trematode, after which they will be placed in a tank with another (uninfected) frog to study disease transmission
 2. The frogs will be stressed by restricting food consumption to determine what effects this nutritional stress will have on the various infections.
 3. Some of the animals have 'N/A' listed as their pain category (implying that the animals do not fit into Categories B through E). However, the tadpoles that will be infected with Bd and on a low-diet regimen will likely experience unrelieved distress and should be listed as Category E. Similarly, tadpoles that will be infected or coinfectd with ranavirus will likely experience unrelieved distress and should also be listed as Category E.
 4. The lab proposes to collect mucus samples by soaking animals in "sterile water" and filtering the water. Depending on the osmolarity of the "sterile water", the animals may suffer an osmotic shock/stress. The IACUC requested clarifications on the issues listed below, and other minor issues, which are all identified in the revised protocol application that was sent back to the PI.
1. Will there be any temperature difference between the pilot feeding trial and the experimental infection trial? Will the temperature controlled chambers be used for this?
 2. How are malnourished individuals defined/identified?
 3. What is the effect the lab seeks to produce with the food restriction regimen? An evaluation or literature search should be done in order to ensure that the level of food restriction is the minimally required level for a scientifically valid experiment. Why not start the low diet treatment at 70% of the regular feed amount, as opposed to starting at only 50% of the regular feed amount?

Outcome: RM-DMR 8-0-0

7 Protocol [REDACTED]

This protocol proposes to study the neural basis of normal and pathological decision-making. The main points of discussion were:

1. Rats will undergo both food and water regulation to train animals to perform certain behaviors.
2. Genetically-encoded fluorescent sensors will be used to detect neural activity or neurotransmitter release, in awake and behaving rats.
3. The influence of early social isolation and/or a history of cocaine use on hierarchial learning will be studied.

The IACUC requested clarifications on the issues listed below, and other minor issues, which are all identified in the revised protocol application that was sent back to the PI.

1. Provide a reference on the background/effectiveness of using auditory cues to train rats in behavioral tasks.
2. Will the rats used in the Part 1 experiments be used in any other parts of the protocol?
3. The dosage range for self-administered cocaine is different in Questions 4 and 12. Clarify the correct dosage.
4. The PI must complete all IACUC training prior to the protocol beginning.

8 Protocol [REDACTED]

This protocol proposes to study the underlying mechanism that limits Lyme disease transmission from occurring on the west coast. The main points of discussion were:

1. There is also a teaching aspect to this project. The PI will bring masters students into the field to observe field research techniques. No students will come into contact with animals.
2. The IACUC discussed the necessity of anesthetizing animals during ear biopsy procedures. It was determined that anesthetizing the animals is not necessary and should be removed from the protocol.
3. Many of the animals to be trapped are diurnal. However, the PI will be primarily trapping animals overnight.

The IACUC requested clarifications on the issues listed below, and other minor issues, which are all identified in the revised protocol application that was sent back to the PI.

1. Do the ID markings need to last more than one year? If so, the IACUC recommends putting a tag in each ear.

2. Will traps be cleaned before and after each field season / site?

3. Will the once per night trap check be done closer to sundown or in the middle of the night (e.g., 2 AM)?

The IACUC wants to make sure that the PI will be able to check the traps easily enough and not fall into noncompliance if unable to check the traps at night.

4. What type of bait will be used when trapping shrews (i.e., an insectivore)?

Outcome: RM-DMR 9-0-0

9 Protocol [REDACTED]

This is the third time this application has been reviewed at an IACUC meeting. This protocol proposes to study the effects of changing environmental conditions on the metabolic rate, swim performance, and other functional traits of various species of coastal marine fish. The main points of discussion were:

1. It was clarified that the lab is not receiving funds directly from NSF for this project. It is funded by the Hellmen Foundation Grant, which is in part funded by the NSF, but which was not the subject of a vigorous scientific peer-review.

2. The PI has still not made it clear which comparisons are being made. If the comparisons will be primarily intraspecific, the IACUC recommends that the PI start with a single species and add additional ones as the study progresses.

3. If the PI will be comparing the different environments and/or time scales that fish will be sampled at, it has not been made clear as to why multiple species of fish are needed.

The IACUC requested clarifications on the issues listed below, and other minor issues, which are all identified in the revised protocol application that was sent back to the PI.

1. Have the effects phenotypic plasticity been demonstrated or identified in the species to be studied? Is there a reference for this?

2. The hypothesis is still unclear. Is the hypothesis going to involve an interspecies comparison? Or will this primarily be an intraspecies comparison?

3. The number of species the PI proposes to use (i.e., 14) needs to be justified.

4. Will a comparison between the different types of variable sampling sites be conducted?

Outcome: RM-DMR 9-0-0

Other Animal Activity

- 1 Animal Activity # [REDACTED]
A graduate student from the [REDACTED] has requested to use the UCSB [REDACTED] Reserve for trapping voles that will be transported back to [REDACTED] for studies on the role of individual and species differences in genetic, hormonal and neural factors influencing social cognition. The main points of discussion were:
1. The primary issue with allowing the requested use of [REDACTED] Reserve is that the graduate student intends to temporarily house the voles at the Reserve. There are no facilities at [REDACTED] Reserve for housing vertebrate animals. The Reserve [REDACTED] has suggested that a [REDACTED] on the Reserve could possibly be used as temporary housing.
 2. Voles are a USDA-regulated species and, if they are allowed to be housed at [REDACTED] Reserve, the USDA VMO for UCSB will need to conduct a site inspection.
- The IACUC identified several issues, listed below, that need to be addressed before the [REDACTED] graduate student may use [REDACTED] Reserve for collecting and housing voles.
1. The USDA-APHIS should be contacted to determine whether or not the [REDACTED] proposed for housing could be an acceptable animal housing facility.
 2. The [REDACTED] protocol lists one of the methods of transporting the voles to [REDACTED] as [REDACTED] shipping. Is this service available for shipping wildlife? If not, the voles will need to be brought to [REDACTED] using ground transport. [REDACTED] will be responsible for inspecting the vehicle to ensure it meets USDA standards, as well as developing a husbandry plan for the duration of transport. Additionally, the inter-state transport of USDA-regulated animals requires that the animals have health certificates.
 3. If the housing facility for the animals can be identified at [REDACTED] Reserve, then a housing SOP will need to be developed and approved by the UCSB IACUC.
 4. A Memorandum of Understanding (MOU) should be initiated to define the responsibilities of each institute in regards to the project.
- Outcome: Protocol accepted and initiate MOU 9-0-0
UPDATE: Following the meeting, the USDA was contacted regarding housing at [REDACTED] Reserve and a courtesy visit is being arranged to discuss the possibility of housing voles in an outdoor facility (not the [REDACTED]) for a short period of time (i.e., approximately two weeks).

Protocol Modification

- 1 Protocol [REDACTED] Major Modification (Adding intravitreal injections of NMDA and cannabinoid receptor agonists); Outcome: Approved by DMR
Reviewers: Chair, AV
- 2 Protocol [REDACTED] Major Modification (Adding a study to test if the effects of BHB are mediated through the HCA2 receptor or through another); Outcome: Approved by DMR
Reviewers: Chair, AV
- 3 Protocol [REDACTED] Major Modification (Adding a health monitoring programs for the xenopus colony and modifying the zebrafish colony health monitoring program); Outcome: Approved by DMR
Reviewers: Chair, 028
- 4 Protocol [REDACTED] Major Modification (Adding the use of the CA killifish and Pacific staghorn sculpin); Outcome: Approved by DMR
Reviewers: Chair, AV
- 5 Protocol [REDACTED] Major Modification (Adding an experiment to knockdown the LRP1 receptor with the use of

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shRNA's in an AAV in either astrocytes or neurons to look at the ability for tau to spread using our previously approved GFP-2A-P301Ltau spread model); Outcome: Pending DMR

Presenter | [REDACTED] AV

- 6 Protocol [REDACTED] Minor Modification (Increase dosage of PMSG and the number of rats for superovulation); Outcome: Administratively confirmed by the IACUC [REDACTED] after AV consultation
- 7 Protocol [REDACTED] Minor Modification (Adding perfusion procedure with a sucrose solution and a funding source); Outcome: Administratively confirmed by the IACUC [REDACTED] after AV consultation
- 8 Protocol [REDACTED] Minor Modification (Changing the protocol title to exactly match the grant project title, and increasing the rodent and lizard sampling frequency from 2x annually to 3x annually); Outcome: Administratively confirmed by the IACUC [REDACTED] after AV consultation

Protocol Closure

Presenter | Committee

- 1 Protocol [REDACTED] replaced by protocol [REDACTED]; closed effective March 7, 2019

SOP Modification

Presenter | Committee

- 1 Routine Rodent Husbandry and Care SOP Modification (Adding a description of the Animal Watering System (AWS) in the new BioEngineering vivarium); Outcome: Approved by DMR
Reviewers: Chair, 029
- 2 Cagewash SOP Modification (Adding a description of the dirty-side cagewash operations in the new BioEngineering vivarium); Outcome: Approved by DMR
Reviewers: Chair, 029
- 3 Routine Frog Husbandry and Care SOP Modification (Adding a xenopus colony health monitoring plan); Outcome: Approved by DMR
Reviewers: Chair, 028
- 4 Routine Zebrafish Husbandry and Care SOP Modification (Modifying the zebrafish colony health monitoring plan); Outcome: Approved by DMR
Reviewers: Chair, 028

Action Items

Open Issues Coming Out of Meeting

Protocol Review

Presenter |

- 1 Protocol [REDACTED]; Outcome: Pending DMR Approval
- 2 Protocol [REDACTED] and Associated Housing SOP; Outcome: Pending DMR Approval
- 3 Protocol [REDACTED]; Outcome: Pending DMR Approval

Previously Open Issues Completed

Protocol Review

Presenter |

- 1 Protocol [REDACTED]; Outcome: Approved by DMR
Reviewers: AV, Chair
- 2 Protocol [REDACTED]; Outcome: Approved by DMR
Reviewers: AV, Chair
- 3 Protocol [REDACTED]; Outcome: Approved by DMR
Reviewers: AV, Chair
- 4 Protocol [REDACTED] and Associated Housing SOP; Outcome: Approved by DMR
Reviewers: AV, Chair

Protocol Modification

Presenter |

- 1 Protocol [REDACTED] Major Modification (Adding an experiment to knockdown the LRP1 receptor with the use of shRNA's in an AAV in either astrocytes or neurons to look at the ability for tau to spread using our previously approved GFP-2A-P301Ltau spread model); Outcome: Approved by DMR

Minutes: IACUC Meeting, 4/19/2019



Meeting time:
1:02 PM - 2:58 PM

Members Present: Chair, AV, 007, 020, 021, 027, 028, 030, 031, 034
Members Absent: 035
Guests:
Comments: Member 034 left the meeting early.

Voting results are presented as follows: approve - withhold approval - abstain (e.g. 9-0-0). Any member with a conflict of interest is recused at the appropriate time and is not counted in the voting; however, the quorum is verified prior to all voting. "RM-DMR" and "RM-FCR" refer to the IACUC actions taken when substantive information is lacking from a protocol and the Committee requires a protocol response, clarification, or modification (RM) from the PI, which will be reviewed by designated members of the Committee (DMR), or by the full Committee at a convened meeting (FCR). The order that topics are presented in the minutes does not necessarily represent the order that they were presented at the meeting.

Topics

Announcements

Presenter | Chair

- 1 Schedule of upcoming meetings: May 17, 2019; June 14, 2019; September 20, 2019; October 18, 2019; November 15, 2019; December 13, 2019; January 17, 2020; February 14, 2020; March 20, 2020; April 17, 2020; May 15, 2020; June 19, 2020
- 2 Review and vote to approve minutes from the March 22, 2019 IACUC meeting
The draft of the minutes distributed to the IACUC was not ready for review and approval. The final version of the minutes will be sent to the IACUC via Designated Member Review.
Outcome: Pending DMR
- 3 Update on protocols [REDACTED] and [REDACTED]
The IACUC was informed by the Department of EEMB that the PI of protocols [REDACTED] and [REDACTED] was placed on administrative leave and would not be available to care for or provide oversight for the animals housed in the associated satellite facility. The animals housed in the PI's satellite facility were transferred to the AV's holding protocol, per request of the IACUC. Care for the animals will be provided by EEMB personnel, including the PI's graduate student and an undergraduate student who had previously been caring for the animals. Additionally, and because the graduate student does not have as much availability this quarter, EEMB has sought another solution for providing proper oversight for the care of the animals. An EEMB Professor [REDACTED] with prior experience of caring for reptiles and amphibians has been recruited to supervise the animal care in the PI's lab and will be added to the AV's holding protocol as a Co-PI. Further, an additional undergraduate student is being hired to help with the care of the animals.
- 4 Protocol [REDACTED] Incident
On April 3, 2019, the IACUC received notice of a potential protocol noncompliance by a PI with mice housed in the ARC. According to the notification, the PI's mice were not euthanized according to the experimental endpoint identified in the approved protocol. The IACUC Chair and AV have since met with the PI to determine the reason for why the experimental endpoint was changed. The experimental endpoint corresponded to the specific age before the development of a potentially distressful progressive neurological phenotype. The PI explained that s/he was not aware of the birth dates of the mice and did not know that the mice needed to be euthanized by a certain age. The Chair summarized this incident and the subsequent meeting with the PI for the Committee. This protocol is funded by a grant from the NIH. The IACUC

determined this to be a failure to adhere to an IACUC-approved protocol and voted to report this to OLAW. The IACUC Coordinator will work with the IO, Chair and AV to schedule a time to call OLAW to submit a Preliminary Report on the incident.
Outcome: Reportable 9-0-0

5 Update on Protocol [REDACTED] Incident

The IACUC Chair presented an investigation report of a laboratory that conducted animal experiments that had not been approved by the IACUC. After meeting with the PI and the involved undergraduate researchers, it was discovered that there was a journal article that had just been published that uses the data from the unapproved experiments. The IACUC Chair and AV again met with the PI to discuss the notification of the journal's editor about this protocol non-compliance. The PI has since contacted the journal by email regarding the unapproved animal studies and is waiting on a response from the editor. The IACUC will discuss possible remediation actions at the next convened meeting.

Presenter | [REDACTED]

6 ORAMS Demo

Two of the developers who are working on the Office of Research Animal Management System (ORAMS) came to the meeting to present an overview of the system. Part of this overview was a demonstration of the IACUC Member role in the system. The developers also said that in the next two weeks, they would be holding three drop-in training/testing sessions for IACUC members, PIs, and Lab Managers.

7 Protocol [REDACTED] PAM Update

On April 1, 2019, the [REDACTED] copied the IACUC on an email to the postdoc who is responsible for ensuring that their lab's rats have constant access to water regarding a cage of rats with low and empty water bottles. It should be noted that all cages on this project now have two water bottles and at no time did any cage lack at least one bottle with water. However, the concern was that water levels were allowed to get low. The [REDACTED] had checked the lab's daily log and confirmed that lab members had already checked on the rats' water levels that day. Daily checks of medicated water levels by the lab is one of the Post-Approval Monitoring requirements set by the IACUC following multiple instances of the rats being found without medicated water. Over the next several days, the [REDACTED] and postdoc communicated via email discussing at which point water levels should be considered too low. It was agreed that when either of the two water bottle in a cage has less than 200 milliliters of medicated water, it should be considered too low and replaced by a lab member. On April 11, 2019, the IACUC Chair sent an email to the PI and postdoc to reiterate the importance of ensuring that their rats do not run out of water. Additionally, the postdoc was one day late in sending one of the lab's weekly reports on leaky or malfunctioning water bottles, which is also required by the Post-Approval Monitoring requirements set by the IACUC.

8 [REDACTED] Cooperative Agreement Subawardees

A UCSB PI with an approved IACUC protocol has received an award from the [REDACTED]. This award has multiple subawards to other institutes that will be conducting animal research using this funding. Before any funds can be released to these institutes, the IACUC [REDACTED] will need to confirm that the subaward PIs have the appropriate approvals from their institutes. The animal studies at other institutes include the use of non-human primates, ferrets, cats, and mice. The IACUC would like to initiate Memorandums of Understanding with the other institutes to ensure that their approved IACUC protocols are congruent with the animal work described in the [REDACTED] award and to clearly define the responsibilities of each institute with regards to the award.

IACUC Member Continuing Education

- 1 Lab Animal Magazine - Vol. 48, Issue 4; 97-99 (2019) Protocol Review Column; Dr. Jerald Silverman, Column Coordinator
A pain in the eye: what's the category?
The article was made available to the Committee and discussed during the meeting.

Protocol Review

- 1 Protocol [REDACTED]
This protocol proposes to study how individual cells in the brain encode sensory information, and how this coding is affected by other cells around it. The main points of discussion were:
1. The lab has established an approach for making whole-cell recordings directly from the dendrites of mouse cortical neurons in vivo, including in awake mice.
 2. Mice will need to undergo food and/or water restriction in order to be trained to perform certain behavioral tasks.
 3. Some mice will receive intracranial viral injections to produce transgene expression in specific brain regions or neuronal cell populations.
 4. Mice will need to be restrained in order to perform imaging studies, and they will be acclimated to physical restraint.
- The IACUC requested clarifications on the issues listed below, and other minor issues, which are all identified in the revised protocol application that was sent back to the PI.
1. Provide more information on the fluorophore that will be used for some of the imaging studies.
 2. Does "quiet" (in reference to the activity state of the animal) refer to the use of a light non-surgical level of anesthesia?
 3. The IACUC recommends that the acute and chronic studies be described in separate sections.
 4. Since a sugary liquid will be used to train mice to perform certain behaviors, will daily flushing of these tubes be sufficient to ensure that they are clean?
- Outcome: RM-DMR 9-0-0
-

- 2 Protocol [REDACTED]
This protocol proposes to study novel cationic lipid-nucleic acid (CL-NA) complexes that will deliver expression vectors or siRNAs, for a gene therapy approach to cancer treatment. The main points of discussion were:
1. The lab has proposed to start monitoring tumors three weeks after implantation. The IACUC Guideline for the Implantation of Tumor Cells in Rodents states that tumor-bearing rodents should be observed once per day following implantation.
 2. The lab is performing extensive in vitro optimization of their formulations/complexes before using them in vivo.
 3. Since tumor-bearing animals will be euthanized at specified humane endpoints in order to alleviate pain and/or distress, the animals should be listed as Category D.
- The IACUC requested clarifications on the issues listed below, and other minor issues, which are all identified in the revised protocol application that was sent back to the PI.
1. For each tumor model, should there be a control group that is just receiving the vehicle?
 2. If only the tumor is expressing GFP, how will the targeting and stability of the gene therapy nucleic acids (i.e., siRNAs) in other tissues be evaluated?
 3. What is being measured in the biodistribution experiments, if not green fluorescent proteins?
 4. What is the level of training and experience amongst the research team in recognizing the abnormal clinical symptoms that would trigger the humane endpoint for an animal with a peritoneal tumor?
- Outcome: RM-FCR 9-0-0

3 Protocol [REDACTED]

This protocol proposes to study and continue an ongoing effort to conserve and protect the endangered mountain yellow-legged frog from the effects of chytridiomycosis. The main points of discussion were:

1. The PI proposes to withhold anesthetic during PIT tagging and toe-tipping procedures. The IACUC agrees that the use of anesthetic will likely be more detrimental to the well-being of the frogs in this field research setting, in part due to the potential for increased predation of the animals recovering from anesthesia.

2. The genetic diversity of frog populations will be affected by the translocation procedures. The success of the translocation procedures will be monitored.

3. Visual surveys will be used to determine the frog population size and the intensity of infection amongst the population.

The IACUC requested clarifications on the issues listed below, and other minor issues, which are all identified in the revised protocol application that was sent back to the PI.

1. Why will only 25 swabs per site be collected? Are 25 swabs sufficient to determine Bd levels of a population at a particular site?

2. Is the purpose of captive rearing some animals at zoos before they are reintroduced to allow them to mature to a less vulnerable life-stage?

3. Are the tadpoles that hatch from the 50 egg masses included in the counts of 1000 tadpoles and, eventually, 1000 metamorphs?

4. Check with EH&S to determine if Cidex should be considered a chemical hazard.

Outcome: RM-DMR 8-0-0

4 Protocol [REDACTED]

This protocol proposes to study the interaction between coral fish and corals and how climate change may affect this interaction. The main points of discussion were:

1. A proposed method of collecting fish is to surround a coral head with a barrier net and anesthetize the captured fish with eugenol.

2. The PI is unsure of exactly which species of fish will be present during collection, so s/he has listed four genera to collect from.

3. The PI proposes to study two species of corallivorous fish and two species that promote coral development. What is the rationale for this selection, and do all species in the corresponding genera express one or the other behavior towards corals?

4. Fish will undergo physiological experiments to determine how metabolic rates and excretion rates change with warming sea temperatures.

The IACUC requested clarifications on the issues listed below, and other minor issues, which are all identified in the revised protocol application that was sent back to the PI.

1. The fish that will only be used for Experiment #1 should be listed as Category C.

2. Define ambient temperature in comparison to climate change scenario temperatures. How is ambient temperature established?

3. How is the food intake of the fish monitored/measured?

4. What are the sizes of the tanks that fish will be held in?

Outcome: RM-FCR 8-0-0

Protocol Annual Update

Presenter | Committee

1 Protocol [REDACTED] Annual Update; Outcome: Pending DMR

Protocol Modification

Presenter | Committee

- 1 Protocol [REDACTED] Major Modification (Adding the use of roxadustat (FG-4592) to study the hypoxia-mimicking effects in mice and rats and adding a one year humane endpoint for heterozygous female rats); Outcome: Approved by DMR
Reviewers: AV, Chair
- 2 Protocol [REDACTED] Major Modification (Adding the use of ketamine for a hyperactivity study and modifying the section on food regulation); Outcome: Approved by DMR
Reviewers: AV, Chair
- 3 Protocol [REDACTED] Major Modification (Adding new dosing regimens for citrate and BHB in the Han rat); Outcome: Approved by DMR
Reviewers: AV, Chair
- 4 Protocol [REDACTED] Major Modification (Determine whether host neuraminidase 3 (Neu3) is required for the onset and progression of colitis resulting from recurrent nonlethal gastric infections of Salmonella, and determine if disease is similarly induced by Gram-negative Campylobacter jejuni and avirulent LPS-bearing Salmonella LT2); Outcome: Pending DMR
- 5 Protocol [REDACTED] Major Modification (Adding the use of Schedule I compounds and increasing animal numbers); Outcome: Pending DMR

Protocol Closure

Presenter | Committee

- 1 Protocol [REDACTED] not renewed by PI; closed effective April 1, 2019

Action Items

Open Issues Coming Out of Meeting

Protocol Review

Presenter |

- 1 Protocol [REDACTED]; Outcome: Pending DMR

Previously Open Issues Completed

Announcements

Presenter |

- 1 Review and vote to approve minutes from the March 22, 2019 IACUC meeting; Outcome: Approved by DMR
Reviewers: Chair, AV

Protocol Review

Presenter |

- 1 Protocol [REDACTED]; Outcome: Approved by DMR
Reviewers: Chair, AV
- 2 Protocol [REDACTED]; Outcome: Approved by DMR

Reviewers: Chair, AV

- 3 Protocol [REDACTED] and associated housing SOP; Outcome: Approved by DMR
Reviewers: Chair, AV

Protocol Annual Update

Presenter |

- 1 Protocol [REDACTED] Annual Update; Outcome: Approved by DMR
Reviewers: Chair, AV

Protocol Modification

Presenter |

- 1 Protocol [REDACTED] Major Modification (Adding the use of Schedule I compounds and increasing animal numbers); Outcome: Approved by DMR
Reviewers: Chair, AV
- 2 Protocol [REDACTED] Major Modification (Determine whether host neuraminidase 3 (Neu3) is required for the onset and progression of colitis resulting from recurrent nonlethal gastric infections of Salmonella, and determine if disease is similarly induced by Gram-negative Campylobacter jejuni and avirulent LPS-bearing Salmonella LT2); Outcome: Approved by DMR
Reviewers: Chair, AV

Minutes: IACUC Meeting, 5/17/2019



Meeting time:
1:06 PM - 2:55 PM

Members Present: AV, Chair, 007, 020, 021, 028, 031, 034, 035

Members Absent: 030

Guests: 027

Comments: Members 031 and 035 arrived at different times after the beginning of the meeting.
Member 029 left the meeting early.

Voting results are presented as follows: approve - withhold approval - abstain (e.g. 9-0-0). Any member with a conflict of interest is recused at the appropriate time and is not counted in the voting; however, the quorum is verified prior to all voting. "RM-DMR" and "RM-FCR" refer to the IACUC actions taken when substantive information is lacking from a protocol and the Committee requires a protocol response, clarification, or modification (RM) from the PI, which will be reviewed by designated members of the Committee (DMR), or by the full Committee at a convened meeting (FCR). The order that topics are presented in the minutes does not necessarily represent the order that they were presented at the meeting.

Topics

Announcements

Presenter | Chair

- 1 Schedule of upcoming meetings: June 14, 2019; September 20, 2019; October 18, 2019; November 15, 2019; December 13, 2019; January 17, 2020; February 14, 2020; March 20, 2020; April 17, 2020; May 15, 2020; June 19, 2020
- 2 Review and vote to approve minutes from the April 19, 2019 IACUC meeting
Outcome: Approved 7-0-0
- 3 Protocol [REDACTED] Investigation Report
There have been no updates to this investigation report since it was last reviewed by the IACUC at the April meeting. The PI has not reported receiving any response from the journal editor regarding the data from unapproved animal studies being used in the PI's recently published paper. While the PI has informed the AV and IACUC Chair that s/he has completed all experiments that require the use of vertebrate animals, the IACUC still determined it to be appropriate to assign corrective action in the event any future work is proposed. Specifically, before any member of the PI's lab can resume work with animals, they must sign a document confirming that they have read the protocol and understand the procedures described in the protocol. These corrective action will be activated should the PI or any members of the research team resume the use of vertebrate animals on any protocol.
Outcome: Approved and Reportable to AAALAC 7-0-0
- 4 Protocol [REDACTED] Investigation Report
The IACUC was informed of the incident involving this protocol at the April meeting. During the April meeting, the IACUC voted that this incident was reportable to OLAW, since the project was funded by an NIH grant. On May 3, 2019, the IACUC Chair called the OLAW [REDACTED] to make a preliminary report of the incident. The Chair informed OLAW that the IACUC would be determining appropriate corrective action at the upcoming IACUC meeting and would email a final version of the investigation report to them. The IACUC discussed this issue and determined that having the PI and all protocol personnel sign a letter stating that they have read and understand the protocol and its procedures is sufficient. This corrective action will be activated should the PI or any members of the research team resume the use of vertebrate animals on any protocol. In addition to OLAW, this incident is reportable to AAALAC.
Outcome: Approved and Reportable to OLAW and AAALAC 8-0-0

IACUC Meeting | 5/17/2019

- 5 Protocol [REDACTED] Investigation Report
The Chair presented an investigation report on an incident of protocol noncompliance. This protocol involves the use of a USDA regulated species. The IO was notified of the incident and supported the IACUC's recommendation to utilize the relatively new USDA-APHIS self-reporting incentive program. On May 10, 2019, the IACUC Chair made the preliminary report to USDA-APHIS. They requested a summary of the incident and investigation to date, which was sent to UCSB's USDA-APHIS VMO on May 13th. During the meeting, the Committee deliberated and outlined multiple corrective actions to be implemented to minimize the probability of similar incidents occurring in the future. First, the lab must label or mark any animal cage card housing a diabetic animal. Secondly, at least two lab members must review RBG data to ensure that all animals that require enhanced monitoring procedures are receiving this care. Lastly, the lab must send a weekly email report to the IACUC [REDACTED] informing the [REDACTED] if any animals began receiving enhanced monitoring procedures that week. The [REDACTED] will verify that these animals are euthanized according to the protocol's humane endpoints.
Outcome: Approved and Reportable to AAALAC 8-0-0
-

- 6 Protocol [REDACTED] Incident
The AV presented the preliminary findings on an investigation involving the performance of a surgical procedure on a laboratory rat by an unqualified and unsupervised individual. The Committee inadvertently neglected to discuss whether or not this incident should be reportable to OLAW given that the work is funded by the NIH, but will review and discuss the investigation report of this incident at the next IACUC meeting.
- 7 Protocol [REDACTED] Incident
The IACUC chair presented the preliminary findings on an investigation involving the death of a swell shark at a satellite animal holding facility that may have been caused by a recent power failure, and the lack of timely notification of the animal death to the AV. An investigation report about this incident will be reviewed and discussed at the next IACUC meeting.

Presenter | Coordinator

- 8 Protocol [REDACTED] PAM Update
One of the weekly reports from the postdoc on the status of their rats' water bottles was not properly sent to the IACUC Office. The email was sent to the PI, who had been copied on the email, but not to the IACUC. The Chair contacted the postdoc and PI about the oversight and reminded them of the importance that the IACUC receive these reports in a timely manner.

Presenter | Committee

- 9 Training waiver for the Co-PI added to the AV's holding protocol [REDACTED]; Outcome: Approved by DMR
Reviewers: Chair, 021

IACUC Policy

Presenter | Committee

- 1 IACUC Guideline Minimum Requirements for Personal Protective Equipment When Working With Research Animals Modification (Updates regarding the use of PPE in field settings were made); Outcome: Approved by DMR

IACUC Member Continuing Education

Presenter | [REDACTED]

- 1 Lab Animal Magazine - Vol. 48, Issue 5; 129-131 (2019) Protocol Review Column; Dr. Jerald Silverman, Column Coordinator
A full study is in progress, but who pays after the pilot?
The article was made available to the Committee and discussed during the meeting.

Protocol Review

Presenter | Committee

- 1 Protocol [REDACTED]
This is the second time this application has been reviewed at an IACUC meeting. This protocol proposes to study novel cationic lipid-nucleic acid (CL-NA) complexes that will deliver expression vectors or siRNAs, for a gene therapy approach to cancer treatment. The main points of discussion were:
1. The lab has indicated that the siRNAs that will be used for biodistribution studies are fluorescently labeled. The extent of the distribution of siRNAs will be assessed by determining concentrations in different tissues, particularly the lung, liver, spleen, and tumor.
The IACUC requested clarifications on the issues listed below, and other minor issues, which are all identified in the revised protocol application that was sent back to the PI.
1. Remove the references of luciferase from the application.
Outcome: Approved w/ minor clarifications 9-0-0
- 2 Protocol [REDACTED]
This protocol proposes to study the relation between nutrients derived from fish excrement and impacts on coral reefs in the [REDACTED]. The main points of discussion were:
1. No housing SOP is required because fish are placed in experimental tanks immediately upon arriving at the field station and euthanized once the experiment has been completed (in less than 24hrs).
2. All researchers working on this project should have previous experience spearing fish. Fish that are not immediately euthanized by spearing must receive a secondary method of euthanasia, preferably cervical transection/dislocation. If cervical dislocation is not possible on a particular fish, MS-222 should be used as quickly as possible to confirm euthanasia.
3. Fish will be collected via a variety of methods, including some that utilize clove oil as an anesthetic. Approval of a non-pharmaceutical grade anesthetic agent is required.
4. Traps are checked frequently to minimize the amount of bycatch.
The IACUC requested clarifications on the issues listed below, and other minor issues, which are all identified in the revised protocol application that was sent back to the PI.
1. The Project Summary needs to be revised so that it can be more easily understood by the lay public.
2. The IACUC would like the PI to add a confirmation that no fish that have been anesthetized with eugenol will be returned to the wild.
3. Why are 47 different families of fish needed to complete this study? Could fewer families be used and conclusions extrapolated from that data? Why do the numbers of specimens needed vary between the families?
4. Please define "body stoichiometry" and "body stable isotope composition"?
Outcome: RM-DMR 8-0-0
- 3 Protocol [REDACTED]
This protocol proposes to study the prevalence and intensity of parasitism in fish populations in coastal estuaries, beaches, and kelp forests. The main points of discussion were:
1. Researchers should have previous experience spearing fish. Fish that are not immediately euthanized by spearing must receive a secondary method of euthanasia, preferably cervical transection/dislocation. If cervical dislocation is not possible on a particular fish, MS-222 should be used as quickly as possible to

confirm euthanasia.

2. Fish are being collected to provide information on the diversity and levels of parasitism in wild fish populations and to use parasites as an indicator of ecosystem function through ongoing monitoring.

3. The PI requests to use 3380 fish of 78 different species. However, during the previous years of this study, the lab usually collects far fewer than approved by the IACUC. Additionally, it is not known if the lab has processed (examined for parasites) all previously collected and frozen carcasses.

The IACUC requested clarifications on the issues listed below, and other minor issues, which are all identified in the revised protocol application that was sent back to the PI.

1. Have all previously collected specimens been processed (i.e., dissected and analyzed)? These should be utilized before more fish are collected.

2. Could fewer species be used and conclusions extrapolated from that data?

3. Explain and justify based on past data which species are being used for long-term studies (allowing for examination of change in parasitism rates over time) versus which are being slowly accumulated for a general description of parasitism within that species without any documentation of change over time.

4. Secondary methods of euthanasia do not need to be listed with the primary methods of euthanasia.

Outcome: RM-DMR 9-0-0

4 Protocol [REDACTED]

This protocol proposes to study urban carnivore movement patterns, social behavior, mortality, and sensitivities to urban development. The main points of discussion were:

1. Traps will be set in the evenings in discrete [REDACTED], using cat food as bait, and checked for animals in the mornings.

2. Raccoons vector raccoon roundworms, which can be transmitted to humans. Increasing contact with raccoons in urban areas increases the likelihood of parasite transmission to humans.

3. The dietary overlap of raccoons, skunks and opossums will be measured through stable isotope analysis in hair samples.

4. GPS collars have an automatic drop-off mechanism that allows for the collars to detach from the raccoons once the GPS battery has been depleted.

The IACUC requested clarifications on the issues listed below, and other minor issues, which are all identified in the revised protocol application that was sent back to the PI.

1. Add a summary of the experiments involving skunks and opossums to the Project Summary.

2. If only six collars are available, how does the lab anticipate collaring 20 raccoons?

3. How are researchers protecting themselves from being sprayed by skunks?

4. Approximately how long do the anesthetic, measuring and collaring procedures take?

Outcome: Approved w/ minor clarifications 8-0-0

5 Protocol [REDACTED]

This protocol proposes to study the ecology of gartersnakes and their interactions with endangered mountain yellow-legged frogs. The main points of discussion were:

1. Mountain yellow-legged frogs that exhibit resistance to *Batrachochytrium dendrobatidis* (Bd) are translocated to areas where Bd is prevalent, in hopes of establishing a new population of Bd resistant frogs (covered by a different UCSB IACUC protocol). To minimize the amount of predation from gartersnakes on these new (i.e., vulnerable) populations, snakes will be translocated to a new area at least 0.5 km away.

2. Gartersnakes will be identified using a marking system that utilizes medical cauterization units to create a micro-brand. The PI justifies that snakes tend to show little reaction to the micro-brand, so any discomfort or pain experienced is likely momentary.

3. Gartersnakes will be made to regurgitate to number and identify the species of consumed prey.

4. The recapture of gartersnakes will help to identify whether snakes are more likely to remain in their translocated habitat or to return to the habitat from where they were initially collected.

The IACUC requested clarifications on the issues listed below, and other minor issues, which are all

identified in the revised protocol application that was sent back to the PI.

1. Clarify how many times a snake may be palpated to encourage regurgitation.
2. Provide more information in the Project Update, particularly in regards to the success of establishing translocated frog populations.
3. Some of the justification for using a micro-brand and withholding anesthetic/analgesia needs to be added from the PI's comments into the protocol text.

Outcome: RM-DMR 9-0-0

6 Protocol [REDACTED] and associated housing SOP

This is the second time this application has been reviewed at an IACUC meeting. This protocol proposes to study the interaction between coral fish and corals and how climate change may affect this interaction. The main points of discussion were:

1. The PI has requested to use clove oil as an anesthetic to collect small fish living within the coral. There is no FDA-approved formulation of clove oil. Approval of a non-pharmaceutical grade anesthetic agent is required.
2. The PI has provided justification for using plastic forceps to force feed lightly anesthetized fish, as opposed to the plastic syringe and tube gavage method recommended by the AV. This justification is detailed in an email to the AV, which has been appended to the protocol.
3. Although the IACUC has no questions or revisions regarding the PI's housing SOP, the UCSB IACUC will be unable to inspect this facility semiannually due to its distance from campus.

The IACUC requested clarifications on the issues listed below, and other minor issues, which are all identified in the revised protocol application that was sent back to the PI.

1. The IACUC would like the PI to add a confirmation that no fish that have been anesthetized with clove oil will be returned to the wild.

Outcome: Approved w/ minor clarifications 8-0-0

Protocol Annual Update

Presenter | Committee

- 1** Protocol [REDACTED] Annual Update; Outcome: Approved by DMR
Reviewers: Chair, AV

Protocol Modification

Presenter | Committee

- 1** Protocol [REDACTED] Major Modification (Adding the use of Schedule I compounds and increasing the animal numbers); Outcome: Approved by DMR
Reviewers: Chair, AV
- 2** Protocol [REDACTED] Major Modification (Adding a Co-PI to the protocol. The Co-PI will be responsible for overseeing and supervising the care of the animals in the [REDACTED] facility); Outcome: Approved by DMR
Reviewers: Chair, 029
- 3** Protocol [REDACTED] Major Modification (Adding [REDACTED] as an animal procedure area); Outcome: Approved by DMR
Reviewers: Chair, AV
- 4** Protocol [REDACTED] Major Modification (Clarifying how non-invasive and minimally-invasive sample collections are being performed, changing the serology testing frequency from quarterly to semiannually, and requesting a Guide exception to single house sentinel animals after their cage mate has been euthanized)

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for testing); Outcome: Approved by DMR

Reviewers: Chair, 029

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- 5 Protocol [REDACTED] Major Modification (Adding a Co-PI); Outcome: Approved by DMR
Reviewers: Chair, AV

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- 6 Protocol [REDACTED] Major Modification (Combining Studies 1A and 1B, adding pegylated-irinotecan (NKTR-102) and nanoliposomal forms of irinotecan, increasing dosages of amino acid targets, adding enzyme inhibitors, adding awake in-brain sensor recordings, adding special husbandry procedures, adding survival IC surgery, adding the use of carprofen administered in MediGel, adding experimental compounds, adding a funding source, and increasing the number of animals); Outcome: Pending DMR

Presenter | [REDACTED] AV

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- 7 Protocol [REDACTED] Minor Modification (Replacing the use of banamine with carprofen administered in MediGel); Outcome: Administratively confirmed by the IACUC [REDACTED] after AV consultation
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- 8 Protocol [REDACTED] Minor Modification (Adding proparacaine drops to the list of drugs); Outcome: Administratively confirmed by the IACUC [REDACTED] after AV consultation

Protocol Closure

Presenter | Committee

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- 1 Protocol [REDACTED] not renewed by PI; closed effective April 30, 2019

SOP Modification

Presenter | Committee

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- 1 [REDACTED] Aquatic Housing SOP Modification (Updating the species list); Outcome: Approved by DMR
Reviewers: Chair, AV

Presenter |

-
- 2 Protocol [REDACTED] Animal Health Monitoring SOP Modification (Clarifying how non-invasive and minimally-invasive sample collections are being performed, changing the serology testing frequency from quarterly to semiannually, and requesting a Guide exception to single house sentinel animals after their cage mate has been euthanized for testing); Outcome: Approved by DMR
Reviewers: Chair, 029

Action Items

Open Issues Coming Out of Meeting

Protocol Review

Presenter |

-
- 1 Protocol [REDACTED]; Outcome: Pending DMR
-
- 2 Protocol [REDACTED]; Outcome: Pending DMR

Previously Open Issues Completed

Protocol Review

Presenter |

- 1 Protocol [REDACTED]; Outcome: Clarifications accepted
Reviewers: AV, Chair
- 2 Protocol [REDACTED]; Outcome: Clarifications accepted
Reviewers: AV, Chair
- 3 Protocol [REDACTED]; Outcome: Approved by DMR
Reviewers: AV, Chair
- 4 Protocol [REDACTED] and associated housing SOP; Outcome: Clarifications accepted
Reviewers: AV, Chair
- 5 Protocol [REDACTED]; Outcome: Approved by DMR
Reviewers: AV, Chair
- 6 Protocol [REDACTED]; Outcome: Approved by DMR
Reviewers: AV, Chair
- 7 Protocol [REDACTED] and Associated Housing SOP; Outcome: Approved by DMR
Reviewers: AV, Chair
- 8 Protocol [REDACTED] Outcome: Approved by DMR
Reviewers: AV, Chair

Protocol Modification

Presenter |

- 1 Protocol [REDACTED] Major Modification (Combining Studies 1A and 1B, adding pegylated-irinotecan (NKTR-102) and nanoliposomal forms of irinotecan, increasing dosages of amino acid targets, adding enzyme inhibitors, adding awake in-brain sensor recordings, adding special husbandry procedures, adding survival IC surgery, adding the use of carprofen administered in MediGel, adding experimental compounds, adding a funding source, and increasing the number of animals); Outcome: Approved by DMR
Reviewers: AV, Chair
- 2 Protocol [REDACTED] Major Modification (Adding the experiments from approved protocol [REDACTED] to protocol [REDACTED]);
Outcome: Approved by DMR
Reviewers: AV, Chair
- 3 Protocol [REDACTED] Major Modification (Adding the use of the CA kilifish); Outcome: Approved by DMR

Minutes: IACUC Meeting, 6/12/2019



Meeting time:
1:05 PM - 3:20 PM

Members Present: AV, Chair, 007, 020, 028, 030, 034, 035

Members Absent: 021, 031

Guests: 027

Comments: Members 020 and 034 left the meeting early, at different times.

Voting results are presented as follows: approve - withhold approval - abstain (e.g. 9-0-0). Any member with a conflict of interest is recused at the appropriate time and is not counted in the voting; however, the quorum is verified prior to all voting. "RM-DMR" and "RM-FCR" refer to the IACUC actions taken when substantive information is lacking from a protocol and the Committee requires a protocol response, clarification, or modification (RM) from the PI, which will be reviewed by designated members of the Committee (DMR), or by the full Committee at a convened meeting (FCR). The order that topics are presented in the minutes does not necessarily represent the order that they were presented at the meeting.

Topics

Announcements

Presenter | Chair

- 1 Schedule of upcoming meetings: September 20, 2019; October 18, 2019; November 15, 2019; December 13, 2019; January 17, 2020; February 14, 2020; March 20, 2020; April 17, 2020; May 15, 2020; June 19, 2020
- 2 Review and vote to approve minutes from the May 17, 2019 IACUC meeting
Outcome: 7-0-1
- 3 Protocol [REDACTED] Investigation Report
The IACUC was informed of the incident involving this protocol at the May meeting. This protocol is funded by NIH grants. However, the Committee inadvertently neglected to determine whether or not this incident would be reportable to OLAW, so no preliminary report was made. The IACUC discussed the incident and determined that the corrective actions recommended by the sub-Committee were appropriate.
Outcome: Approved and Reportable to OLAW and AAALAC 8-0-0
- 4 Protocol [REDACTED] Investigation Report
The IACUC was informed of the incident involving this protocol at the May meeting. The IACUC Chair presented the investigation report detailing the death of a swell shark at a satellite animal holding facility that may have been caused by a recent power failure, and the lack of timely notification of the animal death to the AV.
Outcome: Approved 8-0-0
- 5 Incident in [REDACTED]
The IACUC Chair informed the Committee of a recent incident involving animal procedures being conducted by a graduate student in an ARC room not approved for that use. Further, the door leading from this room to the ARC facility hallway was propped open during the procedures, triggering an alarm to the ARC staff that the pressure differential in that room was outside of its normal parameters. The Committee agreed that there were no animal welfare concerns and that a full investigation was not necessary. A letter will be sent to the PI and the graduate student involved emphasizing the importance of conducting animal work only in areas identified for that use and that doors in the ARC should never be propped open.
- 6 Protocol [REDACTED] Investigation Report

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The IACUC Chair presented a draft of an investigation report detailing two separate incidents affecting animal welfare on the same protocol. The PI has not been available to meet with an IACUC sub-Committee regarding the incidents, so the completion of the investigation is pending.

7 Revisions to Protocol ■■■ Investigation Report

Upon receiving the final version of the investigation report for this reportable incident, the PI recommended some minor revisions to the report text. The IACUC Chair worked with the PI to incorporate their suggestions and presented the changes to the IACUC. The IACUC was fine with the revised text recommended by the IACUC Chair. Updated versions of this report will be sent to OLAW and AAALAC. Outcome: Approved 8-0-0

8 Protocol ■■■ Incident

The AV reported to the IACUC an incident he discovered while reviewing the medical records for the rabbits on this protocol. The records indicated that the rabbits were being euthanized at 6 or 7 days following specific procedures. However, the approved protocol states that rabbits will be euthanized at either 3 or 14 days following the specific procedures. While the endpoints identified in the protocol were not being followed, the rabbits were being euthanized prior to the approved maximum experimental endpoint and were not experiencing increased pain or distress. The primary researcher on this protocol has since submitted a modification request to clarify the intended experimental endpoints. The Committee agreed that there were no animal welfare concerns and that a full investigation was not necessary.

Presenter | ■■■■■

9 Request for a minor to work on protocol ■■■

The IACUC has previously determined this issue be evaluated on a case-by-case basis. The PI has requested permission to allow a high school student (i.e., minor) in the UCSB Research Mentorship Program to work with animals on their protocol. The graduate student that will be supervising the minor has submitted a summary to the IACUC on what procedures they will be performing and how they will be trained. The IACUC accepted the proposed training plan with a few additional clarifications and stipulations.

1. While the minor will be performing daily husbandry and experimental feeding trials, the graduate student (or other qualified researcher on the protocol roster) is still responsible for performing a daily health check of the animals.
2. All requirements of the UCOP Minors in Laboratories and Shops policy must be followed, including affiliating with the University and department as a volunteer.
3. The minor must not work with any hazardous chemicals or hazardous animals.
4. The minor must be sufficiently trained on appropriate fishing techniques to minimize the pain and/or distress of captured fish.
5. Ensure that the minor understands the importance of promptly reporting any animal health issues to the Attending Veterinarian.

Outcome: Approved w/ minor clarifications 8-0-0

Presenter | AV

10 Animal adoptions

A PI has approached the AV and IACUC about adopting some animals that were not used for experiments (i.e., naive). The personnel interested in adopting the animals have previous experience caring for this particular species on this PI's approved IACUC protocol. These animals were purchased from a public vendor and are currently housed in a satellite facility. The AV will need to conduct a health check of the animals before they can be adopted, as well as meet with the personnel adopting the animals to ensure that they are aware of the various responsibilities of caring for these animals.

IACUC Policy

- 1 IACUC Guideline Aseptic Rodent Surgery and Postoperative Care (Clarifying the surgical training process, modifying the surgical facilities description, and expectations for postoperative care); Outcome: Pending FCR
- Some of the revisions made to this Guideline were clarifications that needed to be made following the recent incident of noncompliance involving a surgeon not being properly trained on a particular surgical procedure and not providing postoperative care as required. For example, several of the statements that a surgeon "should" do something have now been changed to "must" statements. Any deviation from "must" statements will be considered an incident significant noncompliance. Additionally, the IACUC requested that a statement now be included in the Guideline to allow for the immediate removal of a person from a protocol due to violations of the Guideline.
- Outcome: Approved w/ minor clarifications 8-0-0

IACUC Member Continuing Education

- 1 Lab Animal Magazine - Vol. 48, Issue 6; 153-155 (2019) Protocol Review Column; Dr. Jerald Silverman, Column Coordinator
- Maintaining balance: what (dis)qualifies a nonaffiliated IACUC candidate?*
- This article was distributed to the IACUC, but not reviewed and discussed due to time constraints.

Protocol Review

- 1 Protocol [REDACTED]
- This protocol proposes to study the role that herbivorous fish play in controlling the proliferation of algae and corals on reefs in [REDACTED]. The main points of discussion were:
1. Some of the studies outlined in the protocol application describe personnel observing how fish interact with reefs. Since the behavior of the animals is not being materially altered during these observation procedures, this activity does not need to be reviewed by the IACUC and can be removed from the application.
 2. Animal gut contents will be analyzed to determine their potential effect on the proliferation of algae. The IACUC requested clarifications on the issues listed below, and other minor issues, which are all identified in the revised protocol application that was sent back to the PI.
 1. Provide justification for using a sample size of 10 fish per species.
 2. The Project Summary needs more details that pertain to the procedures described in the protocol.
- Outcome: Approved w/ minor clarifications 8-0-0
-
- 2 Protocol [REDACTED]
- This protocol proposes to use quantitative trait locus (QTL) analyses to identify novel genes involved in the development of the visual system. The main points of discussion were:
1. This research seeks to better understand the development of the visual system, as well as the physiological progress of neurodegenerative disorders.
 2. Usually, mice will be housed and allowed to acclimate in the ARC for 48 hours after being received from a vendor. Since the anatomical measurements being taken are not affected by travel-related stresses, the lab has requested an exception to allow for the animal to be immediately euthanized upon its receipt in the ARC.
 3. This protocol proposes to test Schedule I drugs (i.e., cannabinoids). The PI is currently in the process of obtaining this license. This protocol is funded in part by an NIH grant (i.e., federal funding), however the experiments involving the use of cannabinoids will be funded by a private source.

4. Mice will not be blinded during the excitotoxicity experiments, but will have reduced visual capabilities. The IACUC requested clarifications on the issues listed below, and other minor issues, which are all identified in the revised protocol application that was sent back to the PI.

1. The Project Summary needs to be simplified so that it is more easily understood by someone without a background in science.
2. Would it be possible to place the negative electrode in the mouth of the mouse, rather than inserting under the scalp, during the ERG measurements? This will cause less pain/distress for the animal.
3. Clarify the units of measurement for the experimental compounds listed in Question 12.
4. How will the rats be adapted to the dark prior to the ERG measurements?

Outcome: RM-DMR 7-0-0

Other Animal Activity

Presenter | Committee

- 1 Animal Activity # [REDACTED] protocol and SOP revision (Replacing the use of MS-222 with clove oil and changing the artificial stream descriptions); Outcome: Pending DMR
 - 2 Animal Activity # [REDACTED] Terrestrial Housing SOP; Outcome: Approved by DMR
Reviewers: AV, Chair
-

Protocol Modification

- 1 Protocol [REDACTED] Major Modification (Changing humane/experimental endpoint, increasing animal numbers for superovulation project, and adding the ERG procedures back into the protocol); Outcome: Pending FCR
This modification request was submitted as part of the corrective actions required by the IACUC following an investigated animal welfare incident (i.e., severely diabetic animals not euthanized according to the endpoints identified in the protocol). While meeting with the sub-Committee regarding the incident, the postdoc had stated that s/he was changing the focus of the study, would have fewer total animals in the colony to keep track of, and would no longer be using animals that are older and developing diabetic complications. However, the modifications proposed do not reflect the changes the postdoc had discussed with the sub-Committee, so the AV requested that this modification be reviewed at a convened IACUC meeting. The main points of discussion were:
 1. The postdoc has requested to be allowed to age the animals for up to 12 months to ensure that a higher percentage of the animals develop diabetic retinopathy.
 2. [REDACTED] rats tend to exhibit self-injurious behavior. The AV believes that this is due in part to the the [REDACTED] rat being a relatively wild animal model that is now being housed in a laboratory setting. Laboratory animals are often able to cope with environmental stressors by interacting with enrichment that has been provided; however, the lab has requested that the ARC not provide wood or paper-based enrichment for these animals for scientific reasons.
 3. The investigation report that details the animal welfare incident will need to be updated to include a summary of the protocol revisions that have been proposed by the postdoc and subsequently discussed by the IACUC.

The IACUC requested clarifications on the issues listed below, and other minor issues, which are all identified in the revised protocol application that was sent back to the PI.

 1. The recently added justification for allowing the rats to age up to 52 weeks (i.e., 12 months) to develop diabetic retinopathy is contradictory to previously provided justification that a majority of rats have developed diabetic retinopathy by 7 or 10 months of age. Clarify which is the correct justification.
 2. Would it be possible to place the negative electrode in the mouth of the animal, rather than inserting under the scalp, during the ERG measurements? This will cause less pain/distress for the animal.
 3. Provide a reference to support the argument that [REDACTED] rats consuming wood or paper-based enrichment will delay the progression of diabetes.
 4. How will the animals be adapted to the dark prior to the ERG procedures?

Outcome: RM-DMR 6-0-0
- 2 Protocol [REDACTED] Major Modification (Addition of new animal models (Pkhd1-Cre:GPR109a and Ksp-Cre:GPR109a), new compound Panduratin A, and new dosing regimes and dosages); Outcome: Approved by DMR
Reviewers: AV, Chair
- 3 Protocol [REDACTED] Major Modification (Increasing trapping season duration and including the will allow students from [REDACTED] to observe trapping procedures); Outcome: Approved by DMR
Reviewers: AV, Chair
- 4 Protocol [REDACTED] Major Modification (Adding a new study); Outcome: Pending DMR
- 5 Protocol [REDACTED] Major Modification (Clarifying the specific responsibilities of the PI and Co-PI in regards to facility maintenance and animal care for satellite facilities and the ARC, and that animals can be transferred to the holding protocol without suspension or termination of the original protocol); Outcome: Pending DMR
- 6 Protocol [REDACTED] Major Modification (Clarifying the experimental endpoints and adding a control study); Outcome: Pending DMR

Protocol Closure

Presenter | Committee

- 1 Protocol [REDACTED] not renewed by PI; closed effective April 30, 2019
- 2 Protocol [REDACTED] not renewed by PI; closed effective June 2, 2019
- 3 Protocol [REDACTED] replaced by protocol 911.1; closed effective June 4, 2019

Action Items

Open Issues Coming Out of Meeting

IACUC Policy

Presenter |

- 1 IACUC Guideline Aseptic Rodent Surgery and Postoperative Care (Clarifying the surgical training process, modifying the surgical facilities description, and expectations for postoperative care); Outcome: Pending clarifications

Previously Open Issues Completed

Announcements

Presenter |

- 1 Request for a minor to work on protocol [REDACTED]; Outcome: Clarifications accepted

Protocol Review

Presenter |

- 1 Protocol [REDACTED]; Outcome: Clarifications accepted
Reviewers: Chair, AV
- 2 Protocol [REDACTED]; Outcome: Approved by DMR
Reviewers: Chair, AV

Protocol Modification

Presenter |

- 1 Animal Activity # [REDACTED] protocol and SOP revision (Replacing the use of MS-222 with clove oil and changing the artificial stream descriptions); Outcome: Approved by DMR
Reviewers: Chair, AV
- 2 Protocol [REDACTED] Major Modification (Changing humane/experimental endpoint, increasing animal numbers for superovulation project, and adding the ERG procedures back into the protocol); Outcome: Approved by DMR
Reviewers: Chair, AV
- 3 Protocol [REDACTED] Major Modification (Adding a new study); Outcome: Approved by DMR
Reviewers: Chair, AV
- 4 Protocol [REDACTED] Major Modification (Clarifying the specific responsibilities of the PI and Co-PI in regards to

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facility maintenance and animal care for satellite facilities and the ARC, and that animals can be transferred to the holding protocol without suspension or termination of the original protocol); Outcome: Approved by DMR

Reviewers: Chair, 034

- 5 Protocol [REDACTED] Major Modification (Clarifying the experimental endpoints and adding a control study); Outcome: Approved by DMR Reviewers: Chair, AV