INSTITUTIONAL BIOSAFETY COMMITTEE

UNIVERSITY of WASHINGTON

Meeting Minutes

Date: Wednesday, August 16, 2017
Time: 10:00 AM – 12:00 PM

Location: HSB T-269

Members Present:
1. Thea Brabb, Comparative Medicine *(Animal Containment Expert)*
2. Lesley Colby, Comparative Medicine *(Animal Containment Expert)*
3. Kevin Hybiske, Allergy and Infectious Diseases
4. David Koelle, Allergy and Infectious Diseases
5. Stephen Libby, Laboratory Medicine (*IBC Chair*)
6. David Scarsella, Pacific Northwest Diabetes Research Institute (*Community Member*)
7. Jason Smith, Microbiology (*IBC Vice Chair*)
8. Eric Stefansson, Environmental Health & Safety (*Biosafety Officer, Animal Containment Expert*)

Commonly Used Abbreviations
IBC: Institutional Biosafety Committee
BSO: Biological Safety Officer
BUA: Biological Use Authorization
BSL: biosafety level
PI: Principal Investigator
IACUC: Institutional Animal Care and Use Committee
NIH: National Institutes of Health
DURC: Dual Use Research of Concern
SOP: standard operating procedure

1. **CALL TO ORDER:** The Institutional Biosafety Committee (IBC) Chair called the meeting to order at 10:04 am. A quorum was present.

2. **REMINDER:** The IBC Chair reminded attendees that any notes that they retain are subject to public disclosure. A statement was also made about conflict of interest and voting on research proposals as described in the IBC Charter. This includes sharing a grant or a familial relationship.

3. **APPROVAL OF MINUTES:**
   - The IBC Chair sought a motion to approve the minutes from the July 19, 2017 meeting.
   - A member made a motion to approve the July 19, 2017 minutes. Another member seconded the motion.
   - The committee voted unanimously to approve the July 19, 2017 meeting minutes.

4. **OLD BUSINESS:**
   - At the April meeting, Dr. Hybiske's BUA was approved pending receipt of NIH approval for Chlamydia strains falling under section III-A of the NIH guidelines. The NIH approval was received. Dr. Hybiske needs to submit some SOPs and confirm that he has set up additional practices as required by the NIH.
   - At the June IBC meeting, Dr. Parsek's BUA was approved pending the lab inspection. The lab was inspected and the BUA letter was sent.
   - At the July IBC meeting, Dr. Kwon's BUA was approved contingent upon RCV testing results, revising the BUA application to list the BSL-1 room, and biosafety officer review of the IACUC protocol. The RCV testing results were submitted and the BUA application lists the correct BSL-1 room. The IACUC protocol was submitted this week and the biosafety officer is reviewing it.
   - At the July IBC meeting, Dr. Monnat's BUA was approved pending a satisfactory lab inspection. All of the deficiencies were corrected and the letter was sent out.
   - At the July IBC meeting, Dr. Ware's BUA was approved pending correction of the BUA application and biosafety officer review of the IACUC renewal. The BUA application was corrected and the biosafety officer reviewed the IACUC protocol. The BUA letter was sent out.
   - At the July IBC meeting, the IBC voted to send Dr. Gale a formal memo explaining the restrictions and options for research involving Junin virus. Dr. Gale has not yet informed the IBC how he wants to proceed.

5. **BIOSAFETY OFFICER (BSO) REPORT***:* The Biosafety Officer Report includes (1) projects involving recombinant or synthetic nucleic acids covered under section III-E and III-F of the *NIH Guidelines,* (2) proposals involving non-recombinant biohazardous agents requiring BSL-1 and BSL-2 containment, and (3) administrative updates, such as room additions.

   a. Biosafety Officer Report
      - Dr. Maly renewed a BUA involving human and non-human cells and non-pathogenic strains of *E. coli*.
      - Dr. Winkler received a new BUA for different types of anaerobic bacteria and protozoa. All of the agents are Risk Group 1.
      - Dr. Dichek added a flow cytometry core facility to his BUA approval.
      - Dr. Chamberlain, Dr. Tian, Dr. Childers, and Dr. Mustari each added a room to their respective BUA approvals.

- Dr. Kerr added a new non-recombinant bacterial species to his BUA letter.
- Dr. Bruckner-Lea received a new BUA approval for non-human primate cells.
- Dr. Liachko received a new BUA approval for human tissue samples.
- Dr. Heinecke renewed a BUA involving human and non-human primate blood and cells.
- Dr. Klatt added a non-recombinant *Plasmodium fragile* strain to her BUA approval. The *Plasmodium* will be used in vitro and in macaques.
- Dr. Wood added mice infected with adult Schistosoma worms. The adult worms are not directly infectious.
- Dr. St. John received a new BUA for work with human blood samples.
- The IBC Chair sought a motion to approve this month's Biosafety Officer Report.
- A member made a motion to approve this month's Biosafety Officer Report. Another member seconded the motion.
- The Committee unanimously voted to approve this month's Biosafety Officer Report.

6. DURC REPORT

- The DURC IRE (Dual Use Research of Concern Institutional Review Entity) reviewed an application for the project titled "Wnt genes and signaling."
- The agent involved is Botulinum neurotoxin. The research involves injecting Botulinum toxin B to zebrafish to study the loss of tissue regeneration. The lab does not modify the botulinum neurotoxin in any way.
- The DURC IRE determined that none of the experimental effects of concern apply to this research, that the research does not meet the DURC definition, and that a risk mitigation plan is not warranted. A quorum of members voted to approve the application.
- According to the federal DURC rule, the PI of a DURC protocol "is responsible to the funding agency or the research institution for the scientific and technical direction of that project or program." The School of Medicine will be appointing a permanent PI of record for this project who can meet this definition. Final approval will be pending this appointment.
- The IBC Chair sought a motion to endorse the DURC IRE's recommendation to approve the DURC application pending the appointment of a permanent PI of record.
- A member made a motion to approve the DURC application. Another member seconded the motion.
- The committee voted unanimously to approve the DURC application pending the appointment of a permanent PI of record.

7. INDIVIDUAL PROJECT REVIEWS

1. Valdmanis, Paul, new, *Mitigating host responses for effective gene therapy*

- The assigned IBC Primary Reviewer presented the Primary Review.
- This is a new PI to the university. The lab will focus on developing small RNA interference technologies for gene therapy use in repressing genes in liver and brain disorders.
- Lentiviral vectors and adeno-associated viral vectors (AAV) will be used on the project. Human cells and plasmid DNA will also be used.
- An IBC member asked a question about oncogenic inserts. The oncogenic inserts will be used in plasmids only. Because they are not being used in the lentiviral vectors, RCV (replication competent virus) testing is not required.

- An IBC member asked a question about what would happen if oncogenic inserts were used in AAV (in this case, they are not). If the AAV was adenovirus-free, BSL-1 containment would still be appropriate.
- The draft BUA letter was shown.
- The lab was inspected and no deficiencies were found. All of the required trainings have been completed.
- The IACUC protocol has not yet been submitted. The biosafety officer will need to review the IACUC protocol submission.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Valdmanis.
- The Committee voted unanimously to approve the draft BUA for Dr. Valdmanis, pending the biosafety officer's review of the IACUC protocol.

2. Murry, Charles, renewal, *Non-Human Primate iPSC Derived Cardiomyocyte Grafts Evaluation in Myocardial Infarction*

- The assigned IBC Primary Reviewer presented the Primary Review.
- This is a renewal. The goal of the project is to develop a clinical therapy for cardiovascular disease and heart failure using heart muscle cells derived from human or non-human primate pluripotent stem cells.
- Several viral vectors (lentiviral vectors, foamyviral vectors, gammaretroviral vectors, and AAV) are used to transfect the cells of interest. Cells are transplanted into macaques.
- Oncogenic inserts are used in all of the vectors. RCV (replication-competent virus) testing has been performed. All work will be conducted at BSL-2 containment.
- The lab was inspected and no deficiencies were found. All of the required trainings have been completed.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Murry.
- The Committee voted unanimously to approve the draft BUA for Dr. Murry.

3. Muster, Jeanot, renewal, *Wnt Genes and Signaling (Zebrafish)*

- The assigned IBC Primary Reviewer presented the Primary Review.
- The laboratory's goal is to understand Wnt protein function in regulating communication between cells in both embryonic development and adults.
- Transgenic zebrafish are used on the project. A herpes simplex viral vector and human induced pluripotent stem cells will be administered to zebrafish. Third-generation lentiviral vectors and a rabies virus vector will be used in vitro. The rabies virus vector has deletions that make it incapable of infecting other cells.
- The lab was inspected and no deficiencies were found. All of the required trainings have been completed.
- The draft BUA letter was shown.
- A discussion occurred about the principal investigator for this project. The principal investigator for this project was formerly Dr. Randall Moon. When he retired, Jeanot Muster was assigned as the PI by the School of Medicine.
- The IBC discussed requirements for PIs. The general consensus is that the PI needs to be a faculty member who can provide scientific expertise for the research and someone who is responsible for the safety and compliance for the lab, the research, and for all of the people working in the lab. One member expressed concern about the supervisory duties for the PI being explicit and understood by the interim and

permanent PI and all researchers working in the lab. This was discussed as a very important point for personal safety, compliance, and risk management for the UW.

- The IBC decided to temporarily approve this project with Jeanot Muster as PI through January 31, 2018. The School of Medicine will need to appoint a permanent PI of record by that time.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Jeanot Muster until January 31, 2018, at which time the School of Medicine will appoint a permanent PI of record.
- The Committee voted unanimously to approve the draft BUA for Jeanot Muster until January 31, 2018, at which time the School of Medicine will appoint a permanent PI of record.

4. Blevins, James, new, *Role of Brown Adipose Tissue Thermogenesis in Oxytocin-Elicited Weight Loss*

- The assigned IBC Primary Reviewer presented the Primary Review.
- This is a new application from a PI who is primarily affiliated with the Veterans Affairs Medical Center (VA). The in vitro work for this project will be performed at the VA, and the animal work will be performed at UW.
- The overall goals of the research are to understand the role of oxytocin on food consumption, thermogenesis, thermoregulation, body weight, and predisposition to diet-induced obesity.
- Adeno-associated viral vectors are administered to mice on this project.
- No inspection was required because only vivarium spaces (which are inspected on a regular cycle) are used on this project. All of the required trainings have been completed.
- A VA IACUC protocol will be submitted. The biosafety officer will need to review this protocol.
- The draft BUA letter was shown.
- An IBC member noted that the footnote *"You must receive approval from the IACUC prior to work with animals on the above IACUC protocol."* should be listed on this BUA letter. The biosafety officer will add it.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Blevins.
- The Committee voted unanimously to approve the draft BUA for Dr. Blevins, pending the biosafety officer's review of the VA IACUC protocol and adding the IACUC footnote to the BUA letter.

5. Davis, Jennifer, change, *The cellular and molecular mechanism of cardiac wound healing and fibrotic remodeling*

- The assigned IBC Primary Reviewer presented the Primary Review.
- This is a change to an existing project. The investigator wants to add the use of human induced pluripotent stem cells (human iPS cells) and third generation lentiviral vectors. Mouse cells transduced with lentiviral vectors will be administered to mice.
- The lab was inspected and no deficiencies were noted. All of the required trainings have been completed.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Davis.
- The Committee voted unanimously to approve the draft BUA for Dr. Davis.

6. Davis, Jennifer, change, *The cellular and molecular mechanism of cardiac wound healing and fibrotic remodeling*

- The assigned IBC Primary Reviewer presented the Primary Review.
- This is a change to an existing project. The investigator wants to administer human cells transduced with lentiviral vectors to rats.
- The lab was inspected and no deficiencies were noted. All of the required trainings have been completed.
- The IACUC amendment has not yet been submitted. The biosafety officer will need to review the IACUC amendment.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Davis.
- The Committee voted unanimously to approve the draft BUA for Dr. Davis, pending biosafety officer review of the IACUC amendment.

7. Disis, Mary Nora, change, *Evaluation of Immunity to Cancer in a Rodent Model*

- The assigned IBC Primary Reviewer presented the Primary Review.
- This is a change to an existing project. The investigator wants to administer bacteria in the *Ruminococcus* family to mice. Two Risk Group 2 bacteria, *Pseudomonas aeruginosa* and *Streptococcus pneumoniae*, and a Risk Group 1 bacteria, *Lactobacillus paracasei*, will be added for in vitro use.
- All of the bacteria are non-recombinant. The *Ruminococcus* bacteria will be administered to transgenic animals, so this portion of the research falls under section III-D of the NIH Guidelines.
- The lab was inspected and no deficiencies were noted. All of the required trainings have been completed.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Disis.
- The Committee voted unanimously to approve the draft BUA for Dr. Disis.

8. Elkon, Keith, change, *Genetic, Cellular, and Molecular Studies in SLE (Apoptosis)*

- The assigned IBC Primary Reviewer presented the Primary Review.
- This is a change request to an existing project. The investigator wants to add a human adenovirus vector expressing interferon alpha to mice to accelerate a lupus model. The vector stock is provided by a collaborator.
- No lab inspection was required because the lab had recently been inspected. All of the required trainings have been completed.
- The draft BUA letter was shown.
- The IBC reviewer noted that the adenovirus was listed incorrectly as gutless adenoviral vectors. The adenoviral vectors should be listed as E1a deleted. The biosafety officer will make the correction.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Elkon.
- The Committee voted unanimously to approve the draft BUA for Dr. Elkon.

9. Gale, Michael, new, *NHP Host Immunity to Zika Virus infection*

- The assigned IBC Primary Reviewer presented the Primary Review.
- This is a new project from an established investigator. The goal of this study is to determine immune responses to Zika virus. The PI is advancing their research to the non-human primate phase of evaluating vaccine efficacy.

- The researchers will vaccinate macaques with an attenuated vesicular stomatitis virus containing recombinant DNA from Zika virus (envelope protein), and then challenge animals with Zika virus.
- Dr. Gale has been approved for work with Zika virus on previous projects involving murine vaccination. The Gale lab members have already received medical counseling regarding Zika virus.
- The lab was inspected and no deficiencies were noted. All of the required trainings have been completed.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Gale.
- The Committee voted unanimously to approve the draft BUA for Dr. Gale.

10. Hotchkiss, Charlotte, renewal, *WaNPRC Colonies*

- The assigned IBC Primary Reviewer presented the Primary Review.
- This is a renewal. This project does not involve any direct research, but instead is a holding protocol for non-human primates that are not assigned to specific research projects.
- If a PI's IACUC protocol were to expire or if they otherwise became ineligible to host non-human primates on their own protocol, animals would be transferred to this protocol to receive veterinary care. These animals may have been previously administered agents requiring ABSL-2 or ABSL-2 with ABSL-3 practices containment. No new biohazardous agents will be administered to animals.
- An inspection was not required because the locations are covered by other primate center approvals. All of the required trainings have been completed.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Hotchkiss.
- The Committee voted unanimously to approve the draft BUA for Dr. Hotchkiss.

11. Savan, Ram, change, *Gene regulation of immune genes and the effect on immune responses*

- The assigned IBC Primary Reviewer presented the Primary Review.
- This is a change to an existing project. The investigator proposes to study immune responses of cultured cells to infection by a variety of viruses.
- Non-recombinant Sendai virus, encephalomyocarditis virus, influenza virus A, and Coxsackie B virus will be added. A recombinant vesicular stomatitis virus encoding GFP (green fluorescent protein) will also be added. None of these viruses will be used in an animal model.
- The committee discussed transport permits for the vesicular stomatitis virus. A permit would most likely be required for shipping or receiving a shipped sample, but Dr. Savan is obtaining VSV from a collaborator at UW, so no shipping permit is required.
- The lab was inspected and no deficiencies were noted. All of the required trainings have been completed.
- The draft BUA letter was shown.
- Some flow cytometry rooms need to be added to the BUA letter. The biosafety officer will make the change.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Savan.

- The Committee voted unanimously to approve the draft BUA for Dr. Savan, contingent upon adding flow cytometry rooms to the BUA letter.

SUBCOMMITTEE REPORTS:

12. Hyde, Jennifer, new, *Contribution of virus-host interactions to viral pathogenesis (BLS3, non-select)*

- Three members of the IBC served as the Subcommittee Reviewers. One of the Subcommittee Reviewers presented the Subcommittee Report.
- This is a new project from an established investigator. Five Risk Group 3 viruses will be used on the project: Chikungunya virus, Eastern equine encephalitis virus (South American genotype), Semliki Forest virus, Venezuelan equine encephalitis virus (subtypes ID, IE, and IF), and Western equine encephalitis virus. All of these agents require BSL-3 containment but all of them are exempt from Select Agent regulations.
- Chimeric viruses will be constructed that contain sequences from alphaviruses that have different pathogenic properties. Dr. Hyde does not anticipate that the tropism of these chimeras will be different from that observed in the parental viruses from which the sequences are derived. Any chimera work performed with a combination of BSL-2 and BSL-3 viruses will be performed at BSL-3 containment and designated as a Risk Group 3 agent.
- Eventually Dr. Hyde may want to make a chimeric virus that contains sequences derived from select agents (Venezuelan equine encephalitis virus subtypes IAB and IC). Dr. Hyde will need to submit the proposal in writing to both the UW IBC and the CDC to determine whether such work would be considered select agent research. This research is not included in the BUA application being reviewed today.
- An IBC member asked about flow cytometry. Only fixed samples will be used in flow cytometry rooms.
- BSL-3 containment will be used for this project. No animal work is currently planned.
- The draft BUA letter was shown.
- A medical management plan is currently in process. An occupational health consultation with the Employee Health physician will be required before researchers work on this project. Dr. Hyde is in contact with the Employee Health Center regarding potential vaccination for some of the viral agents on this project. Vaccine recommendations have not yet been set for this project.
- A member made a motion to approve the draft BUA letter for Dr. Hyde, pending the completion of the medical management plan, vaccine recommendations, and an occupational health consultation. Another member seconded the motion.
- The Committee voted unanimously to approve the draft BUA for Dr. Hyde pending the completion of the medical management plan, vaccine recommendations, and an occupational health consultation.

FOR YOUR INFORMATION:

NIH Reportable Incidents

- Two NIH Reportable Incidents recently occurred at UW.
- The first incident occurred when a student was drawing blood from a mouse in a biosafety cabinet following standard operating procedures. The animal moved and the student accidentally stuck her own finger.

    - Several weeks previously, the mouse had been infected with Lymphocytic choriomeningitis virus (LCMV Armstrong 53b) and adeno-associated viral vector AAVDJ/8 encoding enhanced green fluorescent protein or cholesterylester transfer protein (CETP) under control of a liver-specific promoter.
    - The student was wearing appropriate PPE. The student followed proper post-exposure protocol by washing the injury for 15 minutes and reporting the incident to her supervisor. Employee Health Center followed up with the student.
    - The student will be undergoing more hands-on training in mouse handling before starting to work with mice again.
    - The incident was reported to NIH. NIH's response is pending.
- The second incident occurred when an employee was performing an oral gavage on a mouse. The mouse turned and bit the tip of the employee's finger.
    - The mouse had been infected with 1,000 oocysts of *Cryptosporidium parvum* expressing luciferase approximately a week before the bite occurred.
    - The employee was wearing appropriate PPE. The employee followed proper post-exposure protocol by washing the injury for 15 minutes and reporting the incident to her supervisor and principal investigator. Employee Health Center followed up with the employee.
    - The mouse strain used in this lab is known to be more aggressive than other murine species. The laboratory has investigated and obtained additional protective glove liners (Ansell Hyflex 11-318) to prevent future bite injuries. These will be used in addition to the double gloves to attempt to prevent future injuries.
    - The incident was reported to NIH. NIH's response is pending.

NIH Symposium

- The IBC Chair attended and gave a presentation at an NIH symposium. He discussed his presentation and what he learned from the symposium.

ISSUES FROM THE FLOOR & PUBLIC COMMENTS:
There were no issues from the floor, and no public comments.

MEETING ADJOURNED AT APPROXIMATELY 11:56 a.m.