



INSTITUTIONAL BIOSAFETY COMMITTEE

UNIVERSITY of WASHINGTON

Meeting Minutes

Date: Wednesday, June 20, 2018

Time: 10:00 AM – 12:00 PM

Location: Foegen N-130A

- Members Present:**
1. Thea Brabb, Comparative Medicine (*Animal Containment Expert*)
 2. H.D. “Toby” Bradshaw, Biology (*Plant Expert*)
 3. Lesley Colby, Comparative Medicine (*Animal Containment Expert*)
 4. Richard Grant, Washington National Primate Research Center
 5. Kevin Hybiske, Allergy and Infectious Diseases
 6. Stephen Libby, Laboratory Medicine (*IBC Chair*)
 7. Scott Meschke, Environmental & Occupational Health Sciences
 8. Matthew R. Parsek, Microbiology
 9. Tina Rogers (*Community Member*)
 10. Jason Smith, Microbiology (*IBC Vice Chair*)
 11. Eric Stefansson, Environmental Health & Safety (*Biosafety Officer, Animal Containment Expert*)
 12. Paul Swenson, Seattle-King Co. Dept. of Public Health (*Community Member*)

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 10:03 a.m. 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. **INTRODUCTIONS:**
 - The new IBC Coordinator was introduced.
4. **APPROVAL OF MINUTES:**
 - The IBC Chair sought a motion to approve the minutes from the May 16, 2018 meeting.
 - A member made a motion to approve the May 16, 2018 minutes. Another member seconded the motion.
 - The committee voted unanimously to approve the May 16, 2018 meeting minutes.
5. **OLD BUSINESS:**
 - At the April meeting, Dr. Hu's BUA was approved pending the transfer of the IACUC protocol from Dr. Klatt to Dr. Hu. The IACUC protocol is still undergoing triennial review under Dr. Klatt and the plan is to transfer the IACUC protocol to Dr. Hu once the triennial review is approved. The BUA letter was sent out.
 - At the April meeting, Dr. Schechner's BUA was approved pending a final lab inspection and pending a chemical review by the industrial hygienist. The PI is still getting things set up. The industrial hygienist will perform the chemical review during the final lab inspection.
 - At the April meeting, Dr. Theriot's BUA was approved pending a lab inspection. The investigator has still not arrived at UW. The inspection will be conducted when the investigator arrives in July.
 - At the April meeting, Dr. Xin's BUA was approved pending a lab inspection and the addition of third-generation lentiviral vectors with oncogenes to the BUA letter. The agent was added to the BUA letter, but the PI hasn't yet arrived at the university, so the lab inspection is still pending.
 - At the May meeting, Dr. Murphy's BUA was approved pending the submission of the IACUC protocol. The protocol has still not yet been submitted.
 - At the May meeting, Dr. Mustari's BUA was approved pending fixing the air flow and finishing the BUA application edits. The air flow was fixed and the BUA application was edited and the BUA letter was sent out.
 - At the May meeting, Dr. Starita's BUA was approved pending the completion of the final lab inspection and clarifying whether or not oncogenes will be used. These items are still pending until the investigator sets up the lab and is ready to start working.
 - At the May meeting, Dr. Tang's BUA was approved pending the lab inspection. The lab was inspected with no deficiencies and the letter was sent out.
 - At the May meeting, Dr. Shadman's BUA was approved pending completion of the PI's biosafety training. This is still pending.
6. **DUAL USE RESEARCH OF CONCERN UPDATE**
 - The DURC IRE (Dual Use Research of Concern Institutional Review Entity) did not meet this month because there were no applications to review.

7. 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

- Two IBC members declared a conflict of interest because they had a project on the biosafety officer report.
- Dr. Daggett and Dr. Bryers both added the use of non-recombinant *Borrelia burgdorferi* to be used in vitro.
- Dr. Sokurenko added non-recombinant *Morganella morganii* and room J-263.
- Dr. Gale added a new room to his BUA letter.
- Dr. Meschke added non-recombinant strains of Salmonella Typhi and Theiler's Murine Encephalitis Virus to his BUA letter.
- Dr. Wang received a new BUA for human source material.
- Dr. Dunham renewed a BUA involving many species of yeasts. The yeasts are Risk Group 1 and are non-recombinant or fall under section III-E of the NIH Guidelines.
- Dr. Dale renewed a BUA involving human cells and induced pluripotent stem cells generated using plasmids.
- Dr. Brayman renewed a BUA involving various Risk Group 2 non-recombinant bacteria.
- Dr. Soge became the Principal Investigator of the project "Surveillance of antimicrobial resistance in *Neisseria gonorrhoeae* and diagnostic test development for sexually transmitted infections". The previous PI was King Holmes. Non-recombinant *Neisseria* species are used on the project in vitro.
- Dr. Meeker became the PI of the project "Linking Innate and Adaptive Immunity." The previous PI was Lynn Hajjar.
- Dr. MacCoss received a new BUA involving human source material.
- Dr. Samy received a new BUA involving human source material.
- Dr. Fang added a new room to his BUA approval.
- Dr. Bumgarner renewed a BUA involving non-recombinant *Propionibacterium species* and human source material.
- Dr. Buckner added several new non-recombinant Risk Group 2 bacteria to his BUA letter, including *L. monocytogenes* and *S. marcescens*.
- Dr. Kaeberlein received a new BUA involving human source material.
- Dr. Chung renewed a BUA involving non-recombinant *S. aureus* and *S. epidermidis*. On Dr. Chung's project, a discussion occurred about the correct biosafety level for *S. epidermidis*. It is currently listed on his letter as BSL-1. The biosafety officer will verify the biosafety level and modify if necessary.
- Dr. Bamshad renewed a BUA involving human source material.
- Dr. Murphy added the SLU cell sorting facilities to his BUA letter.
- Dr. Winer received a new BUA letter for human source material.
- 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 voted unanimously, with two abstentions, to approve this month's Biosafety Officer Report.

8. INDIVIDUAL PROJECT REVIEWS

1. Cabernard, Clemens, new, *Snail Asymmetry*
 - The assigned IBC Primary Reviewer presented the Primary Review.
 - The overall goal of the project is to understand the molecular and cellular mechanisms of asymmetrical cell division.
 - Recombinant RNA is injected into snail eggs. The eggs are not allowed to develop into snails.
 - Escape of non-native snails into wastewater is the most significant biohazard. The snails are contained within an aquarium, which is contained within a secondary container.
 - The waste will be bleached or autoclaved. The investigator will need to clarify which method will be used.
 - The lab still needs to be inspected.
 - 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. Cabernard.
 - The Committee voted unanimously to approve the draft BUA for Dr. Cabernard, pending the lab inspection and clarifying how the waste will be handled.

2. Crisa, Laura, renewal, *Immunobiology of bone marrow-derived endothelia and inflammatory cells in tissue repair*
 - The assigned IBC Primary Reviewer presented the Primary Review.
 - Various viral vectors are used on the project, including lentiviral vectors, Feline Immunodeficiency Virus vectors, AAV, and an amphotropic gammaretroviral vector.
 - An oncogenic insert will be used in the lentiviral vectors and amphotropic gammaretroviral vectors. The lentiviral vectors are third generation, so BSL-2 containment is appropriate. The gammaretroviral vectors will be used at BSL-2 with BSL-3 practices.
 - There were a few mistakes to be corrected in the BUA application.
 - A discussion occurred about the biosafety level of the AAV. The AAV contains shRNA. The AAV will be listed as BSL-1 on the letter. The biosafety officer will fix this.
 - The lab was inspected and no deficiencies were identified.
 - 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. Crisa.
 - The Committee voted unanimously to approve the draft BUA for Dr. Crisa, pending minor corrections on the BUA application and changing the AAV to BSL-1 on the letter.

3. Disis, Mary, change, *Evaluation of Immunity to Cancer in a Rodent Model*
 - The assigned IBC Primary Reviewer presented the Primary Review.
 - This is a change request to add the use of replication deficient chimp adenovirus administration to mice in order to determine if the chimp adenovirus, expressing a gene of interest, will increase immunogenicity of DNA vaccines.

- A discussion occurred about the one-hour hold at ABSL-2. There may be recent papers suggesting that a one-hour hold is not sufficient. The IBC Vice Chair will look into this. EH&S and the IBC Chair and Vice Chair will meet and discuss next steps and report back to the committee.
 - The lab was recently inspected, so a new lab inspection was not required for this change.
 - 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.
4. Gale, Michael, change, *The Host Response to Virus Infection*
- The assigned IBC Primary Reviewer presented the Primary Review.
 - This is a change request to add a recombinant Salmonella Typhimurium strain that expresses GFP for in vitro use.
 - The lab was recently inspected, so a new lab inspection was not required for this change.
 - 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.
5. Hawn, Thomas, change, *Innate Immunity and Susceptibility to Infectious Disease*
- The assigned IBC Primary Reviewer presented the Primary Review.
 - This is a change request to add Sendai viral vectors for in vitro use.
 - The lab was recently inspected, so a new lab inspection was not required for this change.
 - All of the required trainings have been completed.
 - The draft BUA letter was shown. The BUA letter should say Sendai viral vectors with oncogenic inserts. The biosafety officer will correct this.
 - The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Hawn.
 - The Committee voted unanimously to approve the draft BUA for Dr. Hawn, pending correction of the BUA letter.
6. Kim, Deok-Ho, renewal, *"Micro- and nanoengineering of the cell microenvironment for stem cell therapy and tissue engineering (rats)"*
- The assigned IBC Primary Reviewer presented the Primary Review.
 - The lab studies novel stem cell therapeutics and novel materials (scaffolds) to study human disease and tissue engineering strategies.
 - A third generation lentiviral vector with oncogenic inserts is used in vitro and in rats.
 - The lab was inspected and all deficiencies were corrected.
 - 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. Kim.
 - The Committee voted unanimously to approve the draft BUA for Dr. Kim.
7. Kim, Deok-Ho, renewal, *Micro- and nanoengineering of the cell microenvironment for stem cell therapy and tissue engineering (mice)*

- The assigned IBC Primary Reviewer presented the Primary Review.
 - The lab studies novel stem cell therapeutics and novel materials (scaffolds) to study human disease and tissue engineering strategies.
 - A third generation lentiviral vector with oncogenic inserts is used in vitro and in rats.
 - The lab was inspected and all deficiencies were corrected.
 - 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. Kim.
 - The Committee voted unanimously to approve the draft BUA for Dr. Kim.
- 8. Ladiges, Warren, change, *Aging Intervention***
- The assigned IBC Primary Reviewer presented the Primary Review.
 - This is a change request to add a new human cell line and a foamy virus vector. The vector will be transfected into the human cells and administered to mice.
 - The IACUC protocol has not yet been submitted. The biosafety officer will need to review the submission.
 - The lab was inspected and no deficiencies were identified. 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. Ladiges.
 - The Committee voted unanimously to approve the draft BUA for Dr. Ladiges, pending the submission of the IACUC protocol.
- 9. Maizels, Nancy, renewal, *Targeted Gene Correction and Sensitivity***
- The assigned IBC Primary Reviewer presented the Primary Review.
 - This project aims at understanding how DNA nicks are repaired and how to modulate repair pathways to make them more sensitive to chemotherapy.
 - A third-generation lentiviral vector is used on the project. All of the work is conducted in vitro.
 - The lab was inspected and the deficiencies were corrected. 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. Maizels.
 - The Committee voted unanimously to approve the draft BUA for Dr. Maizels.
- 10. Merrikh, Houra, renewal, *Mechanisms of replication conflict processing***
- The assigned IBC Primary Reviewer presented the Primary Review.
 - The goal is to understand the mechanisms of DNA replication and RNA polymerase conflicts at origins of replication by focusing on the constellation of DNA binding proteins that interact with the chromosome during replication.
 - A discussion occurred about antibiotic resistance markers used in bacteria. The IBC Chair discussed general risk assessment practices and things to be aware of when reviewing projects involving antibiotic resistance markers used in bacteria. There is nothing concerning about the use of selectable markers in this project.
 - There are some questions on the BUA application that need to be corrected.
 - The lab was inspected and no deficiencies were identified.
 - 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. Merrikh.
- The Committee voted unanimously to approve the draft BUA for Dr. Merrikh, pending correcting the BUA application.

11. Pasupathy, Anitha, renewal, *2-photon imaging in awake monkey visual cortex*

- The assigned IBC Primary Reviewer presented the Primary Review.
- An AAV vector is used in a macaque model. No oncogenic inserts are used. ABSL-2 containment will be used.
- A separate lab inspection wasn't required for this project because the rooms are on the primate center's core approval.
- 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. Pasupathy.
- The Committee voted unanimously to approve the draft BUA for Dr. Pasupathy.

12. Scatena, Marta, renewal, *Endothelial cells for tissue engineering and osteoprotegerin in atherosclerosis*

- The assigned IBC Primary Reviewer presented the Primary Review.
- The goal of this project is to create a cell therapeutic aimed at improving the aberrant inflammatory and fibrotic response that characterize a variety of inflammatory/fibrotic diseases.
- A third-generation lentiviral vector is used in vitro and in a mouse model. Gammaretroviral vectors are used in vitro.
- Liposome complex was checked in the BUA application but not fully described. The biosafety officer will clarify with her what she is doing.
- The lab was inspected and no deficiencies were identified.
- 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. Scatena.
- The Committee voted unanimously to approve the draft BUA for Dr. Scatena, pending clarification of whether the liposome complex is used.

13. Strand, Stuart, renewal, *Phytoremediation: Transformation of Plants with Genes that are Capable to Degrade Pollutants*

- The assigned IBC Primary Reviewer presented the Primary Review.
- The IBC reviewer mentioned some inconsistencies in the application. The biosafety officer is working with the PI to make sure all parts of the application are completely filled out.
- An IBC member asked if any bacteria will be cultured. He will be culturing some *Rhodococcus* species in a biosafety cabinet.
- The lab was inspected and no deficiencies were identified.
- 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. Strand.
- The Committee voted unanimously to approve the draft BUA for Dr. Strand, pending correction of the application.

SUBCOMMITTEE REPORTS:

14. Seshadri, Chetan, change, *Human Immunity to Mycobacterial Diseases*

- Three members of the IBC served as the Subcommittee Reviewers. One of the Subcommittee Reviewers presented the Subcommittee Report.
- This is a change request with two modifications requested: one is to add a new BSL-2 procedure room for flow cytometry analysis of fixed human and NHP blood, tissue, fluids, and cell lines, and the other request is to receive frozen human and NHP samples (blood) from international collaborators. Human PBMCs (peripheral blood mononuclear cells) are from individuals who received a TB (tuberculosis) vaccine or tested positive for latent TB. Preserved NHP PBMCs are from healthy, vaccinated, or TB-challenged animals.
- The PI wants to handle the received samples at BSL-2. The investigator wants to handle the flow cytometry samples at BSL-1 after inactivation with 1% paraformaldehyde (PFA).
- The PI will need to provide data that the paraformaldehyde will destroy 100% of viable TB. The PI wants to use 1% PFA rather than 2-4% to ensure their sample can be used in flow cytometry. They haven't yet submitted a protocol for how they will do the testing. The biosafety officer said that they can either use virulent TB working in a collaborator's lab or a less virulent strain like BCG. The IBC reviewer recommends using BCG for the verification study. The lab can use BCG or the avirulent H37Ra strain.
- An IBC member also suggested trying a higher percentage of PFA and seeing if their experiments still work.
- An IBC member pointed out that blood from human TB patients can be used at BSL-2. The issue is that this lab wants to downgrade to BSL-1 for the flow cytometry samples.
- A list of these recommendations and requirements for the verification study will be sent to the PI. The subcommittee will review the verification study.
- The draft BUA letter was shown.
- A member made a motion to approve the draft BUA letter for Dr. Seshadri. Another member seconded the motion.
- The Committee voted unanimously to approve the draft BUA for Dr. Seshadri, pending completion and subcommittee review of the verification study.

15. Sun, Angela, new, *A Phase 1/2, Open-Label Safety and Dose-Finding Study of Adeno-Associated Virus (AAV) Serotype 8 (AAV8)-Mediated Gene Transfer of Glucose-6-Phosphatase (G6Pase) in Adults with Glycogen Storage Disease Type Ia (GSDIa)*

- Three members of the IBC served as the Subcommittee Reviewers. One of the Subcommittee Reviewers presented the Subcommittee Report.
- This is a phase 1/2 clinical trial to determine if an experimental gene transfer product, DTX401 (AAV8 vector containing the human gene for glucose-6-phosphatase (G6Pase), is safe and may have beneficial effects in patients with glycogen storage disease type Ia (GSDIa).
- The safety of the nonpathogenic, nonreplicating risk group 1 AAV vector is quite well-established. AAV8 with the G6PC gene and promoter/enhancer will be administered to humans for the first time in this study, however, AAV8 is currently being used with different transgenes in five other clinical trials in the US.
- The subcommittee report reviewed the informed consent forms and found them clear, thorough, and easy to understand.
- All of the required trainings have been completed.
- The draft BUA letter was shown.

- A member made a motion to approve the draft BUA letter for Dr. Sun. Another member seconded the motion.
 - The Committee voted unanimously to approve the draft BUA for Dr. Sun.
- 16.** Pollack, Seth, new, *A Phase 1 Study Evaluating the Safety and Efficacy of MAGE-A3/A6 T Cell Receptor Engineered T Cells (KITE-718) in HLA-DPB1*04:01 Positive Subjects with Advanced Cancers*
- Three members of the IBC served as the Subcommittee Reviewers. One of the Subcommittee Reviewers presented the Subcommittee Report.
 - The sponsor, Kite, has found a T cell receptor that recognizes a peptide within MAGE A3 and a related peptide in MAGE A6, when it is bound to HLA DPB1*04:01. This HLA allelic variant is present in a reasonably large proportion of the population. Hence, this T cell receptor has the potential, when expressed as a transmembrane protein in patient T cells, to guide their T cells to physically contact and bind cancer cells, recognize them through the TCR, and perform an anti cancer effector function such as cytotoxicity or secretion of anti tumor cytokines.
 - The retroviral vector is based on murine stem cell virus-1. The manufacturing process uses a retroviral packaging line and a stable producing cell line selected. The final retrovirus is used to transduce patient T cells. These cells do not produce infectious particles. The final product is tested and is negative for replication competent retroviruses.
 - The subcommittee report reviewed the informed consent forms and had no concerns.
 - All of the required trainings have been completed.
 - The draft BUA letter was shown.
 - A member made a motion to approve the draft BUA letter for Dr. Pollack. Another member seconded the motion.
 - The Committee voted unanimously to approve the draft BUA for Dr. Pollack.
- 17.** Disis, Mary, new, *A Phase 1 Study to Evaluate the Safety, Pharmacokinetics, and Pharmacodynamics of Escalating Doses and Treatment Intensification of a Vaccine-Based Immunotherapy Regimen-2 (VBIR-2) (PF-06936308) For Advanced Non-Small Cell Lung Cancer and Metastatic Triple-Negative Breast Cancer*
- Three members of the IBC served as the Subcommittee Reviewers. One of the Subcommittee Reviewers presented the Subcommittee Report.
 - This is a new clinical trial that involves administering a replication-defective E1-deleted adenovirus vector based on chimp adenovirus serotype 68 expressing three antigens, followed by boosts with a plasmid expressing the same antigens.
 - The Adc68 vector on the BUA letter will be corrected to adenoviral vectors.
 - The subcommittee report reviewed the informed consent forms and had no concerns.
 - All of the required trainings have been completed.
 - The draft BUA letter was shown.
 - A member made a motion to approve the draft BUA letter for Dr. Disis. Another member seconded the motion.
 - The Committee voted unanimously to approve the draft BUA for Dr. Disis, pending correcting the BUA letter.

FOR YOUR INFORMATION:

- The occupational health nurse and the biosafety officer performed the annual training of the Comparative Medicine animal husbandry staff. The training focuses on occupation-specific ways to minimize biosafety and occupational health hazards (such as ergonomic issues, or lab animal allergies) in the workplace.
- The University of Washington was notified that three human herpesvirus 6 (HHV-6) cell lines from the NIH-AIDS Reagent Program were contaminated with HIV. There have been no known incidents or exposures involving this cell line. An email was sent to all investigators at UW who have a BUA informing them of the issue and offering confidential occupational health counseling. UW EH&S informed the EH&S Departments at Fred Hutch and Seattle Children's as well. Researchers who have used these cell lines were instructed to notify EH&S and follow up with the Employee Health Center.
- A representative from Campus Preventative Health gave an update about the rabid bat that was found on campus. A student was bitten after picking up a bat near Husky Stadium. Several other students also interacted with the bat, or with materials (a towel) that came into contact with the bat. Public Health – Seattle & King County performed extensive follow-up and ensured that the necessary persons received post-exposure prophylaxis. Death from rabies can be prevented if treatment begins before symptoms appear. Once symptoms of rabies appear, the disease is almost always fatal.

ISSUES FROM THE FLOOR & PUBLIC COMMENTS:

There were no issues from the floor, and no public comments.

MEETING ADJOURNED AT APPROXIMATELY 12:03 P.M.