



Boston University
Institutional Biosafety Committee (IBC)
July 20, 2021 Meeting Minutes
Location: Zoom and/or by phone
Start time: 12:04 PM End time: 2:38 PM

Members Present: B. Slack, E. Muhlberger, R. Davey, I. Afasizheva, X. Brown (Left 2:27 PM), E. Loechler, R. Morales, T. Winters, R. Varada, C. Thurman, J. Keeney, R. Timmerman, J. Barton (Joined 12:11 PM)

Guests Present: T. Killeen, M. Fitzgerald, J. Wood, P. Richmond

Staff Present: S. Ghosh, L. Campbell, C. McGoff

I. Review of June 15, 2021 IBC Meeting Minutes

No comments or questions were voiced.

Motion: Approve

For: 11; Abstain: 1; Absent: 1

II. New Business

A. Safety & Quality Assurance Program (SQAP) Report

1. Staff update

Members were informed that Assistant Director, Jenny Hutchinson has left Boston University. Cristy McGoff will now serve as Assistant Director, and Sajal Ghosh has been promoted to Program Manager of the IBC Program.

2. Review of policy on IBC protocol review

The IBC office updated members on recent modifications to the protocol review process. The modified policy was provided to the members for their review and comments prior to the meeting. It was noted that the objective of these changes was to streamline and expedite the review of amendments with minor changes; amendment submissions involving changes that do not alter objectives, procedures, or risk levels will now be reviewed by the IBC chair and corresponding Biosafety Officer (BSO). The new process will allow the IBC Chair and BSO to determine the following: 1) whether further review is necessary for the proposed changes in the amendment 2) whether the amendment will be sent for either designated member review (DMR) or full committee review (FCR). It was noted that a complete list of protocols reviewed via individual review methods will continue to be listed on the meeting agenda for member review. No further concerns were expressed; it was stated that these changes to the IBC policy would be implemented immediately.

B. Research Occupational Health Program (ROHP) & Environmental Health and Safety (EHS) Report

ROHP Report:

Updates:

1. ROHP and BU Occupational Health have moved to a new electronic medical record system called Enterprise Health. This is the same system that is being used by BU Healthway, Boston Medical Center and BU Occupational Health on the Charles River campus.
2. On the issue of medical clearances, it was emphasized that:
 - a. PIs should take responsibilities to remind their staff to submit health questionnaires and job risk assessments annually if on an IBC protocol.
 - b. Individuals seeking clearance need to know what protocol number they are associated with so that there are no delays in medical clearance.
 - c. Automatic emails reminders are also going out to people listed on an IBC protocol.
 - d. ROHP has some backlog on providing medical clearance as large number of requests are coming up regularly. ORC staff, ROHP are working together to develop plans to help PIs to better notify their staff about getting annual health questionnaires completed.

3. In a recent meeting with ROHP, BPHC inspector praised the details that ROHP provide in their incident reports, especially around the SARS-CoV-2 cases and acknowledged that safety mechanisms in place seem to have resulted in less incidents. BPHC also expressed interest in learning about respiratory medical clearance processes and in details of the safety training provided to the custodians working at the NEIDL.

Incident reports since the 6/15/21 IBC meeting:

1. 6-18-21: Finger laceration from the use of Cryostat machine

A Postdoctoral Associate while wearing one pair of gloves sustained laceration from a cryostat blade across her right thumb joint measuring approximately 2.25 cm while brushing powder that accumulated around unfixed deidentified human brain tissue sample. This researcher was seen in the Emergency room and has seen a hand specialist. She was also treated with HIV prophylaxis and will be monitored for 6 months post incident.

EHS: ROHP should have been contacted by phones as they are open 24/7. EHS has advised when to use cut resistant gloves as recommended in the SOP. Lab has an SOP but not yet available to EHS. There is a training video based on the procedures in the SOP available to all staff. Researcher was retrained and took the online sharps training which now includes safety on microtome. Researcher agrees blade guard should have been applied when performing the procedure. Lab should do a better assessment of expertise for all new staff members before they are allowed to actually perform procedures. This has been reported to the BPHC.

2. 7-12-21: Mouse bite

A 4th year PhD student was bit by a SCID mouse (Severe combined immunodeficiency) through two pairs of gloves on her right fifth finger as she tried to give an injection to the mouse but it turned and bit her. She had just injected a reagent intraperitoneally and confirmed this mouse had not received any virus or other hazardous biological agent.

EHS: Nonhazardous incident possibly resulted because the researcher held on to the animal scruff too loosely. Researcher has four years of experience in handling animals but admits she could have done better handling the mouse. No follow-up on this incident was reported to the BPHC.

3. 7-14-21: Suspected exposure in a NEIDL unassigned biosafety level room

A contractor working in a non-biosafety level room at the NEIDL felt a couple of drops on the back of his neck looked up at the fittings of the Effluent Decontamination System (EDS) tank for any leaking and performed a pressure check for leaks. It was determined by the biosafety officer to be condensation. The biosafety officer explained that this EDS tank collected liquid waste from the biocontainment labs is already disinfected with "microchem" and then heated to 121°C for one hour. This contractor was evaluated and counseled in the ROHP office.

EHS: Nonhazardous incident. Based on interview with contractor he was negligent in following specific techniques he was trained on. BSO will address condensation concerns in her completed investigation.

4. 7-14-21: Rat bite

A professor while working on an IACUC and IBC protocol sustained a rat bite to her right 5th pinky finger while wearing one pair of gloves, a lab coat, hair net and face mask. She was trying to apply a wound clip to a non-transgenic Wistar rat when the hand of the technician who was holding the rat for her slipped, the rat turned and bit her finger. The rat had not received any virus or other hazardous agent yet. This researcher required antibiotic prophylaxis.

EHS: This animal bite was also a nonhazardous incident and here also the user was negligent about the procedures of animal handling and was less conscientious about the surroundings.

It was noted that a biologic research report was submitted to BPHC on all incidents listed above.

III. Protocol Review

1. rDNA/Bhz – New Protocol (Deferred/Resubmission)

BUA	(PI)	Title	BSL	ABSL	Campus		
2303		Modulating Disease Microenvironments with Targeted Chemical Strategies	2	1	CRC		
Primary Reviewer: Ed Loechler			Secondary Reviewer: Colleen Thurman				
Applicable NIH Guidelines: III-D-1-a, III-D-2-a, III-E-1, Appendix B-V, Appendix G-II-B							
<p>Meeting Comments: It was noted that this protocol was previously reviewed in the June 2021 IBC meeting, and was deferred. As discussed at the previous meeting, it was not clear whether the PI was already working with hazardous biological agents. IBC office also communicated with the PI to explain details of the meeting concerns. PI provided point-by point response to each of the review comments and submitted a revised version of the application. This revised version was discussed in this IBC meeting.</p> <p>This protocol synthesizes and develops small molecules, nanoparticles and conjugates to target specific tissues and produce therapeutic effects. Therapeutic formulations are evaluated both in cell lines and in animals for unique bio-distribution and tissue-targeting properties. Their goal is to design formulations that would bind to specific protein targets in tissues or release drug in specific tissue microenvironments. A wide variety of human and murine cell lines, representative of different tissues, are employed in which the cellular effects of their agents and formulations are evaluated by multiple approaches such as western blots, reporter assays, FACS, and immunofluorescence. No rDNA will be used in these sets of studies. However, in another set of studies recombinant proteins will be expressed and purified from bacterial, human and insect cells. Recombinant proteins are used in binding studies with agents synthesized in the lab. A mouse melanoma cell line (B16-F100) will be used to create subcutaneous tumors in C57BL/6 mice, which will then be tested to analyze the efficacy of their anti-cancer formulations. Laboratory work will be performed using BSL2 procedures with appropriate PPE (gloves, coat, booties, face mask, sleeve covers, hair net, goggles). All cultured cell lines are handled in biosafety cabinets, using best practices and stored in incubators. Cell lines that are not in use are stored in cryostorage. PI has addressed all concerns previously communicated by the IBC.</p>							
Motion: Approve			For: 13	Recuse: 0	Against: 0	Abstain: 0	Absent: 0

2. Bhz – Three Year Renewal

BUA	(PI)	Title	BSL	ABSL	Campus
2038		Forensic Anthropology Body Donation Program	2	N/A	BUMC
Primary Reviewer: Inna Afasizheva			Secondary Reviewers: Valeda Britton		
Applicable NIH Guidelines: N/A					
<p>Meeting Comments: This IBC protocol supports body donation program created by the Forensic Anthropology division creating as an educational and scientific research resource. In this program, the remains are utilized as an educational resource, soft tissue scientific research, and for the purpose of assembling a permanent collection of modern human skeletal remains. This program has been determined as exempt from IRB review, and all materials have been vetted through General Counsel. Animal remains are obtained from Tufts School of Veterinary Medicine, local butchers and MA Fish Wildlife or the Office of Chief Medical Examiner. Animal remains that may pose a risk of infection will be handled with BSL-2 PPE. Collected skeletal remains will be used by students for master research program. Students will measure skeletal remains to determine age, sex, stature, and ethnicity. Some research will involve bone sectioning and histological procedures. Animal bones are processed in BU Medical School or in an outdoor research facility. Donors are vetted on AIDS, hepatitis, tuberculosis and MRSA. Personnel listed in the IBC</p>					

protocol will remove soft tissue, perform chemical treatment in various solutions. Detail description of different treatment steps and safety procedures are provided in the protocol. Processed and preserved bones are stored in a separate room for student research. The following will be communicated to the PI:

- Please add all students that are handling any biohazardous materials, in the personnel list even if they may not stay long in the lab.
- Safety training update required for all: - LST, BSL1/2 BBP, Chem safety; -BSL1/2, Chem Safety, rDNA/IBC policy; - LST, BSL1/2 BBP, Chem safety.
- Contact ROHP for updating medical clearance for all.
- Please add rooms and to the protocol as they are being used for the protocol.
- Please provide details of the instrument disinfection procedures.
- Please arrange for your lab inspection with EHS. Without this inspection, the protocol cannot be approved.

BUA Site Assessment: Not done yet.

Motion: Conditional Approval (Administrative Review)	For: 13	Recuse: 0	Against: 0	Abstain: 0	Absent: 0
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3. Bhz – Three Year Renewal

BUA	(PI)	Title	BSL	ABSL	Campus		
2323		Mechanical stretch-induced signaling in human lung tissue	2	N/A	CRC		
Primary Reviewer: Xin Brown			Secondary Reviewer: Bob Timmerman				
Applicable NIH Guidelines: N/A							
Meeting Comments: This is a 3-year renewal. The objective of the study is to investigate the effect of mechanical ventilation on inflammation, ACE2 expression and mitochondria function in the lung. Human lung tissue samples will be obtained from Massachusetts General Hospital and human airway smooth muscle cells will be obtained from Beth Israel Hospital. The tissues and cells will be exposed to mechanical stretch, then analyzed biochemically or through imaging. It is a straightforward protocol. Committee noted that the packaging and shipping is done at MGH and the packaging procedure is reasonable. Shipping training for the BU personnel is not necessary for this transport. The following will be communicated to the PI:							
<ul style="list-style-type: none"> • ROHP clearance of all 3 lab members need to be updated. One of the members has yet to be cleared. • Disinfectant used should also include 10% freshly prepared bleach and 70% ethanol in addition to Wescodyne. Please indicate percentage of Wescodyne. 							
BUA Site Assessment: Exposure control plan is in place. Safety trainings are current and the biosafety cabinet is certified but recertification is due soon. Use of PPE is appropriate.							
Motion: Conditional Approval (Administrative Review)			For: 13	Recuse: 0	Against: 0	Abstain: 0	Absent: 0

4. rDNA/Bhz – Three Year Renewal

BUA	(PI)	Title	BSL	ABSL	Campus
1613		1) Nucleophosmin Centered Diagnostics & Treatment of Ischemic Acute Kidney Injury (NIH-RO1;DK118267A1) 2) Novel NPM-Based Peptide Therapeutic for Acute Kidney Injury (BU Ignition Award 2021-2022) 3) NPM-Based Peptide Therapeutic for Acute Kidney Injury (AKI) ACORN Award from Mass Ventures	2	2	BUMC
Primary Reviewer: Inna Afasizheva			Secondary Reviewer: Rao Varada		
Applicable NIH Guidelines: Section III-D-1-a, Section III-D-2-a, Section III-E-1; Appendix B-II and G-II-B					

Meeting Comments: The protocol investigates signaling pathways that cause renal cell injury during insults resulting acute kidney injury and failure. Study involves genetic manipulation of a chaperone protein for important cellular signaling molecules to understand its potential to be used as an early diagnostic marker. Protocol includes genetic manipulations using lentiviral and human adenovirus 5 vectors that produce replication deficient viral particles. Lentiviral and adenoviral particles will be introduced into immobilized human, mouse, opossum cell lines and also to primary murine and human epithelial cells in culture to determine how individual members contribute to the molecular signaling events. Establishment of the proximal tubule epithelial cell lines obtained from euthanized mice is provided in the brief introduction of the animal protocol that also include IACUC approval number. However, the protocol is marked as ABSL2 but it is not clear what ABSL2 animal work is being done in the protocol. The following will be communicated to the PI:

- Please update the rDNA/IBC policy training for Drs. _____, _____ and for _____.
- The described procedures does not any ABSL2 animal work. If you are doing any, please provide details of such work. If not, please check ABSL1 instead in the Section IX table.
- Please clarify if two biosafety cabinets are being used. If so, indicate if the certification date provided is same for both.
- List method used for disinfection and sterilization of reusable instruments.
- List Lentivirus and Adenovirus hu5 vectors in the Hazardous biological agent list.

BUA Site Assessment: Exposure control plan is in place. Except for the PI, all safety trainings are current for all members. Only one biosafety cabinet is available for work and is duly certified.

Motion: Conditional Approval (Administrative Review)	For: 13	Recuse: 0	Against: 0	Abstain: 0	Absent: 0
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5. Bhz – Three Year Renewal

BUA	(PI)	Title	BSL	ABSL	Campus
1614		Cellular physiology of the aqueous outflow pathway; Hydrodynamic and morphological studies of novel glaucoma devices; Lysosomal enzymes in outflow pathway physiology and pathophysiology; Can TSP1 serve as a biomarker of Steroid-induced Glaucoma?; Function of Glycocalyx in the Trabecular Outflow Pathway; The role of thrombospondin-1 in regulating IOP; Effect of Netarsudil and AR12286 on Effective Filtration Area and Morphology of Trabecular outflow Pathway; Testing Effect of Sustained Release vs. Cyclic Exposure of Bimatoprost on MMP/TIMP/ECM Expression by Outflow Cells; Mechanisms of Rho-kinase Inhibitor, AR12286 on Reduction of Intraocular Pressure in Steroid-induced Glaucoma Mouse Model; Could anti-retroviral medication slow down scar formation after anterior chamber angle glaucoma surgery?	2	2	BUMC

Primary Reviewer: Barbara Slack	Secondary Reviewer: Colleen Thurman
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Applicable NIH Guidelines: N/A

Meeting Comments: The protocol performs hydrodynamic and morphological studies in normal enucleated bovine, porcine, mouse, monkey and human eyes as well as ocular hypentensive human, mouse, monkey eyes to understand the pathogenesis of primary open angle glaucoma. Primary focus of their study is to examine how outflow resistance is controlled in normal individual and in patients with glaucoma. In addition to these morphological studies, they also perform in vitro studies on cultured human or porcine Schlemm's canal (SC) endothelial cells where they apply therapeutic agents that increase or decrease outflow resistance. Additionally. They also use mouse model of higher

eye pressure condition and examine morphological changes under different experimental conditions. They perfuse the eyes with fluorescent tracer and at the end of the experiment they fix the cells in formaldehyde or other fixative and examine them in fluorescent microscope or confocal microscope to visualize structural changes. Great detail of all experimental procedures are provided. The following will be communicated to the PI:

- Section I.2. Please leave box for amendments blank.
- Section III.1- training descriptions are missing for , , , .
- Section III.3- some ROHP clearances need dates.
- Section VII.3- Lab procedures. Is a class II A2 BSC appropriate for using paraformaldehyde? (this type recycles 70% of the air to the room.) Perhaps a fume hood would be better for this chemical. Please specify that used paraformaldehyde, uranyl acetate, other chemicals used for fixation will be collected as hazardous waste, for pick-up by EHS.
- Please include IACUC approval information for the TSP1-/- mice (targeted mutation/transgenic) work (PROTO201800228 Effective date: 2/24/2021).
- Section VIII.1- Please check animal handling, animal inoculations.
- Section VIII.3. For lab PPE, please check surgical masks (re: pandemic protocols).
- Section VIII.7- Please add that liquid waste in larger volumes will be treated with a final concentration of 10% bleach, and disposed of after 30 min.
- Section B. Human eyes should be classified as "other human material"; rhesus monkey eyes should be classified as "non-human primate material". Classify sheep eyes under "sheep material".

BUA Site Assessment: Not done yet.

Motion: Conditional Approval (Administrative Review)	For: 13	Recuse: 0	Against: 0	Abstain: 0	Absent: 0
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6. rDNA/Bhz – Three Year Renewal

BUA	(PI)	Title	BSL	ABSL	Campus
1612		Proteinuria causes progressive kidney disease by impairing autophagy	2	1	BUMC

Primary Reviewer: Xin Brown

Secondary Reviewer: Rao Varada

Applicable NIH Guidelines: Section III-D-1-a, III-D-2-a, III-E-1 and App G-II-B and B-II

Meeting Comments: The study investigates the pathological role of albumin during chronic kidney disease. Mouse and human kidney cells will be transiently transfected with replication deficient adenovirus or stably transfected with 3rd generation lentivirus system to over-express proteins involved in autophagy. Cells will then be exposed to albumin and analyzed biochemically or through imaging. Animal work description is not provided. Otherwise this is a well written protocol. The following will be communicated to the PI:

- Source of funding "Federal" is checked and "Departmental" is entered on the line. This should be put under the "Other" category.
- ROHP clearance date for both lab member is 2019. It needs to be updated.
- In the description of transient transfection (involving adenovirus hu5 vectors), it is stated "Lentiviral vector system is non-replicating". This appears to be a typo and should be corrected to "Adenoviral vector system is replication deficient".
- Provide brief description of animal work and include relevant IACUC approval number. Clarify if this is only a future plan.
- BSC certification date is 08/31/2018. It needs to be updated.
- State the method used to sterilize instruments used in animal studies.
- Under disinfectants used, also include 70% ethanol and indicate percentage of Wescodyne and SporKlenz.

BUA Site Assessment: They have updated exposure control plan. Their biosafety cabinet and fume hood are duly certified. All members have updated required safety training.

Motion: Conditional Approval (Administrative Review/ Secondary reviewer review only if animal work revision needs further review)	For: 13	Recuse: 0	Against: 0	Abstain: 0	Absent: 0
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7. rDNA/Bhz – Three Year Renewal

BUA	(PI)	Title	BSL	ABSL	Campus		
1643		Mechanisms of Autoimmune Disease	2	2	BUMC		
Primary Reviewer: Elke Muhlberger			Secondary Reviewer: Rao Varada				
Applicable NIH Guidelines: Section III-D-1-a, III-D-2-a, III-E-1; Appendix C-II.							
<p>Meeting Comments: The goal of this study is to evaluate ways to interfere with T cells that causes autoimmune diseases with an emphasis on type 1 diabetes and scleroderma. In particular, they investigate the pathways and molecules that are important for the generation, function and survival of T cells that destroy the insulin-producing cells in the pancreas. These insights are then used to test whether blocking these novel pathways (for example with antibodies) in diabetic mice leads to therapeutic benefit. They isolate T-cells from mice using flow cytometry. They perform genetic manipulation of those cells in vitro and then adoptively transfer them to another live mouse to investigate function of manipulated memory T-cells. They use retroviral vector mediated transduction of memory T-cells before transferring them to a second animal. The relevance of some findings for human disease will be confirmed using PBMCs from patients. These will be analyzed by flow cytometry, in vitro proliferation and cytokine assays and be used to generate humanized mice. This was a very nicely written protocol where biosafety concerns and mitigation plans are well described.</p> <p>BUA Site Assessment: The lab has exposure control plan. Safety training and medical clearance for all members are current. Their biosafety cabinet is duly certified.</p>							
Motion: Approve			For: 13	Recuse: 0	Against: 0	Abstain: 0	Absent: 0

8. Bhz – Three Year Renewal

BUA	(PI)	Title	BSL	ABSL	Campus
2048		Nano-formulated HydroxyUrea for Sickle Cell Disease and Cancer Treatments	2	1	BUMC
Primary Reviewer: Barbara Slack			Secondary Reviewer: Jim Keeney		
Applicable NIH Guidelines: N/A					
<p>Meeting Comments: The protocol investigates the efficacy of a nanoformulation of hydroxyurea (NHU) over regular hydroxyurea in the treatment of sickle cell anemia. They test <i>in vivo</i> animal model of sickle cell anemia and use peripheral blood cells (PBCs) from them to test the effectiveness of the NHU. They also use pro-erythroblastic cells and primary human endothelial cells <i>in vitro</i> for their studies. They prepare the hydroxyurea coated lipid nanoparticle themselves in the lab using individual lipid components and PEG in a microfluidizer. They perform RNA and protein expression in the treated cells and analyze fetal hemoglobin expression as a measure of the effect of NHU. In some of their animal studies they inject their nanoparticles in to the mouse trachea. The committee expressed concerns as to whether the work involving injection of nanoparticles into the trachea should be conducted in an ABSL2 containment. It was mentioned that extramural funding source is not a requirement for the approval of an IBC application. The following will be communicated to the PI:</p> <ul style="list-style-type: none"> • Section III. – Please provide experience of the PI as it applies to the nanoparticle injection into the mouse trachea. • Section VII.3- Is the microfluidizer in a fume hood or BSC? Even if HU is non-toxic, it would be preferable to limit the possibility of inhalation as much as possible. • Shouldn't protocol be reclassified as ABSL2 since HU nanoparticles being injected in mouse trachea? • Section VIII.1. Sonication should be checked. • Section VIII.3. Check surgical mask. • Section VIII.5. Update BSC certification date. 					

- Section VIII.7. Liquid waste. Clarify that liquid waste will be disinfected in bleach at a final concentration of 10%.
- Section IX. Check "live animal use" as nanoparticles are being introduced into trachea of mouse? Check ABSL2 as the highest ABSL for the protocol.
- Add K562 cells (human) to Section A if still in use (mentioned in lab procedures).

BUA Site Assessment: Not done yet.

Motion: Conditional Approval (Administrative Review)	For: 13	Recuse: 0	Against: 0	Abstain: 0	Absent: 0
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9. Bhz – Three Year Renewal

BUA	(PI)	Title	BSL	ABSL	Campus
635		Biospecimen Archive Research Core	2+	N/A	BUMC

Primary Reviewer: Inna Afasizheva

Secondary Reviewer: Tom Winters

Applicable NIH Guidelines: N/A

Meeting Comments: This protocol registration is part of the Biospecimen Archive Research Core (BARC) program. Protocol aims to create the collection of high-quality samples of normal and diseased human material received from Boston Medical Centre patients. Over past year they have been collecting nasal pharyngeal swab's from COVID positive and COVID negative patients and store these in a sub -80°C freezer. Collected biospecimens will be available for BUMC researchers. Protocol is well written. It includes detail information about procedures starting from physician office to final storage. In response to a question from the reviewer, Research Safety Director clarified that members of this protocol are not required to complete BioRAFT BSL3 training as this is not BSL3 lab. However, they must have enhanced BSL2 practices (BSL2+) posted in the lab and practice them in their work. EHS plans to introduce a separate BSL2+ training module in the BioRAFT in near future. Committee was reminded that we also discussed this issue briefly in our previous IBC meeting and a summary is available in the June 2021 IBC meeting minutes. Committee was informed the research compliance office has given the responsibility of reviewing the issues of using BMC clinical space and any research procedure taking place there to the EHS. If there are any issues that require more in-depth review, we will seek assistance from other experts. The following will be communicated to the PI:

- Please make sure to secure the ROHP clearance for
- Please replace the biosafety cabinet information with the one currently being used (with serial number 100432). The one mentioned currently in the protocol is unusable.

BUA Site Assessment: The lab has appropriate exposure control plan. Safety training for all members are current. The lab uses enhanced BSL2 practices for their work. The reference biosafety cabinet is unusable, however, they are using a duly certified replacement BSC for their work.

Motion: Conditional Approval (Administrative Review)	For: 13	Recuse: 0	Against: 0	Abstain: 0	Absent: 0
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10. rDNA/Bhz – Amendment

BUA	(PI)	Title	BSL	ABSL	Campus
1728		New strategies to control hemorrhagic fever virus infection	2	2	BUMC

Primary Reviewer: Elke Muhlberger

Secondary Reviewer: Barbara Slack

Applicable NIH Guidelines: Sections III-D-2, III-D-3, III-E-1, III-F, App. B, App. G-II-B-3

Meeting Comments: The overall goal of this protocol is to develop improved vaccine vectors, mainly based on engineered vesicular stomatitis virus (VSV). PI's lab already have developed VSV vectors that express ebola virus surface glycoprotein and glycoproteins from other hemorrhagic fever viruses. They also use their system for the evaluation of small molecule inhibitors for virus replication. The amendment is to request addition of procedures for evaluation of a 96-well tissue culture plate where culture media can be recirculated. The system has already been deployed at BSL2 in multiple commercial settings and in select BSL3 environment. The PI wants to understand how to

use the system here at BU in BSL2. Detail methodology has been provided. Few minor comments from the reviewers were addressed by the PI in a revised submission before the meeting. No other concerns were noted.					
Motion: Approve	For: 13	Recuse: 0	Against: 0	Abstain: 0	Absent: 0

11. rDNA/Bhz – Amendment

BUA	(PI)	Title	BSL	ABSL	Campus
2355		Characterization of cellular proteins cleaved during virus infection	2	2	BUMC
Primary Reviewer: Rob Davey			Secondary Reviewer: Colleen Thurman		
Applicable NIH Guidelines: Section III-D-1-a, III-D-2-a, III-D-3-a, III-E-1.					
<p>Meeting Comments: This protocol is studying how viruses cause alteration of host cell protein levels after infection which has the potential to better understand virus pathogenesis and treatment development. In this amendment, SARS-CoV-2 replicons and study of disease pathogenesis in mice are added. Two personnel are also added. Replicons (sometimes referred to as minigenomes) are truncated versions of virus genomes that can replicate in cells but lack virus structural genes so that they cannot transmit. They are transfected into cells and provide a model system to study replication mechanism. The replicons will be used to study transcription mechanism and to test antiviral treatments. This work is performed in BSL2 space and in a BSC. Mice will be used to study the pathogenesis of enteroviruses such as, EV-D68, EV-A71, human rhinoviruses and BSL2 coronaviruses such as, NL-63, OC-43, and 229E. The animal study will be performed in ABSL2 facility in biosafety cabinets and is expected to identify respiratory cells targeted by these viruses and how infection modifies cell function. Disinfection methods and animal handling SOP are clearly defined. Lab members have appropriate experience in the animal work. Committee however, requested brief description of the animal work in the laboratory procedure section. The following will be communicated to the PI:</p> <ul style="list-style-type: none"> • Please clarify that no SARS-CoV-2 infection of mice is planned in this protocol. • Please indicate if an IACUC application has been filed and if so, provide the reference number. • Clarify if any transgenic animal will be used for the animal model studies. • Provide brief description of the animal work procedures for better risk assessment. • Check Animal Handling and Cage changing in Section VIII.1. • Please update the Hazardous Biological Agent list to indicate which viruses or viral vectors will be used in animals. • Since injection of recombinantly modified viruses (such as viral vectors) is proposed, the animal experiment section of the in the recombinant DNA section (Section H) should be checked and questions need to be addressed. • The applicable NIH Guidelines section should also include Section III-D-4-a (for introduction of recombinantly modified biological agents into live animals). 					
Motion: Conditional Approval (Administrative Review)					
For: 13 Recuse: 0 Against: 0 Abstain: 0 Absent: 0					

12. rDNA/Bhz – Amendment

BUA	(PI)	Title	BSL	ABSL	Campus
1670		Synthetic biology and automated culture platforms for cellular systems	2	N/A	CRC
Primary Reviewer: Rob Davey			Secondary Reviewer: Ron Morales		
Applicable NIH Guidelines: Section III-D-1-a, III-D-2-a.					
<p>Meeting Comments: The protocol utilizes synthetic biology approach to study gene regulation in mammalian cells and yeast and how organisms respond to changes in the environment. In this amendment, <i>Agrobacterium tumefaciens</i> is being added to the protocol. <i>Agrobacterium</i> cause galls on trees and plants. They pose no risk to humans and any recombinant work with are regulated just as for recombinant work in <i>E. coli</i> K12. These will be worked within a BSL2 lab, which is acceptable. These bacteria are commonly used to produce recombinant plants as they have a special system to inject DNA into plant cells (to make the gall). However, the project does not have this described. Instead, in communication with the IBC, the PI indicates that this aspect of the work will be done at MIT. It</p>					

is recommended that this brief description be added to the protocol. The IBC would need to be informed if recombinant plant material will be returned to BU and such a description should be included in the protocol. However the bacterial cloning work is acceptable as is now. The following will be communicated to the PI:

- Please provide response to the “Experience” and “State how many year experience, when and where” questions for Fitzsimmons.
- Provide a brief rationale for their use of the *Agrobacterium tumefaciens* in this study.
- Please include the information that recombinant *A. tumefaciens* will be used in plant transformation in MIT as communicated to the IBC office.
- The IBC would need to be informed if recombinant plant material will be returned to BU and such a description should be included in the protocol.
- It was not clear why *Pseudomonas aeruginosa* was particularly added in the liquid waste disposal methods in this amendment but not the *A. tumefaciens*. Do these microorganisms need separate disinfection methods? Please clarify.

Motion: Conditional Approval (Administrative Review)	For: 13	Recuse: 0	Against: 0	Abstain: 0	Absent: 0
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13. rDNA/Bhz – Amendment

BUA	(PI)	Title	BSL	ABSL	Campus		
1459		Uremic vascular disease and cancer biology	2	2	BUMC		
Primary Reviewer: Tom Winters			Secondary Reviewer: Ron Morales				
Applicable NIH Guidelines: Sections III-D-1-a; Section IIID- 2-a, III-E-1; Appendix B-II.							
<p>Meeting Comments: This protocol studies vascular disease in patients with renal failure and how functions of endothelial and vascular smooth muscle cells are affected under those conditions. In addition, their study also investigate how the cancer disease create new blood vessels and use them to their advantage. In their previous amendment of the protocol they took fix samples from mice infected with SARS-CoV-2 and examined the tissue lysates for differential gene expression. In this amendment, they plan to examine the targeted metabolomics of plasma of COVID-19 patients and their respective control, both obtained from BU/BMC COVID-19 Biorepository. They plan to process the plasma for Liquid Chromatography/Mass Spectroscopy in his lab and then send the inactivated sample to CRC Chemistry core. This will allow them to examine the differences in some metabolites and correlate them with clotting problem frequently observed in COVID-19 samples. The methodology includes treating the plasma with organic solvents: 8:1:1 of acetonitrile, methanol, acetone respectively. This should inactivate the virus and lipid layers. They then dry the solution and reconstitute with a LC/MS buffer in order to perform tryptophan analyses. PI clarified that COVID-19 plasma from COVID-19 (+) patients will have a low viral load and be inactivated so would only pose slight to no risk in the event of percutaneous exposure. Committee further noted that the study will not create any safety risk for the Chemistry core lab as they will not perform PCR amplification of the plasma, rather only doing blood metabolite analysis. The following will be communicated to the PI:</p> <ul style="list-style-type: none"> • Safety Trainings are expired (each of LST, BSL1/2, BBP, Chem Safety and rDNA/IBC policy training) for _____, _____ and _____ have expired. Please update. Also indicate their title. If they are no longer in your lab, please remove their names from the personnel information page. • Please check “OTHERS” in the PPE Section and indicate the cut resistant gloves will be used when cleaning the microtome and handling the blades. In addition, please indicate how the disposable blades are disposed if they are in use. • Please add a description on how the processed samples will be transported to Dr. _____ at the CRC Chemistry Core lab for analysis. • The indicated IRB approval date has expired on 6/23/20. The current approval is valid until 6/23/2022. Please update. 							
Motion: Conditional Approval (Administrative Review)			For: 13	Recuse: 0	Against: 0	Abstain: 0	Absent: 0