

INSTITUTIONAL BIOSAFETY COMMITTEE MEETING
April 11th, 2024
Zoom Meeting

MEMBERS PRESENT: *Chair:* Deidra Mountain, *Vice Chair:* Liz Fozo, Paul Dalhaimer, Lezlee Dice, Doris D’Souza, Brittany Isabell, Joseph Jackson, Andi Lear, Jun Lin, Jae Park, Jessica Velez

Ex-Officio: Alanah Aldridge, Carolina Carter, Linda Hamilton, Brian Payne, Brian Ranger, Daniel Thomas, Jessica Woofter

MEMBERS ABSENT: Ashley Carroll, Reza Hajimorad, Tarek Hewezi, Ling Zhao

OTHERS PRESENT: Kelsey Finnie, Larry Millet, Juan Luis Jurat-Fuentes

Opening:

The IBC Chair called the meeting to order at 9:04 am. The minutes for the March 20th, 2024, IBC Meeting were reviewed and approved as written.

Full Member Review IBC Registrations:

#IBC-06-274-2 (Larry Millet) – Mammalian Bioluminescent Bioreporter Development – 3rd Year Rewrite (HDM, RDNA)

Dr. Millet was present to discuss his registration. The committee had questions regarding lack of information in the recombinant DNA subform; an explanation of the rDNA being used was not found in the subform. Dr. Millet’s research utilizes the use of an rAAV that is generated by a collaborator and published previously to label specific set of neurons with a fluorescent reporter; this is the only viral vector his research plans to use. Plasmids used are for creating human auto bioluminescent cell lines. The committee found that this registration is lacking information. The committee voted to table this registration until it can be properly completed before the given deadline.

#IBC-21-555-2 (Sultana, Hameeda) – Tick-borne flavivirus-vector-host interactions and molecular studies – 3rd Year Rewrite (HDM, IA, RDNA)

This research involves propagating LGTV strain TP21 virus; this is a naturally attenuated virus that does not have any evidence of infecting humans. Transmission is through the intermediate hosts: ticks. The researchers then provide the propagated virus in vitro, and then infect the various types of cells (tick cells, fly cells, insect cells, and mammalian cells) with the virus. It is understood that Dr. Sultana’s research is aimed at understanding how mode of transmission is altered by

making recombinant alter the virus genome, etc. They are introducing numerous tick species; these are gathered via different sources: CDC, Connecticut Agriculture Experimental Station, etc. It is unclear if these ticks are naïve or potentially carrying other unknown pathogenic viruses. The committee found that it is unclear how the LGTV genes will be modified. More information is needed regarding broader level of mitogenesis. Building names are also missing locations. The committee found that previous comments and edits needed were not fully addressed. In order to assess the risk factors more clearly, more information on the rDNA procedures, the sources of tick, and the pathogenesis or naivety of ticks are needed. The subforms will also need to be clarified & simplified. The committee voted to table this registration.

#IBC-22-562-2 (Sultana, Hameeda) – Mosquito-borne flaviviruses interactions with vector and vertebrate hosts – 3rd Year Rewrite (HDM, IA, RDNA)

Upon review, the committee found that this registration has not been fully addressed based on the committee's requirements and recommendations. It was intended for IBC-22-562-2 and IBC-22-579-2 to be combined into one registration. Verification that the IACUC protocol is in place is needed. It is unknown where the dengue, zika, & west nile viruses are being sourced. This information will need to be addressed and provided. Regarding the door placard and safety, a risk notice for pregnant women needs to be added. It is also unclear if there are aerosolized viruses and if safety goggles are being used. In the forms, there is extraneous information; it was recommended that this be simplified to clarify risk assessment. It was decided that comments need to be addressed, and IBC-22-579-2 should be added into IBC-22-562-2; once combined, IBC-22-579-2 will be terminated. The committee voted to approve pending administrative review.

#IBC-22-579-2 (Sultana, Hameeda) – Infections of mice with flaviviruses to understand the mechanisms of neuroinvasion and neuropathogenesis – 3rd Year Rewrite (IA)

Upon review, the committee found that this registration has not been fully addressed based on the committee's requirements and recommendations. It was intended for IBC-22-562-2 and IBC-22-579-2 to be combined into one registration. It was found that dengue virus is being used; however, it is not listed anywhere else in the registration. Clarification on if centrifugation to concentrate is being used or not is needed. In the subforms, there is extraneous information; it was recommended that this be simplified to clarify risk assessment. Entries on rDNA, pathogens, etc., need to be separated into individual entered. It was decided that comments need to be addressed, and IBC-22-579-2 should be added into IBC-22-562-2; Once combined, IBC-22-579-2 will be terminated. The committee voted to approve pending administrative review.

#IBC-06-288-1 (Jurat-Fuentes, Juan Luis) – The Insect Midgut as a Prospecting Resource

and Target for Insecticidal Technologies – 3rd year rewrite (rDNA)

Dr. Jurat-Fuentes was present to discuss his registration. Dr. Jurat-Fuentes stated that the plasmids & constructs have been updated. This work involves insecticidal proteins. They are expressed in both *E. Coli* and *Vasculogenesis*. The insecticidal proteins are originally from *Vasculogenesis*. Expression vectors are used to express them in both bacteria. rDNA is also used to express proteins from insects that may either have an activity of a commercial interests. Focus is on cellulases or insect cellulases. These are expressed in insect cell cultures and their activity is then tested. Proteins that may be receptors for the insecticidal proteins in the insect cells are also expressed. All the expressions are under baculoviral promoters. Work with RNAi has also been used; however, this has not been used recently, and is not in the plan to use. A protein fragment from the Marburg virus, which was synthesized commercially, is being used. Because the lab is BSL-1, biosafety practices and training are followed. The committee recommended that the above scope of work be added to the Project Safety and Facility Assessment Subform. The committee voted to approve pending administrative corrections.

#IBC-24-599-2 (Linn-Peirano, Sarah) - Interrogating Antimicrobial Peptide Expression in the Canine Urinary Tract – New Registration (IA)

This research is specifically looking at uropathogenic strains of different bacteria, primarily *E. Coli*. Some strains have already been purchased; Dr. Linn-Peirano will also use clinical isolates from animals in the veterinary teaching hospital. Cultures and in vitro cell work will be used. Upon review, it was found that more information regarding increased virulence is needed to properly assess risk to humans. A biosafety cabinet certification is also needed in the registration. The committee voted to approve pending administrative corrections.

Administrative Report

i. Contingencies

(IBC-10-330-2 HDM, rDNA) Dr. Boder still needs to make his corrections. The committee found that clarification is needed on which *E. Coli* strains are being used, along with their capacity. The review found that cell types, plasmids, and vectors found in the technical summary need to be represented in the itemized lists. The committee voted to approve the registration pending designated member review to verify changes have been made to align the technical summary with the Plasmid and Vector profile segment. This is awaiting PI Signoff before Dept Head Signoff, BSO Signoff, and IBC Chair Signoff.

(IBC-24-598-2) Dr. Baccile still needs to make his corrections. Section 7 will need to be corrected because there is not enough information. In the cleaning and disinfection section, Dr.

Baccile will need to clarify the starting concentration of the ethanol and specify the shelf life of bleach (1 week). The procedure said that sharps were being used but the biohazardous sharps waste section are not filled out: this will need to be reconciled. The committee voted to approve with DMR. This is pending PI Corrections.

ii. Administrative Approvals

(IBC-13-409-2 HDM, rDNA) Dr. Barrera Olivares's registration is an annual update that is pending review. The original approval date is 11/15/2022.

(IBC-19-535-1 rDNA) Dr. Lenaghan's registration is an annual update that is pending BSO signoff. The original approval date is 02/16/2022. This has a current approval date of 4/10/2024.

(IBC-13-397-2 IA) Dr. Gerhold's annual update has changes to personnel and BSC certification date and is currently pending BSO signoff. The original approval date is 3/22/2022. This has a current approval date of 4/10/2024.

(IBC-14-416-2 IA, NANO) Dr. Zhong's annual update has changes to biosafety cabinet information. The original approval date is 4/5/2023. This is currently pending BSO signoff and has an approval date of 4/10/2024.

(IBC-20-550-2 IA) Dr. Rajeev's annual update has changes to personnel. The original approval date is 9/14/2023. This is currently pending BSO signoff and has an approval date of 4/10/2024.

(IBC-23-587-2 IA, NANO, RDNA) Dr. Rajeev's annual update has changes to personnel and biosafety cabinet information. The original approval date is 4/05/2023. This is currently pending BSO signoff and has an approval date of 4/10/2024.

(IBC-21-573-2 HDM, IA, RDNA) Dr. Jackson's annual update has updates to personnel. The original approval date is 11/17/2021. This is currently pending BSO signoff and has an approval date of 4/10/2024.

(IBC-22-576-2 HDM) Dr. Crouch's annual update has changes to personnel. The original approval date is 03/22/2022. This is currently pending BSO signoff and has an approval date of 4/10/2024.

iii. Administrative Terminations

None

iv. Administrative Exemptions:

None

v. Accidents, Injuries/Exposures:

None

vi. Laboratory Report:

Audits are underway, currently on the main campus. UTIA and CVM will be later in the year.

vii. Safety Stratus Update:

If comments need to be deleted, add a new comments specifying which comments need to be deleted.

Old Business:

i. Form Changes

The biosafety procedures sections is being reworked. Below is the proposed, drafted edits:

SCOPE OF WORK

Provide in the text box below:

- a **brief technical description** of the scope of research and technical procedures being used to accomplish the research objectives, avoiding scientific jargon
- a description of the experimental procedures being used **in each registration subform**
- the proposed biosafety procedures being implemented for containment and risk mitigation for each technical procedure described

NOTE: DO NOT INCLUDE scientific justification, detailed cut and paste experimental protocols, or merely list biosafety procedures without the context of experimental design.

Include in the text box below the following items, as applicable:

- Technical procedures being used in this work as they relate to biosafety in enough detail that steps being taken for risk reduction are apparent.
- For infectious agents, include how infectious agents are contained.
- For recombinant synthetic nucleic acids, include how materials containing recombinant synthetic nucleic acids are contained.
- For animal use, clearly indicate what infectious or other biological agents, synthetic nucleic acid work will apply, steps are taken and/or recombinant synthetic nucleic acid work will apply, steps taken for risk reduction, and reference to approved IACUC **protocol(s)** if applicable.

NOTE: If the committee is not able to make a proper risk assessment due to lack of experimental information or difficulty in deciphering the biosafety-related workflow of the project, you will be asked to resubmit.

If there are any suggestions for edits, please send them to Linda Hamilton and Jessica Woofter by end of day on April 12th. The proposed edits are saved in the meeting materials.

New Business:

NIH Reporting Requirements for Incidents Related to Research

Safety Stratus Workflow Changes

- i. The IBC chair clarified that the designated reviewer’s responsibility is to edit comments that are relevant and need to be sent back to the PI after the meeting. After this has been done, please notify the EHS so that the registration can be sent back to the PI.
- ii. Below is a summary of the Safety Stratus Workflow Changes:

SAFETY STRATUS IBC WORKFLOW

Steps in approval workflow process in Safety Stratus



Human Derived Materials and Infectious Agents Registrations

- i. This will be discussed at the May IBC meeting.

SEBSA Conference/Meeting Rescheduling

- i. This will be discussed at the May IBC meeting.

The IBC Vice Chair adjourned the meeting at 10:46 p.m. The next meeting has been scheduled for Wednesday, May 15th, 2024 10AM- 12PM.

