Vanderbilt University Medical Center
Institutional Biosafety Committee (MC IBC) Minutes
December 16, 2025
Virtual Meeting

Attendance

Voting Members (Quorum = 7 voting members)

- ☒ Mark Boothby
- ☒ Alexandra Elliott (BSO)
- ☒ Iuliia Gilchuk
- ☒ Izumi Kaji
- ☐ Rachelle Johnson
- ☒ Danyvid Olivares-Villagomez
- ☒ Ana Nobis
- ☒ Jonathan Schmitz, Chair
- ☒ Kate Shuster
- ☒ Cara Sutcliffe
- ☒ Julie Viruez
- ☐ April Weissmiller
- ☒ Paula Spitzler

Non-Voting Members & Guests

- ☒ Rich DiTullio
- ☒ Chris Svitek
- ☒ Scott Bury
- ☒ Maria Garner
- ☒ Bettye Ridley
- ☒ Venita White
- ☒ Kevin Warren

Call to Order/Introductions/Announcements

The December meeting was held virtually by an internet-based meeting platform. The meeting was called to order at 12:01pm.

The BSO reported an incident involving a researcher trying to force blood through a needle and syringe with high force. The needle popped and there was a spray of blood. The researcher was wearing safety glasses but of the spray did touch the outside of their mouth. The lab will switch to a full face shield when doing this work.

Minutes Review/Approval

The Chair opened the floor for comments or proposed revisions of the minutes from the November 18th meeting. The Committee voted to approve the minutes as presented.

Protocol Reviews

Blind, Raymond – Medicine
TOPAZ Ref. # 100068 – IPMK and NR5A nuclear receptor mediated gene regulation (RENEWAL)

Lab Description (as stated by PI): IPMK is an inositol kinase with gene regulatory ability, however the mechanism of regulation is largely uncharacterized. The first project in our lab seeks to characterize how IPMK regulates gene expression in human cell lines.

A second project is similar in approach and overall goal but examines different genes, the NR5A nuclear receptors. These human ligand-regulated transcription factors are regulated by phospholipids, our lab uses X-ray crystallography to examine how phospholipids alter NR5A structure. This is work often leads to functionally validating structural observations in human cell lines.

In both these projects, we seek to identify genes dependent on IPMK or NR5A nuclear receptors. To this end, one approach we take is to complement cells using recombinant single round retroviruses and utilizing gene knockout and endogenous gene tagging by CRISPR/Cas9 technology. These manipulations will aid in gene expression/transcriptome studies that will better clarify how these proteins regulate gene expression in human cell lines.

Committee review: The lab propagates many genes of interest in non-pathogenic *E. coli* and expresses them in human, murine and rat cell lines using retroviral and 3rd generation lentiviral vectors. In addition to culturing human cells, the lab obtains patient samples of pancreatic islets.

BSL-1 practices and containment are recommended for standard rDNA work in non-pathogenic *E. coli*. BSL-2 practices and containment are recommended for work with human-derived materials and lentiviral vectors. Personnel working with lentiviral vectors and human-derived materials should adhere to the practices of the VUMC HDM/BBP in Basic Research Policy.

The Committee voted to approve the registration at the biosafety levels recommended.

NIHG activity category: III-D-3, III-E-1, III-F-8/ Appendix C-II

Byndloss, Mariana– PMI

TOPAZ Ref. # 100331 – Mechanisms of Enterobacteriaceae expansion during intestinal dysbiosis (RENEWAL)

Lab Description (as stated by PI): Our group uses a multidisciplinary approach combining microbiology, cell biology and animal models to try to understand how inflammation-dependent changes in the gut epithelial metabolism can result in gut dysbiosis and disease. We use commensal members of the mouse microbiota and members of the Enterobacteriaceae family in models of Diet Induced Obesity and Inflammatory Bowel Disease to try to understand the mechanisms by which these bacteria can bloom in the gut during these diseases. A separate project in the lab focuses on understanding how the intestinal bacterial pathogen Salmonella typhimurium can outcompete members of the intestinal microbiota during inflammation.

Committee review: The lab propagates many genes of interest in non-pathogenic *E. coli* and expresses them in Risk Group 1 and Risk Group 2 bacteria.

The lab culture human derived cells and processes samples of human stool to analyze the gut microbiome.

The lab cultures a panel of Risk Group 1 and Risk Group 2 agents that are representative of gut microbiota. The lab also cultures a Risk Group 1 rodent gut pathogen as well as Risk Group 2 gut pathogens of humans. In animal experiments, the gut microbiota panel is used to generate mice with a standardized gut microflora which is then challenged by the gut pathogens. In other experiments, mice with normal gut microflora are also challenged with the gut pathogens. In both cases, some of the pathogens have been genetically modified.

BSL-1 practices and containment are recommended for rDNA work in non-pathogenic *E. coli*. BSL-2 practices and containment are recommended for rDNA work in Risk Group 2 agents, work with Risk Group 1 rodent pathogens, human stool samples and human-derived cells. Personnel working with human-derived materials should adhere to the practices of the VUMC HDM/BBP in Basic Research Policy. ABSL-2 policies and containment are recommended for the experimental animals.

The Committee voted to approve the registration at the biosafety levels recommended. Dr. Johnson declared a conflict of interest and was not present for the pre-vote discussion or vote.

NIHG activity category: III-D-1-a, III-D-4-a, III-F-8/ Appendix C-II

Markham, Nicholas – GI Medicine
***TOPAZ Ref. # 100321 – Microbe-Host Interactions During Colorectal Cancer Progression* (RE*NEWAL*)**

Lab Description (as stated by PI): Clostridioides difficile infection is the most common hospital-acquired infection in the United States. Recent epidemiological data show an increasing incidence of C. difficile infection. Our mouse models have shown that C. difficile can accelerate colorectal cancer progression. This alarming trend illustrates the need for more knowledge about this bacterial infection. The long-term goal of this work is to reveal targets for strategies that interdict the pathogenesis of C. difficile infection and its relationship to cancer.

Committee review: All of the agents mentioned below are produced in the PI's lab spaces at the VA. This registration only covers the animal work that takes place in VUMC space.

In animal experiments, genetically modified murine cells; genetically modified or unmodified Risk Group 2 bacteria; or a genetically modified or unmodified Risk Group 1 rodent pathogen will be administered to experimental mice.

ABSL-1 policies and containment are recommended for the experimental animals receiving murine cells. ABSL-2 policies and containment are recommended for animals receiving the Risk Group 2 and Risk Group 1 pathogens.

The Committee voted to approve the registration at the recommended biosafety levels.

NIHG activity category: III-D-1-a, III-D-4-a

Morone, Peter – Molecular Neurosurgical Tissue Bank
TOPAZ Ref. # 100318 – Cerebrospinal Fluid Disorders Research Lab (RENEWAL)

Lab Description (as stated by PI): A repository of human blood and brain tissue samples will be created for approved investigators to use for their research into brain tumors. Tissue processing will be performed by medical students as part of their training. Human brain tumor tissue and blood will be brought to the laboratory and processed in the biosafety cabinet. The tissue will be sectioned into aliquots of 100-250 mg and wrapped in aluminum foil prior to being frozen in liquid nitrogen. Blood will be spun down and the plasma layer will be frozen in liquid nitrogen. The frozen samples will then be placed into the -80C freezer for storage.

Committee review: The lab obtains samples of brain tumor tissue and blood which is processed and stored as a repository for researchers.

BSL-2 practices and containment are recommended for experiments with human-derived materials. Personnel working with human-derived materials should adhere to the practices of the VUMC HDM/BBP in Basic Research Policy.

The Committee voted to approve the registration at the biosafety levels recommended.

NIHG activity category: N/A, HDM risk only

Administrative Reviews / IBC Notification: The Chair opened the floor for comments on the administrative reviews. These reviews included:

Principal Investigator	VBMR#	Modification Summary
Bick, Alexander	100248 V2	Addition of shared lab space (previously inspected on 7/24/2024) and lab personnel
Blair, Paul	100296 V2	Addition of biological materials similar to those previously approved
Crowe, Jim	100309 V8	Addition of biological materials similar to those previously approved, personnel update
Gaddy, Jennifer	100231 V3	Addition of new VUMC lab space, Addition of biological materials similar to those previously approved, personnel update
Halasa, Natasha	100169 V5	Personnel update
Kaji, Izumi	100323 V3	Personnel update
Major, Amy	100325 V2	Addition of AAV vectors with RG1 inserts; previously approved for similar biological materials and associated research activities

The Committee approved the administrative updates as presented. Drs. Boothby, Gilchuk, Kaji, and Ollivares-Villagomez declared a conflict of interest and were not present for the pre-vote discussion or vote.

Other Business

The BSO updated the Committee on the NIH Biosafety Modernization process and gave the links to the listening session for our area.

Adjournment

The meeting was adjourned at 12:33 pm.