

Institutional Biosafety Committee Meeting
August 10, 2026
3:30 pm – Bruner Hall of Science 326

Present: Betty Jacques (Chair), Bryce Abbey, Jeramie Ellis, Austin Nuxoll, Dennis Edwards, Brad Krohn, Matt Davis (Facilities – Non-Voting), Chris Waples (ex officio)

Absent: Alison Klein, Drew Proski

Jacques (Chair) called meeting to order at 3:30 PM.

Discussion of New Protocols Under Review

Catherine Johnson- UNK-00001587: Immortalization of human bone marrow mesenchymal stem cells using lentiviral hTERT

There are limited human bone cell lines available for research use. This project will generate a new osteoprogenitor cell line for use in research.

Discussion

- Eye protection required? Not noted under PPE, but some form of barrier is required.
- Application noted that procedures would occur in BSL3. Jacques will double-check.
- Under Section 4. Responded no to microbes and nucleic acids, but both should be checked.
- Clarification for solid waste and whether it will be autoclaved.
- Time for bleach to disinfect liquid waste must be clarified.

Abbey (Nuxoll) moved to approve protocol, pending corrections. Motion passed: 5-0.

Frank Kovacs - UNK-00001580: Use of recombinant DNA containing gene for fatty acid binding protein type V from fasciola hepatica (THD26047.1) in pET28a+

We will use non-pathogenic bacteria (E. coli - BL21(DE3)) to make protein for purification and testing. This strain of bacteria is routinely used to make proteins for testing. Protein production will be accomplished by incorporating recombinant DNA into the bacteria that has both bacterial DNA and DNA for the protein. We will do this for a number of similar proteins.

Discussion

- Brief discussion about research room being used. Reported accurately in protocol.
- Disinfectant: Should be using 70% ethanol, rather than 20% ethanol, as noted in protocol.

Abbey (Nuxoll) moved to approve protocol, with revision of ethanol concentration. Motion passed: 5-0.

Discussion of Amended Protocols Under Review

Austin Nuxoll - UNK-00001475: Efficacy of Plasma Activated Antibiotics against Antibiotic Tolerant Bacteria

1. Section I - Protocol Information: Updated the protocol attributes to reflect the addition of L929 mouse fibroblast cell culture, *Galleria mellonella* invertebrate use, and bacterial transcriptomic analyses. Added a new student researcher to the laboratory personnel and described the individual's assigned responsibilities, experience, and required training.
2. Section II - Research Description: Revised the research summary and technical description to include: (1) evaluation of plasma-activated antibiotic cytotoxicity using L929 mouse fibroblasts; (2) evaluation of plasma-activated antibiotics in a *Galleria mellonella* infection model; and (3) transcriptomic analysis of *Staphylococcus aureus* following exposure to plasma-activated chlortetracycline, untreated chlortetracycline, plasma-activated water, and purified plasma-generated derivatives.
3. Section III - Microorganism and Infectious Agent Information: Updated the *Staphylococcus aureus* entry to indicate administration to cell culture and use in bacterial transcriptomic experiments, as applicable.
4. Section IV - Cell/Tissue Culture and Other Sample Information: Added the CCL-1 NCTC Clone 929, commonly referred to as L929, mouse fibroblast cell line.
5. Section V - Research Organism Information: Added *Galleria mellonella* as an invertebrate infection model receiving *S. aureus*.
6. Section VI - Recombinant and/or Synthetic Nucleic Acid Information: Updated as applicable to describe the extraction and analysis of naturally occurring bacterial RNA for RNA sequencing. No genetic modification, cloning, or introduction of recombinant or synthetic nucleic acids will be performed.

Discussion

- No substantive discussion about the protocol, beyond description of changes.

Abbey (Ellis) moved to approve amended protocol as written. Motion passed: 4-0-1 (Nuxoll abstaining).

Austin Nuxoll - UNK-00001386: Contribution of *Staphylococcus aureus* persisters to antibiotic failure and survival within a host.

1. Section I - Personnel: Carter Hohlen was added as personnel to the project.
2. Section II - Research Summary and Rationale: Revised the research summary to clarify the overall objective of determining whether *Staphylococcus aureus* persister cells have a survival advantage during interactions with the host immune system and during infection. Expanded the summary to include proposed murine infection studies and downstream analyses of bacterial persistence and host innate immune responses.
 Section II - Technical Description of Proposed Research: Revised and expanded the technical description to more clearly organize ongoing and proposed work by project. Added descriptions of murine infection experiments comparing wild-type *S. aureus* with a high-persister *fumC* mutant using a localized deep-seated thigh infection model and a systemic infection model. Added descriptions of infected tissue collection, tissue

homogenization, viable bacterial enumeration, histology, immunostaining, and flow cytometric analysis of macrophage polarization and neutrophil responses.

Animal Infection Studies: Added procedures involving infection of C57BL/6 mice with *S. aureus*. The deep-seated thigh infection model involves intramuscular inoculation and tissue collection approximately 7 days after infection. The systemic infection model involves retro-orbital inoculation under brief isoflurane anesthesia, with tissue collection at approximately 5 and 20 days after infection.

3. Section IV - Cell/Tissue Culture and Other Sample Information: Added C57BL/6 (*Mus musculus*) mouse tissues and organs collected during experimental *S. aureus* infection studies, including thigh muscle, kidney, liver, spleen, and heart, for bacterial burden determination and host immune-response analyses. Added the human U-937 monocyte/macrophage cell line, murine MPRO Clone 2.1 myeloid cell line for differentiation into neutrophil-like cells, and human HL-60 promyelocytic cell line for differentiation into neutrophil-like cells. These cell models will be used to evaluate *S. aureus* survival and interactions with innate immune cells.

Discussion

- Some brief discussion about disposal plans for biowaste.

Abbey (Ellis) moved to approve amended protocol as written. Motion passed: 4-0-1 (Nuxoll abstaining).

Additional Business

UNK Student Research Contract – adopted 8/1/26

- Jacques described the core elements of the student research contract.

NuRamp changes (upcoming)

1. Training
2. Conflict of interest
3. Checklist

Jacques adjourned meeting at 4:12 PM.