Tuesday, August 19th IBC Meeting
Time: 3:00pm-5:00pm

Zoom Link: https://umsystem.zoom.us/j/93890885477?pwd=0Eoqh1gveBpUVfa5SXq5bGG8Pg3x5U.1

- **Member Introductions**
  - Members in attendance:
    - Michael O'Connor, Jakob Waterborg, Zoey Yi, Eric Anderson, Gerald Wyckoff, Tim Sturgis, Shizhen Wang, Paul Ramlow, Joseph Barbercheck
  - Members absent:
    - Jodi Troup, Scott Korte
  - Support Staff:
    - Liz De La Rosa, Melissa Hirt
- **Closed Meeting**
  - The August 19th meeting was closed to the public because the discussion addressed confidential matters concerning individually identifiable personnel and proprietary information.
- **Meeting Minutes**
  - Review of May Meeting Minutes (attached)
  - **Vote: Approve as written**
    - **Approved = 9**

- **Informational items / Discussion items**
  - The August meeting minutes that will be reviewed and approved at the November meeting will be the first minutes publicly posted on the UMKC IBC website.

- **Biosafety Officer Updates**
  - Lab Clean-Up Day – School of Pharmacy
    - The School of Pharmacy lab clean-up day that took place in May went well with high attendance and participation. Trash, materials, and expired chemicals were disposed of, and awards were given for the most improved lab as well as the cleanest student bench. Future clean up days will be planned with the hopes of including other schools and departments.
  - New PI – Dr. Gargvanshi
    - The new School of Pharmacy PI is planning on submitting an IBC protocol for the November cycle.
    - A new PI, Dr. Holmes, is expected to join the School of Science and Engineering in January and may be conducting BSL2 experiments.
  - DURC Policy Update – Potentially September 2nd
    - The federal notice to pause the new DURC/PEPP policy on May 6th is still in effect with no updates. An update is expected on September 2nd and if issued will be shared with the committee.

- **<u>Protocols for Review:</u>**

  The committee will need to discuss the following for each rDNA Protocol:

  BSO pre-reviews of protocols (attached) that require full IBC review are attached at the end of this agenda, as available at time of distribution of the agenda.

1. Agent Characteristics (virulence, pathogenicity, environmental stability)
2. Type of manipulations planned
3. Sources of the inserted DNA sequences (species)
4. Nature of the inserted DNA sequences (structural gene, oncogene)
5. Host(s) and vector(s) to be used:
6. Will an attempt be made to obtain expression of a foreign gene: (Yes, No)
7. If yes, what protein will be produced
8. Containment conditions to be implemented
9. Applicable section of the NIH Guidelines: (use NIH Guide pdf to enter section)

1. **<u>Tabled protocol reviews from prior meeting(s)</u>**

   - **Wright 23103 - *Comparative anatomical dissection of nonhuman primates***
     - The PI addressed the concerns regarding lab location and the proper temperature for storage of samples. The PI also received the required IACUC exemption and necessary documentation related to the samples. No further revisions are needed.
     - **Vote: Approved = 9**

2. **<u>Continuations for (up to) 1 year without changes and Amendments limited to personnel updates, approved for continuation by Chair and BSO</u>** (NOT attached) (CIP= change in personnel)

   - **22424 Mukherji -** *Studies on hypoxia inducible factor pathway and oxygenases* **– CIP**
   - **22242 Niroobakhsh -** *Novel Biometerials Cytotoxicity* **– Continue As Is**
   - **22426 Wyckoff -** *Cloning and expression of rapidly evolving proteins and potential therapeutic targets* **– CIP**
   - **22261 Wyckoff -** *Cloning and expression of RAS pathway proteins for small molecule drug therapeutics* **– Continue As Is**
   - **22262 Yao -** *Structure and dynamic basis of lipid transfer protein function* **– Continue As Is**
   - **22422 Dallas -** *Cell and Extracellular Matrix Dynamics in Bone* **– Continue As Is**
   - **22342 Hassan -** *Evaluating the effectiveness of Candida auris inactivation using plasmacluster ionization* **– CIP**
   - **23104 Cheng -** *Development of therapeutics for prostate cancer and pancreatic cancer* **– CIP**
   - **22440 Nayak -** *VEGF signaling in placental development and disease* **– Continue As Is**
   - **22441 May** - *Inactivation of noroviruses using high-power electromagnetic waveforms* **– Continue As Is**
   - **23105 Dobens -** *Coordination of cell migration and proliferation in the Drosophila ovary* **– Continue As Is**
   - **22423 Gelhaus -** *Pre-Clinical Development of a Live Attenuated Vaccine, ATI-1701, Against Tularemia* **- CIP**

     - **All Annual Continuations were approved by the IBC**

3. **<u>Major Amendments for IBC Review (attached)</u>**
   - **22280 Nayak -** *VEGF signaling in placental development and disease* **- Change of experimental procedures, rationale for the use of agents**
     - Most of the pre-review comments have been addressed, a few minor revisions are still needed including adding a description of the materials used and updating the Biosafety Cabinet certification date. No further modifications were discussed.
     - **Vote: Conditionally approve provided that all comments above are addressed.**

- **Approved = 9**

- **22281 White -** *Gene Therapy of Severe Muscular Dystrophy Mouse Model* **- Add steroid drug, change of experimental procedures, rationale for the use of agents**
  - All pre-review comments have been addressed. No further modifications were discussed.
  - **Vote: Conditionally approve provided that all comments above are addressed.**
    - **Approved = 9**
- **22020 Yu -** *Development of Sustained Release Glaucoma Delivery Implants* **– title change, experimental procedures, and use of agents.**
  - The PI addressed many of the pre-review comments through email regarding the methods for implanting cells, describing the use of collagen-based scaffolds, and describing disinfectant procedures. The PI will still need to list the human cell lines used in the protocol risk assessment section. No further modifications were discussed.
  - **Vote: Conditionally approve provided that all comments above are addressed.**
    - **Approved = 9**

4. **<u>Minor Amendments</u> (not attached)**
   - **22340 Wang -** *Investigation of biospecimens from oral cancer mouse models and human patients* **– CIP**
   - **22342 Hassan -** *Evaluating the effectiveness of Candida auris inactivation using plasmacluster ionization* **– CIP**
   - **22442 Walker -** *Handling of Human Extracted Teeth for Research Purposes* **– CIP**
   - **22400 Randall -** *Identification and biochemical characterization of peptide-based therapeutics* **– CIP**

   ❖ **All Minor Amendments were approved by the IBC**

5. **<u>Terminations</u>** (not attached; requested by PI or automatic due to end of 3-year approval period)

   - **22-05 Scott -** *Laboratory in Microbiology (BIOL 313L) and Human Biology III (Microbiology) Laboratory (LS-MCRB 121L)*
   - **22-06 Scott -** *Laboratory in Biochemistry and Molecular Biology (BIOL_360L/WL)*
   - **22200 Menees** - *Host Cell Regulation of Yeast Ty Elements Transposition* – **PI will retire end of August**
   - **22-04 Simpkins -** *Phospholipid nanoparticle colloid to treat shock*

6. **<u>New Protocols</u>** (attached)

   - **23780 Maitland -** *The biobehavioral role of loneliness in problematic alcohol involvement sex differences*
     - The protocol scope, procedures, and risks are vague and not well described. The protocol does not fully describe what will be performed, where the procedures will occur, and who will conduct the procedures. The PI has not submitted a revised protocol addressing pre-review comments. IRB review will be required for this protocol.
     - **Vote: Table the review of the protocol for the next meeting**
       - **Approved = 9**

- **23860 Gelhaus -** *Antiviral compound testing for the control of influenza replication*
  - A minor revision is needed to update the EHS ID number for the Biosafety Cabinet. No further modifications were discussed.
  - **Vote: Conditionally approve provided that all comments above are addressed.**
    - **Approved = 9**

7. **<u>3-year Renewals</u>** (attached)

- **21920 (22-05) Scott -** *Laboratory in Microbiology (BIOL 313L) and Human Biology III (Microbiology) Laboratory (LS-MCRB 121L)*
  - No major modifications have been made with this renewal and all pre-review comments have been addressed. No further modifications were discussed.
  - **Vote: Approved = 9**
- **21681 (22-06) Scott -** *Laboratory in Biochemistry and Molecular Biology (BIOL_360L/WL)*
  - No major modifications have been made with this renewal and all pre-review comments have been addressed. No further modifications were discussed.
  - **Vote: Approved = 9**
- **21680 Simpkins -** *Phospholipid nanoparticle colloid to treat shock*
  - Most pre-review comments have been addressed but a few revisions are still needed regarding the risk group listed for material sources, further description of processing conducted in the lab, and information is needed for any literature related to the dose ranges used. The small molecules mentioned in the protocol should be described as steroids. The PI, rather than lab personnel, should be the individual to address all comments and resubmit the revised protocol.
  - **Vote: Conditionally approve provided that all comments above are addressed.**
    - **Approved = 9**

Pre-review of protocols are listed below. Recombinant protocols with Appendix A-1 require answers to all NIH-specified questions.

- **<u>Tabled Protocols</u>**

Protocol 23103 (Renewal)
Title: Comparative anatomical dissection of nonhuman primates
IBC Reviewer: Zoey Yi (UMKC BSO)
PI: Kristin Wright, Ph.D. (UMKC School of Medicine)

The committee will need to discuss the following issues:

1. Agent Characteristics (virulence, pathogenicity, environmental stability)
   [ ] Bacteria [ ] Viruses [ ] Fungi
   [X] Other: nonhuman primate cadavers – New World monkeys (Cebus, Aotus, Callithrix – capuchin monkey, marmoset, night monkey)

2. Type of manipulations planned
   Use in anatomical research and teaching

Dissections from cadavers

3. Sources of the inserted DNA sequences (species)
   NA

4. Nature of the inserted DNA sequences (structural gene, oncogene)
   NA

5. Host(s) and vector(s) to be used:
   NA

6. Will an attempt be made to obtain expression of a foreign gene: (Yes, No)
   No

7. If yes, what protein will be produced
   NA

8. Containment conditions to be implemented
   BSL-2

9. Applicable section of the NIH Guidelines: (use NIH Guide pdf. to enter section)
   NA

10. Other:

➢ Tabled May 2025, comment and clarifications addressed → IBC review.

- **Vote: Approved = 9**

- **<u>Amendments</u>**

Protocol: 22281 (Amendment)
Title: Gene Therapy of Severe Muscular Dystrophy Mouse Model
IBC Reviewer: Zoey Yi (UMKC BSO)
PI: Dr. Robert White (KCU College of Biosciences)

The committee will need to discuss the following issues:

1. Agent Characteristics (virulence, pathogenicity, environmental stability)

[] Bacteria: [ ] Viruses [ ] Fungi [x] Other: transgenic mice

2. Type of manipulations planned

- Breeding various transgenic mouse lines to maintain colonies in the LARC
- Treatment of Mice with Methylprednisolone

3. Sources of the inserted DNA sequences (species)

N/A

4. Nature of the inserted DNA sequences (structural gene, oncogene)
   N/A

5. Host(s) and vector(s) to be used:
   N/A

6. Will an attempt made to obtain expression of a foreign gene: (Yes, No)
   N/A

7. If yes, what protein will be produced
   N/A

8. Containment conditions to be implemented
   ABSL-1: breeding transgenic mice

9. Applicable section of the NIH Guidelines: (use NIH Guide pdf. to enter section)
   EXEMPT: H-8: generation of ABSL-1 transgenic rodents via breeding

10. Other:
    Amendment: JUNE 2025 added treatment of mice with methylprednisolone.

    Vote: Approved = 9

Protocol: 22280 (formerly 23-21)
Title: VEGF signaling in placental development and disease
IBC Reviewer: Zoey Yi (UMKC BSO)
PI: Dr. Nihar Nayak (UMKC School of Medicine)

The committee will need to discuss the following issues:

1. Agent Characteristics: (virulence, pathogenicity, environmental stability)

[ ] Bacteria [ ] Viruses [ ] Fungi [x] Other: human blood, serum, and plasma; human uterine and placental tissue; Macaque placental tissue and blood samples; transgenic mice

2. Type of manipulations planned:

- Blood samples will be collected at Truman Medical Center (TMC), transported to the lab, and serum/plasma will be separated for analysis of various cytokines and growth factors.
  - Store excess plasma/serum for future analysis.
- Uterine and placental tissue samples will be collected from TMC, transported to the lab, and processed for different experiments.
  - Some samples will be used for isolation of cells for culture, and the remaining tissues will be cut into smaller tissue pieces for protein and RNA extractions.

- Prepare samples using optimal cutting temperature compound (OCT) and paraffin tissue blocks and analyze via immunohistochemistry, in situ hybridization, and morphological.
- Macaque tissue will be used for extracting RNA and protein. Macaque blood samples will be used for ELISA assays. PFA-fixed cryosections will be used for immunohistochemistry, in situ hybridization, and histological analysis.
- Animal experiments involve different transgenic mice (commercially available or in-house generated).
- Some transgenic animals will be doxycycline and tamoxifen inducible.
- Different transgenic animals will be bred, and pregnancy outcome and tissue samples will be analyzed.

3. Sources of the inserted DNA sequences: (species)
   N/A

4. Nature of the inserted DNA sequences: (structural gene, oncogene)
   N/A

5. Host(s) and vector(s) to be used:
   N/A

6. Will an attempt made to obtain expression of a foreign gene: (Yes, No)
   No

7. If yes, what protein will be produced:
   N/A

8. Containment conditions to be implemented:
   ABSL-2/BSL-2: human blood and tissues
   ABSL-1: transgenic mice

9. Applicable section of the NIH Guidelines: (use NIH Guide pdf. to enter section)
   Exempt:
   H-7: purchase or transfer of transgenic rodents
H-8: generation of BSL-1 transgenic rodents via breeding

10. Other:
Amendment August 2025: Added macaque tissue and blood samples

- **Vote: Approved after minor modifications = 9**

Protocol: 22020 (AMENDMENT)
Title: Biomaterials for Drug Delivery and Tissue Regeneration
IBC Reviewer: Zoey Yi (UMKC BSO)
PI: Dr. Le Yu

The committee will need to discuss the following issues:

1. Agent Characteristics (virulence, pathogenicity, environmental stability)
[] Bacteria: [ ] Viruses [ ] Fungi [x] Other: human corneal epithelial cells (HCE-T), Transgenic mice (ordered from Dr. David Rowe's lab at the University of Connecticut Health Center (UCHC) Not generated): Col3.6GFPtpz x Col2AGFPcyan x Col10A1RFPchry/BSP-GFPtopaz and DMP1-RFPmCherry/NSG x Col3.6GFPtpz

2. Type of manipulations planned
- Human cell culture with various dilutions of polymer extract for viability assays.
- Mouse juvenile articular chondroprogenitor (JACPs) and bone marrow stromal cells (BMSCs) will be extracted from transgenic mice carrying fluorescent reporters in the animal facility according to IACUC protocol 66505.
- Cells will be passed and seeded into collagen-based scaffolds to evaluate the in vitro biocompatibility and differentiation capability in regenerating bone and cartilage tissues.
- In vivo studies (using NSG x Col3.6GFPtpz mice): Implant collagen-based multizonal scaffolds subcutaneously, evaluate the behavior of both endogenous and exogenous cells when interacting with the scaffolds, and track the differentiation status of endogenous cells using the fluorescent reporter.
- RT-qPCR

3. Sources of the inserted DNA sequences (species)
NA

4. Nature of the inserted DNA sequences (structural gene, oncogene)
NA

5. Host(s) and vector(s) to be used:
NA

6. Will an attempt made to obtain expression of a foreign gene: (Yes, No)
NA

7. If yes, what protein will be produced
NA

8. Containment conditions to be implemented
ABSL-1/BSL-1/BSL-2

9. Applicable section of the NIH Guidelines: (use NIH Guide pdf. to enter section)
III-F-1, H-7

10. Other

Amendment: JULY 2025

- Added transgenic mice (Three stains of transgenic mice carrying fluorescent reporters: Col3.6GFPtpz x Col2AGFPcyan x Col10A1RFPchry/ BSP-GFPtopaz and DMP1-RFPmCherry/ NSG x Col3.6GFPtpz)

> Returned for modification 8/7/2025: see comments in eCompliance (2nd draft)
> PI responded to questions via email 8/18/2025

- **Vote: Approved = 9**

- **New Protocols**

Protocol: 23860 (New Submission)
Title: Antiviral compound testing for the control of influenza replication
IBC Reviewer: Zoey Yi (UMKC BSO)
PI: Dr. Carl Gelhaus

The committee will need to discuss the following issues:

1. Agent Characteristics (virulence, pathogenicity, environmental stability)

[] Bacteria: [X] Viruses: influenza A/PR/8/34 H1N1 (aka PR8)
[ ] Fungi [X] Other: Madin-Darby Canine Kidney cells

2. Type of manipulations planned

- Tissue culture: Madin-Darby Canine Kidney cells (MDCK)
- MDCK will be infected with influenza A/PR/8/34 H1N1 (aka PR8) and examined under a microscope for evidence of cytopathic effects.
- Add various concentrations of favipiravir and other compounds with virus to MDCK cells. Compound and virus will be added at various concentrations to establish effective/inhibitory concentration curves.

3. Sources of the inserted DNA sequences (species)
   NA

4. Nature of the inserted DNA sequences (structural gene, oncogene)
   NA

5. Host(s) and vector(s) to be used:
   NA

6. Will an attempt made to obtain expression of a foreign gene: (Yes, No)
   NA

7. If yes, what protein will be produced
   NA

8. Containment conditions to be implemented

BSL-2

9. Applicable section of the NIH Guidelines: (use NIH Guide pdf. to enter section)
   NA

10. Other

- Comments and clarifications to address in eCompliance.
- Removed use of mouse PR8 from original submission.

- **3-year Renewals**

Protocol: 21680 (Renewal + Amendments)

Title: Use of Phospholipid nanoparticles and other small molecules to treat various inflammatory related diseases including sepsis and hemorrhagic shock, transplantation and storage of transplantable organs, cardiac arrest, pancreatitis, and others.

IBC Reviewer: Zoey Yi (UMKC BSO)

PI: Dr. Cuthbert Simpkins

The committee will need to discuss the following issues:

1. Agent Characteristics (virulence, pathogenicity, environmental stability)

[X] Bacteria: Rodent feces [ ] Viruses [ ] Fungi [X] Other: Human cells (JURKAT and THP-1), Rat models

2. Type of manipulations planned

- Animal sepsis studies: Blood samples collected for studies determining timing of bacteremia. Fecal samples plated and bacterial strains isolated for identification of predominant strain(s).
- Immunologic biochemical analysis: Cell culture of THP-1 cells and Jurkat cells for identification of genetic and functional changes induced by culture with VBI-SF or small molecules. Various biochemical analysis including DNA/RNA analysis (qPCR, RNA sequencing, siRNA addition), protein analysis, visual analysis, MTT assay, Trypan blue staining, and flow cytometry (staining, imaging, and sorting).
- IACUC approved/submitted for approval rat studies (hemorrhagic shock, pancreatitis, cardiac arrest, transplant, anesthesia) with VBI.

3. Sources of the inserted DNA sequences (species)

   NA

4. Nature of the inserted DNA sequences (structural gene, oncogene)

   NA

5. Host(s) and vector(s) to be used:

   NA

6. Will an attempt made to obtain expression of a foreign gene: (Yes, No)

   NA

7. If yes, what protein will be produced

   NA

8. Containment conditions to be implemented

   BSL-2

9. Applicable section of the NIH Guidelines: (use NIH Guide pdf. to enter section)

   Exempt: III-F-1

10. Other

- Title change: “Phospholipid nanoparticle colloid to treat shock”
- Minor comments to address in eCompliance – RFM 8/12/25 (2nd draft)
- Removal of human blood.
- Addition of human cell lines and rat fecal matter.

Protocol: 21681 (previously 22-06)

Title: Laboratory in Biochemistry and Molecular Biology (BIO 360L)/Biological Research Techniques II (BIO 370L)

IBC Reviewer: Zoey Yi (UMKC BSO)

PI: Dr. Daniel Scott

The committee will need to discuss the following issues:

1. Agent Characteristics (virulence, pathogenicity, environmental stability)

[x] Bacteria: *Escherichia coli* DH5 alpha (K-12 derivative) [ ] Viruses [x] Fungi: *Saccharomyces cerevisiae, Schizosaccharomyces pombe, Schizosaccharomyces kambucha*

[] Other:

2. Type of manipulations planned:

Plasmid transformation into *S. cerevisiae* and homologous recombination for site-directed mutagenesis.

Plating of transformants on antibiotic-containing media to test for differences in antibiotic resistance between successful mutants and wild type *S. cerevisiae*.

Cloning of *S. cerevisiae* 1. Wild type gene and 2. Mutant gene into expression vectors.

Express GST-fusions using yeast.

Purify proteins using high performance liquid chromatography and compare wild-type/mutant protein drug-binding affinity via Octet.

Utilize *E. coli* with recombinant DNA containing yeast genes and grow on nutrient deficient media.

Amplify S. cerevisiae and S. pombe fragments for genotyping of mutants.

3. Sources of the inserted DNA sequences (species)

E. coli and S. cerevisiae

4. Nature of the inserted DNA sequences (structural gene, oncogene)

Wild-type sequence of S. cerevisiae genes that represent targets of antibiotics (fluconazole); student-designed point mutants

5. Host(s) and vector(s) to be used:

Host: *E. coli* DH5 alpha (K-12 derivative), *Saccharomyces cervisiae* (BY4741)

Vectors: pYTK050, pYTK003, pYTK083, pYTK083, pYTK036, pYTK008, pYTK047, pYTK073, pYTK074, pYTK081, and pYTK084 (MoClo-YTK modular cloning system)

pEG(KT); GST-fusion expressed plasmid.

6. Will an attempt made to obtain expression of a foreign gene: (Yes, No)

Yes

7. If yes, what protein will be produced

Green fluoresent protein (GFP)

8. Containment conditions to be implemented

BSL-1

9. Applicable section of the NIH Guidelines: (use NIH Guide pdf. to enter section)

Exempt: III-F-2, III-F-3, H-2, H-3

10. Other:

Title: Laboratory in Microbiology (BIOL 313L) and Human Biology III (Microbiology) Laboratory (LS-MCRB 121L)

IBC Reviewer: Zoey Yi (UMKC BSO)

PI: Daniel Scott

The committee will need to discuss the following issues:

1. Agent Characteristics (virulence, pathogenicity, environmental stability)

x] Bacteria:

Alcaligenes faecalis

Bacillus cereus

Bacillus coagulans

Bacillus megaterium

Bacillus subtilis

Citrobacter freundii

Clostridium sporogenes

Corynebacterium xerosis

Enterobacter aerogenes

*Enterococcus faecalis**

Escherichia coli K12

Escherichia coli HB101

Escherichia coli B_E

Escherichia coli CR63

Escherichia coli Strain I

Escherichia coli Strain II

*Klebsiella pneumonia**

Kocuria rosea (Micrococcus roseus)

Kocuria rhizophila (Micrococcus luteus)

Lactobacillus plantarum

Lactococcus lactis

Moraxella catarrhalis

*Mycobacterium smegmatis**

Nesseria sicca

*Proteus mirabilis**

*Proteus vulgaris**

Providencia stuartii

*Pseudomonas aeruginosa**

Pseudomonas fluorescens

Rhodospirillum rubrum

*Salmonella typhimurium**

Serratia marcescens D1

*Shigella flexneri**

*Staphylococcus aureus**

Staphylococcus epidermidis

*Streptococcus agalactiae**

*Streptococcus equisimilis**

Streptococcus mutans

*Streptococcus pneumonia**

*Streptocuccus pyogenes**

Streptococcus salivarius

Vibrio fischerii

***Asterisk = BSL-2 and/or pathogenic agents**

[ ] Viruses [ ] Fungi [x] Other: Human blood and throat culture, *Halobacterium salinarium* (Archaebacteria)

2. Type of manipulations planned
   - Human blood-typing
   - Transformation of *E. coli* with the pGLO plasmid to express GFP under control of arabinose promoter
   - CRISPR-Cas9 technology to disrupt the *lacZ* gene in *E. coli* for blue-white screening
   - Bacterial gene transfer of ampicillin resistance gene via conjugation between two *E. coli* strains

3. Sources of the inserted DNA sequences (species)
   BIOL_313L/WL: N/A

   LSMCRB_121L: N/A

4. Nature of the inserted DNA sequences (structural gene, oncogene)
   BIOL_313L/WL: No insert

   LSMCRB_121L: No insert

5. Host(s) and vector(s) to be used:
   Host:

   BIOL_313L/WL: E. coli DH5 alpha (K-12 derivative), E. coli HB101-pBRKan

   LSMCRB_121L: N/A

   Vector:

   BIOL_313L/WL: pUC19 and pGLO plasmid (BioRad), pLZDonor and pLZDonorGuide plasmid (BioRad), Strain II E. coli with ampicillin-resistance gene of F plasmid (Carolina Student Kit)

   LSMCRB_121L: N/A

6. Will an attempt made to obtain expression of a foreign gene: (Yes, No)
   BIOL_313L/WL: Yes

   LSMCRB_121L: No

7. If yes, what protein will be produced
   BIOL_313L/WL: GFP

   LSMCRB_121L: N/A

8. Containment conditions to be implemented
   BSL-2 due to potential aerosol formation of liquid cultures containing BSL-2 agents

9. Applicable section of the NIH Guidelines: (use NIH Guide pdf. to enter section)
   Exempt: III-F-2, III-F-3, H-2

   Due to use of Escherichia coli K-12 Host-Vector Systems, and experiments contain recombinant nucleic acid molecules that cannot penetrate cellular membranes, and recombinant nucleic acids are from a single source that exists contemporaneously in nature.

   Non-exempt: N/A

10. Other
    - Added ELISA and Latex agglutination tests

Next Meeting date: Tuesday, November 18th, 2025