Institutional Biosafety Committee Meeting
June 9, 2025
1:30-3:00 pm
Zoom Virtual Meeting

Institutional Biosafety Committee Meeting minutes

Meeting Attendance:

- **Members in attendance**:
  - Elena Demireva
  - Jonathan Hardy
  - Dave Morgan
  - Jamie Willard-Smith
  - Sarah Roosa
  - Raj Kulkarni
  - Carrie Anglewicz

- **Members not in attendance**:
  - Jan Patterson Samson
  - Guo-Qing Song
  - Michael Bachmann
  - Andras Komaromy
  - Carolina de Aguiar Ferreira
  - Simon Petersen-Jones

- **Others in attendance:**
  - Alessandra Hunt
  - Luis Ochoa Carrera

Call to order:

Elena Demireva

Roll call:

Elena Demireva

Discussion of the agenda:

- Approved as written

Discussion of minutes:

- Approved as written.

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Registration review:

Safety0001143: [redacted]

Evaluating virulence genes in group B Strep
Training: Complete for all members listed
NIH III-1-a, RG-2, BSL-2

This registration has been approved with edits. The PI has been asked to clarify the following:

- Recombinant or Synthetic Nucleic Acids Usage:
  - 3b: Provide source for the luxABCDE. The lux operon is from Photorhabdus luminescens.
  - 3c: Describe the potential specific hazard or remove if none
  - 4b: Include all plasmids (e.g.pLZ12, pXen-5)
  - 4c: Yes for plasmids
  - 5a: GBS recipient not host
- Recombinant or Synthetic Nucleic Acid Work Description
  - 2. Remove E. coli
- Exposure Assessment and Protective Equipment
  - 3. Correct eye wash date.

Safety0001209: [redacted]

[redacted]: IRE1alpha signaling
Training: Complete for all members listed
NIH III-E-1, RG-1, BSL-2

This registration has been approved with edits. The PI has been asked to clarify the following:

- Primary Cells or Cell Lines
  - 5e: Correct flow addendum, it includes cell lines not listed in the cell line table, align the two lists (e.g. iPSC, HCT116). All cells listed as BSL-1 but lines are BSL-2 unless fixed. Indicate if fixed in Yes/No column.
- Recombinant or Synthetic Nucleic Acids Usage:
  - 3b: Provide bioactivity and species for all inserts, e.g. Cas9, GFP, gRNA
  - 5a: Remove the human cell lines, add strain to E.coli
- Recombinant or Synthetic Nucleic Acid Work Description
  - 1: Were any of the plasmids purchased or obtained from other sources?
  - 2: Remove the E. coli. Make sure the cell lines are consistent with those in the Cell Lines section

Safety0001217: [redacted]

Lipid metabolism in cell lines
Training: Complete for all members listed
NIH III-D-1-a, RG-2, BSL-2

This registration has been approved with edits. The PI has been asked to clarify the following:

- Biosafety summary
  - Unclear if PGAM5 is overexpressed from a plasmid or a lentivirus. If lentivirus need to fill out the virus table and other relevant questions.
- Primary Cells or Cell Lines
  - Check cell lines for BSL level. Some human need to be marked as BSL-2 (e.g. HEP-G2), some animal can be marked BSL-1 (e.g. fibroblasts, macrophages).
- Bacteria, Yeasts, Fungi, or Parasites
  - Add this section if generating plasmids in-house
- Viruses or Prions
  - Add this section if using lentiviruses
- Recombinant or Synthetic Nucleic Acids Usage
  - 4e. N/A since no viral vectors used, unless using lentivirus
  - 5a: Yes if bacterial will be used to grow plasmids in house.
  - 8. And 9: Answer for lenti if using lentivirus
- Recombinant or Synthetic Nucleic Acid Work Description
  - 1: Reference is to a paper not related to the project or vector.
  - 2: What about all the other cell lines?
- Risk Group and Containment Practices
  - 1: Change to RG-1 if not using lentivirus.
- Supporting documents
  - Include sharps review and evaluation for all sharps used with human or infectious materials. Only one for razor blades found.

Safety0001227: [redacted]

[redacted] Lab-Small airways
Training: Complete for all members listed
NIH III-D-4, RG-2, BSL-2

This registration has been approved with edits. The PI has been asked to clarify the following:

- Biosafety Summary:
  - 2: What cell lines will be used for stable expression of CoV2-protein. Specify if lentivirus made in house or procured, specify if 2nd or 3rd generation lenti use and make sure consistent throughout the registration. Add rat models if used.
- Primary Cells or Cell Lines
  - Add what species the primary cells come from
- Bacteria, Yeasts, Fungi, or Parasites
  - Define what the laboratory strain is
- Viruses or Prions
  - 2nd generation of lenti in table, but later stated it is 3rd. Clarify and if 2nd change to BSL2+. If currently using 2nd gen lenti, the committee recommends switching to using 3rd generation for future experiments to improve biosafety
- Recombinant or Synthetic Nucleic Acids Usage:
  - 1: Change to category IIID using RG-2 recombinant materials

  - 4b: Add the lentivirus packaging plasmids and the lenti insert plasmids. ATP4B not discussed anywhere else
  - 4e: Describe safety features for all the viral vector.
  - 5a: Add 293 cells as host if making lentivirus in house. Add E. coli strain.
  - 8: For lenti, comment on risks associated with expression of the gene insert product

- Recombinant or Synthetic Nucleic Acid Work Description
  - 2: Refer to the table if using all cell lines or list them. Add the rats if using.
  - 4: This will be yes if doing VSV pseudotyping with Lentivirus
  - 5: Provide details on the pathogenicity, host range or generation system of the viral vectors used. The safety information here can be moved to rDNA Usage 8.
  - 6: Confirm 2nd or 3rd generation
- Risk Group and Containment Practices
  - 2. BSL2+ if using 2nd generation lenti
- Exposure Assessment and Protective Equipment
  - 1: Remove exposure protocol from here instead describe consequences of exposure or release of agents used to humans, animals, plants, and the environment
  - 3: Update the eyewash flush date
- Supporting documents
  - Include sharps review and evaluation documents for all sharps used with human or infectious materials.

Safety0001228: [redacted]

[redacted] Lab - Biosafety
Training: Complete for all members listed
NIH III-D-4, RG-2, BSL-2

This registration has been approved with edits. The PI has been asked to clarify the following:

- Recombinant or Synthetic Nucleic Acids Usage:
  - 5a: Include strain of E. coli
  - 6: Typo doxyciclin
  - 8: NA as no viral vector used
- Risk Group and Containment Practices
  - 1: Change to RG-1
  - 2: Change physical containment for BL-2 since using human cell lines
- Supporting documents
  - Include sharps review and evaluation documents for all sharps used with human or infectious materials.

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Safety0001232: [redacted]

[redacted] - Gut-bone signaling
Training: Complete for all members listed
NIH III-E-3-a, RG-1, BSL-2

This registration has been approved with edits. The PI has been asked to clarify the following:

- Biosafety summary
  - What are the human cell lines used for?
- Primary Cells or Cell Lines
  - Update all human cell lines to BSL-2
- Bacteria, Yeasts, Fungi, or Parasites
  - List the strains in the strains column
  - What are the K12 E.coli used for if no rDNA/plasmids generated
- Recombinant or Synthetic Nucleic Acids Usage:
  - 2: Category needs to be updated - remove III-E-1 (no eukaryotic virus used), consider III-D for whole animals

Safety0001236: [redacted]

Targeting the polyamine nexus for the treatment of cancer
Training: Complete for all members listed
NIH III-D-4-c-2, RG-1, BSL-2

This registration has been approved with edits. The PI has been asked to clarify the following:

- Recombinant or Synthetic Nucleic Acids Usage:
  - 4b. Add the elF5A1 shRNA vectors
  - 5a. Keep e. coli and move cell lines to recipients in 2. rDNA work description section
- Recombinant or Synthetic Nucleic Acid Work Description
  - 1: Include references or links for any purchased or obtained vectors from other sources.
  - 2: Remove E.coli
- Supporting documents
  - Missing Sharps evaluation document.

Safety0001237: [redacted]

[redacted] - Genetic modification with neural probes
Training: Complete for all members listed
NIH III-D-1-a, RG-2, BSL-2

This registration has been approved with edits. The PI has been asked to clarify the following:

- Funding Sources
  - Update funding if possible, remove old funding that is no longer current
- Recombinant or Synthetic Nucleic Acids Usage

    - 3b: Include bioactivity and species for all inserts.
- Recombinant or Synthetic Nucleic Acid Work Description
    - 2: Are there any in vitro recipients?
    - 5: Yes, and fill out
- Risk Group and Containment Practices
    - 1: Change to RG-1
- Exposure Assessment and Protective Equipment
    - 3: Update the eyewash flush date

Safety0001241: [redacted]

Neurobiology of chronic pain lab
Training: Complete for all members listed
NIH III-D-4-a, RG-2, BSL-2

This registration has been approved with edits. The PI has been asked to clarify the following:

- Biosafety Summary
    - 2: Comment on any rDNA work – plasmids, vectors, recipient cells. Give info on the virus usage, including the full names of the viruses
- Primary Cells or Cell Lines
    - BV-2 cells are BSL-2
- Viruses or Prions
    - Add AAV vectors
- Select Agents and Toxins
    - Include the full cat number for toxin from Sigma
    - Update the SOP to fill out all information
- Recombinant or Synthetic Nucleic Acids Usage
    - 3a. and 3b: Add Prdm12 insert from AAV vector with bioactivity, species
    - 8. Remove statement "no risks to humans." Discuss both HSV and AAV in all questions related to viral vector. Typo 'woulenable.'
- Recombinant or Synthetic Nucleic Acid Work Description
    - 1: Add a link or reference
    - 2: Are any cell lines recipients?
    - 5 and 6: Yes, and fill out for viral vectors
- Risk Group and Containment Practices
    - 1: Change to RG-1
- Exposure Assessment and Protective Equipment
    - 1: Can remove the information on Corynebacterium diphtheriae. Look up the MSDS for consequences of exposure rather than discussing bacterial infection
    - 5: Ethanol change to 5 min. Add another line with 10% Bleach for 30 min for toxin inactivation per SOP.
    - 6: Check with MSU Occupational Health – is the Diphtheria toxoid vaccination required or recommended?
- Supporting documents

- Include sharps review and evaluation documents for all sharps used with human or infectious materials.

Safety0001242: [redacted]
Biosynthesis and Function of Lipids in Bacteria, Algae and Plants 2025
Training: Complete for all members listed
NIH III-E-2, RG-1, BSL-1

This registration has been approved with edits. The PI has been asked to clarify the following:

- Protocol Team Members
  - Ron Cook needs to take Biological Safety and Security - Plant and Soil training.
  - Yosia Mugume needs to take Biological Safety and Security - Plant and Soil and Biohazard waste training.
  - Kiran Shivaiah needs to take Biological Safety and Security - Plant and Soil training.
- Recombinant or Synthetic Nucleic Acids Usage
  - 3b: Cas9 bioactivity and species. Refer to table with constructs.
  - 5: Remove plants species, only list hosts not recipients.
- Recombinant or Synthetic Nucleic Acid Work Description
  - The Agro and E. coli can be removed if used as hosts
- Exposure Assessment and Protective Equipment
  - 5: 70% Ethanol for 5 min

Safety0001243: [redacted]

2025_Biosafety_[redacted]
Training: Complete for all members listed
NIH III-E-2-a, RG-1, BSL-1

This registration has been approved with edits. The PI has been asked to clarify the following:

- Recombinant or Synthetic Nucleic Acids Usage
  - 3b: Provide insert information. GPT2, CAS9 and genes for plant sugar transporters and sugar metabolizing enzymes
  - 5a: Remove plants, they are recipients, not hosts
- Recombinant or Synthetic Nucleic Acid Work Description
  - 2: Remove E. coli and Agro. List all plant species that will receive rDNA.
- Exposure Assessment and Protective Equipment
  - 1: Discuss potential environmental impacts with accidental release.

Safety0001244: [redacted]

[redacted]: prion
Training: Complete for all members listed
NIH III-E-1, RG-1, BSL-1

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This registration has been approved with edits. The PI has been asked to clarify the following:

- Recombinant or Synthetic Nucleic Acid Work Description
  - 2: No recipient

Safety0001247: [redacted]
Plant enhancer CRISPR
Training: Complete for all members listed
NIH III-E-2-a, RG-1, BSL-1

This registration has been approved with edits. The PI has been asked to clarify the following:

- Recombinant or Synthetic Nucleic Acids Usage
  - 3b: Add bioactivity for Cas9
  - 5a. Add strains for E.coli and Agro
- Recombinant or Synthetic Nucleic Acid Work Description
  - 2: Remove E.coli and Agro since they are hosts
- Exposure Assessment and Protective Equipment
  - 5: 70% Ethanol for 5min

Previous Submissions:

- Safety0001203: [redacted]
- Safety0001223: [redacted]
- Safety0001224: [redacted]

Next Meeting:

The next meeting will be July 15, 2025 at 1:30 PM via Zoom.

Prepared by Elena Demireva, and Chris Colvin Biosafety Industrial Hygienist, Environmental Health & Safety