UNM INSTITUTIONAL BIOSAFETY COMMITTEE (IBC)

Minutes
February 18, 2026
9:00 A.M. – 11:00 A.M.; Zoom Videoconference

Voting Members Present: (Quorum = 8)

☒ Coenraad Adema, PhD, UNM Department of Biology, IBC Co-Chair
☒ Steven Bradfute, PhD, HSC Department of Internal Medicine (Infectious Diseases)
☐ Tione Buranda, PhD, HSC Department of Pathology
☐ Eric Denkers, PhD, UNM Department of Biology
☒ Anastacia Griego-Fisher, PhD, NM SLD (Community Member)
☒ William 'Curt' Hines, PhD, HSC Department of Biochemistry and Molecular
☒ Julie In, PhD, HSC Department of Internal Medicine, Gastroenterology
☒ Tara Ooms Konecny, DVM, DACLAM, HSC Department of Pathology
☒ David N. Linsenbardt, PhD, HSC Department of Neurosciences
☐ Sharon Master, PhD, (Community Member)
☒ Tim Muller, MS, CBSP, HSC Office of Research, Biosafety Officer
☐ David Peabody, PhD, HSC Department of Molecular Genetics and Microbiology
☒ Graham Timmins, PhD, HSC College of Pharmacy, IBC Co-Chair
☐ Kevin Vlahovich, MD, HSC Department of Internal Medicine

Voting Members Absent:

Tione Buranda, PhD, HSC Department of Pathology
Eric Denkers, PhD, UNM Department of Biology
Sharon Master, PhD, (Community Member)
David Peabody, PhD, HSC Department of Molecular Genetics and Microbiology
Kevin Vlahovich, MD, HSC Department of Internal Medicine

Visitors & Non-Voting Members Present:

Virginia Severns, HSC Office of Research, Biosafety Specialist
Amanda Brothers, Animal Care Compliance Specialist
Bradley Dolin, JD, UNM Health Sciences HRPP Director

1. **Call to Order:**

- Dr. Timmins

a. **Announcements**

- None

2. **Approval of last meeting minutes:**

- November 12, 2025

3. **Old Business:**

- None

4. **New Business:**

- General discussion concerning the use of disinfectants on IBC protocols.

5. **Protocols Approved (Previously Reviewed):**

- 823 (BRADST 25-05-01R)
- 836 (MITRAN 25-11-01R)
- 838 (MITRSU 25-11-01R)
- 840 (WU00TE 25-11-01)
- 841 (WU00TE 25-11-02R)
- 842 (BRADST 23-02-01R F)

6. **Protocols Pending (Contingencies)**

- 821 (DEREVO 25-05-01R)
- 827 (MILLER 25-05-01R)
- 834 (WHEECO 25-08-01)
- 839 (OHI0RY 25-11-01R)
- 835 (WEICJA 23-05-01R A)
- 837 (BRADST 24-11-01 A)

7. **New Protocols for Review (requires IBC review and approval)**

IBC ID: 843 (MANDMI 26-02-01R)
PI: Mandell
Title: Autophagy and autophagy-related processes in coordinating organelle damage responses
Description: Our laboratory studies autophagy and autophagy-related processes. For some experiments, we use single-cycle HIV-1. We also use lentiviral vectors for delivery of exogenous nucleic acids to mammalian cells to generate gene-edited or transgene expressing cell lines has continued and is expected to increase. Regardless of whether we are working with HIV or lentiviral-based vectors, our general procedures are the same. Our methods involve infecting human cells (both cell lines and commercially available primary cells (e.g., PBMCs or fibroblasts) with single-cycle retroviruses. We do this so that we can generate cell lines that stably express epitope-tagged proteins or have the expression of relevant proteins knocked down (or knocked out by CRISPR). These cell lines will be used as reagents to address our research questions. We plan to express epitope tagged WT or mutant proteins involved in selective autophagy, innate immune signaling, or involved in the biology of mitochondria or Golgi apparatus. We will use CRISPR to knockout genes in these same pathways or organelles.
Agents: Lentiviral Vector rNA (VSV-G, HIV Gag and Pol, Epitope tagged ubiquitin or ubiquitin-like proteins (e.g., FLAG, c-Myc, HA, His, V5, GFP, mCherry, YFP, RFP, Keima, APEX2, GST, MBP, Calnexin, COX-8, LAMP2,

SopF,); antibiotic resistance gene (e.g. puromycin or blasticidic or G418); Cas9 + guideRNA (ULK1, ATG13, FIP200, Beclin 1, ATG14, DFCP1, WIPI2, ATG4, ATG3, ATG5, ATG7, ATG12, LC3A, LC3B, LC3C, GABARAP, GABARAP L1, GABARAP L2, Syntaxin 17, LAMP1, p62, NBR1, Optineurin, NDP52, NIPSNAP1, NIPSNAP2, Prohibitin 2, TRIM5, TRIM22, TRIM17, TBK1, TFEB, ATG9, ATG16, Parkin, PINK1, TAX1BP1, DRP1, MFN1, MFN2, TAK1, TAB1, TAB2, TRAF6, UBC13, TLRs, NLRs, MAVS, RIG-I, FAF2, LRPPRC, LRRC59, STING, cGAS, IRF3, IRF7, N4BP1, any TRIM protein (~70 in the human genome), IFNAR, GRASP55, GRASP65, PINK1, NIPSNAP1, NIPSNAP2, Prohibitin 2); Pseudotyped HIV rNA (NL4-3ΔenvΔvpr-IRES GFP, VSV-G, HIV Gag + Pol); Plasmids: pMD2.G, SW81, pLEX 307, psPAX2, pLex304, LentiCRISPR.
Human Material: Yes
Recombinant or Synthetic Nucleic Acid: III-D-3-a
Wild-type: No
Proposed BSL: BSL-2 with BSL-3 Practices
Reviewer: Hines

The Primary Reviewer provided a summary report. The committee decided that the safety precautions would mitigate the risks to lab personnel, the public, and the environment to an acceptable level if the following contingencies were adopted**. Protocol approved contingent upon completion of the following contingencies at BSL-2 with BSL-3 Practices:**

1. Reviewers noted several typographical errors. Please review the entire document and correct, where needed.
    a. Unclosed Parentheses: “Our methods involve infecting human cells (both cell lines and commercially available primary cells (e.g., PBMCs or fibroblasts) with single-cycle retroviruses.”
    b. use of aerosol-resistant centrifuge caps with rotors being loaded and unloaded in the BSC following
    c. Protocol section: Please clarify/correct sentence fragment: “We also use lentiviral vectors for delivery of exogenous nucleic acids to mammalian cells to generate gene-edited or transgene expressing cell lines [has continued and is expected to increase.]”
    d. Section 8: Filter and/or secondary flask needed between the vacuum flask and the vacuum connection.
    e. Please define CASM (Conjugation of ATG8 to Single Membranes) at its first mention in the abstract or protocol description

Lay Summary/Abstract:

2. The abstract lacks clarity and should be rewritten in simpler language for a lay audience. Clarify for consistency, “single-cycle HIV-1” versus “lentiviral vector” versus “retroviruses” versus “lentiviral-bases replication incompetent viruses”.
3. In the Lay Summary (Section IV), regarding the comment “Our laboratory has prior IBC approval to work with small quantities of live, replication-competent HIV-1 using BSL-3 practices in a BSL-2 setting (BSL-2+).” Please remove this statement or clarify that replication-competent HIV-1 work is not being requested under the current protocol, as it is outside the scope of this application (i.e., that the replication-competent HIV-1 is covered under a separate IBC approval). This ensures clean protocol boundaries.
4. Remove mention of previous IBC approvals.
5. In the Lay Summary (Section V), please do not indicate that the list of targets is too long to be detailed here. Please provide representative examples (5–15 genes) that will be a) targeted by CRISPR knockout and b) exogenously expressed by Lentiviral expression of tagged proteins. Please confirm whether any of the following will be used:

a. Toxin genes
b. Select agent genes
c. Viral genes capable of producing infectious particles
d. Oncogenes with transforming potential (e.g., MYC, RAS, SV40 large T, etc.)
e. Genes expected to increase pathogenicity or replication of infectious agents

For example: "Targets will be restricted to genes involved in autophagy, innate immune signaling, and organelle biology. No toxin genes, select agent genes, or constructs expected to increase pathogenicity will be used. Any work outside this scope will be submitted to the IBC as an amendment."

6. Also confirm that all lentiviral vectors are replication-deficient. The protocol references experience with live, replication-competent HIV-1 under BSL-3 practices in a BSL-2+ setting. While this demonstrates relevant expertise, please clarify whether replication-competent HIV-1 or similar systems will be used under this protocol, or confirm that only replication-deficient lentiviral vectors will be used.
7. The statement "This new finding has shifted our focus away from the HIV work" introduces ambiguity regarding whether HIV or replication-competent retroviral systems will be used under this protocol. Please clarify whether any infectious or replication-competent HIV or other retroviral systems will be used. If not, please revise this statement to clarify that this protocol involves only replication-deficient lentiviral vectors and does not include infectious HIV work.
8. What is the implication of "We will be using 2nd generation lentiviral vectors"? It suggests that these are replication-incompetent.
9. Please clarify which cells are used for lentiviral production (e.g., HEK293T) and which cells will be transduced. This information is necessary for the committee to confirm that the system involves replication-deficient lentiviral vectors and to accurately assess biosafety risk, containment level, and the potential for viral propagation.
10. Please also clarify the impact of lentiviral transduction on target cells. Specifically, confirm that the lentiviral vectors are replication-deficient, that transduced cells will not produce infectious virus, and that the effect of transduction is limited to stable integration and expression of the introduced construct.
11. On page 6, clearly indicate the specific volumes and concentrations of virus to be used.
12. Please also clarify what is meant by "iPSC-derived cells," including the specific cell types that will be used and their source (e.g., commercially obtained or generated in-house).

IV Protocol:

13. Please include the Risk group classification in the narrative. For example, "…we use single-cycle HIV-1 (RG2). We also use lentiviral vectors (RG2) for delivery…
14. Update the protocol to include the proposed gene inserts for Addenda Cs, section C(II) INSERT, and corresponding details.
15. Disinfection table: Ethanol: Remove the arbitrary 5-minute time. "Surfaces will remain visibly wet with 70% ethanol until they are air dried."
16. 10% Bleach (surface): The suggested time is >1 minute wet contact (up to 5 minutes as needed).
17. 10% Bleach (liquids): Allow ≥30 minutes contact prior to disposal is appropriate.
18. 10% Bleach for spills: Needs to be treated like a liquid. Therefore, allow ≥30 minutes contact prior to wiping up/disposal. Do not wipe up the spill before applying the decontaminant.

Addendum C:

19. Please clarify the selection for HIV Gag + Pol. These genes are expressed only in producer cells and are not delivered to or incorporated into target host cells; therefore, "NO" would be appropriate under this section.

20. In Bacterial genus/species/strain. Please update with the correct information. (e.g., Enterobacteriaceae / Escherichia coli / strain names, like DH5a).
21. Please revise the lists on p.17 to avoid "etc." and instead provide a defined list of the specific genes/targets that will be tagged or targeted for knockdown/knockout under this protocol (e.g., those planned over the next 6–12 months). If additional targets may be added, include a scope statement and an amendment trigger for targets outside the stated scope.
22. In Table II (DNA/gene insert table), please add a brief statement regarding the impact on lab workers in the event of accidental exposure. Confirm that the vectors are replication-deficient and that inserts are limited to non-toxin, non–select agent, non–replication competent sequences, so that exposure risk is limited to standard BSL-2 lentiviral vector hazards (potential integration without viral propagation).
23. Minor issue: Where "none" is indicated for potential potency or hazard, please revise to "none known" or "none reported" to reflect current scientific knowledge and biosafety risk assessment.
24. Under section III Vector (all addendum Cs), Check box for III.1 "Plasmid" and III.3 "Plasmid"
25. VSV-G is listed twice under "II. Insert"
26. For clarity, please label the plasmids according to their functional role in the lentiviral system. Specifically, identify the packaging plasmids (e.g., psPAX2 [gag/pol/rev/tat] and pMD2.G [VSV-G envelope]) and the lentiviral transfer vectors (e.g., lentiCRISPR v2 [Cas9 and sgRNA expression], pLEX307 [sgRNA expression], and pLEX304 [protein expression]). This will help distinguish plasmids involved in viral particle production from those delivering the experimental inserts.
27. Map for the lentiviral transfer plasmid, "lentiCRISPR v2", is provided but not included in the plasmid list.
28. pLEX 304 is listed in the plasmid list, but a map is not provided. Please provide a plasmid map.

IBC ID: 844 (FRIEKA 26-02-01)
PI: Frietze
Title: Cell culture-based neutralization assays with Chlamydia trachomatis
Description: Chlamydia trachomatis (CT) is the most common sexually transmitted infection (STIs) worldwide. Approximately 100 million new CT cases are diagnosed each year. Untreated CT infection of the genital tract can cause significant acute symptoms as well as longer term complications, including pelvic inflammatory disease (PID) and infertility. The body of knowledge regarding the mechanisms of CT infection is small, and we hope to add more information with our studies about neutrophil function during infection. We also have an interest in Chlamydia trachoma, as it is responsible for a significant amount of preventable blindness across the globe. The overall goal of this project is to develop effective vaccines targeting this important bacterium. No vaccine for CT has made it through clinical trials. We have used a deep sequencing coupled biopanning platform as well as rational design to identify potential CT vaccines. We will be carrying out experiments to assess the ability of mouse sera to neutralize Chlamydia trachomatis infection of cells using a neutralization assay.
Agents: Chlamydia trachomatis (Serovar D, E, F, G)
Human Material: No
Recombinant or Synthetic Nucleic Acid: None
Wild-type: Yes
Proposed BSL: BSL-2 with BSL-3 Practices
Reviewer: Griego-Fisher

The Primary Reviewer provided a summary report. The committee decided that the safety precautions would mitigate the risks to lab personnel, the public, and the environment to an acceptable level if the following contingencies were adopted. **Protocol approved contingent upon completion of the following contingencies at BSL-2 with BSL-3 Practices:**

1. Update section V(5)(b) and consider increasing the wet PREempt contact time to at least 5 minutes.
2. Please edit the last section on page 3, similar to "Chlamydia trachomatis is a BSL-2 agent, experiments will be done in a BSL-2 approved laboratory using BSL-3 practices in accordance with recommendations from the BMBL 6th edition, p. 160."
3. Since BSL-2 with BSL-3 practices are listed under lay summary, Double Gloves should be checked under III PPE.
4. Please add unit of time to the following sentence on page 5: "After several ____ incubation, the plates will be fixed with 100% methanol for 24 hours and then stained with a fluorescent antibody to Chlamydia trachomatis and analyzed with a microscope to assess the infectious titer of the stock."

IBC ID: 845 (DENKER 26-02-01R)
PI: Denkers
Title: Mouse immune response to Toxoplasma gondii
Description: Toxoplasma gondii is a protozoan parasite that infects a wide variety of cells and host species. In humans, the parasite establishes asymptomatic latent infection as cysts in the brain and skeletal muscle. In situations of immunodeficiency, latent infections can reactivate leading to serious illness if not treated with appropriate antimicrobials. The parasite is maintained in the lab by infecting fibroblast monolayers. After 4-7 days, fibroblasts lyse, releasing parasites into the culture supernatant. A small aliquot of supernatant is collected and used to infect a fresh culture of fibroblasts. The overall set-up for experiments is similar. Parasites will be used to infect cells, then at varying time periods, cells will be lysed and lysates used in biochemical assays. We are using this approach to study how cells respond to the infection. In other cases, we infect mice by intraperitoneal inoculation of tachyzoites and by gavage with tissue cysts from brain homogenate from chronically infected mice. Tissues are collected for ex vivo immunological assays (cytokine ELISA, flow cytometry, RT-PCR, single cell RNA seq). Tissue cysts are obtained from a colony of chronically infected mice housed in the Animal Research Facility**.**
Agents: *Toxoplasma gondii* (RH, ME49, OMP); RHΔku80Δhxgprt strain was transfected with SpeI-linearized pOMT2-2 or SpeI-linearized pNUPT1-1. RHΔku80Δompdc::hxgprt and RHΔku80Δup::hxgprt, SpeI, pOMC2-4, RHΔku80ΔompdcΔhxgprt -CLOMF: pNUPT1-1;RHΔku80ΔompdcΔup::hxgprt
Human Material: Yes
Recombinant or Synthetic Nucleic Acid: III-D-1-a.
Wild-type: Yes
Proposed BSL: A/BSL-2
Reviewer: Timmins

The Primary Reviewer provided a summary report. The committee decided that the safety precautions would mitigate the risks to lab personnel, the public, and the environment to an acceptable level if the following contingencies were adopted. **Protocol approved contingent upon completion of the following contingencies at A/BSL-2:**

1. In Addendum D (a) – Missing information on symptoms/disease in immunocompromised individuals.
2. On page 8, a 10-minute contact time may be all that is needed (20 proposed).

3. Resolve lab inspection deficiencies.
4. Post a caution sign on the door to alert pregnant and/or immunocompromised individuals.

IBC ID: 846 (KIM0TA 26-02-01R)
PI: Kim
Title: Molecular mechanisms by which extracellular nutrients regulate cell mechanics
Description: The research focus is to understand the role of cell mechanics in cancer progression and to identify environmental/biochemical signaling cues that regulate cell mechanics. In order to understand the molecular mechanisms by which extracellular signaling regulates cell mechanics and functions, we will make use of several genetic tools including recombinant DNA, siRNAs, CRISPR/Cas9, and lentiviral vectors to manipulate our genes of interest.
Our in vitro projects using human cell lines and mouse primary cells require IBC approval for use of recombinant DNA molecules. We will obtain mouse primary cells (bone marrow cells) from my collaborator, then differentiate them into macrophages or dendritic cells. Our need is linked to the well-established technical challenges related to the introduction of foreign genes or synthetic nucleotide molecules into human and mouse cells. Our goal is to genetically manipulate these cells via the least hazardous methods possible
Agents: *E.coli*, Lentiviral Vector with rNA inserts (cDNAs for MYL2, MYH9, ROCK1, ROCK2, RHOA, ADCY8, SLC2A1, SLC5A2, ATG5, YAP, TEAD1-4 where GFP or YFP is inserted as a reporter; siRNAs targeting MYL2, MYH9, ROCK1, ROCK2, RHOA, ADCY8, SLC2A1, SLC5A2, ATG5; Crispr/Cas9 gRNAs targeting ROCK1, ROCK2, RHOA, SLC2A1, SLC5A2. GFP is inserted in Cas9 expression vector as a reporter**.** Plasmids: psPAX2, pMD2.G, pLX307, pCAG-GFP, pcDNA3-YFP, pSilencer2.1-U6 hygro, pCMV-CAS9-2A-GFP, pDONR, pENTR. Lentiviral Vector with rNA inserts (pBabe-Puro-RhoA FLARE.sc Biosenor, pBabe-Sin-Puro-Tet-RhoA FLARE.sc Biosensor, Plasmid: pBabe-Puro-RhoA FLARE.sc Biosensor, pBebe-Sin-Puro-Tet-RhoA FLARE.sc Biosensor.
Human Material: Yes
Recombinant or Synthetic Nucleic Acid: III-D-3-a
Wild-type: No
Proposed BSL: BSL-2
Reviewer: Linsenbardt

The Primary Reviewer provided a summary report. The committee decided that the safety precautions would mitigate the risks to lab personnel, the public, and the environment to an acceptable level if the following contingencies were adopted. **Protocol approved contingent upon completion of the following contingencies at BSL-2:**

1. Update section V(5)(a) – The use of a one-minute wet contact time for either 10% bleach or PREempt RTU is all that is needed for 'Routine Surface and Equipment Disinfection / Decontamination'.
2. Section V(6) references inactivation methods for SARS-CoV-2. Please provide a reference or references for lentivirus inactivation.
3. Page 7, section V.1 and V.2 - Add decontamination of all materials, including tissue culture flasks, before removal from BSC.
4. Page 9, section V.6, please indicate chemicals to be used rather than only providing a reference.

5. Page 20, Section III. box s, “Even though the viral vectors can infect human cells, and the infected cells can survive outside of the lab, they cannot replicate. Therefore, the infection cannot spread, and no symptoms or disease will develop.” Clarify how this applies to viruses that carry inserts that could be oncogenic (as listed in Table II, p.18). Is it possible that exposure causes an impacted cell to become malignant?
6. Please add requested room and the use of a safety centrifuge on page 3, Section II.

NOTE: Dr. Bradfute was excused from the meeting during the review of 847 (BRADST 25-05-01R A).

8. <u>Significant Modifications</u>

IBC ID: 847 (BRADST 25-05-01R A)
PI: Bradfute
Title: Development of a mouse model for Lymphocytic choriomeningitis virus to evaluate countermeasure efficacy
Description: In the initial protocol, a non-pathogenic mouse model for LCMV will be established by comparing infection via the intramuscular and intraperitoneal routes. The route determined to be more appropriate will be used for vaccine challenge experiments. The intracranial (IC) route of exposure has been established as a means to induce severe disease for a variety of infectious diseases, including LCMV. By adding this route, we can better simulate the range of effects in human cases of LCMV.
Agents: Lymphocytic choriomeningitis virus (LCMV) (Armstrong)
Human Material: No
Recombinant or Synthetic Nucleic Acid: III-D-4 (mRNA parent protocol vaccine).
Wild-type: Yes
Proposed BSL: A/BSL-3
Reviewer: Ooms

The Primary Reviewer provided a summary report. The committee decided that the safety precautions would mitigate the risks to lab personnel, the public, and the environment to an acceptable level if the following contingencies were adopted. **Protocol approved contingent upon completion of the following contingencies at A/BSL-3.**

1. Addendum F. Page 4. Can the PI use isoflurane anesthesia so that they have one less set of needles, and then the mice recover more quickly?
2. The entire mouse brain centered at Bregma is only ~5.25mm. Thus, the statement on page 4 “…the needle will be slowly inserted at bregma until ~3-7mm into the brain…” Should be edited to reflect a final depth not to exceed 5.25mm.
3. Since the lab has never performed this technique before, are they going to practice the technique using training mice outside of ABSL-3? Please indicate.

9. <u>Notifications (administrative approvals by BHC)</u>

Notifications are simultaneous with initiation

- None

Personnel Addition / Removal

- 669 (BRADST 21-08-01); Addition
- 682 (HINEWI 22-02-01R); Removal
- 710 (RAJAJA 22-11-01R); Addition
- 715 CASSJI 23-02-01R; Addition
- 716 XUE0XI 23-02-01R; Addition/Removal
- 718 (DEREVO 23-02-01R); Removal
- 719 (ROSAMO 23-02-01R); Addition/Removal
- 735 (BRADST 23-05-01); Addition
- 760 (GANEAR 23-11-01R); Addition
- 761 (BRADST 23-11-01); Addition
- 770 (SHULLO 24-02-01R); Addition
- 771 (MCQUAN 24-02-01R); Addition/Removal
- 803 (KELLAL 24-11-01R); Removal
- 805 (PENTNA 24-11-01R); Addition
- 806 (PICCSA 24-11-01R); Addition/Removal
- 812 (KELLAL 25-02-01R); Removal
- 813 (PU00JI 25-02-01R); Addition/Removal

Room Changes

- None

Other Admin Changes

- None

10. <u>Protocol Closures-</u>

- 631 FRIEKA 21-02-01
- 632 KIM0TA 21-02-01R
- 633 MANDMI 21-02-01R
- 634 BEAREL 21-02-01R
- 636 FRIEKA 21-02-02
- 637 DENKER 21-02-01R
- 639 FEROMA 21-02-01R

11. <u>Annual Reviews -</u>

- 682 HINEWI 22-02-01R

- 715 CASSJI 23-02-01R
- 716 XUE0XI 23-02-01R
- 718 DEREVO 23-02-01R
- 719 ROSAMO 23-02-01R
- 720 SHUTBI 23-02-01R
- 722 BRADST 23-02-01R
- 770 SHULLO 24-02-01R
- 771 MCQUAN 24-02-01R
- 772 GARDAM 24-02-01R
- 776 DEREVO 24-02-01R
- 778 FEROMA 24-02-01R
- 810 FEROMA 25-02-01R
- 812 KELLAL 25-02-01R
- 813 PU00JI 25-02-01R

12. **Adjourn** –10:10 am