COLUMBIA UNIVERSITY
IN THE CITY OF NEW YORK

INSTITUTIONAL BIOSAFETY COMMITTEE

Minutes
Thursday, February 12th, 2026; 1:00PM
Teleconference

Present	Present	Excused
C. Aston	S. Morse (Chair)	L. Kam
H. Blumm	T. McConville	P. Muranski
L. Butaud-Rebbaa	E. Peterson	D. Ng
C. Cameron	C. Pitoscia	M. Quick
Y. Collazo	V. Racaniello	E. Riber (Coordinator)
K. Crowley	A. Romanov	
S. Hughes	M. Underwood	
S. Joussef Pina	Q. Wang	
B. Karolewski	Y. Wojcicki	
J. Kaushal		
J.J Miranda		

S. Morse convened the Institutional Biosafety Committee (the **Committee**) at 1:32 PM.

S. Morse asked the Committee to approve the minutes of the January 15th, 2025 meeting.

- **The minutes were approved unanimously.**

S. Morse reminded the Committee of the Conflict of Interest Policy and asked all members to confirm that there were no conflicts of interest with regard to any of the protocols to be discussed at the meeting.

- S. Morse and M. Underwood acknowledged their individual conflict of interest and abstained from voting on the respective protocols.

DURC Review

- No protocols requiring DURC review were submitted to the Biosafety Officer or to the Committee since the previous meeting.

Human Gene Therapy

- Mapara_IRB-ACYY1184_APM-ACYY0364: A Phase 1/2 Study of nula-cel in Autologous CD34+ Hematopoietic Stem Cells to Convert HbS to HbA for Treating Severe Sickle Cell Disease.
  - S. Joussef Pina introduced Dr. Mapara's human use protocol for participants with severe sickle cell disease. Details of the study regarding the preparation of the agent, dosage, route of administration, inclusion criteria, quality assurance testing, and informed consent were included in relevant materials distributed to the Committee.
  - No concerns were identified by the Committee Human Gene Transfer Experts.
  - The Appendix M was voted upon and approved unanimously.
- Shukla_IRB-ACYY0571_APM-ACYY0224: A Phase 1 Single Dose Study to Evaluate the Safety and Tolerability of ER-100 in Optic Neuropathies [Open Angle Glaucoma (OAG) and Non-arteritic Anterior Ischemic Optic Neuropathy (NAION)].
  - S. Joussef Pina introduced Dr. Shukla's human use protocol for patients with optic neuropathies. Details of the study regarding the preparation of the agent, dosage, route of administration, inclusion criteria, quality assurance testing, and informed consent were included in relevant materials distributed to the Committee.

- Additional information regarding the investigational product was requested from the investigator.
- The Appendix M was approved unanimously following a request for additional information provided by the trial sponsor.

Biosafety Office Reviews

- No renewals for Coronavirus Research have been submitted to the Biosafety Office since the last meeting.

Coronavirus Research

- No new Coronavirus research proposals were received by the Biosafety Office since the previous meeting.

rDNA

Six rDNA and infectious agent appendices requiring work at the BSL-1 containment level were presented and discussed. A table describing each BSL-1 Appendix A was shown to the Committee and is available at the Biosafety Office.

- Two appendices were returned to the investigator for further information as shown in a Table presented to the Committee describing the nature of each hold comment.
- After Discussion by the Committee, all six BSL-1 Appendices were voted upon collectively and approved unanimously.

Fourteen rDNA and infectious agent appendices requiring work at the BSL-2 containment level were presented and discussed. A table describing each BSL-2 Appendix A was shown to the Committee and is available at the Biosafety Office.

- Nine appendices were returned to the investigator for further information as shown in a Table presented to the Committee describing the nature of each hold comment.
- The requested information was received for the three appendices that were tabled at the previous meeting.
- After Discussion by the Committee, all BSL-2 appendices were voted upon collectively and approved unanimously.

Announcements

- Y. Collazo (Assistant Director of IRB Management) was welcomed as a voting Institutional Biosafety Committee member.
- C. Aston briefed the committee on the upcoming transition of the Institutional Biosafety Committee Chair.

Report

- There were no new reports.

rDNA Incidents

- There were no incidents reported.

Action Items

Action Items from 02-12-26 IBC meeting		
Status	**Description**	**Group/Investigator**
N/A	**N/A**	**N/A**

With there being no further business S. Morse adjourned the meeting at 2:03 PM. The next meeting will be held by teleconference on March 12th, 2026.

2026 Meeting Calendar

Date
Thursday, January 15, 2026
Thursday, February 12, 2026
Thursday, March 12, 2026
Thursday, April 9, 2026
Thursday, May 7, 2026
Thursday, June 4, 2026
Thursday, July 9, 2026
Thursday, August 6, 2026
Thursday, September 10, 2026
Thursday, October 8, 2026
Thursday, November 5, 2026
Thursday, December 3, 2026

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INSTITUTIONAL BIOSAFETY COMMITTEE

IBC Meeting: February 12, 2026

Table 1: Recombinant DNA proposals

Proposals for Work at BSL-1

PI	Insert	Vector	Host	Animal Biosafety Level	NIH category	Use/Comments	Year	Protocol #	Appendix A
Anacker, Christoph	ChR2, Crimson, dLight1.3b, GRAB-NE, Gcamp6f, jRGECO1b	AAV	Mouse	ABSL-1	III-E-1	Mice brains will be virally injected with adeno-associated virus (AAV) expressing channelrhodopsin, Crimson (to activate neural activity), GCamp6f, jRGECO1b (to measure calcium activity), dopamine biosensors (dLight1.3b to measure dopamine levels), or norepinephrine biosensors (GRAB-NE to measure norepinephrine levels).	Y1M0	LS-ACYY0068	BSJW0308
Aronov, Dmitriy	Green fluorescent protein (GFP) or calcium indicator GCaMP	AAV	Bird	ABSL-1	III-E-1	Commercially-available adeno-associated viruses (AAVs) will be injected into the brain in order to express the fluorescent protein GFP or the calcium indicator GCaMP.	Y1M0	AC-AABU3716	BSJW0397
Denny, Christine	Viruses will be purchased pre-made. The target for the recombinant product will be human CaMKIIGCaMP6Fexpressing neurons in the mouse brain	AAV	Mouse	ABSL-1	III-E-1	This work will use in vivo calcium imaging, which requires stereotactic surgery and the use of an AAV GCaMP6F virus.	Y2M0	AC-AABE3552	BSJW0345
Marx, Steven	Cas9 and guides to mutate the proteins Rad (Rrad) and calcium channel beta subunit (Cacnb2)	AAV	Mouse	ABSL-1	III-E-1	Our goals are to perform gene editing of mice. AAV9 (created by Penn vector core) to be injected subcutaneously. The DNA is being prepared by gene universal. The DNA will be ligated into a vector. It will then be sent to Univ of Pennsylvania for AAV9 creation and amplification.	Y1M0	AC-AABU5650	BSJW0368
Monani, Umrao	SMN, eGFP and Hsc71	AAV	Mouse	ABSL-1	III-E-1	Our goal is to study mechanisms and find treatments for two neurological diseases - spinal muscular atrophy and Glut1 deficiency syndrome. To do so, we have identified therapeutic genes. We propose to use AAV9 vectors to deliver the genes to our rodent models of SMA and Glut1 DS. If some instances, mechanistic studies will require manipulating the rodent genome using CRISPR. However, the creation of transgenics resulting from such manipulation will be conducted under separate protocols.	Y1M0	AC-AABE8550	BSJW0425
Tsuji, Moriya	human GM-CSF, human IL-3, human IL-15, HLA-A2, and HLA-A24	AAV	Mouse	ABSL-1	III-E-1	Human genes encoding various HLAs and selected human cytokines, including GM-CSF, IL-3, and IL-15, will be introduced to a group of NSG mice using AAV serotype 9 (AAV9) vector. Two weeks later, AAV-transduced mice will be sublethally irradiated at 150 rad, immediately followed by engrafting human hematopoietic stem cells isolated from cord blood cells. We will then monitor the levels of reconstitution of human CD45+ cells and other lymphocyte subsets, e.g. T cells, B cells, NK cells and DCs.	Y1M0	AC-AABV2651	BSJW0424

Proposals for work at BSL-2

PI	Insert	Vector	Host	Animal Biosafety Level	NIH category	Use/Comments	Year	Protocol #	Appendix A
Acharyya, Swarnali	GFP, dtomato, mcherry used for fluorescence, Luciferase used for luminescence, Thymadine kinase used to identify dividing cells, shRNA complexes used to silence genes, CRE used to flox out genes flanked by loxp sites	AAV, AV, LV	Mouse	ABSL-1 (Note 3)	III-E-1, III-D-1-a	Our tumor cell lines are stably infected with retroviral or lentiviral vectors. Examples would be the TGL construct, overexpression of genes of interest, or shRNA constructs. Pleural effusion from human cancer patients will be injected into mice by different routes. intramuscular injections of Adeno or Adeno- associated virus in mice.	Y1M0	AC-AABU4655	BSJW0427
Acharyya, Swarnali	GFP, dtomato, mcherry used for fluorescence, Luciferase used for luminescence, Thymadine kinase used to identify dividing cells, shRNA complexes used to silence genes, CRE used to flox out genes flanked by loxp sites	LV	Mouse	ABSL-1 (Note 3)	III-E-1, III-D-1-a	Our tumor cell lines are stably infected with retroviral or lentiviral vectors. Examples would be the TGL construct, overexpression of genes of interest, or shRNA constructs. Cells from human cancer patients will be injected into mice by different routes.	Y1 M0	AC-ACYY0346	BSJW0348
Ali, Shah	GFP; shRNA to Mbnl1; sgRNA to Mbnl1 and Cas9; spike protein; YapSSA; cyclin A2	AAV, LV	Mouse	ABSL-1	III-E-1	We will introduce several AAV9s encoding different genes into the mouse heart. AAVs will contain GFP cDNA (control); shRNA to Mbnl1 (to test regeneration); sgRNA to Mbnl1 and Cas9 (to test regeneration); spike protein cDNA (to test fusion); YapSSA cDNA (to test regeneration); cyclin A2 cDNA (to test regeneration). AAV9 is replication-incompetent.	Y1 M0	AC-AABN9573	BSJW0353
Axel, Richard	GCaMP, ChR2-eYFP, eNpHR-eYFP, eYFP, or the TVA/TVB receptor (required for initial infection by rabies virus) and the glycoprotein (required for transsynaptic spread).	AAV, GdRV	Mouse	ABSL-1 (Note 3)	III-E-1, III-D-1-a	Viral delivery of recombinant proteins for imaging, optogenetics, and tracing	Y1M0	AC-AABU3712	BSJW0213
Biswas, Anup	GFP, dtomato, mcherry used for fluorescence, Luciferase used for luminescence, Thymidine kinase used to identify dividing cells, shRNA complexes used to silence genes, CRE used to flox out genes flanked by loxp sites	AAV, AV, LV	Mouse	ABSL-1 (Note 2)	III-E-1, III-D-1-a	Our tumor cell lines are stably infected with retroviral or lentiviral vectors. Examples would be the TGL construct, overexpression of genes of interest, or shRNA constructs. Pleural effusion from human cancer patients will be injected into mice by different routes. intramuscular injections of Adeno or Adenoassociated virus in mice.	Y1M0	AC-AACE7751	BMUO1253
Concepcion-Crisol, Carla	Cre	AV, LV	Mouse	ABSL-1 (Note 3)	III-E-1, III-D-1-a	Our lab seeks to understand chromatin regulation in lung cancer evolution. To accomplish this, we use genetically engineered mouse models with conditional alleles that are recombined upon Cre-mediated recombination. To induce tumors specifically in the lung, we deliver viral vectors with Cre through intratracheal instillation, resulting in tumor formation in our organ of choice. Whole body knockouts of genes encoding for many regulators we are studying results in embryonic lethality. Thus, our methods are particularly necessary to achieve our goals. To efficiently understand the key regulatory processes that drive tumor evolution, we use the CRISPR-Cas9 system to somatically edit candidate genes in tumor-initiating cells and to study their effects on tumor progression. We use replication incompetent viral constructs for all these studies. We also use a twocomponent CRISPR-Cas9 system wherein a conditional allele of Cas9 is in the germline and the sgRNA is in the viral vector.	Y1M0	AC-AABT8656	BOQG1256
Ho, David	Viral, bacterial, archaeal, animal, plant genes	AAV, VSV, LV, Parvovirus B19, RABV and other lyssaviruses, HIV, Plasmodium yoelii	In vitro	N/A	III-E-1, III-D-1-a	Various research activities to study different viruses as described in the proposal	Y1 M0	LS-ACYY0072	BSJW0350
Jovanovic, Marko	Engineered biotin ligase TurboID fused to subcellular localization tags (proximity-labeling constructs) and standard selection markers (e.g., puromycin resistance)	LV	In vitro	N/A	III-D-1-a	We will produce and use replication-incompetent 2nd-generation lentiviral vectors to genetically modify mammalian cells in vitro. Viral particles will be generated using the psPAX2 (packaging) and pMD2.G (VSV-G envelope) plasmids, together with a standard lentiviral transfer vector carrying the gene of interest. Virus production, harvest, concentration (if applicable), and transduction will be performed in a certified Class II biosafety cabinet in a BSL-2 laboratory. No replication-competent lentivirus (RCL) will be produced because the packaging components are split across multiple plasmids and lack accessory genes. Work is strictly in vitro and no viral administration to animals or humans will occur	Y1M0	LS-ACYY0045	BSJW0209
Lentzsch, Suzanne	MAP4K2	LV	Mouse	ABSL-1 (Note 3)	III-D-1-a	We will handle the production of the lentivirus by the 4-plasmids system from System bioscience or Sigma. The lentivirus will be infected into human myeloma cell lines to generate stable over-expressed or knockdown cells. We need to add the virus into culture medium of myeloma cells for 24 hours, then change into the normal culture medium, and finally get the stable cells by drug selection.	Y2M0	AC-AABE9558	BSJW0408
Moscona, Anne	The plasmid encodes the full-length viral genome with a fluorescent reporter protein (either EGFP or mCherry) inserted at genome position 1. Transcription of viral RNA is driven by a T7 RNA polymerase promoter, and cotransfection with plasmids expressing the viral RNA–dependent RNA polymerase complex (P and L) and the nucleoprotein initiates viral replication and infection. Once infection is started the virus is propagated in cell lines.	HPIV, VSV	In vitro	N/A	III-D-1-a	Using a reverse genetics system, we are generating recombinant parainfluenza viruses that express viral envelope glycoproteins derived from laboratory adapted and clinical isolate strains. Recombinant viruses encode a fluorescent reporter gene (EGFP or mCherry), which enables tracking of infection and results in attenuation relative to the unmodified parental viruses. These recombinant viruses will be evaluated in vitro and ex vivo to compare their infection and to assess the efficacy of exploratory antiviral interventions, including small molecules, peptides, and monoclonal antibodies. Selected experiments will examine the potential for viral resistance in response to these antiviral pressures. Studies of viral resistance will be conducted use recombinant vesicular stomatitis virus bearing paramyxovirus glycoproteins for imaging	Y1M0	LS-ACYY0075	BSJW0358
Nakagawa, Hiroshi	Plasmids express reporter genes, antibiotic selection markers, and CRISPR/CRISPRi components targeting genes involved in DNA damage response, mitochondrial regulation, proteostasis, and squamous cell carcinoma–associated pathways. Gene classes include tumor suppressors, oncogenes, DNA repair factors, and metabolic enzymes relevant to epithelial disease models.	AV, VSV-LV, CRISPR	In vitro	N/A	III-D-1-a	This project uses recombinant DNA to perform targeted genetic manipulation of established cell lines, mouse-derived organoids, and de-identified patient-derived organoid models to study DNA damage response pathways, squamous cell carcinoma pathogenesis, and related epithelial disease mechanisms. Replication deficient lentiviral and adenoviral vectors are used for in vitro gene delivery under BSL-2 containment, including CRISPR and CRISPRi components for stable gene knockout, knockdown, or transcriptional repression. Lentiviral vectors are pseudotyped with VSV-G and lack genes required for replication. All work is conducted in a certified Class II biosafety cabinet. All potentially infectious materials are inactivated with 10% bleach (10 minutes) and properly disposed of per EH&S guidelines. All personnel are trained in viral handling procedures and utilize appropriate personal protective equipment.	Y1M0	LS-ACYY0083	BSJW0366
Tsuji, Moriya	human GM-CSF, human IL-3, human IL-15, HLA-A2, HLA-DR1, HLA-DR3, HLA-DR4, HLA-DR7, HLA-DR11 and HLA-DR13	AAV, Plasmodium yoelii	Mouse	ABSL-2	III-E-1, III-F	Human genes encoding various HLAs and selected human cytokines, including GM-CSF, IL-3, and IL-15, will be introduced to a group of NSG mice using AAV serotype 9 (AAV9) vector. Two weeks later, AAV-transduced mice will be sublethally irradiated at 150 rad, immediately followed by engrafting human hematopoietic stem cells isolated from cord blood cells. We will then monitor the levels of reconstitution of human CD45+ cells and other lymphocyte subsets, e.g. T cells, B cells, NK cells and DCs.	Y1 M0	AC-AABE2567	ARCP1261
Waites, Clarissa	GFP, MAPT, CD63-pHluorin, RAB5, RAB7, Ppif	AAV, LV	Mouse	ABSL-1 (Note 2)	III-E-1, III-D-1-a	In our in vitro studies, we will transduce primary mouse neurons with lentivirus expressing different fluorescently-tagged proteins or shRNAs for knockdown of specific proteins. In our in vivo studies, we will inject adeno-associated virus (AAV) into mouse brain in order to study tau spreading and other stress-related pathologies associated with Alzheimer's disease. For this work, we will use replication-incompetent viruses and wipe down all work areas (tissue culture hood for in vitro studies and stereotaxic injection needle for in vivo work) with 70% ethanol or 10% bleach solution.	Y1M5	AC-AABK1555	BSJW0406
Zanni, Giulia	hm3d, hm4d, KORD, : g-protein coupled receptors responsive to clozapine-N-oxide CHR2, Arch, NpHR: light activated ion channels GCaMP6, GCaMP7,jRGECO1: genetic calcium indicator iSeroSnFR: serotonin sensor SHT1A,2A, 2C gRNA: serotonin receptor gene silencing	AAV, CAV2, HSV	Mouse	ABSL-1 (Note 3)	III-E-1, III-D-1-a	To understand the brain circuit responsible for fear, I will employ genetically encoded 5-HT and Ca2+ sensors to simultaneously monitor 5-HT input and excitatory or inhibitory output in the dlPAG during fear behavior via fiber photometry. Using projection-specific optogenetics, I will attempt to rescue 5-HT signaling in dlPAG to ameliorate fear-like behavior. The procedures I propose will involve transgenic mouse lines and in vivo injections of recombinant viruses to achieve brain circuit- and cell- specificity, anterograde and retrograde tracers to address connectivity between brain structures, and injections of pharmacological agents to rule out the contribution of receptors in cell signaling.	Y1 M0	LS-ACYY0077	BSJW0363

Note1: The Biosafety Office allows Stereotaxic injections to be designated as ABSL-1

Note2: The Biosafety Office allows Transduced cell injections that are free from virus to be designated as ABSL-1

Note3: The Biosafety Office allows the administration of replication deficient vectors or attenuated strains to be designated as ABSL-1

Note 4: BSL-2 practices for Fish procedures: store rVSV-infected fish within BSL1 satellite facility (JLG), in sealed disposable containers on a designated rack clearly labeled for PI handling only. Following euthanasia, water and containers will be decontaminated with >10% bleach

Note 5: BSL-2 agent handled with risk mitigation measures