Approved: 9/25/25

Minutes
July 24th, 2025
Institutional Biosafety Committee
233 Scott Hall

Attendance

Members Present:	Members Absent:	Non-Members Present:
T. Oomens (Chair)	T. Essary (Alt)	J. Kane
E. Lutter (Vice-Chair)	A. Mitra (Alt)	
A. Hall (Alt)	S. McFee (Alt)	
A. Fewell (BSO)	J. Olson (Alt)	
K. Southworth	B. Holcomb	
J. Ballard (Alt)	C. Franks	
V. Freeman (Alt)	A. Ramachandran	
M. Cabeen	R. Matts	
D. Maples (Alt)	I. Girardi (Alt)	
D. Christensen (Alt)	J. Gallaway	
W. Kipgen (Alt)	M. Hinsdale	
B. Epperley (Alt)		
D. Cunningham		

Note: In the event that both a member and their alternate are present, only the primary member's vote will count unless the primary member allows the alternate to vote in their place.

Call to Order - With a quorum present, the Chair called the meeting to order at 10:01 a.m. Committee introductions were made.

Approval of the May 29th, 2025 minutes – One question was raised about the lab space logistics for a prior project. No other concerns were raised. A motion was made to approve by T. Oomens, motion was seconded by E. Lutter, and the minutes were approved with W. Kipgen abstaining.

New Business

B. Expedited Protocol/Modification Update

1. **23-28** Singh, Neeraj, "Role of transcription factors in regulating microglial function in neurodegenerative disease pathology. Role of exosomes in Amyloid plaque pathology in Alzheimer's Disease." - Modification

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C. Protocols/Modifications for Review by Full Committee

1. **23-23** Adel Pezeshki, "Dietary branched-chain amino acids restriction to improve insulin sensitivity: role of central FGF21 and gut microbiota." - Modification

Category: Biological Agent and r(s)NA
NIH Guidelines: III-D-3 & III-E-3
Source of DNA: lentiviral (HIV)-based plasmid

Vector(s): pLKO.1-TRC cloning vector
Recipient Host(s): HepG2 cells, *Mus musculus*
Biosafety Level: BSL-2
Project Summary: Dr. Pezeshki's previously approved protocol aimed to determine the effects of branched-chain amino acids deprivation on glucose metabolism in HepG2 cells. The HepG2 cells were cultured with DMEM containing fetal bovine serum, L- glutamine and antibiotics. Once cells were 90% confluent, subcultures of HepG2 cells were subjected to multiple treatments. These treatments were repeated under media with low glucose and high glucose concentrations. Glucose uptake assays were performed on these groups. Cells were then harvested and gene and protein expression of key markers of upstream FGF21 signaling and insulin signaling (e.g., AKT, IR, etc.) were assessed using qPCR and western blotting. The PI will also use the same HepG2 cells to assess the necessity of target genes in the context of amino acids restriction. Using a pLKO.1 - TRC Cloning Vector protocol, a shRNA cloning vector was designed for target genes. pLKO.1 then was introduced to HepG2 cells to knock-down target genes.

This modification will add animal work to Dr. Pezeshki's existing IBC protocol. He will use CRISPR technology to generate a conditional knockout mouse. In this method, the target gene will be knocked out by directly injecting zygotes with Cas9, sgRNA, and donor DNA. In particular, two loxP sites using two sgRNAs and two oligonucleotides as donors will be inserted in mice zygotes.

A. Fewell gave an overview of the modification and indicated that Dr. Pezeshki is creating a knockout mouse but is not using any viral vectors for this process. The committee suggested that an error regarding the "infectious agents" list be corrected on the protocol. The % bleach concentration also should be added to the spill protocol. A. Fewell also mentioned that an inspection of the animal lab space would have to occur before full approval.

Items to be addressed:

1. Correct "infectious agents" list by adding lentivirus.
2. Update % bleach conc. in spill protocol.
3. Complete inspection of the animal lab space.

Motion: A motion was made to approve pending minor revisions by T. Oomens. Motion was seconded by D. Cunningham. Majority vote was recorded, and the protocol was approved.

Cabeen leaves at 10:58 a.m.
Cabeen returns at 11:01 a.m.
Hall leaves at 11:05 a.m.
Hall returns at 11:07 a.m.

2. 25-14 Madhan Subramanian, "Cellular senescence in obesity and aging associated neural dysfunctions"

Category: Biological Agent & r(s)NA
NIH Guidelines: III-D-1, III-D-4, III-E-1, III-E-3
Source of DNA: Commercially available source-adenovirus & lentivirus
Vector(s): Lentiviral and AAV8 Vectors

Recipient Host(s): *Mus musculus*
Biosafety Level: BSL-2/ABSL-2
Project Summary: This protocol submission serves as a renewal submission for Dr. Subramanian's 19-14 IBC protocol. No new work has been added. However, it is due for committee review. The goal of his studies are to better understand how obesity and aging interact to increase the risk of high blood pressure (hypertension) and cardiovascular disease. To do this, he will use mouse models of obesity to investigate how specific types of non-neuronal brain cells—astrocytes and microglia—contribute to the overactivation of the sympathetic nervous system (SNA), a key driver of elevated blood pressure in obesity. Special focus will be placed on changes that occur in these cells due to chronic metabolic stress and aging

A. Fewell gave an overview of the protocol and explained no new work had been added. He also questioned EHS on whether Dr. Subramanian's group was up to date with BBP enrollment, and which rooms transgenic mice were housed. Dr. Subramanian's lab inspections were due for renewal next month, so they were currently being scheduled.

Items to be addressed:
1. Confirm BBP enrollment, correct IBC protocol.
2. Confirm where transgenic mice are housed.

Motion: A motion was made to approve pending minor revisions by A. Hall. Motion was seconded by D. Cunningham. Majority vote was recorded, and the protocol was approved pending revisions.

D. Miscellaneous Business

- **IBC Minutes:**
  - A. Fewell reminded the committee of upcoming changes with how IBC minutes will be posted to the public. He also reminded the committee to check the OK State directory to ensure their home address/phone number is not listed.

- **CITI Training**
  - A. Fewell informed the committee that we can build our own biosafety training based on CITI courses/modules that we find the most helpful. Further discussion will occur at the next meeting once members have tested courses available.

- **Cheng Ferret Work**
  - A. Fewell mentioned an upcoming project Dr. Cheng was preparing for and indicated he would need to update the PPE he uses in his IBC since open caging would be used. K. Southworth indicated that some of Cheng's personnel needed to get current on RPP enrollment before they could perform the project.

- **ABSL-2 SARS-CoV-2 & Dr. Deng**
  - A. Fewell mentioned that the ABSL-2 SARS-CoV-2 room was almost complete and Dr. Deng was preparing to use it.

Adjourn- The meeting adjourned at 11:50 a.m.