INSTITUTIONAL BIOSAFETY COMMITTEE MEETING
September 21, 2016
3 PM, 410 Plant Biotechnology Building

MEMBERS PRESENT: Chair, Jun Lin; Vice Chair, Patti Coan; David Bemis, Tamara Chavez-Lindell, Paul Dalhaimer, Doris D'Souza, Elizabeth Fozo, Reza Hajimorad, Brittany Isabell, Ling Zhao

Ex-Officio –Linda Hamilton, Scott Moser, Brian Ranger, Jessica Woofter

MEMBERS ABSENT: Seung Baek, Al Iannacone, Melissa Kennedy, Reggie Millwood, Deidra Mountain, Jae Park

OTHERS PRESENT: None

Opening:

The meeting was called to order by the Chair, Jun Lin at 3:02 PM. The minutes of August 24, 2016 were reviewed and approved pending correction of typographical errors.

IBC Applications:

#256-16 (Mei-Zhen Cui) Human-Derived Materials & Recombinant DNA Registration, III-D-3-a, 3-year rewrite
Dr. Cui's ongoing research is focused on understanding the catalytic function of protein kinase D (PKD) and its involvement in vascular diseases (e.g. atherosclerosis and thrombosis) and cancer. Briefly, recombinant, wild type, and mutant genes for PKD will be transfected into various human cell lines. Cloning techniques include standard lipofectamine-based transfections (for pcDNA constructs) and the use of a commercially available, replication incompetent adenoviral vector system (ΔE1-E3; Transposase-Ad™ Adenoviral Vector (Q-Biogene/MP Biomedicals)) for gene packaging and transfection. The containment level and safety precautions for work with adenovirus and human cells were established at BSL-2. The committee approved the registration as written.

#309-16 (Xuemin Xu) Human-Derived Materials & Recombinant DNA Registration, III-E, 3-year rewrite
Dr. Xu's Alzheimer's disease research investigates the mechanisms of beta-amyloid protein (Aβ) in the induction of Alzheimer's disease and presinilin-associated protein (PSAP) in amyotrophic lateral sclerosis (ALS). Briefly, a variety of mammalian cell lines will be transfected (liposome-mediated) with plasmids expressing various amyloid or PSAP-related proteins. These cell models will be used to determine effects of pharmaceutical compounds, apoptotic activity, and/or various precursor peptides involved in the disease process. The containment level was established at BSL-2 for use of human cell lines. The committee approved the registration pending the correction of typographical errors in the host section.

#330-16 (Eric Boder) Human-Derived Materials & Recombinant DNA Registration, III-D-2-a, 3-year rewrite
Dr. Boder's research proposes to apply directed evolution of mammalian cell lines by engineering novel cell adhesion proteins, protein-ligating enzymes, antigen presenting proteins, and membrane fusion proteins using standard molecular techniques. Ultimately these studies are intended to elucidate the functional properties of these types/classes of proteins in order to identify new phenotypes of interest for applications in drug delivery, biosensing, and vaccine design. Proteins of interest will be expressed and

purified for studies of biochemical properties and function. Recombinant proteins will be displayed on the surface of yeast (*Saccharomyces cerevisiae* or *Pichia pastoris*) to screen for mutant proteins with special binding properties. The containment level was set at BSL-2 since human cell lines and retroviral vectors (replication incompetent ectopic MMLV-based vectors) will be used during the study. The committee approved the registration as written.

#409-16 (Francisco Barrera) Human-Derived Materials & Recombinant DNA Registration, III-D-2-a, 3-year rewrite

Dr. Barrera's research covers the application of biophysical techniques to biological systems of biomedical relevance. Specifically, the research focuses on the maturation and self-assembly of the HIV capsid protein. The gene for the HIV capsid protein (obtained from the NIH AIDS Reagent Program) will be cloned into an IPTG-inducible pET vector and expressed in routine *E. coli* strains (DH5α). Protein will be purified using standard biochemical techniques and applied to synthetic lipid systems to study the self-assembly processes. Dr. Barrera also registered the use of human cells (HeLa cervical adenocarcinoma) to be used for studying the membrane insertion mechanisms of synthetic peptides designed to target tumor cells. The containment level was established at BSL-1 for the recombinant DNA procedures. The culture and manipulation of human cells will be conducted at BSL-2. The committee approved the registration pending correction of typographical errors in the technical summary and clarification of storage procedures.

#412-16 (Maitreyi Das) Recombinant DNA Registration, III-E-1, 3-year rewrite

Dr. Das' registration covers the study of eukaryotic cell mechanisms of cell shape and form establishment, specifically for *Schizosaccharomyces pombe*. Briefly, genes involved in cell polarity (e.g. Gef1) under native or thiamine-repressible promoters are cloned into standard vectors carrying kanamycin selectable markers (e.g. pFA6, pREP1). Other techniques include standard microscopy, genomics, and proteomics. The committee approved the registration pending clarification of both the nontechnical and technical summaries, correction of typographical errors, autoclave validation, and addition of the principal investigator under personnel. Containment was set at BSL-1.

Old Business:

Administrative Report

i. Contingency Updates

Brian Ranger provided the Committee with the administrative report. Following up on August 24, 2016, IBC meeting, Dr. Feng Chen's registration (#238-16) was updated to include strain clarification for *K. pneumoniae*; a revision of storage procedures for the *K. pneumoniae* cultures; confirmation of the source and risk level for Mtb genomic DNA; and the update of BSL-2 training for Dr. Chen. Dr. Paul Frymier's registration (#350-16) was updated administratively to include the correction of minor typographical errors, addition of the PI in the personnel list, and an updated training date for Standard Microbiological Practices. Dr. Heidi Goodrich-Blair's registration (#442) was corrected administratively to include a clarification in III-1-E that rDNA is introduced to animal models (insect larvae) via recombinant *Xenorhabdus spp*.

ii. Administrative Approvals

Dr. Ling Zhao's registration (#344-15) was administratively approved to include the addition of immortalized human brown preadipocytes (A41 hBAT-SVF-hygro) and human uncoupling protein 1 (UCP1) reporter plasmid. Additions are within the scope of current approval, review category (III-D) and containment level (BSL-2).

iii. Administrative Terminations

There were no administrative terminations for this month.

iv. Accidents, Injuries/Exposures:

There was one reported sharps injury (FAC). The emergency response procedure for human-derived materials was followed as prescribed. Linda recommended to the principal investigator that the pointed scalpel blade was unnecessary and a rounded tip should be used in the future. She also recommended the possibility of using cut-resistant gloves when performing laboratory procedures involving the blades.

v. Laboratory Report

Linda Hamilton reported that the BSL-1 audits are completed, and she is currently working on the October schedule for April annual updates. She also noted that there has been an issue with autoclaving bleached items.

iMedRIS Update

Jessica Woofter notified the committee that the iMedRiS front-end user manual is completed and the draft is available for review. The committee commented that adding the word "saving" should be readily used throughout the document and instructions to include the Biosafety Officer as reviewer should be included as well.

Charter Refresh

Brian notified the committee the charter refresh is still pending. He hopes to have a charter statement for the subcommittee to review by the end of October.

New Business:

BSL-3 Awareness Training for UT Police Department

Brian notified the committee that the safety groups provided lab safety awareness training to the UTPD during the month of September (four training sessions total). The biosafety portion of each session focused on the new BSL-3 laboratory, including agent/biohazard awareness, PPE, security mechanisms, and emergency response. The Biosafety Office will work EH&S and UTPD to provide courtesy PPE in the anteroom to the BSL-3 laboratory in case of emergency.

ORE Open House

Brian announced to the committee that the Office of Research & Engagement is hosting an open house on 9/30/16.

Regional Peer Review (Kerri Kwist, Clemson University)

Brian notified the committee that the Biosafety Officer from Clemson University will be coming to UT late this fall or early in the new year for an external audit. The Biosafety Office will extend the same service to their university in the near future. In addition to the Biosafety Program review, they have also agreed to conduct a review of the UT Radiation Safety Program at the same time.

The meeting was adjourned at 3:49 PM. The next meeting is tentatively scheduled for October 19, 2016 starting at 3 pm.