

INSTITUTIONAL BIOSAFETY COMMITTEE MEETING

June 17, 2020

3:00 PM, Zoom Meeting

MEMBERS PRESENT: Chair – David White, Vice-Chair - Elizabeth Fozo, Marc Caldwell, Lori Cole, Doris D’Souza, Paul Dalhaimer, George Dizikes, Reza Hajimorad, Melissa Kennedy, Jun Lin, Reggie Millwood, Deidra Mountain, Ling Zhao

Ex-Officio – Linda Hamilton, Sarah Pruett, Brian Ranger, Jessica Woofter

MEMBERS ABSENT: Brittany Isabell, Jae Park

OTHERS PRESENT: Steven Ripp, Cynthia Swift, Albrecht Vonarnim, TingTing Xu

Opening:

The IBC Chair called the meeting to order at 3:00 PM. The minutes of May 20, 2020, were reviewed and approved as written.

Full Member Review IBC Registrations:

#IBC-08-331-1 (Brad Binder) Recombinant DNA, III-E-2-a, 3-year rewrite

Dr. Binder’s research examines ethylene regulation and signaling in plants. Specifically, he will be elucidating the molecular basis for ethylene responses and regulation of growth and development in *Arabidopsis thaliana*. Dr. Binder’s work involves the use of standard cloning hosts (*E. coli* and *S. cerevisiae*) and Agrobacterium-mediated DNA transfer. Containment was set at BSL-1. The committee approved the registration pending correction of typographical errors and a statement clarifying autoclave usage in the technical summary.

#IBC-17-449-2 (Marc Caldwell) Infectious Agents, 3-year rewrite

Dr. Marc Caldwell’s research covering the infection model that involves the experimental inoculation of sheep with Zika virus. Zika is in the family Flaviviridae, genus flavivirus. Recent clinical reports of human Zika maternal and fetal infections demonstrate clinical symptoms that parallel those observed with bovine viral diarrhea virus (BVDV) maternal and fetal infections (BVDV Family: Flaviviridae; Genus: Pestivirus). The study will investigate the utility of pregnant and non-pregnant ewes as a possible model for maternal-fetal infections of Zika virus. There are no reports available of Zika virus infections in ruminants and limited reports in other species beyond humans. The committee approved the registration pending the transfer of the registration to Dr. Andrea Lear; a statement about completed work in the technical summary; and an update of the biosafety cabinet certification date.

#IBC-17-451-2 (Paul Dalhaimer) Recombinant DNA & Infectious Agents, III-E, 3-year rewrite

Dr. Dalhaimer was present to discuss his research covering the ability of polystyrene nanoparticles to induce xenophagy in HeLa cells in vitro. Briefly, polystyrene nanoparticles bearing near-infrared dyes will be added with or without a streptolysin O protein attached to determine whether they are released from or retained in the endosome, and whether this plays a role in inducing xenophagy. *Streptococcus pyogenes* JRS-4, wild-type and a recombinant streptolysin O-negative mutant, will be used as controls. Containment was set at BSL-2. The committee voted to approve the registration pending correction of a minor typographical error; include what locations HeLa strains are obtained from; including in the technical summary a statement about nanoparticles, including volumes, how they are handled, and how they are disposed of; update the biohazardous spill response; and add Advantra as the medical contractor if applicable. There was one abstention.

#IBC-20-546-1 (Rajan Lamichhane) Infectious Agents, New Registration

Dr. Lamichhane's research covers the study of G Protein-Coupled Receptors (GPCRs) which are the largest family of the membrane proteins in the human genome and involved in many physiological processes. He will express these protein and separate divalent streptavidin protein according to the manufacturer's protocol. This divalent streptavidin will be used to immobilize biotinylated G protein-coupled receptors (GPCRs) on a microscope slide surface. The overall goal of the project is to compare how many biotinylated GPCRs immobilized in divalent streptavidin vs commercially available tetravalent streptavidin. Containment was set at BSL-1. The committee approved the registration pending the swapping of the full title with the working title for continuity and expanding the technical summary to include the source of the protein, indicate how biotinylation is done, and what type of host will be used.

#IBC-20-547-2 (Frank Loeffler) Recombinant DNA & Human Derived Materials, III-D-2-a, New registration

Dr. Vonarnim was present to discuss Dr. Loeffler's demonstrating the collection and pooling samples can be used as a preliminary screening method to eliminate a large number of people at once while testing for severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2). Large scale testing is crucial for managing and mitigating the COVID-19 pandemic as it allows the identification and quarantine of positive cases to minimize community spread and avoid major outbreaks. With UT's planned return to in-class education soon, it is critical to establish an effective surveillance strategy to quickly identify possible positive COVID-19 cases to safeguard the health and safety of our campus community. Testing everyone is ideal but not practical due to time constraints and limitations in resource (personnel, supplies, etc.). In this project, we propose an approach that instead of running assays on individual samples, by pooling samples in preliminary screening, thousands of people can be screened at a time at a much lower cost. If a positive is found, then that pool of people will be submitted for more in-depth SARS-CoV-2 testing and diagnosis. Containment was set at BSL-2. The committee approved the registration pending the registration be edited to address the following comments:

- The committee voiced several concerns about oral/NG swab collections and have requested details on the purpose of the oral/NG swabs, how and by whom they will be collected, and associated laboratory testing procedures. If these will not be collected/used, it was recommended to omit them altogether.
- Provide additional details on the sequencing of the saliva collection, i.e. will saliva be

collected into the inactivating transport solutions and then submitted to the lab, or will saliva be collected in a clean container, with the lab adding the transport solution afterwards?

- Include information on the viral transport solutions that will be used.
- Include information regarding the location of saliva sample collection from lab volunteers.
- Include information about lab volunteers being tested/confirmed to be COVID-19 negative prior to participating.

Designated Member Review IBC Registrations:

None.

Old Business:

Administrative Report

i. Contingencies

Following up on May 20, 2020, IBC Meeting, Dr. Todd Reynolds' registration (#05-245-2) was edited to include the correction of the typographical error in the nontechnical summary; clarification in the technical summary of where the pooled human serum is used; correction of Question 10.2 to include the Mossman Lab Animal Facility instead of the Walters Life Science Lab Animal Facility; and correction of the health surveillance statement in Question 16.1 to inform lab members of the increased health risks associated with the use of *Candida auris*. Dr. Shawn Campagna's registration (#08-323-2) was approved as written pending an update to biosafety cabinet certification dates, which is still pending. Dr. Matthew Cooper's registration (#14-421-1) was edited to include the addition of Virovek to the rDNA source list and an update to the spill response to include the use and contact time for Ethyl. Dr. Jiangang Chen's registration (#14-422-2) was edited to include the identification of the types of personal care products described in the nontechnical summary; indicating the use of centrifugation in Question 6.3; the correction of the IACUC number 2368 in Question 6.5; confirm that rooms listed in Question 7.1 correspond with the building entries in Section 8; confirmation that the biosafety cabinet is not needed for the lab work performed in Hesler; and the confirmation that the pathogens will be stored in the -80°C freezer in the UT Veterinary Teaching Hospital. Dr. Stacy Stephenson's registration (#14-423-2) was edited to include the removal of the inactive IACUC protocol 2462 from Question 6.6; checking “yes” for the usage of lentiviruses as a host-vector system in Question 6.11; indicating that sharps will be used in Question 10.6; indicating “yes” for Question 14.1 that the associated IACUC will be generating animal carcasses for disposal through the UT Vet Hospital digester. Dr. Scott Lenaghan's registration (#20-543-2) was edited to include the correction of Question 6.5 to “yes” sharps will be used; clarification in the technical summary of *Eimeria* spp. usage; clarification of what automated system is used; the definition of “CPS”; the correction of “1 x 10⁴ oocysts/treatment” to “1 x 10⁴ oocysts/treatment”; and the addition of a statement in Question 14.1 to address precautions for immuno-compromised individuals entering the

lab area. Dr. David Anderson's registrations (#20-544-2 & 20-545-2) were edited to include the removal of the additional strains of *Staphylococcus aureus* not currently in use. Additionally, the committee would like clarification in the technical summary regarding the generation of the *S. aureus* strains; application of the organism to the contaminated device; clinical monitoring of animals post-treatment application, special disposal requirements for animals after euthanasia; how will collected tissues be handled and disposed of after data collection; and the inclusion of the animal and tissue disposition. Lastly, the committee asked for a building correction in Question 8.2 for the biosafety cabinet location.

- ii. *Administrative Approvals*
None.
- iii. *Administrative Terminations*
None.
- iv. *Administrative Exemptions:*
None.
- v. *Accidents, Injuries/Exposures:*
None.
- vi. *Laboratory Report (Hamilton)*
None.
- vii. *iMedRIS Update, Manual Reviews, & System Orientation (Woofster)*
None

New Business:

None.

The meeting was adjourned at 5:06 PM. The next meeting scheduled for July 15, 2020, via Zoom.