

# MINUTES OF THE INSTITUTIONAL BIOSAFETY COMMITTEE MEETING

June 20, 2012

3 PM, 410 Plant Biotechnology Building

MEMBERS PRESENT: John Sanseverino, Chair; Chunlei Su, Vice-Chair; David Bemis, Tamara Chavez-Lindell, Al Iannacone, Dan Kestler, Reggie Millwood, HCR Wang, Ling Zhao

Ex-Officio – Brian Ranger, Sarah DiFurio, Brenda Lawson

MEMBERS ABSENT: Patti Coan, Paul Dalhaimer, Doris D'Souza, Mariano Labrador, Jun Lin, Bonnie Ownley

OTHERS PRESENT: Dr. Neal Stewart, Jessica Woofter

## Opening:

The meeting was called to order by Chair, John Sanseverino at 3:01 PM.

Minutes of May 16, 2012 were reviewed and approved pending minor corrections.

## IBC Applications:

### **#277-12 (Tim Sparer) Infectious Agent Registration, 3-year rewrite**

### **#278-12 (Tim Sparer) Recombinant DNA Registration, III-D (2-a, 3-a, 4-b), 3-year rewrite**

Dr. Tim Sparer's registrations cover various studies involving human and murine cytomegaloviruses (CMVs) and host immunity, particularly the role of viral chemokines in modulating the host immune response to CMV infection. Baculoviruses will be used to generate recombinant viral chemokines to be used in a variety of *in vitro* and *in vivo* assays to determine their effects on neutrophil function. Human CMVs will be propagated and titered for use in viral engulfment experiments. Murine CMVs (wild-type or recombinant) will be used for *in vivo* experiments in mice to determine how the inserted or deleted genes affect viral spread throughout the mouse. Recombinant DNA Registration #278-12 covers the cloning of viral chemokines, host genes, and chemokine receptors into *E. coli* for sequencing, baculoviruses for overexpression/purification, and eukaryotic cell lines for *in vitro* expression studies. For the latter, lentiviral vector delivery systems were proposed. Brian Ranger commented on the lentiviral constructs (initially to be used for fluorescent labeling to determine utility/transfection efficacy) and enhanced BSL-2 procedures. The committee voted to approve both registrations pending minor typographical edits. The research will be conducted at BSL-2.

### **#384 (Rebecca Trout-Fryxell) Infectious Agent Registration, new registration**

Dr. Trout-Fryxell's research covers the survey of arthropods for various bacterial (Rickettsial), viral (La Crosse), or protozoan (Plasmodium/Haemaphysalis) pathogens by collecting vectors (mosquitoes, ticks, black flies) from the field, identifying them and storing them in 80% ethanol. Molecular techniques (DNA extraction, PCR) will be used to identify the different pathogens. Additional procedures such as dissections of insect tissue (ex. dissecting mosquito salivary glands from the head & thorax) may be conducted for species identification. The committee tabled this registration pending clarification of unfixed arthropod dissection procedures and associated risks.

### **#386 (Melissa Hines) Infectious Agent Registration, new registration**

Dr. Hines is assessing Sorbact, a hydrophobic wound dressing, and the role it plays in reducing

bacterial colonization and enhancing healing in experimental *Staphylococcus aureus* infected limb wounds of horses. Briefly, standardized wounds will be infected with *S. aureus* (routine equine isolate; methicillin-sensitive) and covered with Sorbact to determine its antimicrobial/wound healing efficacy relative to antibiotic ointments and various controls. The *S. aureus* isolate will be propagated and prepared in the VTH Bacteriology lab (Dr. Dave Bemis). Standard clinical infection control practices will be used when handling animals and dressing infected wounds. The committee voted to approve the registration as written. There was one abstention.

**#288-12 (Juan Jurat-Fuentes) Recombinant DNA Registration, III-E, 3-year rewrite**

Dr. Jurat-Fuentes research covers the expression of various insect gut epithelial proteins in 1) common lab strains of *E. coli* for purposes on purification and antisera development, and 2) in various insect cell lines to assess their ability to act as functional receptors for the Cry toxins of *Bacillus thuringiensis*. The committee voted to approve the registration as written.

**#385 (Elias Fernandez) Recombinant DNA Registration, III-E, new registration**

Dr. Fernandez's research covers the characterization of the biophysical properties of nuclear receptors for the development of more effective therapies. Entire genes or subdomains of the genes will be sub-cloned into pET vectors and overexpressed in BL21DE3 cells. Protein will be isolated/purified by conventional means and used for biophysical assays (e.g. X-ray crystallography). The committee voted to approve the registration as written. The research will be conducted at BSL-1.

**#387 (Neal Stewart) Recombinant DNA Registration, III-E-2-a, new registration**

Dr. Neal Stewart recapped his research objectives and answered committee questions. His registration covered the functional analysis of specific chalcone synthase (CHS) genes, which may be involved in the urushiol biosynthesis pathway in poison ivy. The candidate gene will be cloned into plant expression vectors and transformed into *Arabidopsis thaliana* plants for functional/expression studies. Standard *Agrobacterium*-mediated transfer will be used to transform plants. Questions were asked and answered about containment and protective equipment in the event that urushiol is expressed in the transgenic *Arabidopsis* plants. All transformed plants will be kept in growth chambers within the Plant Biotech Bldg. The committee voted to approve the registration as written. There was one abstention. The research will be conducted at BSL-1.

**Old Business:**

Administrative Report

Brian Ranger provided the committee with the administrative report. Following up on the May 2012 IBC meeting, Dr. Eda's registration (#276-12) was corrected administratively for minor typographical errors. Dr. Rouse's registrations (#280-12 & 281-12) were corrected administratively to read "partially resistant" instead of "half-resistant" in the medical surveillance question in both registrations. Both registrations were also corrected to include Dr. Rouse's training dates to the personnel lists. Brian Ranger updated the committee on Dr. Small's registration (#282-12), and indicated that Dr. Small would remain the Principal Investigator and add Dr. Williamson as Co-Principal Investigator. Her registration was also updated to include her BSL-2 refresher training information. Dr. Neal Stewart's registration (#382) was updated administratively to correct research locations and clarify that all transgenic plants would be housed in Racheff Greenhouse. One registration was administratively terminated (Dr. Perrier's #338; biological toxin).

IBC Member Appointment Update

The committee reviewed the 2012-13 IBC committee appointments. Dr. Chunlei Su will serve as Chair and Dr. Jun Lin as Vice-Chair for the committee. Current voting members were reminded to declare their service intentions as soon as possible.

#### New Form Update (User Feedback)

Brian Ranger commented that registrants using the new form had provided positive feedback on the form format. The committee made some suggestions to condense and modify the form stylistically.

#### Teaching/Diagnostic/Environmental Materials Oversight Update

Dr. Sanseverino recapped his discussion with Dr. Greg Reed, Associate Vice-Chancellor for Research, regarding IBC purview over biological materials used for teaching and diagnostics. The IBC will not extend its purview to include biological materials not used for research protocols at this time.

#### **New Business:**

#### Biosafety Listserv

Brian Ranger informed the committee that the Biosafety Office obtained a Listserv in order to communicate and reach appropriate audiences within the research community about pertinent safety issues. The Listserv will be populated as soon as possible.

#### IBC Meeting Time and Location for FY13

The committee agreed to keep the current location of IBC meetings to Plant Biotechnology Building Room 410, and meet on the third Wednesday of every month.

#### Search for Biosafety Specialist

Brian Ranger informed the committee that the job posting for the new Biosafety Specialist has been written and will be posted shortly.

The committee will reconvene July 18, 2012.

The meeting was adjourned at 4:01 PM.