

OFFICE OF RESEARCH SUPPORT & COMPLIANCE

THE UNIVERSITY OF TEXAS AT AUSTIN

North Office Building A, Suite 5.200 • P.O. Box 7426 • Austin, Texas 78713 (512) 471-8871 • FAX (512) 471-8873

September 5, 2006

Edward Hammond Director The Sunshine Project P.O. Box 41987 Austin, TX 78704

Dear Mr. Hammond.

Please find enclosed the Institutional Biosafety Committee (IBC) meeting minutes from The University of Texas at Austin from September 2003 to June 2006 as you requested. Please let us know if you have any questions.

Sincerely,

Lisa Leiden, Ph.D.

Director

Minutes Institutional Biosafety Committee September 23, 2003, 4:00 p.m. A.C.E.S. Seminar Room 3.408

Members present: Shelley Payne, PhD, Chair; Jaquelin Dudley, PhD; John Ekerdt, PhD; Jerry Fineg, DVM; Ann Harasimowitz; Erle Janssen; Sean Kerwin; Lisa Leiden, PhD; John Tesmer, PhD

Members absent: Sharon Brown, PhD; Rachel LeBansky; Thomas McGarity; Stephanie Normand, PhD; Brian Pagenkopf, PhD, Jon Robertus, PhD.

- 1. Non-exempt study: number 2003-09-0078.

 Action: Study approved unanimously with the following comment: Written reference to "laminar flow hoods" is redefined as use of a 'biological safety cabinet'.
- 2. Publicizing the web-based forms and making them compatible with OSP forms
 - 2a. Publicizing the web-based forms: The Board agreed that the IBC website would be enhanced with the help of ITS, and that the VPR's office would be contacted to help place the IBC links in critical locations of research/website forums on campus. The Board specifically requested that a spotlight be added to the homepage of The University website with information about the electronic systems now in place for recombinant DNA and biohazard materials.
 - 2b. Compatibility between IBC forms and OSP
 - Rich Bredahl will be asked to modify programming of OSP submission form so that the biohazard protocol number is accepted.
 - A meeting scheduled for October 1, 2003 will be held with OSP staff to clarify the electronic IBC process and website links.
- 3. Informing PIs about the need to submit exempt studies for approval:
 - a. The IBC website and spotlight features will emphasize that the category of "Exempt" does not mean that a submission is unnecessary. Rather it is defined in the regulations as an approval category for protocols with least risk.
- 4. Yearly renewal of recombinant DNA approvals:
 - a. Rich Bredahl has been asked to generate automate email notices to PI s for 30-day, suspension and termination notices, along with an explanation that these protocols require an annual renewal, which in turn will generate a new IBC protocol number. Electronic submission systems are now available for rDNA as well as biosafety protocols. The annual renewal notice will include an option to re-submit or modify and submit the existing study.
- 5. Developing a procedure for identification and resolution of IBC noncompliance cases.

a. The Board voted to develop a written policy defining how noncompliance cases are to be reviewed by the committee, a list of possible actions that should be taken by the IBC and the list of people to whom the IBC noncompliance report should be sent (PI, Chair, Dean, VPR, sponsor, etc.).

The University of Texas at Austin Institutional Biosafety Committee Minutes November 11, 2003

The Institutional Biosafety Committee met on November 11, 2003. The meeting was called to order at 2:00 pm in the ACES Building. Dr. Shelley Payne chaired the meeting.

Members Present

Shelley Payne, Ph.D., Chair Jacquelin Dudley, Ph.D. John Ekerdt, Ph.D. John Tesmer, Ph.D.

Sharon Brown, Ph.D. Ann Harasimowitz Erle Janssen

Jon Robertus, Ph.D.

Rachel Lebansky Lisa Leiden, Ph.D. Sean Kerwin, Ph.D.

Members Absent

Julie Rawlings, Ph.D. Tom McGarity, J.D.

Jerry Fineg, DVM Brian Pagenkopf, Ph.D. Stephanie Normand,

APPROVAL OF MINUTES I.

II. **NEW BUSINESS**

- 1. Discussion as necessary on non-exempt recombinant DNA proposal. Committee voted to approve as submitted.
- 2. Formal discussion and final approval of following IBC email/web message to be posted webpages (IBC link and Home Page):

"Important information for researchers on recombinant DNA:

Please note:

All recombinant DNA research must be approved. Approval is required for sponsored and un-sponsored research. Approvals are valid for 1 year only. The form must be updated yearly.

In an effort to streamline the paperwork associated with research on campus, we have instituted a web-based form for approval of research involving recombinant DNA. Most of the recombinant DNA research on campus is considered exempt under the NIH guidelines, but even exempt experiments must be registered and approved by the IBC.

The definition of recombinant DNA (from the NIH Guidelines) is:

- (i) molecules that are constructed outside living cells by joining natural or synthetic DNA segments to DNA molecules that can replicate in a living cell, or
- (ii) molecules that result from the replication of those described in (i) above.

More information about research involving recombinant DNA and a description of exempt and non-exempt experiments can be obtained from the <u>NIH</u> Guidelines.

If you are using recombinant DNA in your research and have not obtained approval within the last year, see the website at https://utdirect.utexas.edu/vr/recom_dna.WBX to complete the form and submit it for Institutional Biosafety Committee for approval. Once you have completed the form, the study will be assigned a number. That study number can be used for any OSP forms for grant applications involving that research. Approvals are no longer linked to specific grant applications."

In addition to posting this information on Home Page and on the ORSC webpage, the this information will be sent to a select list of faculty who may have or in the future might submit recombinant DNA proposals.

The University of Texas at Austin Institutional Biosafety Committee Minutes Tuesday, February 24, 2004

The Institutional Biosafety Committee met on Tuesday, February 24, 2004. The meeting was called to order at 2:00 pm in the ACES Building. Dr. Shelley Payne chaired the meeting.

Members Present

Shelley Payne, Ph.D., Chair Jerry F
Jacquelin Dudley, Ph.D. Ann H
John Ekerdt, Ph.D. Erle Ja

Jerry Fineg, DVM Rachel Lebansky
Ann Harasimowitz Lisa Leiden, Ph.D.
Erle Janssen Sean Kerwin, Ph.D.

John Tesmer, Ph.D.

Members Absent

Sharon Brown, Ph.D. Tom McGarity, J.D.

Julie Rawlings, Ph.D. Brian Pagenkopf, Ph.D. Jon Robertus, Ph.D. Stephanie Normand,

Non-Members Present

Donna Dudek, IACUC Coordinator

I. APPROVAL OF MINUTES

II. NEW BUSINESS

- a. (2004-02-0062) submitted a rDNA form. Project was approved by unanimous vote.
- b. (2004-01-0085) submitted a rDNA form. Project was not approved pending submission and approval of accompanying Biosafety form. BSL2 level.
- c. (2004-01-0065) submitted a rDNA form which was returned to the PI pending 1) revision of the rDNA form, 2) appropriate submission of an infectious agent biosafety form, and 3) accompanying protocol approval from the IACUC. Project not approved at meeting.
- d. (2003-08-0077) submitted a rDNA form. Project not approved, pending submission and approval of accompanying Biosafety form for use of infectious agents.
- e. (2003-03-0059) submitted a rDNA form. Project not approved, pending submission and approval of necessary paperwork to EH&S for use of BSL2.
- f. (2002-11-0127) submitted a rDNA form. Project approved.

g. (2002-09-0040) submitted a rDNA form. Project approved at BSL2 level.

Shelley Payne, Ph.D.

Chair

The University of Texas at Austin Institutional Biosafety Committee Minutes Tuesday, April 20, 2004

The Institutional Biosafety Committee (IBC) met on Tuesday, April 20, 2004. The meeting was called to order at 2:00 pm in the A.C.E.S. Building, room # 3.408. Dr. Shelley Payne chaired the meeting.

Members Present

Shelley Payne, Ph.D., Chair
Sharon Brown, Ph.D.
Jon Robertus, Ph.D.
Jacquelin Dudley, Ph.D.
Ann Harasimowitz, B.S.

Dennis Nolan, M.P.H
Sean Kerwin, Ph.D.
John Tesmer, Ph.D.
Jerry Fineg, D.V.M.
Lisa Leiden, Ph.D.

Members Absent

John Ekerdt, Ph.D.

Julie Rawlings, Ph.D.

Erle Janssen, M.S.

Tom McGarity, J.D.

Brian Pagenkopf, Ph.D.

Rachel Lebansky, M.S.

Non-Members Present

Donna Dudek, B.S., IACUC Program Coordinator

- I. APPROVAL OF MINUTES
- II. NEW BUSINESS
 - 1. Non-exempt Recombinant DNA (rDNA) Studies Submitted for Approval

There were no non-exempt rDNA studies submitted for approval since the last IBC meeting.

2. Discussion of best methods for providing communications to researchers conducting rDNA methods.

The IBC voted that personal methods (personal email or telephone conversations) were best for communicating with researchers conducting rDNA methods.

3. A list of potentially non-compliant labs was presented and discussed.

Challes M. Daving Dh. D.

Chair Vice-Chair & Director, EH

The University of Texas at Austin Institutional Biosafety Committee Minutes Thursday, July 29, 2004

The Institutional Biosafety Committee (IBC) met on Thursday, July 29, 2004. The meeting was called to order at 2:00 pm in the A.C.E.S. Building, room # 3.408. Dr. Shelley Payne chaired the meeting.

Members Present

Shelley Payne, Ph.D., Chair
Sharon Brown, Ph.D.

Jacquelin Dudley, Ph.D.

Jerry Fineg, D.V.M.

Brian Pagenkopf, Ph.D.
Tom McGarity, J.D.
Rachel Lebansky, M.S.
Erle Janssen, M.S.

Ann Harasimowitz, B.S.

Members Absent

John Ekerdt, Ph.D.

Lisa Leiden, Ph.D.

Julie Rawlings, Ph.D.

John Tesmer, Ph.D.

Jon Robertus, Ph.D.

Sean Kerwin, Ph.D.

Non-Members Present

Donna Dudek, B.S., IACUC Program Coordinator Dennis Nolan, M.P.H., Assistant Director, Office of Environmental Health and Safety Robert Krug, Ph.D.

- I. APPROVAL OF MINUTES
- II. NEW BUSINESS
 - 1. Non-Exempt Recombinant DNA (rDNA) Studies Submitted for Approval
 - form. Project was approved pending the approval of Infectious Agents Form.
 - b. (2004-06-0025) submitted a rDNA form. Project was approved pending Environmental Health and Safety's re-inspection and approval of the lab.
 - c. Project was approved. (2004-07-0027) submitted a rDNA form.
 - d. (2004-07-0069) submitted a rDNA form. Project approved pending determination that the materials are not considered select agent status.
 - e. (2004-07-0079) submitted a rDNA form. Project

was approved.

f. (2004-05-0069) submitted a rDNA form. Project was approved.

2. Procedures were discussed for handling suspended studies.

Suspended studies occur when a previously approved rDNA study expires and is not resubmitted. An electronic email notice will be sent to the investigator asking for a decision to close or continue the study. Erle Janssen and Rachel Lebansky were appointed to follow up on this correspondence. If no response is received by 30 days following the expiration date of the study, then the study will be closed.

3. Possible changes to the Infectious Agents on-line form were discussed.

Rachel Lebansky presented a handout of proposed changes to the Infectious Agents on-line form to the IBC (see attachment). The IBC voted to approve these changes to the Infectious Agent on-line form with only one change. The question which asks, "Has lab been approved by EH&S (Environmental Health and Safety)?" should by restricted to EH&S use only.

- 4. Procedures regarding the renewal of rDNA studies were discussed.

 The committee voted to designate Dr. Shelley Payne as the designated reviewer of renewals for previously approved rDNA studies when the following conditions exist:
 - 1. There have been no changes in government regulations since the previous approval date of the study.
 - 2. There have been no changes to the study.
 - 3. The study is non-exempt.

5. attended the meeting to discuss concerns regarding his newly submitted study (2004-05-0069).

Shelley M. Payne, Pa.D.

Chair

Erle Janssen

Vice-Chair & Director, EH&S

The University of Texas at Austin Institutional Biosafety Committee Minutes Tuesday, October 5th, 2004

The Institutional Biosafety Committee (IBC) met on Tuesday. October 5th, 2004. The meeting was called to order at 1:07 pm in the A.C.E.S. Building, room # 3.408. Dr. Shelley Payne chaired the meeting.

Members Present

Shelley Payne, Ph.D., Chair Dennis Nolan, M.P.H.

Sharon Brown, Ph.D. Marcia Becker

Jaquelin Dudley, Ph.D. Rachel Lebansky, M.S. Jerry Fineg, D.V.M. Erle Janssen, M.S.

Ann Harasimowitz, B.S.

Chris Callsen, Jr., L.P.

Lisa Leiden, Ph.D.

John Tesmer, Ph.D.

Jon Robertus, Ph.D.

Members Absent

John Ekerdt, Ph.D. Tom McGarity, J.D.

Non-Members Present

Donna Dudek, B.S., IACUC Program Coordinator

- I. APPROVAL OF MINUTES
- II. NEW BUSINESS
 - 1. Non-Exempt Recombinant DNA (rDNA) Studies Submitted for Approval
 - a. (2004-09-0070) submitted a rDNA form. Project was approved.
 - b. (2004-09-0037) submitted a rDNA form. Project was approved.
 - c. (2004-09-0029) submitted a rDNA form. Project was approved.
 - d. (2004-10-0010) submitted a rDNA form. Project was approved.
 - e. Project was approved pending approval from the Office of Environmental Health and Safety regarding certification and training. Project approval is also contingent upon the work being performed at BSL2.
 - f. (2004-08-0009) submitted a rDNA form.

Project approval was tabled pending the completion of the Molecular Biology Building facility, a risk assessment, permission to import fragments of the virus from the USDA and sequencing of the virus before work begins.

- 2. The Sunshine Project Report was discussed.

 The Sunshine Project compiled a report that compared Institutional Biosafety Committee meeting minutes from various institutions across the country. UT Austin received a score of "fail" because the minutes do not clearly state "Who", "When" and "Where". The IBC decided to keep the format of the minutes as they are because all current NIH guidelines are being followed.
- 3. It was suggested that the location of rDNA experiments be added to the rDNA form.

Shelley Payne. Ph.D.

Chair

Erle Janssen

Vice-Chair & Director, EH&S

Biosafety Officer Responsible Official

The University of Texas at Austin Institutional Biosafety Committee Minutes Tuesday, November 30th, 2004

The Institutional Biosafety Committee (IBC) met on Tuesday, November 30th, 2004. The meeting was called to order at 1:03 pm in the A.C.E.S. Building, room # 3.408. Dr. Shelley Payne chaired the meeting.

Members Present

Shelley Payne, Ph.D., Chair

John Ekerdt. Ph.D.

Jaquelin Dudley, Ph.D.

Jerry Fineg. D.V.M.

Ann Harasimowitz, B.S.

John Tesmer, Ph.D.

Jon Robertus, Ph.D.

Marcia Becker

Rachel Lebansky. M.S.

Erle Janssen, M.S.

Lisa Leiden, Ph.D.

Dennis Nolan. M.P.H.

Members Absent

Chris Callsen, Jr., L.P. Sharon Brown, Ph.D.

Tom McGarity, J.D.

Non-Members Present

Donna Dudek. B.S., IACUC Program Coordinator

- I. APPROVAL OF MINUTES OF MEETING ON OCTOBER 5, 2004
- II. OLD BUSINESS
 - 1. Non-Exempt Recombinant DNA (rDNA) Studies Tabled At October 5, 2004 Meeting

a. Project was approved pending the certification of his BSL3 laboratory with a shower and certification of personnel through training and approval of training.

III. NEW BUSINESS

1. Non-Exempt Recombinant DNA (rDNA) Studies Submitted for Approval

a. (2004-11-0131) submitted a rDNA form. Project was approved pending a change on the exemption status from 'Yes, under section III-F-6' to 'No, as described in section III-D-6" because greater than 10 liters of culture will be produced, a statement of laboratory

location and an estimate of the total volume of culture that will be produced.

- b. (2004-10-0164) submitted a rDNA form. Project was approved pending approval of animal protocol by the IACUC.
- c. (2004-10-0152) submitted a rDNA form. Project was approved.
- d. (2004-10-0175) submitted a rDNA form. Project was approved.

2. Infectious Agents Studies Submitted for Approval

a. (2004-11-0134) submitted an infectious agents form. Project approved pending changing the Animal Resources Center room number to a dedicated room.

Meeting was adjourned at 1:52pm.

Shelley Payhe, Ph.D.

Chair

Erle Janssen

Vice-Chair & Director. EH&

Biosafety Officer Responsible Official

The University of Texas at Austin Institutional Biosafety Committee Minutes

Friday, February 18th, 2005

The Institutional Biosafety Committee (IBC) met on Friday, February 18th, 2005. The meeting was called to order at 9:00 am in the A.C.E.S. Building, room # 3.408. Dr. Shelley Payne chaired the meeting.

Members Present

Shelley Payne, Ph.D.. Chair
Jaquelin Dudley, Ph.D.
Erle Janssen, M.S.
Lisa Leiden, Ph.D.
John Tesmer, Ph.D.

Shelley Payne, Ph.D.
Rachel Lebansky, M.S.
Tom McGarity, J.D.
Sharon Brown, Ph.D.
Dennis Nolan, M.P.H.

Members Absent

Chris Callsen, Jr., L.P. Marcia Becker
John Ekerdt, Ph.D. Jerry Fineg, D.V.M.

Ann Harasimowitz, B.S.

Non-Members Present

Donna Dudek, B.S.. IACUC and IBC Program Coordinator

I. APPROVAL OF MINUTES OF MEETING ON NOVEMBER 30, 2004.

II. NEW BUSINESS

1. Non-Exempt Recombinant DNA (rDNA) Studies Submitted for Approval

a. (2005-01-0056) submitted a rDNA form. The microorganism he will use is not known to be pathogenic; however, will perform studies at BSL2 as an extra precaution. Project was approved pending inspection and certification of BSL2 lab.

b. (2004-12-0037) submitted a rDNA form. left the room prior to discussion and the vote. Project was approved. Dr. Dudley returned to the meeting.

c. (2004-03-0063) submitted a rDNA form. Project was approved.

d. (2003-08-0077) submitted a rDNA

form. Project was approved.

(2003-03-0059) submitted a rDNA form. Project was approved.

(2002-09-0040) submitted a rDNA form. Project was approved.

(2005-02-0087) submitted a rDNA form. This study is technically exempt but proposes to use BSL2 procedures as an extra precaution. Project was approved pending inspection of laboratory.

2. Establish a policy regarding PIs who fail to submit recombinant or biosafety studies.

Dr. Payne presented a handout describing current procedures regarding labs that fail to submit recombinant or biosafety studies. Proposed additions to the current procedures include notifying the principal investigator (PI) that the lab is no longer certified for rDNA/Biosafety work. The Office of Environmental Health and Safety (OEH&S) and the PI's Dean will be copied on the notification. OEH&S will note suspensions on annual lab surveys. Discussion Topics: One member asked if funding should be cut off to the PI. Another suggested sending out an email asking if the PI is closing down the lab or deactivating the study. One member suggested that the IBC should operate similar to the Institutional Review Board (IRB) and Institutional Animal Care and Use Committee (IACUC). Another asked if the same rules should apply for exempt and non-exempt studies.

3. Clarification of Office of Sponsored Projects (OSP)/IBC roles in monitoring compliance.

<u>Discussion Topics</u>: One member suggested that a list of responsibilities be assigned for OSP. It was noted that OSP does not need to read the details of all protocols. Material Transfer Agreements (MTA's) were also mentioned as a big problem. Erle Janssen pointed out that an MTA checklist will soon be online. Another member noted the importance of informing researchers of their responsibilities. This discussion was tabled for the next IBC meeting.

4. Policy on approval of dual-use research.

Dr. Payne presented a handout listing possible experiments in which the National Institutes of Health (NIH) might ask IBC's to review dual use research. This information was gathered from the National Academies of Science (NAS) report and

recommendations available online at: http://books.nap.edu/html/biotechnology_research/0309089778.pdf Discussion Topics: Dr. Payne suggested that a link to the NAS report be added to the ORSC website. One member suggested that OEH&S survey PI's for any experiments on the list and notify the IBC.

Meeting was adjourned at 9:59am.

Chair

Vice-Chair & Director, EH&S

Biosafety Officer Responsible Official

The University of Texas at Austin Institutional Biosafety Committee Minutes Friday, April 15th, 2005

The Institutional Biosafety Committee (IBC) met on Friday, April 15th, 2005. The meeting was called to order at 9:00 am in the A.C.E.S. Building, room # 3.408. Dr. Shelley Payne chaired the meeting.

Members Present

Shelley Payne, Ph.D., Chair
Jaquelin Dudley, Ph.D.
Erle Janssen, M.S.
Lisa Leiden, Ph.D.
John Tesmer, Ph.D.
Ann Harasimowitz, B.S.
Rachel Lebansky, M.S.
Tom McGarity, J.D.
Jerry Fineg, D.V.M.
Dennis Nolan, M.P.H.

Members Absent

Chris Callsen, Jr., L.P.

John Ekerdt, Ph.D.

Sharon Brown, Ph.D.

Marcia Becker

Adolpho Valadez, M.D.

Jon Robertus, Ph.D.

Non-Members Present

Donna Dudek, B.S., IACUC and IBC Program Coordinator Janet Pichette, M.S., CTR for Dr. Valadez

- I. APPROVAL OF MINUTES OF MEETING ON FEBRUARY 18, 2005.
- II. NEW BUSINESS
 - 1. Non-Exempt Recombinant DNA (rDNA) Studies Submitted for Approval
 - a. (2003-09-0061) submitted a rDNA form. Project was approved.
 - b. (2005-03-0079) submitted a rDNA form. This lab has been certified for BSL2 work. Project was approved.
 - c. (2003-06-0036) submitted a rDNA form. Project was approved.

2. Clarification of Office of Sponsored Projects (OSP)/IBC roles in monitoring compliance.

This discussion was tabled from the February 18th. 2005 IBC meeting.

<u>Discussion Topics</u>: One member noted that while a PI was out of town, an employee suspended a grant for failure to renew an IBC protocol. A change was made to the email from the IBC database to principal investigators. Dr. Payne suggested that the email be further changed to say "please reply to this email by mm/dd/yyyy". She also suggested that the PI must respond with one of the following replies: Concluded, Submitted or Replaced with Study #______. One member noted that many PI's do not understand how to resubmit IBC forms.

3. Chemical Subcommittee Report.

A list of controlled substance precursor chemicals was presented to the IBC

<u>Discussion Topics</u>: One member noted that it is very important to monitor the volume of purchases of these precursor chemicals. Many are commonly used in laboratories. One member suggested that the purchasing department should flag all orders for these chemicals and send a notice to the principal investigator (PI). Several members stated that this was feasible. Another noted that ProCards must exclude the purchase of these chemicals. Dr. Payne suggested that the PI receive an automated email whenever they order any amount of a precursor. Then if the volume of the precursor is over the allowed limit the order will be held up until the PI responds. The Office of Environmental Health and Safety should be copied on this email.

4. Discuss Revision of Online Biosafety Form.

Rachel Lebansky passed out an alternative Biosafety form.

<u>Discussion Topics:</u> The document presented would replace the current online Biosafety form. "Definitions" would be a link on the form. Several supplemental forms would be available when needed. These forms include: Toxins (extreme chemical), Carcinogens and Biological Toxins. Rachel pointed out that all labs are surveyed for these chemicals each summer. Animal carcinogens are noted on IACUC animal protocols. Several members brought up the following issues:

- How is training verified for graduate students?
- Recommended removing "Experience 1" section for lab experience.

- · Recommended removing phone numbers.
- Change "Project Personnel" to Key Personnel".
- Possible cross reference to recombinant DNA studies.

Rachel Lebansky and Erle Janssen said that they would improve the form as they go.

Meeting was adjourned at 9:56am.

Shelley Rayne, Ph.DO

Chair

Erle Janssen
Vice-Chair & Director, EH&S

Biosafety Officer Responsible Official

The University of Texas at Austin Institutional Biosafety Committee Minutes Tuesday, September 6, 2005

The Institutional Biosafety Committee met on Tuesday, September 6, 2005. The meeting was called to order at 2:00 pm in the ACES Building. Dr. Shelley Payne chaired the meeting.

Members Present

Shelley Payne, Ph.D., Chair Ann Harasimowitz, B.S. John Ekerdt, Ph.D. Glen Otto. DVM Lisa Leiden, Ph.D. Adolfo Valadez, Ph.D. Rachel Lebansky Jon Robertus, Ph.D. Erle Janssen

Members Absent

Sharon Brown, Ph.D. Tom McGarity, J.D.

Dennis Nolan. M.P.H.

Chris Callsen

Non-Members Present

None

I. APPROVAL OF MINUTES

- II. NEW BUSINESS
 - a. Review of Non-Exempt Recombinant DNA Studies:
 - 1.) 2003-09-0048, BSL2: Lab inspections complete. This is a request for continuation of a previously approved project. Approved (7 for, 1 conflict of interest who left the room for the vote).
 - 2.) 2003-09-0049. BSL2: Lab inspections complete. This is a request for continuation of previously approved project. Approved (7 for, 1 conflict of interest who left the room for the vote).
 - 3.) 2003-08-0044, BSL2, animal studies: Lab inspections complete. This is a request for continuation of previously approved project. Approved (7 for, 1 conflict of interest who left the room for the vote).
 - 4.) 2004-08-0006. BSL2. Note that study had expired, but with this approval will be reapproved. (8 for
 - b. Approval of Studies previously reviewed by email:
 - 1.) 2004-07-0027. rDNA into plants (Arabidopsis): (8 for)
 - 2.) 2004-07-0024. animal studies involved has current IACUC approval: (8 for)

- 3.) 2004-06-0025. use of replication defection Maloney murine leukemia virus. (8 for)
- 4.) 2004-05-0066. rDNA into Arabidopsis. (8 for)
- 5.) 2003-07-0001. Cloning of papillomavirus genes, BSL2, (8 for)
- 6.) 2003-06-0057, use of murine leukemia virus and mouse tumor virus. BSL2 (8 for)
- III. Update on UT Systems IBC Conference and distribution of self-assessment tool.
 - Board members have asked UT legal counsel regarding viability of posting minutes on the IBC website.
- IV. Training module on dual use research: www.serceb.org/pel (Southeast Regional Center of Excellence for Biodefense and Emerging Infections)

Shelley/Payne, Ph.D.

Chair

Erle Janssen∕

Vice-Chair & Director. EH&S

The University of Texas at Austin Institutional Biosafety Committee Minutes Tuesday, November 15, 2005

The Institutional Biosafety Committee met on Tuesday, November 15, 2005. The meeting was called to order at 2:00 pm in the ACES Building. Dr. Shelley Payne chaired the meeting.

Members Present

Shelley Payne. Ph.D., Chair Lisa Leiden, Ph.D. Glen Otto, DVM Ann Harasimowitz, B.S. Sharon Brown, Ph.D. Erle Janssen Tom McGarity, J.D. Jon Robertus, Ph.D Dennis Nolan, M.P.H. Rachel Lebansky John Ekerdt, Ph.D.

Members Absent

Chris Callsen Adolfo Valadez. Ph.D.

Non-Members Present

Janell Laca Wolfgang Bollich

I. REVIEW OF MINUTES- September 6, 2005

Changes to the minutes need to be made prior to approval.

II. CHAIR POSITION

Shelley Payne. Ph.D. is resigning as Chair.

III. UPDATE

Federal Register regulations regarding when flu virus is considered a select agent

- IV. NEW BUSINESS
 - a. Review of Non-Exempt Recombinant DNA Studies:
 - 1.) 2005-10-0119. BSL2: This is a new application using avian retroviral vectors. This study was approved.
 - 2.) 2005-09-0102. BSL3: This is a new application using a M. tuberculosis insert. This study was approved.
 - 3.) 2005-08-0078. Agrobacterium tumefaciens in plants. This study was approved.
 - 4.) 2004-07-0069. BSL2: This is a new application using adenovirus type 5 expressing ebola virus genes.

- Clarification on where the animal work will be done is needed. The animal section was not approved, pending animal space determination. Use of rDNA in the lab approved.
- 5.) 2004-09-0070. BSL2: This is a renewal of a previously accepted application. This study involved MMTX, MuLV and lentivirus. This study was approved. Noted was the fact that the lab will be moving soon.
- 6.) 2005-09-0132. BSL2: This is a new application for adenovirus. This study is provisionally approved until the use of BSL2 is approved by EHS.
- 7.) 2005-09-0131. BSL2: This is a new application for influenza virus. This study is provisionally approved until the use of BSL2 is approved by EHS.
- 8.) 2003-01-0025. This is a renewal of a previously approved study involving rDNA in mice. It was approved.
- 9.) 2005-07-0023. BSL2: This is a new application for the use of Sindbis virus. This study was given provisional approval pending approval of the fourth floor laboratory in NMS.
- 2005-10-0036, BSL2/3: Application for the use of recombinant influenza virus. Not categorized as a select agent based on the reference material. This study was approved.
- 11.) 2004-10-0175, Avian Influenza virus. This study was approved.
- 12.) 2004-08-0009, BSL3: This is the renewal of a previously approved study. The study was approved. A biosafety form covering the 1918 strain is needed.
- 13.) 2003-11-0049. This is the renewal of a previously approved study for rDNA for a transgenic colony. This study was approved.

Shelley Payne. Ph.D.

Chair

Erle Janssen

Vice-Chair & Director, EH&

The University of Texas at Austin Institutional Biosafety Committee Minutes Monday, January 23, 2006

The Institutional Biosafety Committee met on Monday, January 23, 2006. The meeting was called to order at 2:00 p.m. in the NMS Building, Room 2.106. Dr. Jaquelin Dudley chaired the meeting.

Members Present

- Dr. Jaquelin Dudley, IBC Chair, Molecular Genetics and Microbiology
- Dr. Eric Anslyn, Chemistry and Biochemistry
- Dr. Sharon Brown, Associate V.P. for Research
- Dr. John Ekerdt, Chemical Engineering
- Ms. Ann Harasimowitz, Office of the Dean of Natural Sciences
- Mr. Erle Janssen, Office of Environmental Health and Safety
- Ms. Rachel Lebansky, Office of Environmental Health and Safety
- Mr. Tom McGarity, School of Law
- Mr. Dennis Nolan, Office of Environmental Health and Safety
- Dr. Glen Otto, Animal Resource Center
- Dr. Shelley Payne, Molecular Genetics and Microbiology
- Dr. Adolfo Valadez, Office of the Health Authority
- Dr. Jon Robertus, Department of Chemistry and Biochemistry

Members Absent

Dr. Lisa Leiden, Office of Research Support and Compliance

Non-Members Present

Ms. Janell Laca, IBC Program Coordinator, Office of Research Support and Compliance

I. WELCOME

A. Introduction of new members to the committee and the new chair, Jaquelin Dudley

II. OLD BUSINESS

- A. Approval of Minutes from the November, 2005 meeting
- B. Posting of IBC Meeting times on the web
 - It is difficult to find the IBC information and the meeting dates on the website.

 Efforts should be made to make it more assessable and clear for investigators.

III. NEW BUSINESS

- A. Review of Non-Exempt Recombinant DNA Studies:
 - 1. 2003-01-0054- Agrobacterium (Plant transformation).
 - Renewal of previously determined BSL1 work developing transgenic plants
 - Mice are a problem in the Welch building and have been known to eat
 plants within this lab. Rachel will follow up with them to ensure steps
 are taken to contain the transgenic plants and prevent mice from
 entering the lab.

Approved by 11 members.

- 2. 2006-01-0053 Salmonella typhimiurium (BSL2)
 - Biosafety approval has expired, the PI has re-applied and was inspected last week
 - If BSL1 and BSL2 experiments are performed in the same room, everything should be handled like BSL2.
 - Mice are infected with Salmonella and challenged with RSV. RSV was not listed on the biosafety application last year.
 - · Animal work will be done in the ARC

Approved by 11 members pending renewal of the biosafety protocol.

- 3. 2006-01-0057 Exempt
 - Same investigator as above- an exempt study.

Approved by 11 members.

- B. Review of Biosafety Studies:
 - 1. An investigator is proposing working with blood and primary human cell lines. It has been sent on to Erle for review.
 - 2. An investigator currently has approval for the growth of human cell lines. He would like to use retroviral vectors to infect these cell lines. The following procedures were recommended.
 - The experiments should be done at BSL2 or BSL2+ if the payload is a growth inhibitor. BSL2 approval is necessary (a biosafety proposal).
 - EHS requires extra training for these procedures and they questioned whether or not the room was certified for retroviral use (clarify the location of these experiments).
 - The study proposal should be modified to include this experiment. Approved by 11 members pending training of individuals and lab inspection (if a new site).

C. Electronic Access:

- It should be noted that the committee does not have access to the rDNA database or biosafety database. Their EID's should be added to administrative access. In addition, Adolfo Valadez is a community member and does not have a UT EID.
- There are some fundamental problems with the database and the ability to view all the information that the investigator types in. These issues will be documented and handed on to the programmer.

D. NMS Security Concerns:

• High security locks are being required for freezers containing biosafety reagents in common hallway.

E. Pandemic Flu Task Force:

- A committee has been established to develop a response plan in the event of a flu epidemic. The plan will include postings about hand washing in bathrooms and propping doors open to help prevent viral transfer. In addition, possibly hand sanitizers will be installed in bathrooms.
- It is believed that the virus can be active for 7 days in chicken droppings and 30 days in freezing weather. The use of Tamiflu as a first response tactic is being discussed. Masks will be the best immediate response.

F. Cooperative Agreement signed:

• An MOU has been signed between The University of Texas at Austin and the Texas Health Department, designating the Erwin Center as an emergency site and distribution center in the future. This is an important advance in our disaster plan.

G. IATA Training:

- A contractor has been hired to provide detailed information about shipping infectious materials. The class will be held March 9, 2006 all day. There are currently 30 people registered with room for 10 more. Representatives from each lab using BSL2 agents should be involved and those shipping human material for diagnostic testing etc.
- Discussion included the fact that many graduate students join labs and never receive the proper training about chemical safety and shipping information from their advisor. A plan is needed to enforce training other than relying on the PI to notify EHS about new employees.

Jaquelin Dudley, Ph.D.

IBC Chair

The University of Texas at Austin Institutional Biosafety Committee Minutes Monday, April 17, 2006

The Institutional Biosafety Committee met on Monday, April 17, 2006. The meeting was called to order at 2:00 p.m. in the NMS Building, Room 2.106. Dr. Jaquelin Dudley chaired the meeting.

Members Present

Dr. Jaquelin Dudley, IBC Chair, Molecular Genetics and Microbiology

Dr. John Ekerdt, Chemical Engineering

Ms. Ann Harasimowitz, Office of the Dean of Natural Sciences

Mr. Erle Janssen, Office of Environmental Health and Safety

Ms. Rachel Lebansky, Office of Environmental Health and Safety

Dr. Lisa Leiden, Office of Research Support and Compliance

Mr. Dennis Nolan, Office of Environmental Health and Safety

Dr. Glen Otto, Animal Resource Center

Dr. Shelley Payne, Molecular Genetics and Microbiology

Ms. Janet Pichette, Office of the Health Authority

Dr. Jon Robertus, Department of Chemistry and Biochemistry

Members Absent

Dr. Eric Anslyn, Chemistry and Biochemistry

Dr. Sharon Brown, Associate V.P. for Research

Mr. Tom McGarity, School of Law

Dr. Adolfo Valadez, Office of the Health Authority

Non-Members Present

Ms. Janell Laca, IBC Program Coordinator, Office of Research Support and Compliance

I. OLD BUSINESS

A. Database Improvements Suggested

- 1. Include area for Project Description in the database to have some additional background information.
- 2. There are problem with items getting cut-off between the application and the final version.
- 3. There are problems when an investigator mentions N/A on application and it not being transferred to the report page.
- 4. Give more room for location(s) and comments.
- 5. Make sure the database is properly noting provisionally approved.
- 6. Include a question for the use of live viruses (Baculovirus, for example)
- 7. When viral vectors are used, the type of envelope protein should be clarified.

B. Sunshine Group- Three years of minutes requested

- 1. The committee would like to provide all minutes to the Sunshine Group as soon as possible, but the University lawyers should be consulted concerning the rules of Open Records Requests.
- 2. Investigators' names should be possibly redacted on the older minutes.
- 3. The committee would like to consider posting all of their minutes on the website in the future.

I. NEW BUSINESS

A. Questions about Engineered Viruses

- 1. What biosafety level should be considered when viruses are engineered and the host tropism is changed? This seems particularly relevant in the animal research facility- should animals be housed at BSL1 or BSL2 when infected with the virus?
- 2. It was suggested that the Office of Biotechnology Activities of the NIH be contacted to answer this question.

B. BSL-3 related business

- 1. A lab using H3N2 virus thought their centrifuge tubes broke (it seemed the wrong ones were used in the centrifuge), releasing possible viral aerosol into the lab. The virus had H5N1 structural proteins included.
- 2. It was determined that the liquid on the tube was probably condensation and the tube had not broken. However, the situation was handled as a release of virus situation. The medical response required two steps. 1. Teresa Spalding of University Health Services (UHS) provided authorization for Tamiflu to be given. 2. The PI agreed to receive and take it. He will be on Tamiflu until Tuesday.
- 3. The proper tubes for the centrifuge have been obtained.

C. Review of Non-Exempt Recombinant DNA Studies:

- 1. 2006-03-0060- DNA transfer into whole plants.
 - Clone cDNA's into an expression vector then used for knock-down experiments.
 - Agrobacterium requires BL-1P
 - Research needs to be done to determine regulations by NIH to cover transgenic plant research

Tabled by 11 members to determine guidelines.

- 2. 2006-02-0119 Developing transgenic animals.
 - Mice should be listed under rDNA host.

Approved by 11 members with this change.

- 3. 2006-02-0055 Adenovirus and helper virus (BSL2).
 - Biosafety approval is current until 2/2007.
 - BSL2 conditions are used for the animal research in the ARC.
 - The approved IACUC protocol number should be noted on the application.

Approved by 11 members with this change.

- 4. 2006-01-0118 Retroviral Vectors (BSL2).
 - Introducing an RNA to knock-down the level of caspases and other apoptotic regulators.
 - Biosafety approval is current until 3/2007.
 - Is the payload oncogenic?

Approved by 11 members once question is answered.

- 5. 2005-09-0132- Recombinant Adenovirus (BSL2).
 - Physics Professor working in a Pharmacy Laboratory to develop virus
 - Biosafety approval is current until 9/2006.
 - Clarify what is being infected (mice, cell lines, macrophages).
 - Clarify the location of the infection and whether or not the adenoviral infected materials will be transported anywhere. Clarify the lab where experiments are being performed.
 - Clarify staff involved in experimentation.

Tabled by 11 members pending additional clarification.

- 6. 2005-09-0126
 - Clarify what molecules are being tagged and if they are using an HA tag.
 - The individual who has submitted is not the PI.
 - Resubmit by the PI and be more clear about the experiment.

Tabled by 11 members pending additional clarification.

- 7. 2005-02-0149 Large Scale Production
 - This must be reviewed by the entire committee only because it is large scale production.
 - Experiments will be performed in the MBB building.

Approved by 11 members.

- 8. 2005-02-0134 Baculovirus
 - It should be noted that they are using live virus.
 - They are cloning DNA polymerases from mitochondria and HIV reverse transcriptase into Baculovirus.
 - It contains more than 2/3 of the virus genome.

Approved by 11 members.

- 9. 2005-02-0087 cloning regulators of apoptosis
 - It is being reviewed by full committee since a very small piece of HIV is used as a means of getting certain proteins into the cultured cells.
 - It is not more than 2/3 of the viral genome.
 - A non-infectious portion of HIV is being used.

Approved by 11 members.

- 10. 2005-02-0008 It is actually exempt
 - It will be reviewed by Dr. Dudley for approval.
- 11. 2005-01-0088 Baculovirus use

Approved by 11 members.

- 12. 2004-07-0069 Ebola virus genes
 - Biosafety approval is valid until 2/2007
 - Confirm the approval of the IACUC protocol associated with this proposal.
 - Area in ARC should be inspected prior to the work beginning.
 - The gene for one protein of the Ebola virus is being used. She will work under BSL2 conditions for precaution.

Approved by 9 members under these conditions.

- 13. 2004-05-0060 Using recombinant viral vectors (Adenovirus, AAV, Sindbis and Lentivirus)
 - Biosafety approval is valid until 8/2006
 - Confirm the approval of the IACUC protocol associated with this proposal. Clarify constructs that will be used.
 - Area in ARC should be inspected prior to the work beginning.

Approved by 9 members under these conditions.

- 14. 2004-04-0148 It is actually exempt
 - It will be reviewed by Dr. Dudley for approval.
- 15. 2004-04-0091 It is actually exempt
 - It will be reviewed by Dr. Dudley for approval.
- 16. 2004-03-0063 The DNA is from Chlamydia.
 - The organism is not in the lab.

Approved by 9 members.

- 17. 2004-01-0085 Bacilovirus and Papilloma viral vectors.
 - Must be voted on by the entire committee since viruses are used. Approved by 9 members.

- 18. 2004-01-0065 Risk group II bacterium used.
 - Group II introns are placed into a variety of other organisms (*E. coli, Staphylococcus*, etc.)
 - Biosafety approval is valid until 3/2007

Approved by 9 members.

- 19. 2003-09-0061 Agrobacterium lab engineered strains
 - Regulations need to be checked to determine the level of hazard.
 - Proper containment would be the issue.

Approved by 9 members following confirmation of the regulations.

- 20. 2003-06-0036 Recombinant vectors into mice.
 - Confirm IACUC protocol approval.
 - BSL1 is required since no more than 2/3 of a viral genome is being used.

Approved by 9 members following confirmation of IACUC approval.

- 21. 2003-01-0025 Development of transgenic mice.
 - IACUC protocol approval confirmed.

Approved by 9 members.

- 22. 2002-09-0041 Baculovirus use
 - Ask PI if there are multiple protocols for the same experiments.
 - It was submitted as exempt, but it is not.

Approved by 9 members.

- 23. 2002-09-0040 Moloney Murine Leukemia virus
 - Ask for clarification of the envelope protein.

Tabled by 9 members, pending a response to the question.

- 24. 2004-12-0037 Murine Leukemia Virus, HIV and VSV
 - None of the viral genes clones are hazardous to humans.
 - Only one gene is cloned from HIV.

Approved by 8 members, one abstaining.

Jaquelin Dudley, Ph.D.

IBC Chair

The University of Texas at Austin Institutional Biosafety Committee Minutes Thursday, June 29, 2006

The Institutional Biosafety Committee met on Thursday, June 29, 2006. The meeting was called to order at 2:00 p.m. in the NMS Building, Room 2.106. Dr. Jaquelin Dudley chaired the meeting.

Members Present

Dr. Jaquelin Dudley, IBC Chair, Molecular Genetics and Microbiology

Dr. Jerry Fineg, Animal Resource Center (Alternate)

Ms. Ann Harasimowitz, Office of the Dean of Natural Sciences

Ms. Rachel Lebansky, Office of Environmental Health and Safety

Dr. Lisa Leiden, Office of Research Support and Compliance

Mr. Tom McGarity, School of Law

Dr. Shelley Payne, Molecular Genetics and Microbiology

Ms. Janet Pichette, Office of the Health Authority

Members Absent

Dr. Eric Anslyn, Chemistry and Biochemistry

Dr. Sharon Brown, Associate V.P. for Research

Dr. John Ekerdt, Chemical Engineering

Mr. Erle Janssen, Office of Environmental Health and Safety

Mr. Dennis Nolan, Office of Environmental Health and Safety

Dr. Glen Otto, Animal Resource Center (his Alternate was present)

Dr. Jon Robertus, Department of Chemistry and Biochemistry

Dr. Adolfo Valadez, Office of the Health Authority

Non-Members Present

Ms. Janell Laca, IBC Program Coordinator, Office of Research Support and Compliance

I. OLD BUSINESS

- A. Problems with the database need correcting
 - 1. Some areas of the application form are cut off on the committee's version. Correct this with the IT team.
 - 2. There should be an area to include biosafety protocol numbers.
 - 3. Questions should be included to ask about transgenic plant use, *Agrobacterium* and Baculovirus.
 - 4. The IBC meetings should be posted clearly on the website with the location.

III. NEW BUSINESS

- A. Experiments involving whole plants (Section III- E-2)
 - A copy of the NIH guidelines (Section III-E-2) was provided to the committee members along with the BL-1P containment requirements.
 - Those labs using transgenic plans and/or Agrobacterium should be certified for BL-1P. All protocols involving these types of experiments should be tabled until the PI's are provided additional information about the requirements and lab inspections are done by Environmental Health and Safety to confirm their compliance.
 - All labs currently in the database using transgenic plants or *Agrobacterium* should be notified.
 - All protocols involving these types of experiments should note BL-1P containment on their application form.
- B. Annual Report to the Office of Biotechnology Activities (OBA)
 - A copy of the reply letter from OBA was provided to the members reflecting their acceptance of our annual report.
 - Janet Pichette is now a full member of the committee, versus an alternate.

C. Committee Membership Changes

- Dr. Sharon Brown, Associate Vice President for Research, will make decisions about the committee's membership around September 1st.
- If the committee members have suggestions for additional members or have potential alternates for their own position when they can not attend, please contact Janell Laca.

D. Future IBC meeting

• Members will be contacted by Janell Laca via email to set up the next meeting around the beginning of the academic year.

E. Sunshine Request

- Once the minutes are available, they should be provided to Ed Hammond of the Sunshine Project. Principal Investigator's names should be redacted.
- F. Review of Non-Exempt Recombinant DNA Studies:
 - 1. 2006-06-0083- Use of Sindbis Virus (BSL2). Viruses are defective.
 - Question # 10 should be changed to reflect a Biosafety Level 2 agent.
 - Biosafety proposal and inspections are up-to-date.
 - IACUC protocol is up-to-date

Approved by 8 members.

- 2. 2006-06-0027- Human Papillomavirus (BSL2).
 - The active virus is not used in the lab.
 - The lab is certified for BSL2.

Approved by 8 members.

- 3. 2006-05-0061- Arabidopsis and Agrobacterium (BL-1P).
 - Use of transgenic plants.
 - Based on the earlier discussion, this should be done under BL-1P conditions.
 - The lab has not been certified for BL-1P.

Tabled by 8 members until more information is provided to the investigator to bring them into compliance and BL-1P lab inspection completed.

- 4. 2006-03-0060- Agrobacterium and transgenic plants (BL-1P).
 - Use of transgenic plants and Agrobacterium.
 - Based on the earlier discussion, this should be done under BL-1P conditions.
 - The lab has not been certified for BL-1P.

Tabled by 8 members until more information is provided to the investigator to bring them into compliance and BL-1P lab inspection completed.

- 5. 2004-05-0066- Agrobacterium (BL-1P).
 - Use of Agrobacterium.
 - Based on the earlier discussion, this should be done under BL-1P conditions.
 - The lab has not been certified for BL-1P.

Tabled by 8 members until more information is provided to the investigator to bring them into compliance and BL-1P lab inspection completed.

- 6. 2003-09-0118 is actually exempt
 - Will be reviewed by Dr. Dudley.
- 7. 2003-09-0061- Agrobacterium (BL-1P).
 - Use of *Agrobacterium* BL-1P restrictions are required where the manipulations are done as well as where the plants are grown.
 - Based on the earlier discussion, this should be done under BL-1P conditions.
 - The lab has not been certified for BL-1P.

Tabled by 8 members until more information is provided to the investigator to bring them into compliance and BL-1P lab inspection completed.

- 8. 2004-07-0027- Agrobacterium (BL-1P).
 - Use of Agrobacterium
 - Agrobacterium should be listed as a host, as should E. coli.
 - Based on the earlier discussion, this should be done under BL-1P conditions.
 - The lab has not been certified for BL-1P.

Tabled by 8 members until more information is provided to the investigator to bring them into compliance and BL-1P lab inspection completed.

- 9. 2005-04-0048-HPV E6 gene.
 - They are doing these experiments under BSL2 only as a precaution.
 - This work involved less than 2/3 of the viral genome.

Approved by 8 members.

- 10. 2005-03-0079- cloning Pseudomonas aeroginosa into E.coli.
 - This is a BSL2 agent.
 - Pending Biosafety approval confirmation.

Approved by 8 members once biosafety approval is confirmed.

- 11. 2004-07-0024 no infectious organisms.
 - Transcription factors expressed in mouse cells, embryos, or E. coli
 - Involves animal use- therefore needs full committee review.

Approved by 8 members.

- 12. 2004-06-0112- expression of gene products in insect virus.
 - infectious virus used, but low risk

Approved by 8 members.

- 13. 2004-06-0025- involves a retroviral vector that is replicative defective.
 - Oncogene is expressed
 - The retrovirus has an ecotropic envelope.

Approved by 8 members.

- 14. 2004-05-0077- development of transgenic mice
 - · Confirm if applicant is a Principal Investigator

Approved by 8 members if status of applicant is confirmed.

- 15. 2004-04-0015- Baculovirus
 - Essentially the same proposal as 2005-02-0134, clear up with PI Approved by 8 members.

- 16. 2003-06-0057 Murine Leukemia Virus and Mouse Mammary Tumor Virus
 - Gene products are non-hazardous.
 - IACUC protocol is current.
 - BSL2 is being used only as a precaution (it is categorized as BSL1)

 Approved by 7 members (1 abstained).

17. 2002-09-0040

- Questions posed at last meeting are now answered.
- The packaging line expresses an ecotropic retroviral envelope protein.

 Approved by 8 members.

Jacuelin Dudley, Ph.D.

IBC Chair