



Lifespan

Recombinant DNA Committee (RDC)

Manual of Operations

Rev. 01/09

Recombinant DNA Committee

RDC

Purpose

The purpose of the RDC is to assure that all recombinant DNA research conducted by the research community of Lifespan affiliates in Rhode Island, is conducted according to the most recent version of the Guidelines For Research Involving Recombinant DNA Molecules (NIH Guidelines). Recombinant DNA research conducted at Women & Infants Hospital is also governed by this committee.

Responsibilities

- Review of recombinant DNA research protocols in regards to containment levels, laboratory facilities, and practices and procedures.
- Notify the principal investigator of the results of the committee's review
- Ensure the research staff has adequate training and expertise to perform proposed research
- Ensure that periodic inspections are conducted of laboratory facilities where recombinant DNA research is performed
- Maintain an inventory of Biohazard Level – 2 (BL-2) or higher biological agents.
- Serve as a resource for those investigators conducting research involving recombinant DNA.
- Report any significant problems with or violations of the NIH guidelines and any significant research-related accidents or illnesses to the appropriate institutional official and NIH/Office of Biotechnology Activities (OBA) within 30 days.

Policies and Procedures

The Committee

The Committee shall consist of no less than 5 members recommended by their Department Head and appointed by the Institutional Official. At least two members shall not be affiliated with the institution and shall represent the interest of the surrounding community with respect to health and protection of the environment. Membership shall be qualified to meet the requirements for expertise as mandated by the NIH Guidelines. The Committee shall be known as the Lifespan Recombinant DNA Committee (RDC) and shall meet on the first Monday of each month on an

as-needed basis. The RDC is a subcommittee of the Biohazards and Laboratory Safety Committee (BLSC) and shall report to the BLSC on an annual basis. The RDC will maintain certification of its membership with the NIH Office of Biotechnology Activities.

Procedure for Review of Recombinant DNA Research

All research protocols involving DNA research as noted on the Request for Research Committee Review Application form, will be received by the Committee Coordinator in the Office of Research Administration and processed for review. Applications that are thought to be exempt will be forwarded to the Chair for review. If the research is determined to be exempt according to NIH Guidelines, the investigator will receive a notice of review status from the Committees Coordinator in the Office of Research Administration. If the Chair determines that the research does not meet the definition of exempt research as described in the NIH Guidelines, the application will be processed for full board review by the convened committee. For applications that require full board review, the Committee Coordinator will assign two primary reviewers to review the protocol. If the designated reviewer feels he/she has a conflict of interest, or lacks sufficient expertise to review the protocol, an alternate reviewer may be requested. All RDC members will receive a copy of the application as well. The investigator will be asked to appear before the Committee at the next monthly meeting to present the research for review.

Minutes of Committee meetings will be recorded, transcribed and maintained for inspection by the ORA Committees Coordinator. Notice of meeting schedule and application due dates will be posted on the Office of Research Administration website <http://www.lifespan.org/research/dna/>

Continuing Review

Those protocols that use BL-2 or higher microorganisms, as determined by the RDC will be reviewed at least once annually and more frequently if the Committee feels it appropriate. The investigator will be required to complete a progress report which will be sent by the Office of Research Administration approximately 45 days before the report is due. Failure to submit a complete progress report will result in expiration of RDC approval of the research protocol until the report is filed, reviewed and approved for continuation. Failure to submit a complete progress report within 30 days of the expiration notice will result in termination of the project. Those protocols deemed exempt will not be required to undergo continuing review.

Changes to Protocol

It is the responsibility of the investigator to notify the Chair of the RDC in writing of any intended change in the approved DNA research activity. The Committees Coordinator will receive all requests for revision. Such requests that do not appear to directly involve handling of recombinant DNA material, and do not appear to involve patient/personnel safety, will be forwarded to the Chair for expedited review. The Chair will review the requested change and determine whether it requires review by the full committee and/or any change in the original biosafety classification. The Chair has the authority to approve, approve with minor modification, or defer to the full board any request for revision to protocol. The Committee will be notified of all expedited reviews on the next agenda. Work on the amended protocol will not be undertaken until a letter of approval is issued by the Committee for the requested change.

Administrative Review

Should an investigator submit a DNA protocol to more than one agency, the initial application will be given a full review by the Committee. Subsequent submissions will be given an Administrative Review provided the investigator notifies the Chair in writing that the recombinant DNA portions of the subsequent application(s) are indistinguishable from the original, noting the date of the original approval. The Chair will review the application and approve the subsequent application(s) without requiring a review by the primary reviewers or full committee. An approval letter will be issued for each subsequent application. If the original application requires a continuing review then that review must be current (within the last 12 months).

Review of Research Utilizing Gene Transfer Technology

The RDC recognizes that research utilizing gene transfer technology in human subjects requires additional considerations for review and monitoring. Research involving human subjects treated with gene transfer methods will be reviewed by both the RDC and the Institutional Review Board (IRB). RDC responsibility for the review of gene transfer technology protocols includes, but is not limited to, safety and efficacy of the virus in human subjects and occupational safety of research and hospital staff.

The RDC primary reviewers assigned to examine the application with regard to recombinant DNA issues will be available to the IRB as scientific consultants. The RDC reviewers or the Chair will be available to present the recombinant DNA perspective to the IRB upon request. In return, the RDC will request that the IRB primary reviewers or designates be available to advise the RDC of human subjects protection concerns. Joint review will be coordinated by the Committee Coordinator. Adverse events involving research participants involved in gene transfer technology protocols will be reviewed by both the IRB and the RDC, in accordance with IRB adverse event reporting policy.

Inspection of Laboratory Facilities

In conjunction with the laboratory inspections conducted by the chemical hygiene officer and the Biohazards and Laboratory Safety Committee (BLSC), the RDC will ensure that annual inspections are conducted in those laboratories performing recombinant DNA research to ensure that laboratory standards are rigorously followed. The RDC will maintain and update a list of laboratories that conduct recombinant DNA research.

Inventory of Material Transfer Agreements and Distribution of BL-2 (and Higher) Biological Agents

The NIH Guidelines for Recombinant DNA Research requires that the RDC monitor the use of vectors derived from viruses and/or cell lines with incorporated viral sequences. To comply with this requirement, the Office of Research Administration (ORA) will maintain a file of material transfer agreements. The investigator is required to maintain an inventory of BL-2 agents that are used within the lab. The inventory will be updated at the time of annual laboratory inspection and the investigator will be responsible for final accountability of the inventory at the time he/she leaves the institution.

Waste disposal of recombinant DNA materials

Recombinant DNA materials must be disposed of by following hospital disposal regulations. All sharps, including pipet tips, must be disposed of in sharps containers. Lab waste must be disposed of in red bag waste container. Liquid waste from cultures must be treated with the addition of hypochlorite (household bleach) to a final concentration of 10% and allowed to sit for at least 5 minutes before disposal down the sink.

Resource, Education and Training

The RDC, has created an on-line training program that should be completed by all investigators and research staff in the laboratory before initiating recombinant DNA work. In addition the RDC will on an as-needed basis, provide interested members of the research community with additional educational and training information necessary for the investigator to maintain a safe laboratory environment and to ensure research conducted in the laboratory is within the NIH Guidelines. The Committee will serve as a resource mechanism as well as a review mechanism.

Screening for Replication Competent Viruses

Recombination events or contamination with wild type viruses can result in the production of replication competent virus (RCV) in a population of replication deficient viral stocks. The Recombinant DNA committee requires testing for the presence of RCV in viral stocks and the method of testing must be indicated in the appropriate section of the application. For each category of viral vector, (eg: adenoviral viral, retroviral vector or lentivirus derived vector) refer to the attached recommended procedures for the detection of RCV.

Appendices

- 1. RDC Member Roster**
- 2. List of Lifespan Investigators Using Recombinant DNA Methodology**
- 3. RDC Application form**
- 4. Progress Report form**
- 5. BL-2 Employee Training Form**
- 6. Safety Information Sheet for Recombinant DNA Materials**
- 7. Recommended Testing Procedures for Adenoviral Vectors and Replication Competent Virus - Annual Requirement for Biosafety 2 Approval**
- 8. S.O.P. for Handling and Storage of Human Subject Study Reagents Utilizing Recombinant DNA in Viral Vectors**
- 9. S.O.P for Care and Handling of animals on BL-2 Rec. DNA protocols**

1. RDC Member Roster

Please contact the Committee Coordinator for the most recent list of RDC members (jpoore@lifespan.org, 444-2093)

2. List of Lifespan Investigators Using Recombinant DNA Methodology

Please contact the Committee Coordinator for the most recent list of investigators (jpoore@lifespan.org, 444-2093)

3. RDC Application form

**This form is available for download at
<http://www.lifespan.org/research/dna/docs/dna%20forms/dnaapp0605.doc>**

**Please be sure to download the most recent version of
this form for all new submissions**

4. Progress Report form

This form is available for download at
<http://www.lifespan.org/research/dna/docs/dna%20forms/dna%20progrep%200505.doc>

**Please be sure to download the most recent version of
this form for all continuing review submissions**

5. [BL-2 Employee Training Form](#)

This form is available for download at

<http://www.lifespan.org/research/dna/docs/dna%20forms/dnabl2training/dnabl2trainingform.pdf>

6. Safety Information Sheet for Recombinant DNA Materials

These forms are available for download

Viral:

<http://www.lifespan.org/research/dna/docs/dna%20forms/safetyinformationsheetviral.doc>

Non-viral:

<http://www.lifespan.org/research/dna/docs/dna%20forms/safetyinformationsheetnon-viral.doc>

7. Recommended Testing Procedures for Adenoviral Vectors and Replication Competent Virus - Annual Requirement for Biosafety 2 Approval

These SOPs are available for download at:

[Adenovirus:](#)

http://www.lifespan.org/research/dna/docs/dnasops/rdc_adenoviral_testing_%20procedures.doc

[Retrovirus:](#)

http://www.lifespan.org/research/dna/docs/dnasops/rdc_retroviral_testing_procedure.doc

8. S.O.P. for Handling and Storage of Human Subject Study Reagents Utilizing Recombinant DNA in Viral Vectors

This [guidance](#) is available for download at:

http://www.lifespan.org/research/dna/docs/dnasops/rdc_sop_for_%20recdna_%20in_%20humans.doc

9. S.O.P for Care and Handling of animals on BL-2 Recombinant DNA protocols

The SOP for Animal Care is available for download at:

http://www.lifespan.org/research/dna/docs/dnasops/rdc_bl2_%20animal_care_sop.doc