



**Institutional Biosafety Committee (IBC) Registration
for Infectious Agents and/or Recombinant DNA Molecules**

IMPORTANT: This form is to be used for the registration of research, instruction, service, and testing activities at the University of New Hampshire involving Risk Group 1, 2 and 3 agents, toxins, recombinant DNA molecules, human blood and body fluids, human tissue or organs, human cell lines (including stem cells), environmental cultures, and other projects rated for Biosafety Level 2 or 3 laboratories.

Please refer to the "Biosafety in Microbiological and Biomedical Laboratories" manual, available online at <http://www.cdc.gov/od/ohs/biosfty/bmb15/bmb15toc.htm> or the "NIH Guidelines for Research Involving Recombinant DNA Molecules," available online at <http://www4.od.nih.gov/oba/rac/guidelines/guidelines.html>. Contact the Biological Safety Officer at 862-0197 for more information.

PART I - APPLICABILITY

| 1. Does this project involve any of the following? | | |
|--|--------------------------|--|
| Yes | No | |
| <input type="checkbox"/> | <input type="checkbox"/> | 1A. Infectious agents or infectious microorganisms? |
| <input type="checkbox"/> | <input type="checkbox"/> | 1B. Human gene transfer experiments or clinical trials? |
| <input type="checkbox"/> | <input type="checkbox"/> | 1C. Human blood, human tissues, human cell lines (including stem cells), or human body fluids? |
| <input type="checkbox"/> | <input type="checkbox"/> | 1D. Animal or human tissue cultures, cell lines, or non-human primate clinical specimens? |
| <input type="checkbox"/> | <input type="checkbox"/> | 1E. Recombinant DNA molecules or organisms? |
| <input type="checkbox"/> | <input type="checkbox"/> | 1F. Recombinant DNA used with plants or the use of plant pathogens? |

| 2. This project will involve which of the following activities? | | |
|---|--------------------------|---------------------------------------|
| Yes | No | |
| <input type="checkbox"/> | <input type="checkbox"/> | 2A. Research Activities |
| <input type="checkbox"/> | <input type="checkbox"/> | 2B. Teaching / Instruction Activities |
| <input type="checkbox"/> | <input type="checkbox"/> | 2C. Service / Testing Activities |
| <input type="checkbox"/> | <input type="checkbox"/> | 2D. Other: |

| 3. What other institutional approvals are needed for this project? | | |
|--|--------------------------|--|
| Yes | No | |
| <input type="checkbox"/> | <input type="checkbox"/> | 3A. Institutional Animal Care and Use Committee (IACUC)? If yes, has approval been received? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Pending Approval #: |
| <input type="checkbox"/> | <input type="checkbox"/> | 3B. Institutional Review Board (IRB)? If yes, has approval been received? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Pending Approval #: |
| <input type="checkbox"/> | <input type="checkbox"/> | 3C. Radiation Safety Committee (RSC)? If yes, has approval been received? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Pending Approval #: |

PART II – PRINCIPAL INVESTIGATOR INFORMATION

4. Please provide the following information for the Principal Investigator (PI) for this project:

| | | | |
|---------------------|--|------------------------|--|
| 4A. First Name: | | 4B. Last Name: | |
| 4C. Office Phone #: | | 4D. Emergency Phone #: | |
| 4E. College: | | 4F. Department: | |
| 4G. Building: | | 4H. Office Room #: | |
| 4I. Lab Phone #: | | 4J. E-mail Address: | |

PART III – PROJECT DESCRIPTION

Section A: Project Title and Funding Information

5. Please provide the following information regarding the project title and associated funding information:

| | | | |
|---------------------|--------------|----------------------|----------------------------------|
| 5A. Project Title: | | | |
| 5B. Project Period | <i>From:</i> | 5C. Funding Received | <input type="checkbox"/> Yes |
| | <i>To:</i> | | <input type="checkbox"/> No |
| | | | <input type="checkbox"/> Pending |
| 5D. Funding Source: | | | |

Section B: Lay Summary

6. Please provide the following information in terms that are understandable to a non-scientist (i.e., avoiding technical jargon and the use of unexplained acronyms):

| |
|---|
| 6A. Provide a very brief description for this project. |
| |
| 6B. Simply and briefly state the specific goal(s) of the project. |
| |

Section C: Safety Summary

7. The Institutional Biosafety Committee (IBC) evaluates research protocols to ensure that they incorporate steps to minimize potential biohazard exposures and that biohazardous materials are disposed of in an appropriate manner.

| |
|---|
| 7A. Briefly, describe the manipulations to be performed. Please provide sufficient information to help IBC members envision the experimental procedure. Please include the concentration, infectivity, and environmental stability of microbes. Please do not simply paste laboratory protocols or methods from grant applications or published papers. |
| |
| 7B. Identify any potential biological risks, even if exposure is unlikely. |
| |
| 7C. Describe the steps that will be taken to minimize those risks. |
| |
| 7D. Describe disposal procedures. |
| |

PART IV – PERSONNEL INFORMATION

The list of personnel should include all those, starting with the PI, who will physically handle the biohazardous agents or recombinant DNA molecules and who are conceivably at risk from research procedures involving the use of these biological materials. Approval of the proposed experiment is given only for the identified personnel listed in this section.

The Biological Safety Officer must be notified if any new personnel are added to the application. The PI is responsible for insuring that all personnel receive appropriate training and any required vaccinations prior to the initiation of work.

8. Please provide the requested information for EACH person working on this project or handling the biological agents or recombinant DNA molecules, starting with the PI. Additional personnel may be added using the forms in [Appendix A](#). Proof of training must be kept on file in each laboratory.

| | | | | | |
|--|--------------------------|---------------------------|--------------------------|-----------------------|--|
| Name: | | Title or Position: | | | |
| Telephone Number: | | E-mail Address: | | | |
| Relevant Education, Experience, or Credentials: | | | | | |
| TRAINING | YES | NO | N/A | DATE COMPLETED | |
| Biological Safety Training (Annual training required when working with Risk Group 2 and 3 agents) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Bloodborne Pathogens Training (Annual training required when working with human blood, tissue, organs, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| DOT/IATA Shipping Training (Biennial training required when shipping hazardous materials) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Hazardous Waste Training (Biennial training required when working with hazardous waste) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Recombinant DNA Training (Annual training required when working with recombinant DNA molecules) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| First Aid Training | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Fire Extinguisher Training | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Additional Lab-Specific Safety Training: | | | | | |

| | | | | | |
|--|--------------------------|---------------------------|--------------------------|-----------------------|--|
| Name: | | Title or Position: | | | |
| Telephone Number: | | E-mail Address: | | | |
| Relevant Education, Experience, or Credentials: | | | | | |
| TRAINING | YES | NO | N/A | DATE COMPLETED | |
| Biological Safety Training (Annual training required when working with Risk Group 2 and 3 agents) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Bloodborne Pathogens Training (Annual training required when working with human blood, tissue, organs, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| DOT/IATA Shipping Training (Biennial training required when shipping hazardous materials) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Hazardous Waste Training (Biennial training required when working with hazardous waste) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Recombinant DNA Training (Annual training required when working with recombinant DNA molecules) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| First Aid Training | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Fire Extinguisher Training | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| Additional Lab-Specific Safety Training: | | | | | |

PART V – AGENT INFORMATION

| | |
|---|---|
| 9. Please identify all agents to be used in the project by their appropriate Risk Group. | |
| <input type="checkbox"/> | Risk Group One (RG-1): Agents that are not associated with disease in healthy humans. |
| | <p>List RG-1 agents:</p> <p>What are the symptoms of exposure to these agents?</p> <p>What diseases may result from exposure to these agents?</p> |
| <input type="checkbox"/> | Risk Group Two (RG-2): Agents that are associated with human disease which is rarely serious and for which preventive or therapeutic interventions are often available. [Research with bloodborne pathogens (i.e., human tissue, blood, semen, vaginal fluid, breast milk, saliva, and tears) or environmental samples must be conducted at BSL-2 or higher levels.] |
| | <p>List RG-2 agents:</p> <p>What are the symptoms of exposure to these agents?</p> <p>What diseases may result from exposure to these agents?</p> |
| <input type="checkbox"/> | Risk Group Three (RG-3): Agents that are associated with serious or lethal human disease for which preventive or therapeutic interventions may be available (high individual risk but low community risk). |
| | <p>List RG-3 agents:</p> <p>What are the symptoms of exposure to these agents?</p> <p>What diseases may result from exposure to these agents?</p> |
| | Risk Group Four (RG-4): Agents that are likely to cause serious or lethal human disease for which preventive or therapeutic interventions are not usually available (high individual risk and high community risk). RG-4 agents are prohibited at UNH. |

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| 10. Will there be > 10 L of infectious organisms present in the laboratory at any time? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A |
|---|

| | |
|--|---|
| 11. Based on the proposed laboratory procedures, please indicate the most likely routes of exposure for laboratory personnel to biohazardous material. Please check all that apply. | |
| <input type="checkbox"/> N/A <input type="checkbox"/> Ingestion <input type="checkbox"/> Inhalation <input type="checkbox"/> Mucous membrane | <input type="checkbox"/> Inoculation <input type="checkbox"/> Skin contact <input type="checkbox"/> Eyes <input type="checkbox"/> Other (please describe): |

| |
|--|
| 12. Briefly explain the procedures the laboratory will use to minimize the potential for exposure based on the routes of exposure indicated above. Please include any engineering controls, personal protective equipment, and safety procedures that will be employed. |
| |

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| 13. Is medical surveillance required as part of this project? <input type="checkbox"/> Yes <input type="checkbox"/> No |
| If yes, please describe: |

All laboratory personnel involved with an exposure incident must notify the PI and Biological Safety Officer immediately. Vaccinations must be offered to at-risk personnel (whenever available). The PI must verify documentation for the vaccination or signed declination. Please contact the Biological Safety Officer for additional information.

| | Yes | No | N/A |
|--|--------------------------|--------------------------|--------------------------|
| 14. Is a vaccination available for the organism(s) to be used? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| If yes, please indicate which one: | | | |
| 15. Have all at-risk personnel been offered the vaccination? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| If no, please explain: | | | |
| 16. Have at-risk personnel been advised of the risks and benefits of the vaccine? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| If no, please consult with an occupational health physician. | | | |
| 17. Have at risk personnel who refuse vaccination signed a waiver? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| | Yes | No | N/A |
|---|--------------------------|--------------------------|--------------------------|
| 18. Is a CDC, USDA or APHIS permit required to ship, use, or store these agents? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 19. Do you plan to receive, ship, or transport any of the agents to or from UNH? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 20. Are any of these agents listed as CDC/USDA Select Agents? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| If yes, please indicate which one(s): | | | |

| | Yes | No | N/A |
|--|--------------------------|--------------------------|--------------------------|
| 21. Will cell lines used as part of this project? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| If yes, please provide the applicable information below. | | | |
| 20A. Human cell lines? Please list: | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 20B. Animal cell lines? Please list: | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 20C. Plant cell lines? Please list: | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

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|---|--|
| 22. Which level of containment is required for the proposed project? | |
| <input type="checkbox"/> | Biological Safety Level One (BSL-1): Work with agents not known to consistently cause disease in healthy adults, animals and/or the environment. |
| <input type="checkbox"/> | Biological Safety Level Two (BSL-2): Work with agents associated with disease in humans, animals and/or the environment. The route of exposure into the host is generally through ingestion, injection, absorption and/or mucous membrane exposure. |
| <input type="checkbox"/> | Biological Safety Level Three (BSL-3): Work with indigenous and/or exotic agents capable of causing serious or potentially lethal disease and present the potential of aerosol transmission. The most common route of exposure is via the inhalation route, although exposure may be possible through ingestion, injection, absorption and/or mucous membrane exposure. BSL-3 research requires pre-approval by the BSL-3 Laboratory Director. |
| | Biological Safety Level Four (BSL-4): Work with dangerous or exotic agents which pose high risk of life-threatening disease. The route of exposure may be unknown. BSL-4 research is not permitted at UNH. |

PART VI – RECOMBINANT DNA

23. Recombinant DNA will NOT be used in this project. If checked, please proceed to [Part VII](#).

Recombinant DNA is defined by the National Institutes of Health (NIH) as:

- 1) 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
- 2) Molecules that result from the replication of those described in (1) above.

In order to receive approval for your project, you will need to:

- Describe the rDNA construct(s) to be used in this project. Include a description, in molecular terms (e.g., promoter[s], Orbs, selectable markers), of the rDNA construct and provide a map if available. It is not necessary to provide details about every construct; categorical descriptions that are useful in assessing risks are acceptable.
- Describe the method of transfer or transfection.
- Describe measures taken to prevent or minimize expression of pathogenic/infectious sequences. Please avoid, or explain, acronyms.
- Refer to the NIH Guidelines For Research Involving Recombinant DNA Molecules (*NIH Guidelines*) at <http://www4.od.nih.gov/oba/rac/guidelines/guidelines.html> for additional information.

| | |
|--|--|
| 24. Which of the six NIH categories apply to the proposed project? | |
| Refer to Section III of the <i>NIH Guidelines</i> to determine which category applies to your research. | |
| <input type="checkbox"/> III-A | Require IBC approval, RAC review and NIH Director approval before initiation. (<i>NIH Guidelines</i> , Section III-A.) |
| <input type="checkbox"/> III-B | Require NIH/OBA and IBC approval before initiation. (<i>NIH Guidelines</i> , Section III-B.) |
| <input type="checkbox"/> III-C | Require IBC and Institutional Review Board approval and RAC review before research participant enrollment. (<i>NIH Guidelines</i> , Section III-C.) |
| <input type="checkbox"/> III-D | Require IBC approval before initiation. (<i>NIH Guidelines</i> , Section III-D.) |
| <input type="checkbox"/> III-E | Require IBC approval simultaneous with initiation. (<i>NIH Guidelines</i> , Section III-E.) |
| <input type="checkbox"/> III-F | Exempt experiments. (<i>NIH Guidelines</i> , Section III-F) |
| <input type="checkbox"/> N/A | |

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|--|
| 25. Where will recombinant DNA molecules be manipulated, handled, stored, etc.? |
| <input type="checkbox"/> Laboratory <input type="checkbox"/> Greenhouse <input type="checkbox"/> Animal Facility <input type="checkbox"/> Farm <input type="checkbox"/> Other: |

| | Yes | No |
|--|--------------------------|--------------------------|
| 26. Does this project involve an Environmental Release? If yes, please attach USDA application or permit. | <input type="checkbox"/> | <input type="checkbox"/> |
| 27. Is a USDA permit required for this project? | <input type="checkbox"/> | <input type="checkbox"/> |
| 28. Do the proposed experiments involve the genetic engineering of whole plants? (<i>NIH Guidelines</i> , Section III-D-5) | <input type="checkbox"/> | <input type="checkbox"/> |
| 29. Does this project utilize exotic infectious agents or agents with recognized potential for serious detrimental impact on managed or natural ecosystems when recombinant DNA techniques are associated with whole plants? (<i>NIH Guidelines</i> , Section III-D-5-a) | <input type="checkbox"/> | <input type="checkbox"/> |
| 30. Does this project utilize plants modified by recombinant DNA that are noxious weeds or can interbreed with noxious weeds in the immediate geographic area? [<i>NIH Guidelines</i> , Section III-E-2-b-(1)] | <input type="checkbox"/> | <input type="checkbox"/> |

| | Yes | No |
|--|--------------------------|--------------------------|
| 31. Will this project demonstrate how to render a vaccine ineffective? | <input type="checkbox"/> | <input type="checkbox"/> |
| 32. Will this project confer resistance to therapeutically useful antibiotics or antiviral agents? | <input type="checkbox"/> | <input type="checkbox"/> |
| 33. Will this project enhance the virulence of a pathogen or render a non-pathogen virulent? | <input type="checkbox"/> | <input type="checkbox"/> |
| 34. Will this project increase transmissibility of a pathogen? | <input type="checkbox"/> | <input type="checkbox"/> |
| 35. Will this project alter the host range of a pathogen? | <input type="checkbox"/> | <input type="checkbox"/> |
| 36. Will this project enable the evasion of diagnostic/detection modalities? | <input type="checkbox"/> | <input type="checkbox"/> |
| 37. Will this project enable the weaponization of a biological agent or toxin? | <input type="checkbox"/> | <input type="checkbox"/> |

| | Yes | No | Additional Information |
|---|--------------------------|--------------------------|---|
| 38. Do the proposed experiments transfer a drug resistance trait to microorganisms, not known to acquire the trait naturally, that could compromise the use of the drug to control disease in humans, veterinary medicine, or agriculture? (NIH Guidelines, Section III-A-1-a, V-B) | <input type="checkbox"/> | <input type="checkbox"/> | If yes, name the drug(s): |
| 39. Do the proposed experiments involve the cloning of toxin molecules? (NIH Guidelines, Section III-B-1) | <input type="checkbox"/> | <input type="checkbox"/> | If yes, name the toxin(s): |
| 40. Do the proposed experiments involve the deliberate transfer of recombinant material to human research participants? (NIH Guidelines, Section III-C-1) | <input type="checkbox"/> | <input type="checkbox"/> | |
| 41. Do the proposed experiments utilize Risk Group 2, 3, or 4 agents as a host-vector system or as a source of genetic material for nonpathogenic prokaryotic or lower eukaryotic host vector systems? (NIH Guidelines, Section III-D-1, D-2) | <input type="checkbox"/> | <input type="checkbox"/> | If yes, name the agent(s): |
| 42. Do the proposed experiments involve the use of infectious or defective DNA or RNA viruses in the presence of helper virus in tissue culture systems? (NIH Guidelines, Section III-D-3) | <input type="checkbox"/> | <input type="checkbox"/> | If yes, name the virus(es): |
| 43. Do the proposed experiments involve the transfer of recombinant material to whole animals? (NIH Guidelines, Section III-D-4) | <input type="checkbox"/> | <input type="checkbox"/> | |
| 44. Will recombinant material representing greater than two-thirds of a eukaryotic viral genome be transferred to whole animals? (NIH Guidelines, Section III-D-4-a) | <input type="checkbox"/> | <input type="checkbox"/> | |
| 45. Will any of the proposed experiments generate transgenic animals? (NIH Guidelines, Section III-D-4-b, 4-c, III-E-3) | <input type="checkbox"/> | <input type="checkbox"/> | If yes, name the species of transgenic animal(s): |
| 46. Will transgenic rodents be purchased or transferred for this research? (NIH Guidelines, Section III-F, Appendix C-VI) | <input type="checkbox"/> | <input type="checkbox"/> | |

Recombinant DNA Construct(s)

Please provide the following information for the recombinant DNA construct:

| | |
|--|--|
| 47. Gene Source: <i>(e.g., genus, species, strain, and parent strains)</i> | |
| 48. Gene Name and Function: <i>(Explain acronyms)</i> | |
| 49. Gene Category: <i>(e.g., Structural, Enzymatic proteins, Metabolic enzymes, Cell growth/Housekeeping, Cell cycle/Cell division, DNA replication, Membrane proteins, Tracking genes [GFP, Luciferase], Toxins, Regulatory genes, Oncogenes)</i> | |
| 50. Use of Construct: <i>(e.g., expression in cell culture, animals)</i> | |
| 51. Recombinant Plasmid(s)/Vector(s) Used: | |
| 52. Please provide a brief description of the recombinant DNA techniques employed in this project: | |

Vector Description(s)

Attach a construct map; if this is a commonly used commercial vector, no map is necessary. If viral vector, indicate what viral sequences are being deleted from the wild-type vector (e.g., replication competent vector rendered replication defective), what foreign viral sequences are being inserted and the specific location for insertion.

| | |
|---|--|
| 53. Vector Backbone: <i>(e.g., plasmid, phage, virus)</i> | |
| 54. Vector Technical Name: | |
| 55. Vector Source: | |
| 56. Gene Transfer Method: | |
| 57. Host: | |
| 58. Stable or Transient Expression: | |

| |
|---|
| 59. Description of deleted viral sequences for replication defective vectors: |
| |
| 60. Description and location of inserted foreign viral sequences: |
| |
| 61. Risk Attenuation (e.g., replication-defective, helper-dependent, disarmed, K-12 derivative, restricted to prokaryotic expression): |
| |
| 62. Will DNA integrate into the host genome? <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 63. What is the probability of generating replication competent viruses? |
| |

Packaging Cell Line(s) for Production of Virus Particles

| |
|--|
| 64. Names and sources of cell line(s) and/or helper plasmids (e.g., co-transfection): |
| |
| 65. Source of envelope glycoprotein if retrovirus or lentivirus: |
| |
| 66. Characterization with respect to host range if retrovirus or lentivirus (e.g., ecotropic, amphotropic): |
| |

PART VII – FACILITY INFORMATION

Approval of the proposed experiment is given only for the locations listed below (attach additional sheets if necessary):

Section A: Primary Laboratory

| | | | | |
|---|--------------------------|--------------------------|--|--|
| 67. Building: | | | 68. Room: | |
| | Yes | No | Comments: | |
| 69. Is the room locked? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> 24 hours/day <input type="checkbox"/> Only when no one is present | |
| 70. Are infectious agents used in the lab? | <input type="checkbox"/> | <input type="checkbox"/> | | |
| 71. Are infectious agents stored in the lab? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Short Term (≤ 1 month) <input type="checkbox"/> Long Term (> 1 month) | |
| 72. Is recombinant DNA used in the lab? | <input type="checkbox"/> | <input type="checkbox"/> | | |
| 73. Is recombinant DNA stored in the lab? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Short Term (≤ 1 month) <input type="checkbox"/> Long Term (> 1 month) | |

| | Yes | No | N/A |
|---|--------------------------|--------------------------|--------------------------|
| 74. Is the refrigerator locked? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 75. Is the freezer locked? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 76. Is the cell culture room located inside a locked/secured room? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 77. Will the work will be performed off-campus? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| | BSL-1 | BSL-2 | BSL-2+ | BSL-3 |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| 78. What is the Biological Safety Level for this room? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Section B: Secondary Laboratory

| | | | | |
|---|--------------------------|--------------------------|--|--|
| 79. Building: | | | 80. Room: | |
| | Yes | No | Comments: | |
| 81. Is the room locked? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> 24 hours/day <input type="checkbox"/> Only when no one is present | |
| 82. Are infectious agents used in the lab? | <input type="checkbox"/> | <input type="checkbox"/> | | |
| 83. Are infectious agents stored in the lab? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Short Term (≤ 1 month) <input type="checkbox"/> Long Term (> 1 month) | |
| 84. Is recombinant DNA used in the lab? | <input type="checkbox"/> | <input type="checkbox"/> | | |
| 85. Is recombinant DNA stored in the lab? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Short Term (≤ 1 month) <input type="checkbox"/> Long Term (> 1 month) | |

| | Yes | No | N/A |
|---|--------------------------|--------------------------|--------------------------|
| 86. Is the refrigerator locked? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 87. Is the freezer locked? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 88. Is the cell culture room located inside a locked/secured room? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 89. Will the work will be performed off-campus? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| | BSL-1 | BSL-2 | BSL-2+ | BSL-3 |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| 90. What is the Biological Safety Level for this room? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

PART VIII – BIOLOGICAL SAFETY INFORMATION

Section A: Physical Containment Equipment

91. Please check here if you are NOT using a biological safety cabinet and proceed to [Question 106](#).

| | | | |
|---------------------------------|---|-------------------|---|
| 92. Building: | | 93. Room: | |
| 94. Manufacturer: | | 95. Model: | |
| 96. Serial #: | | 97. Owner: | |
| 98. Style: | <input type="checkbox"/> Class I <input type="checkbox"/> Class II <input type="checkbox"/> Class III | 99. Type: | <input type="checkbox"/> A1 <input type="checkbox"/> A2/B3 <input type="checkbox"/> B1 <input type="checkbox"/> B2 |
| 100. Certified By: | | | |
| 101. Certification Date: | | | |

| | Yes | No | N/A |
|--|--------------------------|--------------------------|--------------------------|
| 102. What procedure(s) will be performed/conducted in the BSC? | | | |
| 102A. Transfer microbial cultures? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 102B. Transfer tissue culture? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 102C. PCR? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 102D. ELISA? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 102E. Vacuum line suction? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 102F. Homogenization? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 102G. Recombinant DNA techniques? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 102H. Sonication? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 102I. Inoculation of culture media? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 102J. Inoculation of animals? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 102K. Manipulation of animals (e.g., surgery, necropsy, specimen collection)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 103. Please describe any other procedures with the potential to produce aerosols: | | | |
| | | | |

| | Yes | No | N/A |
|---|--------------------------|--------------------------|--------------------------|
| 104. Will you be using hazardous or volatile chemicals in the BSC? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| If yes, please provide the chemical names, CAS #, and quantity: | | | |
| | | | |

| | | | |
|--|--------------------------|--------------------------|--------------------------|
| 105. Will you be using radioactive material in the BSC? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| If yes, provide the name of isotopes, chemical state, and radioactivity: | | | |
| | | | |

106. Please check here if you are NOT using a centrifuge and proceed to [Section B](#).

| | | | |
|--------------------|--|-------------|---|
| 107. Building: | | 108. Room: | |
| 109. Manufacturer: | | 110. Model: | |
| 111. Serial #: | | 112. Type: | <input type="checkbox"/> Floor <input type="checkbox"/> Bench (Top-Sealed Rotor) |

Section B: Biological Safety Considerations

| | Yes | No | N/A |
|---|--------------------------|--------------------------|--------------------------|
| 113. Will the experiment involve a potential for amplifying the risk of exposure? If so, will it be through the: | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 113A. Generation of aerosols? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 113B. Use of sharps? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 113C. Use of transgenic animals? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 113D. Use of transgenic plants? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 113E. Use of a helper virus? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 113F. Use of oncogenes? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 113G. Use of large concentrations (>10 gallons)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Other (please describe): | | | |

Section C: Biohazardous Waste

| | Yes | No | N/A |
|--|--------------------------|--------------------------|--------------------------|
| 114. Which of the following types of waste will be generated as part of this project? | | | |
| 114A. Broken glass contaminated with biohazardous materials | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 114B. Infected animal carcasses? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 114C. Pathogenic microbiological cultures? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 114D. Recognizable human/animal fluid blood? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 114E. Recombinant DNA? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 114F. Sharps waste (e.g., needles)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 114G. Unfixed human tissues? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Other (please describe): | | | |
| 115. Describe the procedures that will be used to dispose of biohazardous waste. | | | |

Section D: Transport

| | Yes | No | N/A |
|--|--------------------------|--------------------------|--------------------------|
| 116. Is transport of animals/agents/plants needed? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| If yes, complete the following: | | | |
| Animals: If animals are transported to and from the laboratory, please describe the method of transport and the precautions taken to minimize the potential for an accidental release or exposure. NOTE: Animals must be completely enclosed so as to not be visible to the public. | | | |
| | | | |
| Agents: If agents are transported to and from the laboratory (e.g., from the field, to another lab, to storage area, to flow cytometry, tissue culture room, animal care facilities, greenhouse), describe the method of transport and the precautions taken to minimize the potential for an accidental release or exposure. | | | |
| | | | |
| Plants: If transgenic plants are transported from one facility to another (e.g., from growth chamber to greenhouse), describe below the method of transport and the precautions taken to minimize the potential for an accidental release or exposure. | | | |
| | | | |

Section E: Biohazard Communication

| | Yes | No | N/A |
|--|--------------------------|--------------------------|--------------------------|
| 117. Has all laboratory equipment that will contain biohazardous material been labeled with the Universal Biohazard Symbol? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 117A. Refrigerator(s)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 117B. Incubator(s)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 117C. Freezer(s)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 117D. Centrifuge(s)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 117E. Biological Safety Cabinet(s)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Other (please describe): | | | |
| | | | |
| 118. Is a biohazard symbol displayed on or near the outside laboratory door? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 119. Is the PI's name and contact number(s) displayed on or near the outside laboratory door (including an after-hours number in case of an emergency or questions about the laboratory)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Section F: Disinfectants

120. All laboratory areas, growth rooms, growth chambers, and greenhouses must have adequate disinfectants on hand for clean up of work areas and spills. Please indicate which of the following disinfectants you will use in your facility and attach efficacy data to your registration form.

| Class of Disinfectant | Common Name | Active Ingredient | Concentration | Exposure Time |
|--------------------------|----------------------|----------------------------|---|-------------------|
| <i>Example: Chlorine</i> | <i>Clorox bleach</i> | <i>Sodium hypochlorite</i> | <i>1% or 525 ppm bleach solution (1:10 bleach and water solution)</i> | <i>30 minutes</i> |
| Chlorine | | | | |
| Alcohol | | | | |
| Quaternary Ammonium | | | | |
| Phenols | | | | |
| Iodophors | | | | |
| Aldehydes | | | | |
| Other: | | | | |

Section G: Laboratory Spill Response Procedures

Listed below is a generic spill response procedure:

1. Alert people in immediate areas of the spill.
2. Don appropriate protective equipment.
3. Cover the spill with paper towels or other absorbent materials.
4. Carefully pour a freshly prepared 1:10 dilution of household bleach around the edges of the spill and into the spill. Avoid splashing. Allow a 20-minute contact period.
5. Use paper towels to wipe up the spill, working from the edges into the center.
6. Clean spill area with fresh paper towels soaked in disinfectant.
7. Place paper towels into a biohazard bag for disposal.

| |
|---|
| <p>121. Describe the spill/exposure protocols for the particular safety issues associated with your laboratory work. Please include information about where laboratory personnel should go, whom they should contact in an emergency, completing necessary Worker’s Compensation paperwork, etc. Copies of the spill procedure must be kept in the laboratory. You may attach your spill procedure separately or copy and paste it here.</p> |
| |
| <p>122. For the research agents or recombinant molecules to be used in this protocol, describe in detail any additional biological safety precautions and containment methods that will be employed.</p> |
| |

PART IX - PRINCIPAL INVESTIGATOR'S STATEMENT

I attest that the information contained in the attached registration is accurate and complete. I agree to comply with all requirements pertaining to the use, handling, storage, and disposal of biohazardous agents and recombinant DNA molecules. I also agree to follow the current version of the "NIH Guidelines for the Use of Recombinant DNA Molecules" and the recommendations from the CDC/NIH handbook, "Biosafety in Microbiological and Biomedical Laboratories." I shall not initiate or modify any recombinant DNA research until I have registered with the IBC, received IBC approval, and received notification from the Biological Safety Officer (BSO) that work may start. I will ensure that, prior to the initiation of the experimental work, all laboratory workers under my supervision receive training in and adhere to:

1. Good microbiological and general laboratory practice;
2. Emergency procedures for exposure and spills;
3. The safe operation of laboratory equipment;
4. The hazards and symptoms of exposure relevant to the biological materials used within the laboratory; and
5. Written protocols for all laboratory procedures being used as part of this project.

I will select and provide appropriate personal protective equipment to all laboratory workers as necessary for the procedures required in the experiment. If use of a biological safety cabinet is required while working with biological materials, I will ensure that it is certified annually and maintained properly. Any vaccinations or medical surveillance requirements as determined by the IBC will also be met prior to the initiation of experimental work.

I will comply with shipping requirements for recombinant DNA molecules, infectious agents, and biohazardous materials. I will correct work errors and conditions that may result in the release of recombinant DNA materials.

I will immediately notify the Biological Safety Officer in the event of any of the following:

1. Any accident that results in inoculation, ingestion, and inhalation of biohazardous agents or recombinant DNA or any incident causing serious exposure of personnel or danger of environmental contamination.
2. Any problem pertaining to the operation of biological and physical containment safety equipment such as a biological safety cabinet or facility failure such as a power outage which may compromise building engineering controls and subsequently, the safety of the workers in the laboratory.
3. Any problems with biologic containment (e.g., purity, genotypic, or phenotypic characteristics).
4. All significant problems with and violations of the NIH Guidelines for Research Involving Recombinant DNA Molecules and any significant research-related accidents and illnesses, including adverse events in human gene transfer trials.
5. The experimental work has been completed and/or I am leaving University of New Hampshire. In either instance, a closeout inspection will need to be conducted by the Biological Safety Officer. I will contact the Biological Safety Officer at 603-862-4041 to arrange for the inspection.

I acknowledge that the IBC registration or approval granted by this registration is not transferable to any other University of New Hampshire faculty member. I also acknowledge that I will not transfer biological materials that I have received approval to use to any other University of New Hampshire faculty member without the consent and approval of the IBC (who will verify that the receiving faculty member has appropriate IBC approval to use the agents).

To the best of my knowledge, the information included in this registration document is accurate and complete.

Printed Name: _____ **Date:** _____

Signature: _____ **Title:** _____

For BSL-3 research only:

BSL-3 Laboratory Director Signature: _____

**When completed, please return this document to the Biological Safety Officer,
Office of Environmental Health and Safety, Perpetuity Hall, 11 Leavitt Way.**

APPENDIX A – ADDITIONAL PERSONNEL

| | | | | |
|--|--------------------------|---------------------------|--------------------------|-----------------------|
| Name: | | Title or Position: | | |
| Telephone Number: | | E-mail Address: | | |
| Relevant Education, Experience, or Credentials: | | | | |
| TRAINING | YES | NO | N/A | DATE COMPLETED |
| Biological Safety Training (Annual training required when working with Risk Group 2 and 3 agents) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Bloodborne Pathogens Training (Annual training required when working with human blood, tissue, organs, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| DOT/IATA Shipping Training (Biennial training required when shipping hazardous materials) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Hazardous Waste Training (Biennial training required when working with hazardous waste) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Recombinant DNA Training (Annual training required when working with recombinant DNA molecules) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| First Aid Training | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Fire Extinguisher Training | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Additional Lab-Specific Safety Training: | | | | |
| Fire Extinguisher Training | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Additional Lab-Specific Safety Training: | | | | |

| | | | | |
|--|--------------------------|---------------------------|--------------------------|-----------------------|
| Name: | | Title or Position: | | |
| Telephone Number: | | E-mail Address: | | |
| Relevant Education, Experience, or Credentials: | | | | |
| TRAINING | YES | NO | N/A | DATE COMPLETED |
| Biological Safety Training (Annual training required when working with Risk Group 2 and 3 agents) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Bloodborne Pathogens Training (Annual training required when working with human blood, tissue, organs, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| DOT/IATA Shipping Training (Biennial training required when shipping hazardous materials) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Hazardous Waste Training (Biennial training required when working with hazardous waste) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Recombinant DNA Training (Annual training required when working with recombinant DNA molecules) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| First Aid Training | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Fire Extinguisher Training | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Additional Lab-Specific Safety Training: | | | | |
| Fire Extinguisher Training | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Additional Lab-Specific Safety Training: | | | | |