**Overview of Protocol Application:**

* All Project Directors (responsible Primary Investigator or Course Instructor) planning to work with recombinant DNA or synthetic nucleic acids, microorganisms, biological toxins, viruses, pathogens, or nanoparticles must complete applicable sections of this form. Leave blank any section that does not apply to your project, but note that sections 1, 10, 11, and 12 are required.
* Submit completed form and supporting documents electronically to [**IBC@UW-Green Bay.edu**](mailto:IBC@uwgb.edu). Once a protocol is reviewed, approved, and registered by the IBC, you will receive authorization to begin work on this project.
* Approved protocols expire after three years, but the Project Director must submit an Annual Report each year. Any significant changes to your protocol during this period will require a submitted revision and approval by the IBC. For changes in personnel only, please submit an IBC Personnel Revision Form.

**Section 1: Administrative Information, Project summary, and Certifications**

**Project Identification:**

|  |  |
| --- | --- |
| Project Title: | |
| Project Director: | |
| Primary Department Appointment: | |
| Campus phone No: | UW-Green Bay Email: |
| Type of Project:  Research  Teaching Laboratory Instruction | |
| Type of Application:  New Submission  3 Year Renewal  Revision  Protocol Number for Renewal or Revision: | |
| Funding:  Internal  External  Not applicable  Funding Status:  Pending  Secured  Funding Agencies:  RFA Number: | |
| Project Description - Provide a brief, non-technical summary of the research project (300 words or less): | |

**Biological Material Categories:**

Check all of the materials below to be used in your study, and then fill out the corresponding sections:

|  |
| --- |
| Recombinant DNA (rDNA) – **Section 2** |
| Biological Toxins – **Section 3** |
| Microorganisms and Viruses – **Section 4** |
| Prions – **Section 5** |
| Animal Tissues, Cell Lines or Blood Products- **Section 6** |
| Live Animals (Vertebrate or Invertebrate) – **Section 7** |
| Plants and Soils – **Section 8** |
| Nanotechnology – **Section 9** |

**Permits, Approvals and Assurances (Check all boxes that apply and provide documentation of approval):**

**Permits:**

|  |  |
| --- | --- |
| USDA | Permit #: |
| APHIS | Permit #: |
| Other (Specify): | Permit #: |
| Not applicable |  |

**Select Agent Use:**

|  |  |
| --- | --- |
| Yes | Approval # |
| Not applicable |  |

**Committee Approvals:**

|  |  |
| --- | --- |
| IACUC | Applied for  Approved  Protocol #: |
| IRB | Applied for  Approved  Protocol #: |
| Not applicable |  |

**Recombinant DNA:**

|  |  |
| --- | --- |
| Yes | NIH Guidelines Subsection Category (see Appendix 1, list all that apply):  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Not applicable |

**Biosafety Level:**

Indicate the Biosafety Level at which this project will be conducted (check all boxes that apply). UW-Green Bay is not equipped for research biosafety level (BSL) 3 or greater, please contact the IBC ([IBC@UW-Green Bay.edu](mailto:IBC@uwgb.edu)) or the Chancellor for Academic Affairs if you have research requiring higher biosafety levels.

|  |  |
| --- | --- |
| Biosafety Level 1 | Biosafety Level 2 |
| Other (Please describe): | |

**Personal Protective Equipment:**

Indicate the P.P.E. required for this protocol.

|  |  |
| --- | --- |
| Laboratory Coat | Gloves |
| Splash Resistant Eye Protection | Respiratory Protection |
| Other (Please describe): ­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |

**Waste Disposal and Terminal Inactivation:**

I agree to follow the standard waste disposal methods described below (or will provide alternative waste disposal procedure if chemical waste is incompatible with standard):

•Liquid waste: Either chlorine bleach will be added to all liquids to a final concentration of 10% bleach and left for a minimum of 30 minutes contact time or autoclaved at a minimum of 121°C for 30 minutes. In either case, the treated liquid can be disposed of in the sanitary sewer (sink drain).

•Solid waste: All contaminated solids will be placed in an appropriately labeled biohazard bag or sharps container, as appropriate. Bags/containers will be autoclaved at a minimum of 121°C for 30 minutes. Alternatively, contaminated solid waste can be treated with 10% bleach for 30 minutes contact time prior to disposal in the garbage.

•All waste vertebrate tissue, including animal cells, blood and body fluids, must be autoclaved or chemically disinfected prior to disposal into the sanitary sewer or normal trash. Animal bedding will also require disinfection/inactivation before disposal in the normal trash if animals are treated with hazardous chemicals.

•All work surfaces will be cleaned, after use, with a 10% bleach solution or another appropriate disinfectant, and allowed to air dry.

|  |
| --- |
| Yes |
| Other (If not following the steps outline above, describe your protocol in Section 12) |
| Not applicable |

**Shipping and Transportation of Biohazardous Material:**

Intra-campus transport: If transporting samples around or within a UW-Green Bay campus please read the statement below and check the appropriate response.

* I agree that all biohazardous samples will be transported in sealed primary and secondary containers, with sufficient absorbent materials placed between the primary and secondary container such that a leak of the primary container can be contained. The secondary container will be clearly labeled with a biohazard label.

|  |
| --- |
| Yes |
| Other (If not following the steps outlined above, describe your protocol in Section 12) |

Off-campus shipping: If biohazardous samples will be shipped from UW-Green Bay to other institutions (including other UW-Green Bay campuses), please read the statement below and check the appropriate response.

* I agree that shipping will follow appropriate guidelines for packaging, labeling and shipping that conform to Federal and International regulations (International Air Transport Association (IATA) Dangerous Goods Regulations). Briefly, the labeled samples are packaged to withstand leakage of contents, shocks, pressure changes, and other conditions incident to ordinary handling and transportation in a way that contents should not leak to the outside of the shipping container, even if leakage of the primary container occurs. Fully trained and approved shippers at UW-Green Bay will process all shipping.

|  |
| --- |
| I have taken the training (include copy of completed CITI training with application) |
| I will use \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ when shipping materials |

**Dual Use Research of Concern (DURC):** DURC is life sciences research that, based on current understanding, can be reasonably anticipated to provide knowledge, information, products, or technologies that could be directly misapplied to pose a significant threat with broad potential consequences to public health and safety, agricultural crops and other plants, animals, the environment, material, or national security. The United States Government’s oversight of DURC is aimed at preserving the benefits of life sciences research while minimizing the risk of misuse of the knowledge, information, products, or technologies provided by such research. Please answer the following questions. Will the project:

|  |  |
| --- | --- |
| Yes  No | 1. Enhance the harmful consequences of the agent or toxin |
| Yes  No | 2. Disrupt immunity or the effectiveness of an immunization against the agent or toxin without clinical or agricultural justification. |
| Yes  No | 3. Confer to the agent or toxin resistance to clinically or agriculturally useful prophylactic or therapeutic interventions against that agent or toxin or facilitate their ability to evade detection methodologies. |
| Yes  No | 4. Increase the stability, transmissibility, or the ability to disseminate the agent or toxin. |
| Yes  No | 5. Enhance the susceptibility of a host population to the agent or toxin. |
| Yes  No | 6. Generate or reconstitute an eradicated or extinct agent or toxin. |
| Yes  No | 7. Alter the host range or tropism of the agent or toxin. |

**Project Director Assurance Statement:**

By signing below, I agree:

|  |
| --- |
| The information provided is true and accurate. I acknowledge I have familiarized myself with the [*NIH Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules*](http://osp.od.nih.gov/sites/default/files/resources/NIH_Guidelines_PRN_1-sided.pdf) ([NIH Guidelines](https://osp.od.nih.gov/wp-content/uploads/NIH_Guidelines.pdf)) as it relates to the biological materials described in this application and the intended work will be subject to these guidelines and the *Biosafety in Microbiological and Biomedical Laboratories manual* ([BMBL](https://www.cdc.gov/labs/pdf/CDC-BiosafetyMicrobiologicalBiomedicalLaboratories-2009-P.PDF)). |
| I will abide by all measures laid out in UW-Green Bay’s Dual Use Research of Concern Policy. |
| I have completed the University required CITI training within the last three years. |
| I ensure that personnel under my oversight, including staff and students, have received up-to-date training appropriate to their work activities and access to information on potential biological hazards (as outlined in this protocol), standard operating procedures (SOPs), waste management and response to spills and incidents in order to safely and effectively perform their job duties. |
| I will follow UW Green Bay policy on accidental spill/exposure response and reporting. |
| I will comply with the OSHA Blood borne Pathogen Standard 29 CFR 1910.1030 if I plan to work with human and non-human primate -derived materials such as cells, tissues, organs, blood or embryonic stem cells. |
| I will comply with handling and disposal of all biohazardous materials as outlined in this application. |
| I will comply with all training and shipping requirements for the transportation of hazardous biological materials following DOT 49 CFR 171-178, International Civil Aviation Organization (ICAO) and International Air Transport Association (IATA). |

Signature of Project Director:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# Section 2: Recombinant Materials

1. Describe the Recombinant or Synthetic DNA/RNA materials used in this protocol. Provide the gene name(s) and acronym(s), the biological source/origin (genus and species: ex. *Escherichia Coli*, *Mus musculus*, etc), all pertinent biological activities of the encoded protein(s) (normal biological function, oncogenic potential, toxicity, etc.), and any vector (bacterial plasmid, virus, or other vector), and/or host (genus, species & strain, ex. *Escherichia Coli*, *Mus musculus* cell culture or live animals, etc) that the recombinant material might be inserted into. Expand this table as needed.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name of Gene** | **Source Organism(s)** | **Gene Function** | **Vector Carrier(s)**  (Backbone source and technical name) | **Administered to host?**  (Y/N; if yes, reference protocol section) |
| 1. |  |  |  |  |
| 2. |  |  |  |  |

1. **Additional Information:** 
   1. If the identity or the function of your recombinant material is unknown, please explain.
   2. Are there any special safety considerations associated with these recombinant materials?
2. If yes, please describe in section 12 the safety precautions you will use.

# Section 3: Biological Toxins

1. Complete this section if working with toxin(s) of biological origin. Provide the toxin name(s) and acronym(s) if appropriate and the biological source/origin (genus and species: ex. *Escherichia Coli*, *Mus musculus*, etc). Include the Risk Group (RG), Biosafety level (BSL), if the gene encoding the toxin will be cloned into a vector (bacterial plasmid, virus, or other vector), and/or host (genus, species & strain, ex. *Escherichia Coli*, *Mus musculus,* cell culture, or live animals, etc) that the toxin or recombinant material containing the toxin gene might be inserted into. Expand this table as needed.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Biological Toxin and source organism** | **RG** | **BSL** | **CDC Select Agent Toxin?** (Y/N) | **LD50** | **rDNA added?**  (Y/N; if yes, indicate identity from 2B) | **Administered to host?**  (Y/N; if yes, reference protocol section) |
| 1. |  |  |  |  |  |  |
| 2. |  |  |  |  |  |  |

1. **Additional Information:** 
   1. Include in your safety protocol in Section 12 the following information for each microorganism or virus:
      1. Describe the safety procedures personnel will use to protect themselves from exposure and appropriate response if accidental exposure occurs.
   2. For Select Toxins – Include in your safety protocol in Section 12 the following information:
   3. The maximum amount of toxin inventory and how you will document inventory.
   4. How the toxin will be stored securely.
   5. How select toxins will be reconstituted.
   6. How each toxin will be inactivated.
   7. List aerosol generating activities and how an exposure risk will be mitigated.
   8. Indicate if sharps will be used in procedures involving toxins.
   9. If administering the toxin to live animals, describe the route of delivery and max dose.
   10. Include both collection and research if applicable.

# Section 4: Microorganisms and Viruses

1. Complete appropriate subsection if working with any prokaryotes, fungi, virus or viral vectors. Provide the organism name(s) and strain(s), Risk Group (RG), Biosafety level (BSL), and any rDNA (plasmid, virus, DNA fragment, or other vector), and/or host (genus, species & strain, ex. *Escherichia Coli*, *Mus musculus* cell culture or live animals, etc) exposed to the microbial agent, if applicable (write N/A if not). Expand table(s) as needed.

**Bacteria:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Organism** (Genus/species/strain) | **RG** | **BSL** | **CDC Select Agent?** | **rDNA added?**  (Y/N; if yes, indicate identity from 2B) | **Administered to host?**  (Y/N; if yes, reference protocol section) |
| 1. |  |  |  |  |  |
| 2. |  |  |  |  |  |

**Fungi:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Organism** (Genus/species/strain) | **RG** | **BSL** | **CDC Select Agent?** | **rDNA added?**  (Y/N; if yes, indicate identity from 2B) | **Administered to host?**  (Y/N; if yes, reference protocol section) |
| 1. |  |  |  |  |  |
| 2. |  |  |  |  |  |

**Viruses and Viral Vectors:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name of Virus** | **RG** | **BSL** | **CDC Select Agent?** | **rDNA added?**  (Y/N; if yes, indicate identity from 2B) | **Administered to host?**  (Y/N; if yes, reference protocol section) |
| 1. |  |  |  |  |  |
| 2. |  |  |  |  |  |

1. Additional Information:
2. If the identity of your microbial agents or viruses is unknown, please explain.

|  |
| --- |
|  |

1. If any of the microbial agents or viruses are pathogenic, indicate the host(s) organism(s) at risk to infection.

|  |
| --- |
|  |

1. Will any of the microorganisms be grown in volumes of 10 Liters or more? Yes  No
2. Include in your safety protocol in Section 12 the following information for each microorganism or virus:
   1. Describe the safety procedures personnel will use to protect themselves from exposure and appropriate response if accidental exposure occurs.
   2. Include both collection and research if applicable.

# Section 5: Prions

1. Complete this section if working with any prions. Provide the biological source/origin (genus and species: ex. *Escherichia Coli*, *Mus musculus*, etc), Risk Group (RG), Biosafety level (BSL), any recombinant DNA that will be delivered into the prion and if the prion will be administered to any host (e.g., *Mus musculus*). Expand this table as needed.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Prion Name and Natural Host** | **RG** | **BSL** | **rDNA added?**  (Y/N; if yes, indicate identity from 2B) | **Administered to host?**  (Y/N; if yes, reference protocol section) |
| 1. |  |  |  |  |
| 2. |  |  |  |  |

1. Additional Information:
2. **NOTE: UW-Green Bay is not equipped for research biosafety level (BSL) 3 or greater. This includes research with bovine spongiform encephalopathy (BSE) and human prions. If you have research in these areas, please contact the chair of the IBC (**[**IBC@UW-Green Bay.edu**](mailto:IBC@uwgb.edu)**) or the Chancellor for Academic Affairs.**
3. Indicate the host(s) organisms at risk for infection.

|  |
| --- |
|  |

1. Include in your safety protocol in Section 12 the following information:
   1. Describe the safety procedures personnel will use to protect themselves from exposure and appropriate response if accidental exposure occurs.

# Section 6: Animal Tissues, Cell Lines, or Blood Products:

1. Complete this section if working with any animal derived materials. List the type of material used. Example: “human ovarian cancer cells, OVCAR4”. Also include the Risk Group (RG), Biosafety level (BSL), and any vector (bacterial plasmid, virus, or other vector) that will be delivered into the sample, and/or host (genus, species & strain, ex. *Escherichia Coli*, *Mus musculus* cell culture or live animals, etc) that the samples will be applied, if applicable (write N/A if not). Expand this table as needed.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Type of Material**  **(Species, strain, technical name)** | **RG** | **BSL** | **Exposed to biological material or rDNA?**  (Y/N; if yes, indicate identity from other protocol sections) | **Administered to host?**  (Y/N; if yes, reference protocol section) |
| 1. |  |  |  |  |
| 2. |  |  |  |  |

1. **Additional Information**:
2. **NOTE: All work involving live (non-fixed) human and non-human primate derived materials must comply with the OSHA Bloodborne Pathogen Standard 29 CFR 1910.1030.**
3. All personnel working with blood or potentially infectious material must sign an Informed Consent Form (see IBC website). Submit documentation with this application.
4. Does the tissue contain a known infectious agent? Yes  No
5. If administering nucleic acids, toxins, nanoparticles, microbes or viruses to animals, describe the route of delivery.

|  |
| --- |
|  |

1. Include in your safety protocol in Section 12 the following information for each tissue, cell line or blood product:
   1. Describe the safety procedures personnel will use to protect themselves from exposure and appropriate response if accidental exposure occurs.

# Section 7: Live Animals

1. Complete this subsection for vertebrate animals administered biological materials. List the animal, Risk Group (RG), Animal Biosafety level (ABSL), and any rDNA (plasmid, virus or other vector, biological toxin), and/or biological materials applied to the animals. Document where the animals will be housed (e.g., static microisolators, rack system).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Animal**  (Common Name; Genus species) | **RG** | **ABSL** | **Exposed to biological material or rDNA?**  (Y/N; if yes, indicate identity from other protocol sections) | **Housing** |
| 1. |  |  |  |  |
| 2. |  |  |  |  |

1. Additional Information:
2. **Note: IACUC approval is required prior to initiating work if using vertebrate live animals.**
3. Do the animals contain a known infectious agent? Yes  No
4. If administering nucleic acids, toxins, nanoparticles, microbes or viruses to animals, describe the route of delivery.

|  |
| --- |
|  |

1. Include in your safety protocol in Section 12 the following information for each animal:
   1. Describe the safety procedures personnel will use to protect themselves from exposure and appropriate response if accidental exposure occurs.

# Section 8: Plants and Soils

1. **Plants:** Complete this section if working with exotic plants, or any plants grown in association with recombinant material, pathogenic or recombinant microbes/animals.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Plant**  (Common Name; Genus species) | **Exotic Plant**  (Y/N) | **BSL** | **Exposed to biological material or rDNA?**  (Y/N; if yes, indicate identity from previous sections) | **Growth Location**  (e.g., greenhouse, growth chamber) |
| 1. |  |  |  |  |
| 2. |  |  |  |  |

1. **Soils:** Complete this section if transporting foreign soils, or domestic soils (defined as soils from the continental US), from counties listed under federal quarantine by the USDA to another US location. A map detailing quarantined counties and detailed information on soil permitting is available at: [**https://www.aphis.usda.gov/aphis/ourfocus/planthealth/import-information/permits/regulated-organism-and-soil-permits/sa\_soil/ct\_domestic\_soil**](https://www.aphis.usda.gov/aphis/ourfocus/planthealth/import-information/permits/regulated-organism-and-soil-permits/sa_soil/ct_domestic_soil)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Soil Source Location**  (foreign or quarantined domestic) | **Source Location** | **Destination Location** | **Estimated Quantity** | **“Active” or Sterilized Soil** |
| 1. |  |  |  |  |
| 2. |  |  |  |  |

1. **Additional Information:**
2. Note: The import of foreign plant material requires a permit. Work with the UW-Green Bay Office of Safety and Environmental Management to secure the correct permits from the USDA. Append approved permits to application. (<https://www.aphis.usda.gov/aphis/ourfocus/planthealth/import-information>).
3. Note: The import of “foreign” soils into the continental US requires permit approval. Work with the UW-Green Bay Office of Safety and Environmental Management to secure the correct permits from the USDA (<https://www.aphis.usda.gov/aphis/ourfocus/planthealth/import-information/permits/regulated-organism-and-soil-permits/sa_soil/ct_regulated_organism_soil_permits_home>). Append approved permits to application.
4. Note: To request approval for the movement of domestic quarantined soil requires authorization by the local APHIS Office. Work with the UW-Green Bay Office of Safety and Environmental Management to secure the appropriate approval (<https://www.aphis.usda.gov/aphis/ourfocus/planthealth/import-information/permits/regulated-organism-and-soil-permits/sa_soil/ct_domestic_soil>). Append approval documentation to application.
5. Include in your safety protocol in Section 12 the following information for each plant or soil:
   1. Describe the safety procedures personnel will use to protect themselves from exposure and appropriate response if accidental exposure occurs.

## Section 9: Nanotechnology

1. Complete this subsection if using nanoparticles.

|  |  |  |
| --- | --- | --- |
| **Material** | **Quantity** | **Administered to host?**  (Y/N; if yes, reference protocol section) |
| 1. |  |  |
| 2. |  |  |

1. Additional Information:
2. Include in your safety protocol in Section 12 the following information for each nanoparticle:
   1. Describe the safety procedures personnel will use to protect themselves from exposure and appropriate response if accidental exposure occurs.

**Section 10: Personnel, Responsibilities, and Training**

**Personnel, Responsibilities, and Training:** Identify all personnel (including students) who will be working with the biological materials described on this protocol; indicate the training they have received, and their responsibilities under this protocol. Include copies of CITI training completion certificates for all individuals listed in your protocol application. To update personnel in protocol only, please use Personnel update form. For training instructions, see the IBC Website.

## Research

|  |  |  |  |
| --- | --- | --- | --- |
| **Name and position** | **Responsibilities** | **CITI Training and date completed**  (Learner group and any specialized training) | **Trained by:** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**B. Additional Information:**

1. Describe the trainers relevant experience to handling biohazardous material.
2. Will any personnel be exposed to blood or potentially infectious materials? Y
   1. If yes, submit signed acknowledgement form for each individual with application (see IBC website for standard form).

## C. Teaching Laboratory courses: Complete this section only if protocol covers a laboratory course. Students enrolling in laboratory courses are not required to complete CITI trainings unless directed by the instructor, but students must have completed or in currently enrolled in a lab safety course (e.g. Chem 207).

|  |  |  |  |
| --- | --- | --- | --- |
| **Instructor** | **Course Number** | **Responsibilities** | **CITI Training Modules Completed** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**B. Additional Information:**

## Provide a summary of the training provided to students who will be involved with the laboratory course. Include any hands-on training, instructor-based training, or online learning.

1. Include in your safety protocol in Section 12 the following information:
   1. Describe the safety procedures personnel will use to protect themselves from exposure and appropriate response if accidental exposure occurs.

**Section 11: Locations**

1. List all locations where biohazardous materials are used, stored, or handled.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Building | Room | Use of Room  (e.g. classroom, laboratory, animal housing, storage) | Containment Level  (e.g. BSL-1, ABSL-1) | Equipment  (e.g. BSC, fume hood) |
| 1. |  |  |  |  |
| 2. |  |  |  |  |
| 3. |  |  |  |  |
| 4. |  |  |  |  |
| 5. |  |  |  |  |

1. Additional Information:

**Section 12: Project Summary and Safety Precautions**

Describe the research project(s) in which the infectious agents, recombinant DNA or vertebrate tissue will be used.

1. Experimental goals:
2. Experimental design and procedures:
3. High risk procedures using biological materials listed in the protocol:

|  |  |  |
| --- | --- | --- |
|  | **YES** | **NO** |
| Centrifugation |  |  |
| Sonication |  |  |
| Vortexing |  |  |
| Homogenization |  |  |
| Flaming inoculating loops |  |  |
| Use of a shaking incubator |  |  |
| Placing biological material under pressure (including in a syringe) |  |  |
| Use of needles or other sharps |  |  |
| Flow cytometry with live cells |  |  |
| Infection by means of aerosolization |  |  |
| Other\* |  |  |

\*If other is selected please describe below:

|  |
| --- |
|  |

1. Describe the sources of potential biohazards and how you will mitigate the risk. Be sure to include your safety and containment procedures.