

Biological Research Registration Form

The University of Oregon requires Institutional Biosafety Committee oversight, review and approval of **research involving recombinant or synthetic nucleic acids (rsNA), transgenic organisms, Risk Group 2 organisms (RG 3 not permitted), biological toxins, select agents, and non-human primate materials. Recombinant research exempt from *NIH Guidelines*, research involving human biospecimens or human cell culture must still be registered with the UO IBC.** Please complete this registration form and submit to the UO Biosafety Officer for initial review. Typically, separate forms do not need to be completed for individual grants and single IBC registration may cover several aspects of research.

## SECTION I Date Approved:

|  |  |  |
| --- | --- | --- |
| **Principal Investigator (PI):** | | **Registration #** (issued by EHS)**:**  **2024-** |
| **College: Arts and Sciences** | **Department:** | |
| **Phone Number:** | **Email:** | |
| **Project Title:** | | |
| **Personnel working on project:** | | |
| **Lab Building(s) and Room Number(s):** | | |
| **Please list all applicable UO Sponsored Projects EPCS Record #s or Banner Grant #s:** | | |
| **Institutional Animal Care & Use Committee (IACUC) current approval number(s), if applicable:** | | |

***SECTION II:*** Please complete applicable questions as they pertain to the work you are conducting.

# Recombinant or synthetic nucleic acids (rsNA) in *E.coli K-12* only

*CHECK IF THIS SECTION IS NOT APPLICABLE*

* 1. Gene(s) encoded by inserted DNA:
  2. Biological origin of inserted DNA:
  3. Will inserted gene(s) be expressed in the host bacterium?  Yes  No

If yes, what are the gene product effects (toxicity, physiological activity, oncogenic potential, or

ability to alter cell cycle):

* 1. Vectors:
  2. List antibiotic resistance genes contained on these vectors:
  3. Do experiments involve large scale (>10 liters in one container) culture?  Yes  No
  4. Do experiments involve cloning toxin genes?  Yes  No

If yes, the Name of toxin:

* 1. Do experiments involve transfer of antibiotic resistance gene in addition to those contained in the vectors?  Yes  No

If yes, the Name of antibiotic resistance gene:

# Recombinant or synthetic nucleic acids (rsNA) in bacterial hosts other than E.coli K-12

*CHECK IF THIS SECTION IS NOT APPLICABLE*

* 1. List the host species:
  2. Genes encoded by inserted DNA:
  3. Biological origin of inserted DNA:
  4. Will inserted gene(s) be expressed?  Yes  No

If yes, what are the gene product effects (e.g., toxicity, physiological activity, oncogenic potential, ability to alter cell cycle):

* 1. Vectors:
  2. List antibiotic resistance genes contained on these vectors:
  3. If the host is a human or animal pathogen, are any of the antibiotics listed above used to treat the disease in humans or animals:  Yes  No

If yes, are any of the antibiotics used to treat the disease in any patient population? YesNo

If yes, are any of the antibiotics used to treat the disease in other countries?  Yes No

If yes, list antibiotics that can be used to treat an infection with this microorganism, taking into consideration the inserted and naturally-occurring drug resistance genes:

* 1. Do experiments involve large scale (> 10 L in one container) culture?  Yes No
  2. Do experiments involve cloning biological toxin gene?

If yes, name of toxin:

* 1. Do experiments involve transfer of an antibiotic resistance gene into the host in addition to those contained in the vectors?  Yes No

If yes, list the name of antibiotic resistance gene:

# Recombinant or synthetic nucleic acids (rsNA) in lower eukaryotic hosts (e.g., parasites, fungi, algae)

*CHECK IF THIS SECTION IS NOT APPLICABLE*

* 1. Name of host organism:
  2. Gene(s) encoded by inserted DNA:
  3. Biological origin of inserted DNA:
  4. Vectors:
  5. Will inserted gene(s) be expressed?  Yes  No

If yes, what are the gene product effects (e.g., toxicity, physiological activity, oncogenic potential, ability to alter cell cycle):

# Recombinant or synthetic nucleic acids (rsNA) in tissue cell culture

*CHECK IF THIS SECTION IS NOT APPLICABLE*

* 1. Tissue culture cell lines(s) name:
  2. Source (species) of cell cultures:
  3. Gene(s) encoded by inserted DNA:
  4. Biological origin of inserted DNA:
  5. Vectors:
  6. Does vector contain > 2/3 of eukaryotic viral genome?  Yes  No

If yes, name of virus:

* 1. Recombinant virus constructed?  Yes  No

If yes, Name of virus:

If yes, Name of transgene:

* 1. Reassortant virus constructed i.e. genetic exchange between segment viruses?  Yes  No

If yes, describe reassortant virus constructed in Overview section.

* 1. Packaging cell line used?  Yes  No

If yes, packaging cell line name:

If yes, virus produced is:

* 1. Defective virus with helper virus?  Yes  No

If yes, helper virus:

* 1. Will inserted gene(s) be expressed?  Yes  No

If yes, what are the gene product effects (toxicity, physiological activity, oncogenic potential, or ability to alter cell cycle):

# Use of lentiviral vectors

*CHECK IF THIS SECTION IS NOT APPLICABLE*

* 1. Is the vector HIV-1 based?  Yes  No
  2. What is the transgene?
  3. Does the transgene have oncogenic potential?  Yes  No
  4. How many plasmids are used in the packaging system?
  5. Has expression of TAT been deleted?  Yes  No
  6. Is the HIV envelope gene present in the packaging system?  Yes  No
  7. If the HIV envelope gene has been replaced, does the new envelope protein broaden the host cell and tissue tropism of the lentivirus?  Yes  No
  8. If animals are involved, is lentivirus injected into the animal?  Yes  No
  9. Is the animal engrafted with transduced cells?  Yes  No

# Generation of transgenic animals (including knockouts) by embryo injection

*CHECK IF THIS SECTION IS NOT APPLICABLE*

* 1. Species of animal:
  2. Gene or sequence injected:
  3. Biological origin of inserted DNA:
  4. What are the anticipated effects of inserted DNA (e.g. toxicity, physiological activity, oncogenic potential, ability to alter cell cycle):
  5. Describe the precautions that will be taken to minimize the possibility that animals could escape confinement:
  6. Describe the effect on the wild population if an animal were to escape and mate with wild-type:

# Generation of transgenic animals by breeding

*CHECK IF THIS SECTION IS NOT APPLICABLE*

* 1. Species of animal:
  2. Are two different transgenic/knockout animal strains bred to create a new strain?  Yes  No
  3. Is a transgenic (or knockout) animal strain being bred to a non-transgenic strain?  Yes  No
  4. Does either transgenic parent contain a transgene under the control of a gamma-retroviral long terminal repeat (LTR)?  Yes  No
  5. Does either transgenic parent contain more than 50% of the genome of an exogenous eukaryotic virus from a single family?  Yes  No
  6. Is the transgenic animal that results from this breeding expected to contain more than one-half of an exogenous viral genome from a single family of viruses?  Yes  No

1. Describe the expected unique characteristics of viable offspring:
2. Describe the precautions that will be taken to minimize the possibility that animals could escape confinement:
3. Describe the effect on the wild population if an animal were to escape and mate with wild-type:

# Recombinant or synthetic nucleic acids (rsNA) in animals

*CHECK IF THIS SECTION IS NOT APPLICABLE*

* 1. Animals as host for recombinant microorganism?  Yes  No

If yes, name of recombinant microorganism: If yes, name of vector: If yes, name of inserted gene: If yes, biological origin of inserted gene:

* 1. Animals as host for rsNA (e.g. modified plasmids)?  Yes  No

If yes, name of vector: If yes, name of inserted gene: If yes, biological origin of inserted gene:

* 1. Animals as host for recombinant eukaryotic cells?  Yes  No

If yes, species of cells: If yes, name of vector: If yes, name of inserted gene: If yes, biological origin of inserted gene:

# Recombinant or synthetic nucleic acids (rsNA) in insects

*CHECK IF THIS SECTION IS NOT APPLICABLE*

* 1. Construction of transgenic insects?  Yes  No

If yes, Insect species: If yes, Transgene: If yes, biological origin of transgene: If yes, Vector:

* 1. Insects as host for rsNA-modified microorganisms?  Yes  No

If yes, Insect species: If yes, Recombinant microorganism: If yes, Gene(s) encoded by inserted DNA: If yes, biological origin of inserted DNA: If yes, Vector:

# Recombinant or synthetic nucleic acids (rsNA) in plants

*CHECK IF THIS SECTION IS NOT APPLICABLE*

* 1. Construction of transgenic plants?  Yes  No

If yes, Plant species: If yes, Transgene: If yes, Biological origin of transgene: If yes, Vector:

* 1. Plants as host for rsNA-modified microorganisms?  Yes  No

If yes, Plant species: If yes, Recombinant microorganism: If yes, Gene(s) encoded by inserted DNA: If yes, Biological origin of inserted DNA:

* 1. Where will infected plants be located? Greenhouse Field Other:
  2. Describe procedures for containment of infected plants:
  3. Describe how infected plant materials rendered non-infectious:

# Gene editing technologies (e.g., CRISPR/Cas9, TALEN, Zinc Finger Nucleases, Meganucleases, or any other gene editing technology)

*CHECK IF THIS SECTION IS NOT APPLICABLE*

* 1. Please list the technology used:
  2. If CRISPR is involved, are the guide RNA sequence and the Cas endonuclease on the same plasmid or delivery vehicle? Yes (**Explain in Overview**) No

If yes, can the plasmid, vector or delivery vehicle infect a human cell? Yes  No

* 1. Does the project involve a viral vector? Yes (**Explain in Overview**) No
  2. Is this a gene drive experiment? Yes (**Explain in Overview**) No
  3. Will the research involve embryos or germ line cells? (outside of standard transgenic animal protocols?) Yes (**Explain in Overview**) No
  4. Discuss the potential effects off-target events:
  5. How many genes have been targeted?

Single

Multiple? Specifically, how many?

Library? List numbers, i.e. hundreds, thousands, more?

Number of unique vectors associated with gene editing library:

Number of gene editing sequences targeting each gene in the library (per vector):

# Toxins

*CHECK IF THIS SECTION IS NOT APPLICABLE*

*CHECK IF THIS SECTION IS NOT APPLICABLE*

* 1. Name of Toxin:
  2. Subtype(s):
  3. Active toxin? Yes (**Explain in Overview**) No
  4. Name of organism (Genus species) that produces the toxin:
  5. LD50 in humans or rodents:
  6. Form purchased (e.g., solid/liquid):
  7. Maximum quantity in possession at any one time:
  8. Is toxin a Select Agent?  Yes  No
  9. If yes, is maximum quantity below allowable limit?  Yes  No
  10. How is toxin inactivated? : heat chemical radiation other:

# Biohazardous agent

*CHECK IF THIS SECTION IS NOT APPLICABLE*

*CHECK IF THIS SECTION IS NOT APPLICABLE*

1. Name of organism:
2. Strain, subtype, serotype:
3. Is antibiotic resistance expressed?  Yes  No
4. Name of antibiotics to which strain is resistant:
5. Name of antibiotics to which strain is sensitive:
6. Is toxin produced?  Yes  No

If yes, Name of toxin(s) produce:

If yes, is work conducted with the toxin?

1. Largest volume of organism cultured:
2. Is organism concentrated?  Yes  No
3. If yes, method used to concentrate organism:
4. How is the organism inactivated?  Heat Chemical  Radiation Other:

# Human blood, cell culture, or unfixed tissue

*CHECK IF THIS SECTION IS NOT APPLICABLE*

*CHECK IF THIS SECTION IS NOT APPLICABLE*

1. Samples manipulated: Blood Serum Unfixed Tissue Cell culture.

Other:

1. Are procedures done in a Biological Safety Cabinet (BCS)? Yes No
2. If yes, provide specific BSC information in *SECTION III* Question 1
3. Are sharps used?(e.g. needles, scalpels, Pasteur pipets, razor blades) Yes No
4. Are sharps disposed into Biohazardous sharps containers? Yes No
5. Have all personnel completed annually required bloodborne pathogens training? Yes No Please provide documentation of BBP training as an Appendix to this document.
6. Are human subjects are involved in this research? Yes No
7. If yes, has this work been registered with the Institutional Review Board (IRB)? Yes No
8. If no, why not? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# Non-human primate (NHP) blood, or unfixed tissue

*CHECK IF THIS SECTION IS NOT APPLICABLE*

*CHECK IF THIS SECTION IS NOT APPLICABLE*

* 1. Samples manipulated: Blood Serum Unfixed Tissue Cell culture.

Other:

* 1. Are procedures done in a biological safety cabinet? Yes No
  2. Are sharps used? (e.g., needles, scalpels, Pasteur pipettes) Yes No

Are sharps disposed into red Biohazardous sharps containers Yes No

* 1. Have all personnel who work with NHP material been educated on the risks of

*Cercopithecine herpesvirus I* (monkey B virus)? Yes No

*Please complete Section III, regardless of your selections in Section II.*

## SECTION III

1. **Containment equipment available:**

Biological safety cabinet: Yes  No

Location of BSC (Building and Room):

BSC ID number:

Date of last BSC certification:

Containment centrifuge used :  Yes No

Location of containment centrifuge: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Other containment equipment used:

List Shared/Core Facility if used:

1. **If live vertebrate animals are involved:**

Animal species:

Animal housing location(s):

1. **Overview.** Please describe the experimental design and purpose/objectives of your research, highlighting the methodology used and/or the use of infectious microorganisms if applicable.

Please write in layman’s terms but **be specific**. *Do not cut and paste from a grant application.*

*Text box will expand to fit your entered text*

1. **Risk Assessment and Control.** Please provide a protocol-specific risk assessment.

Include consideration of agent pathogenicity, virulence, infectious dose, route of transmission, host range, and stability, as well as the likelihood of exposure and consequences of exposure.

How will identified risks be controlled (e.g., PPE, work practices, etc.)?

Include how potentially infectious wastes will be collected and disposed.

Are there specific processes that should not be conducted by a lone worker? i.e. buddy system required for safety.

*Text box will expand to fit your entered text*

1. **Training.** Please describe ALL training that will be provided to lab staff (EHS provided, online, lab specific, core facility required). This should include potential for zoonoses, or lab acquired infections, considerations for staff with immunocompromising conditions, proper operation of lab equipment, general safety information, reporting requirements, etc. Is there a process for working under supervision until competency is achieved?

How is training documented?

*Text box will expand to fit your entered text*

1. **Post-exposure procedures.** Please describe procedures that will be followed in the event of an

accidental release or exposure, including first aid, spill cleanup and reporting requirements to supervisor, EHS incident reporting, Workplace Injury Reporting to SRS Occupational Health and Safety.

**Note:** Spills or accidents resulting in release or potential exposure to rsNA must be reported to the UO Biosafety Officer in compliance with the requirements of the *NIH Guidelines*.

*Text box will expand to fit your entered text*

**7. Proposed Containment and Practices: BSL1 BSL2 BSL1 Plant**

**ABSL1 ABSL2 BSL2 Plant**

**8. Please select all applicable section(s) of the *NIH Guidelines*:**

|  |  |
| --- | --- |
| ***Sections III-A,B,C: Experiments requiring NIH and IBC approval PRIOR to initiation:*** | |
|  | [III-A:](http://osp.od.nih.gov/sites/default/files/NIH_Guidelines.html#_Toc351276229) Deliberate transfer of a drug resistance trait to microorganisms that are not known to acquire the trait naturally if such acquisition could compromise the use of the drug to control disease. |
|  | [III-B:](http://osp.od.nih.gov/sites/default/files/NIH_Guidelines.html#_Toc351276231) Cloning of toxin molecules with LD50 of less than 100 ng / kilogram body weight. |
|  | [III-C:](http://osp.od.nih.gov/sites/default/files/NIH_Guidelines.html#_Toc351276234) Transfer of rsNA to human research participants. |
| ***Section III-D - Experiments that require IBC approval PRIOR to initiation****:* | |
|  | [III-D-1:](http://osp.od.nih.gov/sites/default/files/NIH_Guidelines.html#_Toc351276237) Experiments using [Risk Group 2, 3, or 4](http://osp.od.nih.gov/sites/default/files/NIH_Guidelines.html#_Toc351276293) agents as host-vector systems. |
|  | [III-D-2:](http://osp.od.nih.gov/sites/default/files/NIH_Guidelines.html#_Toc351276238) Experiments in which DNA from [Risk Group 2, 3, or 4](http://osp.od.nih.gov/sites/default/files/NIH_Guidelines.html#_Toc351276293) agents is cloned into nonpathogenic  prokaryotic or lower eukaryotic host-vector systems. |
|  | [III-D-3:](http://osp.od.nih.gov/sites/default/files/NIH_Guidelines.html#_Toc351276239) Experiments involving the use of recombinant or reassortant viruses in tissue culture systems; or defective recombinant viruses in the presence of helper virus or packaging cells in tissue culture systems  (this includes all eukaryotic viruses). |
|  | [III-D-4-a:](http://osp.od.nih.gov/sites/default/files/NIH_Guidelines.html#_Toc351276240) Experiments that generate transgenic animals, including insects (with the exception of transgenic rodents requiring BL1 containment. See III-E-3 and III-F). |
|  | [III-D-4-b:](http://osp.od.nih.gov/sites/default/files/NIH_Guidelines.html#_Toc351276240) Experiments involving viable rsNA-modified microorganisms tested on whole animals. |
|  | [III-D-5:](http://osp.od.nih.gov/sites/default/files/NIH_Guidelines.html#_Toc351276241) Experiments involving whole plants that require BL3 or BL4 containment. |
|  | [III-D-6:](http://osp.od.nih.gov/sites/default/files/NIH_Guidelines.html#_Toc351276242) Experiments involving more than 10 liters of culture. |
|  | [III-D-7:](http://osp.od.nih.gov/sites/default/files/NIH_Guidelines.html#_Toc351276243) Experiments involving human influenza strains H2N2, 1918 H1N1, and/or highly pathogenic H5N1. |
| ***Section III-E - Experiments that require registration simultaneous with initiation:*** | |
|  | [III-E-1:](http://osp.od.nih.gov/sites/default/files/NIH_Guidelines.html#_Toc351276245) Introduction into cultured cells of any rsNA containing greater than half but less than 2/3 of a eukaryotic viral genome (with the exception of Risk Group 3 or 4 agents). |
|  | [III-E-2:](http://osp.od.nih.gov/sites/default/files/NIH_Guidelines.html#_Toc351276246) Experiments involving whole plants that require BL1 or BL2 containment. |
|  | [III-E-3:](http://osp.od.nih.gov/sites/default/files/NIH_Guidelines.html#_Toc351276247) Generation of rodents in which the animal's genome has been altered by rsNA, requiring BL1 containment. |
|  | [III-E:](http://osp.od.nih.gov/sites/default/files/NIH_Guidelines.html#_Toc351276244) Experiments not specified on this sheet. |
| ***Section III-F - Experiments that are exempt but still require registration:*** | |
|  | [III-F-1:](http://osp.od.nih.gov/sites/default/files/NIH_Guidelines.html#_Toc351276248) Experiments that use synthetic nucleic acids that can neither replicate nor generate nucleic acids capable of replicating in any living cell; are not designed to integrate into DNA, and do not produce a toxin that is lethal for vertebrates at an LD50 of <100 ng/kg body weight. |
|  | [III-F-8:](http://osp.od.nih.gov/sites/default/files/NIH_Guidelines.html#_Toc351276313) Cloning of all other DNA in *E. coli* K12, *S. cerevisiae*, and *B. subtilis* host-vector systems (with the exception of DNA from Risk Group 3 or 4 pathogens). |
|  | [III-F-8:](http://osp.od.nih.gov/sites/default/files/NIH_Guidelines.html#_Toc351276311) Introduction into cultured cells of any rsNA containing less than half of a eukaryotic viral genome (with the exception of Risk Group 3 or 4 pathogens). |
|  | [III-F-8:](http://osp.od.nih.gov/sites/default/files/NIH_Guidelines.html#_Toc351276324) Purchase or transfer of transgenic rodents that require BL1. (Appendix C-VII) |
|  | [III-F-8:](http://osp.od.nih.gov/sites/default/files/NIH_Guidelines.html#_Toc351276324) Breeding experiments to generate transgenic rodents that may be housed under BL1, with the exception of those listed in Section III-E. (Appendix C-VIII) |

***Principal Investigator:*** *“By submitting this registration, I accept responsibility for the safe conduct of work with this material at the established biosafety level. I will ensure that all personnel receive training in regard to proper safety practices and personal protective equipment needed for this work.”*

Version updated January 2024