**University of Colorado Colorado Springs**

**IBC BIOSAFETY APPLICATION FORM**

**Attachment II – Section A Recombinant or Synthetic Nucleic Acid Molecules (rsNA)**

**Biosafety Application#  (Office Use Only)**

**Renewal for Application #** (Office Use Only)

**Administrative Information**

Principal Investigator: 

Email Address:

The NIH requires that the IBC review the following information as a pre-requisite of approval of any recombinant or synthetic nucleic acid molecule experiment. Review the following example of a C. elegans experiment and include the appropriate information of your experiment in your application form:

**EXAMPLE:**

**Agent Characteristics:**  *non pathogenic vectors are used*

**Routes of Exposure:** *non pathogenic to humans*

**Host**: *Caenorhabditis elegans, E-coli*

**Vector**: *pUC19*

**Nature of inserted sequences**: marker, gfp cDNA, antibiotic resistance, ampicillin and kanamycin

**Source of inserted sequences**: *bacterial*

**Types of manipulation:** *standard tissue culture, growth of worms occur using E-coli agar gel plates*

**Attempt to express foreign gene:** *yes, AmpR, KanR, bacterial resistance, gfp*

**Protein produced:** *Green Florescent Protein*

**Containment:** *BSL1*

**Section of Guidelines:** *(Section III-D-4-a):* *Experiments Involving Whole Animals*

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**Agent Characteristics:**

**Routes of Exposure:**

**Host**::

**Vector**:

**Nature of inserted sequences**:

**Source of inserted sequences**:

**Types of manipulation:**

**Attempt to express foreign gene:**

**Protein produced:**

**Containment:**

**Section(s) of Guidelines:**

**II-A.1. Description of Gene(s), include but not limited to: genes over-expressed, expressed in transgenic animals and/or silenced by RNA interference**

|  |  |  |  |
| --- | --- | --- | --- |
| **Gene Sources**(organism-genus, species, strain, e.g., E-coli, K12) | **Gene Name and Protein Produced**(acronym & full name, e.g., GFP, green florescent protein) | **Gene category \*** | **Expression of construct in Host** |
| **In vitro cultured Cells - define** | **In vivo Animals****Define species** |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

\*Examples of gene category: structural, enzymatic proteins, metabolic enzymes, cell growth/housekeeping, cell cycle/cell division, DNA replication, membrane proteins, tracking genes (GFP, luciferase), toxins, regulatory genes, oncogenes

**II-A.2. Viral Vectors used - check all that apply**

[ ] **Other, please list:**

[ ] **Adenovirus, list genes deleted if applicable:**

[ ] **Adeno-Associated virus (AAV); helper virus used** [ ]  **Yes** [ ]  **No**

[ ] **Epstein-Barr Virus (EBV)**

[ ] **Herpesvirus:** [ ] **HSV-1** [ ]  **HSV-2**

[ ] **Retrovirus:** [ ] **ecotropic** [ ]  **amphotrophic**

[ ] **pseudotype virus, (e.g, VSV Glycoprotein Envelope expressed):**

[ ] **MMLV**

[ ] **Lentivirus:** [ ] **HIV** [ ]  **SIV** [ ]  **Other:**

[ ] **helper virus used**

[ ] **genes separated on separate plasmids**

[ ] **pseudotype use of VSV-G**

[ ] **Poxvirus -Vaccinia Virus**

[ ] **Sindbis (alpha) virus** [ ]  **helper virus used**

[ ] **Baculovirus**

**II-A.3. Vector Description**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Vector backbone**(organism-genus, species, strain) | **Vector name**(e.g. PBr322) | **Gene Transfer Method** (e.g. gene gun, transfection) | **Host to be used**(e.g. E. coli K-12) | **Expression** |
|  |  |  |  | **Stable** | **Transient** |
|       |       |       |       |[ ] [ ]
|       |       |       |       |[ ] [ ]
|       |       |       |       |[ ] [ ]

Attach a construct map and clearly indicate what viral sequences are being deleted from the wild-type vector, and the description and location of inserted viral or cellular sequences.

**II-A.4. Packaging Cell Line(s) for Production of Virus Particles**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name of Cell Line(s) and** **helper plasmids** (co-transfection)(e.g., HEK 293) | **Source(s)**(e.g. viral, human) | **Source of envelope glycoprotein**If retro-or lentivirus (e.g.vsv-g pseudotype in retroviral system) | **Characterization** **with respect to host range**(e.g. retro - ecotropic, amphotrophicor lentivirus) | **Host Cells** |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |