**Recombinant Nucleic Acid Template(s)**

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***EXAMPLE***

***Host(s)****: Caenorhabditis elegans, E. coli B and K12 derivatives*

***Plasmid(s) or plasmid backbone(s)****: pUC19*

***Organismal origin of the inserted sequences****: flu virus, Aequoria victoria, RG1 bacteria*

***Foreign genes/gene categories\* or other recombinant nucleic acids (e.g. ORFs, regulatory regions, siRNA, sgRNA, etc.):*** *HA tag, gfp cDNA, antibiotic resistance to ampicillin and kanamycin*

***Section of Guidelines:***  *III-D-2 (HA in E. coli), III-D-4 (worms), III-E (E. coli B derivatives), III-F-8 (E. coli K12 derivatives)*

\*Examples of gene categories: toxins, oncogenes, immune defense genes, genome modifiers (e.g. Cas9 and sgRNAs), virulence factors, structural proteins, metabolic enzymes, housekeeping genes, cell cycle/cell division, DNA replication, membrane proteins, reporter or tracking genes (GFP, luciferase), regulatory genes, etc.

Sections of the NIH Guidelines are on the next page.

**Complete as many templates needed for any viral vectors, transgenic microbes and viruses, transgenic plants, transgenic animals, or tissue culture used in your experiment. This is a pre-requisite of CLEB approval.**

**Host(s)**:

**Plasmid(s) or plasmid backbone(s)**:

**Organismal origin of the inserted sequences**:

**Foreign genes/gene categories\* or other recombinant nucleic acids (e.g. ORFs, regulatory regions, siRNA, sgRNA, etc.):**

**Section of Guidelines:**

**Host(s)**:

**Plasmid(s) or plasmid backbone(s)**:

**Organismal origin of the inserted sequences**:

**Foreign genes/gene categories\* or other recombinant nucleic acids (e.g. ORFs, regulatory regions, siRNA, sgRNA, etc.):**

**Section of Guidelines:**

**Host(s)**:

**Plasmid(s) or plasmid backbone(s)**:

**Organismal origin of the inserted sequences**:

**Foreign genes/gene categories\* or other recombinant nucleic acids (e.g. ORFs, regulatory regions, siRNA, sgRNA, etc.):**

**Section of Guidelines:**

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Relevant Sections of the Guidelines – for reference:

Section III-D-1. Experiments Using Risk Group 2, Risk Group 3, Risk Group 4, or Restricted Agents as Host-Vector Systems

Section III-D-2. Experiments in Which DNA From Risk Group 2, Risk Group 3, Risk Group 4, or Restricted Agents is Cloned into Nonpathogenic Prokaryotic or Lower Eukaryotic Host-Vector Systems

Section III-D-3. Experiments Involving the Use of Infectious DNA or RNA Viruses or Defective DNA or RNA Viruses in the Presence of Helper Virus in Tissue Culture Systems

Section III-D-4. Experiments Involving Whole Animals

Section III-D-5. Experiments Involving Whole Plants

Section III-D-6. Experiments Involving More than 10 Liters of Culture

Section III-D-7. Experiments Involving Influenza Viruses

Section III-E. Experiments not included in Sections III-A, III-B, III-C, III-D, III-F, and their subsections are considered in Section III-E. For example, experiments in which all components are derived from non-pathogenic prokaryotes and non-pathogenic lower eukaryotes often fall under Section III-E. Materials from non-pathogenic organisms in mouse, human, or plant cell lines also often fall under III-E. All such experiments may be conducted at BSL1 containment.

Section III-E-1. Experiments Involving the Formation of Recombinant or Synthetic Nucleic Acid Molecules Containing No More than Two-Thirds of the Genome of any Eukaryotic Virus

Section III-E-2. Experiments Involving Whole Plants

Section III-E-3. Experiments Involving Transgenic Rodents (the animal's genome has been altered by stable introduction of recombinant or synthetic nucleic acid molecules; only experiments that require BSL1 are covered by this section, for higher containment levels, see III-D-4)

Section III-F-1. Those synthetic nucleic acids that: 1) can neither replicate nor generate nucleic acids that can replicate in any living cell (e.g., oligonucleotides or other synthetic nucleic acids that do not contain an origin of replication or contain elements known to interact with either DNA or RNA polymerase), and (2) are not designed to integrate into DNA, and (3) do not produce a toxin that is lethal for vertebrates at an LD50 of less than 100 nanograms per kilogram body weight.

Section III-F-2. Those that are not in organisms, cells, or viruses and that have not been modified or manipulated (e.g., encapsulated into synthetic or natural vehicles) to render them capable of penetrating cellular membranes.

Section III-F-3. Those that consist solely of the exact recombinant or synthetic nucleic acid sequence from a single source that exists contemporaneously in nature.

Section III-F-4. Those that consist entirely of nucleic acids from a prokaryotic host, including its indigenous plasmids or viruses when propagated only in that host (or a closely related strain of the same species), or when transferred to another host by well-established physiological means.

Section III-F-5. Those that consist entirely of nucleic acids from a eukaryotic host including its chloroplasts, mitochondria, or plasmids (but excluding viruses) when propagated only in that host (or a closely related strain of the same species).

Section III-F-6. Those that consist entirely of DNA segments from different species that exchange DNA by known physiological processes, though one or more of the segments may be a synthetic equivalent.

Section III-F-7. Those genomic DNA molecules that have acquired a transposable element, provided the transposable element does not contain any recombinant and/or synthetic DNA.

Section III-F-8. Those that do not present a significant risk to health or the environment (see Section IV-C-1-b-(1)-(c), Major Actions), as determined by the NIH Director, with the advice of the RAC, and following appropriate notice and opportunity for public comment. See Appendix C, Exemptions under Section III-F-8 for other classes of experiments which are exempt from the NIH Guidelines.