ENVIRONMENTAL HEALTH AND SAFETY
University of Nebraska-Lincoln

Safe Operating Procedure

(Revised 9/23)

PATHOGEN INVENTORIES

Scope

This SOP applies to all faculty and staff with collections of pathogenic agents at UNL whether the agents are actively being used or are in long-term storage.

Purpose

Pursuant to best practices in biosafety stewardship and to avoid stockpiles of unknown or abandoned pathogenic agents at UNL, it is institutional policy for all faculty and staff to maintain an inventory of all pathogenic agents in their possession at UNL.

Definitions

Pathogenic agents: Any microbiological agent or biological toxin capable of causing disease in humans, animals, or plants. Lab-adapted strains of microbes are not included under this definition; examples include K-12-derived E. coli strains and S. cerevisiae. Additionally, certain replication incompetent viral vectors are not included in this definition. Please contact the EHS Biosafety Officer for additional information and guidance on viral vectors.

Inventory Requirements

An inventory listing all pathogenic agents in the possession of a faculty or staff member must be maintained by the faculty or staff member. The inventory must be kept current and accurate at all times. An updated copy of the inventory must be submitted to EHS biosafety staff whenever new agents are added/removed or at least annually. The inventory must at a minimum contain the following information:

- **Name of agent**, preferably list the genus and species of microbiological agents; or name and species of origin for biological toxins
- **Strain information**: list all strains of the agents possessed. (*If known, please include the genotype of the microbe indicating all antibiotic resistance genes and any mutations that may increase virulence, host range or pathogenicity*)
- **Storage location of agent**
- **Status of agent** (e.g., long-term storage, active use, etc.)

If the inventory has not changed in the past 12 months after initial submission of an inventory document, an email indicating as such can be submitted following the procedures below.

Submission procedures

Faculty members **without an IBC protocol** must submit their pathogen inventory to the following email address: ibc@unl.edu

- Inventories must be submitted as email attachments in any of the following formats: Microsoft Excel (.xls, .xlsx or, .csv), Microsoft Word, or PDF.
- Proprietary database file formats will not be accepted, as we do not have access to software that may have been used to create the database file.
- Please format the email subject line as follows:

  "[*Year*] Pathogenic Agent Inventory for [*PI Name – Department – Building*]"

  Sample subject line: "2018 Pathogenic Agent Inventory for Matthew Anderson – Environmental Health & Safety – Agriculture Warehouse 1"
- Updated inventories will be requested once a year from faculty without an active IBC protocol. A request will be sent from the IBC email account (ibc@unl.edu).

Faculty Members **with an active IBC protocol** will submit their inventories via NuRamp in either an Annual Update (AU) or Amendment form. If you have not previously submitted an inventory through NuRamp, you will need to upload an inventory when you next submit an AU or Amendment Form. After the initial inventory upload, if no changes in inventory have occurred, this can be indicated on the IBC form.

Inventories and Lab Decommissioning

Faculty planning to leave UNL should submit a final inventory approximately **one month** prior to your lab shutting down. This will allow sufficient time for the Biosafety staff to review your inventory and advise on the following (as applicable):

- Requirements for shipping your inventory to your new institution.
- Best disinfection methods for disposing of the inventory; or
- Procedures for transferring your inventory to another faculty member.

Disposal of Pathogenic Agents

Follow the procedures outlined in the EHS SOP, ***Disposing of Biohazardous Materials Including Recombinant Nucleic Acids*** to properly discard biological agents.

Important: Do not dispose of pathogenic agents or recombinant materials in the regular trash.

If you find pathogenic agents while conducting an inventory that are no longer needed or of which the identity is unknown, please verify that the agent is not on the Select Agent and Toxin list found in **Appendix A** of this document. If you do determine that you possess one of the

agents on the Select Agent and Toxin list, email selectagents@unl.edu or call the UNL Biosafety Officer immediately. Keep the agent in a locked freezer with restricted access and do not discard or destroy the agent without permission and applicable instructions from EHS.

Abandoned Agents

If you are aware of pathogenic agents or other biological materials that have been abandoned in a freezer, cold room or other type of long-term storage, please contact EHS at 402.472.4925 for assistance with disposal options.

Questions or comments about this process can be directed to the email address provided above (ibc@unl.edu) or to the UNL Biosafety Officer at 402.472.9554.

Appendix A

Below is the complete list of Select Agents and Toxins. These agents are regulated by the federal government and possession of these agents requires registration with either CDC/HHS or USDA-APHIS. Additionally, disposal/destruction of these agents must be documented, and paperwork submitted to the appropriate federal agency.

HHS and USDA Select Agents and Toxins
7CFR Part 331, 9 CFR Part 121, and 42 CFR Part 73

HHS SELECT AGENTS AND TOXINS

1. **Abrin**
2. *Bacillus cereus Biovar anthracis**
3. **Botulinum neurotoxins***
4. Botulinum neurotoxin producing species of *Clostridium**
5. **Conotoxins**
6. *Coxiella burnetii*
7. Crimean-Congo haemorrhagic fever virus
8. **Diacetoxyscirpenol**
9. Eastern Equine Encephalitis virus
10. Ebola virus*
11. *Francisella tularensis**
12. Lassa fever virus
13. Lujo virus
14. Marburg virus*
15. Monkeypox virus[3]
16. Reconstructed replication competent forms of the 1918 pandemic influenza virus containing any portion of the coding regions of all eight gene segments (Reconstructed 1918 Influenza virus)
17. **Ricin**
18. *Rickettsia prowazekii*
19. SARS-associated coronavirus (SARS-CoV)
20. SARS-CoV/SARS-CoV-2 chimeric viruses resulting from any deliberate manipulation of SARS-CoV-2 to incorporate nucleic acids coding for SARS-CoV virulence factors
21. **Saxitoxin**

South American Haemorrhagic Fever viruses:

22. Chapare
23. Guanarito
24. Junin
25. Machupo
26. Sabia

27. **Staphylococcal enterotoxins A,B,C,D,E subtypes**
28. **T-2 toxin**
29. **Tetrodotoxin**

Tick-borne encephalitis complex (flavi) viruses:

30. Far Eastern subtype
31. Siberian subtype

32. Kyasanur Forest disease virus
33. Omsk hemorrhagic fever virus
34. Variola major virus (Smallpox virus)*
35. Variola minor virus (Alastrim)*
36. *Yersinia pestis**

OVERLAP SELECT AGENTS AND TOXINS

37. *Bacillus anthracis**
38. *Bacillus anthracis* Pasteur strain
39. *Brucella abortus*
40. *Brucella melitensis*
41. *Brucella suis*
42. *Burkholderia mallei**
43. *Burkholderia pseudomallei**
44. Hendra virus
45. Nipah virus
46. Rift Valley fever virus
47. Venezuelan equine encephalitis virus

USDA SELECT AGENTS AND TOXINS

48. African horse sickness virus
49. African swine fever virus
50. Avian influenza virus
51. Classical swine fever virus
52. Foot-and-mouth disease virus*
53. Goat pox virus
54. Lumpy skin disease virus
55. *Mycoplasma capricolum*
56. *Mycoplasma mycoides*
57. Newcastle disease virus
58. Peste des petits ruminants virus
59. Rinderpest virus*
60. Sheep pox virus

61. Swine vesicular disease virus

USDA PLANT PROTECTION AND QUARANTINE (PPQ) SELECT AGENTS AND TOXINS

62. *Coniothyrium glycines* (formerly *Phoma glycinicola* and *Pyrenochaeta glycines*)
63. *Peronosclerospora philippinensis (Peronosclerospora sacchari)*
64. *Ralstonia solanacearum*
65. *Rathayibacter toxicus*
66. *Sclerophthora rayssiae*
67. *Synchytrium endobioticum*
68. *Xanthomonas oryzae*

*Denotes Tier 1 Agent

Toxins are highlighted in **blue**.