Principal Investigator: Date Approved:

**Containment Level Change: Stepdown**

This SOP applies to reduction of the containment level (stepdown) following administration of certain recombinant viral vectors or biological toxins: this is also referred to as ABSL1+.

Switching the containment level increases the potential for materials to be handled without the appropriate controls. To minimize risk, all waste must be disposed of and all surfaces decontaminated before switching the containment level of the facility. Personnel must receive training on stepdown procedures, and signage must be posted to clearly indicate the containment level. For variable periods after inoculation animals are handled using ABSL-2 practices in ABSL-1 housing rooms. These time periods are dictated by the Institutional Biosafety Committee (IBC) for each vector/toxin to ensure no vector/toxin remains present on animal fur or is shed in excreta post-inoculation. After this holding period animals are transferred to a new cage and managed using ABSL-1 practices. The cage from which animals are transferred is managed using ABSL-2 practices

**Personal Protective Equipment**



**BSL2**

**BSL2+**

**Engineering Controls, Equipment, and Materials**

|  |  |
| --- | --- |
| **Biosafety Cabinet** or other aerosol containment device | Enclosed, ventilated laboratory workspace that protects the worker from aerosols |
| **Biohazard Waste Container & Bag** | Non-porous, leak-resistant, “biohazard”-labeled container with a tight-fitting lid and lined with a compliant red biohazard bag |
| **Disinfectant** | Appropriate to the agent(s) (see Decontamination and Disinfection SOP) |

**Procedures**

1. Viral vectors or Toxins are administered in a Biosafety Cabinet (BSC)on absorbent pad.
2. Investigators place a “Viral Vector Step Down” or a “Biological Toxin Step Down” Card on the cage, noting the vector/toxin, date inoculated, and date of step down on the card.
3. Animals are housed in microisolator caging, opened only in biosafety cabinets.
4. Investigators provide required care (i.e. supplementing feed, water, etc.) until the step down occurs. The investigator’s staff perform any required cage changesduring the step down period. Cage changes occur only in cage changing stations or biosafety cabinets.
5. On the day of the step down the investigator’s staff place the cage in a biosafety cabinet and move the animals to a clean cage. Do not transfer the “Viral Vector Step Down” or “Biological Toxin Step Down” Card to the new cage.
6. The new cage is returned to the rack and managed at the ABSL-1 level.
7. Place the contaminated cage in an autoclavable bag. Seal the bag and spray the bag with disinfectant.
8. Transport the closed bag to the dirty cage rack and the animal care staff will process the cage using ABSL-2 practices.
9. All waste generated during the procedures, must be handled using ABSL-2practices.

**Cautions and Considerations**

* Only vectors/toxins approved by the Institutional Biosafety Committee (IBC) for step-down practice may be used as per this SOP. The IBC will assign the time period that the animals must be housed at ABSL2 prior to stepdown.
* Research staff will inform the animal care staff at least 24 hours in advance that ABSL-2 viral vectors or toxins will be used for animals housed in ABSL-1 rooms.
* “Humanized rodents,” those in which human xenografts are present, may be permissive hosts for some viral vectors. Step down procedures do not apply to permissive hosts.
* If injection equipment is too large to place inside a BSC, the investigator may request permission to perform the injections outside of a biosafety cabinet. This request must be reviewed and approved by the IBC and will likely require respiratory protection.