

## OHSU IBC Standards for Stereotactic Injection of Lentiviral Particles

The NIH has provided a useful guide to the use of lentiviral constructs, available at: [http://oba.od.nih.gov/oba/rac/Guidance/LentiVirus\\_Containment/pdf/Lenti\\_Containment\\_Guidance.pdf](http://oba.od.nih.gov/oba/rac/Guidance/LentiVirus_Containment/pdf/Lenti_Containment_Guidance.pdf). Regarding stereotactic injection of lentiviral particles, it acknowledges that the risk of aerosol production is small; the greatest risk to the researcher appears to be autoinoculation, either during set-up or during the injection procedure. Other parameters, which the IBC might assess, are the number of separate plasmids used to package the vector (2<sup>nd</sup> generation systems are not recommended for procedures outside the biosafety cabinet), the nature of the transgene, and whether the experiment involves the use of human cells. The use of an oncogenic transgene (e.g., a known oncogene or a shRNA for a tumor suppressor), might necessitate stricter adherence to lab-specific standard operating procedures, whereas the use of human cells (e.g., injection of lentivirally transduced human cells into mouse brain) requires ABSL2 housing. Labs setting up stereotactic systems for lentiviral delivery will be visited by a Biosafety Officer on behalf of the IBC, to discuss the facility and work practices.

### **AT A MINIMUM, A LAB PERFORMING STEREOTACTIC INJECTIONS OF LENTIVIRAL PARTICLES MUST:**

1. have IACUC approval for the procedure and follow the IACUC guidelines for rodent surgery.
2. notify DCM, via email or phone Dee Horne (4-8425), at least two weeks in advance of the procedure taking place. Appropriate training and signage must be in place prior to housing lentivirally transduced animals.
3. locate the stereotactic injection apparatus away from high-traffic areas of the lab.
4. demarcate a space around the apparatus (e.g., tape on the floor) and post signage indicating that lentiviral particles are used in that area.
5. post signs alerting others of the presence of lentiviral particles when procedures are taking place.
6. allow only personnel directly involved with the procedure to be nearby when lentiviral particles are in use.
7. after closing the site of injection, clean the area around the site of injection with 70% EtOH, and then place animals in a secondary container without bedding. Once the injection site is dry, animals can be returned to their original cages and housed at ABSL1+ .
8. follow BSL2 practices and any lab-specific SOPs developed for in vitro lentiviral work.

### **As a reminder, the major BSL2 practices include facilities requirements as well as work practices:**

1. There should be a sink and an eyewash station which are easily accessible.
2. Work practices include but are not limited to:

- a. decontamination of work surfaces before and after procedures;
- b. wearing a lab coat or back-closing gown that is not worn outside the facility;
- c. wearing gloves (double gloving may be desirable when working with sharps, but is not strictly required);
- d. protection of mucous membranes (eye protection and surgical mask) if there is a significant risk of splashing into the face;
- e. posting of SOPs, especially those regarding incident response, in a readily accessible location;
- f. assembly of a lab-specific biosafety manual that is read and understood by all personnel engaged in the procedures;
- g. labeling boxes and freezers where lentiviral stocks are stored.