



Kennedy Krieger Institute

F.M. Kirby Research Center  
Preclinical Imaging Facility

## **SOP for working in BSL-2 laboratory in KKI Preclinical Imaging Facility (Room G28B)**

The following rules must be strictly followed. Failure to adhere to these rules may result in the termination of the protocol.

The F.M. Kirby Research Center High Field Animal MRI Facility, KKI suite G-28, is a clean biosafety level 2 facility and thus procedures to minimize infections need to be strictly followed. Animals will be housed in Johns Hopkins core holding facilities and returned to core high risk return facilities after imaging: **there is no animal holding space associated with this facility. A sign designating the BSL-2 level is posted outside each of the 3 doors of the scanner rooms (not visible from the hallway outside the restricted facility, and not visible from the entry dressing room). The facility will be inspected yearly.**

**-A list of BSL-2 safety registrations and expiration date for each PI (DN, P, T-type) is maintained by the facility manager and accessible at all times.**

**-A list of approved animal protocols and expiration date for each PI is maintained by the facility manager and accessible at all times.**

**-All personnel working in the facility have been trained in the use of imaging equipment and biosafety procedures. They complete the annual blood-borne pathogen and accidental spills/sharps exposure on-line safety course yearly.**



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**-All personnel working in the facility will receive a copy of this facility-specific BSL-2 protocol and the general (84 page) safety protocol that describes procedures for accidental spills and pathogen/sharps exposure in further detail (“JOHNS HOPKINS LABORATORY AND BIOSAFETY MANUAL GUIDANCE”).**

**A) Current list of BSL-2 hazardous materials being used in the facility (to be updated as needed)**

1. Human blood, fluids, cells, and tissues (including tumors)
2. Recombinant DNA (e.g. luciferase)
3. Lentiviral vectors (e.g. CMV)
4. Pertussis toxin
5. Certain bacteria (e.g. Staphylococcus aureus, attenuated Clostridium strains).

All hazardous materials need to have separate PI-specific approved DNA, Pathogen, or Toxin safety registrations (DN, P, or T-type).

**B) Facility-specific safety guidelines.**

The following procedures for animal transport and disinfection need to be strictly followed by all users to prevent cross contamination and minimize the possibility of rodent infections:

1. No radioactive materials are allowed in the facility.
2. No food or drinks are allowed in the BSL-2 posted rooms.
3. All animals will be housed in specific pathogen free microisolator facilities (BRB or Ross).



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4. Rodents will be transported in a clean filter-top microisolator cages. In addition, the transport cages will be closed in RAR-approved plastic transport containers.
5. Rodents will be transported in the IACUC-approved animal transport route to KKI.
6. Only authorized users are able to enter KKI animal imaging facility; there is restricted access.
7. On entry, transport containers will be placed on the counter in the gowning area and will be sprayed with Virkon-S solution.
8. The designated gowning area will have a tacky mat. A disposable gown, shoe covers, and gloves will be worn at all times. Hair covers, sleeve guards and masks will be worn for animal preparation.
9. Inside the facility users will use only the designated non-magnetic plastic carts, which will be placed at the entrance. No other carts will enter the facility. Carts with the transport animal container can be temporarily placed in the designated area nearby.
10. Unless items are sterile or disposable, all materials and surgical instruments need to have been autoclaved or disinfected with an RAR-approved high level disinfectant before entering imaging suite. All other equipment brought in by the users needs to be sprayed with Virkon-S solution upon entrance in the gowning area.
11. Once in the animal preparation room, cages will be removed from the transport container, placed in the biosafety hood, and the outside sprayed with chlorine dioxide disinfectant before opening the cages for animal anesthesia and preparation.
12. The biosafety hood will be sprayed and wiped down with chlorine dioxide based disinfectant before and after use.
13. The biosafety hood holds gas anesthesia induction chambers and isoflurane vaporizer. The induction chamber will be washed after every use use.



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14. Materials and specimen placed in the refrigerator in the animal preparation room must be marked with date, name of user and detailed description. Specimen stored for more than a week will be discarded.
15. The facility will provide standard disposable materials such as gloves, syringes, needles, large red biohazard bags/boxes for biomedical waste
16. All lab trash and used protective equipment (e.g. gloves, gowns, etc.) will be disposed of in these biohazard boxes.
17. The facility will not provide any surgical equipment. Users are responsible to bring their own sterilized equipment.
18. Corpses will be placed in a designated biohazard bag and will be transport back to the designated corps freezer in the High Risk Return Area in Ross.
19. No corpses will be left in the facility overnight.
20. All sharps (injection syringes with needles, scalpel blades) will be discarded of in designated sharp containers.
21. After imaging procedures, rodents in survival experiments will be immediately placed back in their microisolator cages and the lid placed back on. The outside of the cages will be disinfected, and the cages will be placed in the transport container in the gowning area.
22. At the end of imaging session, ALL surfaces will be disinfected: Tables, benches, and the transport container will be wiped down and sprayed with Virkon-S. The biosafety hood will be sprayed and wiped down with chlorine dioxide disinfectant. Since Virkon-S is corrosive. Within 10 min of disinfection with Virkon-S, metals will be rinsed with water or cleaned with neutral disinfectant/Citriguard.
23. All parts of the imaging equipment where the animal has made contact with (e.g. coils, anesthesia boxes) will be wiped off with Virkon-S. Any accidental excretion spills (urine,



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saliva) or feces droppings on other surfaces (e.g, the scanner bed, surrounding floor) will be cleaned and disinfected with Virkon-S).

24. Animals will be returned in transport container to their assigned High Risk Return Area in Ross, using the approved animal transport route and procedures for that facility.
25. All empty cages will be returned to the Ross cagewash, dirty side, using the animal transport route.