**The following small animal imaging equipment is available for use by MUSC investigators:**

#1 **PerkinElmer Xenogen IVIS 200 In Vivo Bioluminescence Imaging System (IVIS)**

**In order to use this equipment, the following prerequisites must be met:**

1. Use of the equipment must be approved in your animal protocol prior to scheduling a training session. Please contact the IACUC office at [iacuc@musc.edu](mailto:iacuc@musc.edu) if you need assistance with the protocol or amendment submission.
2. All personnel must be trained on the imaging equipment by someone from our lab prior to being granted independent access.
3. All personnel to be trained on imaging equipment must be proficient in handling animals, administering IP/tail vein injections, and isoflurane anesthesia induction. For training in basic handling and experimental techniques, please contact the DLAR Training team at [dlar-training@musc.edu](mailto:dlar-training@musc.edu). Our lab personnel are not authorized to handle the animals at any point and must cancel the training session if trainees are not proficient in basic techniques.

**To add this equipment to your protocol:**

**NOTE: It should not be listed in the Special Considerations section as a Core, because it no longer an IACUC Animal Core even through it is a MUSC Core.**

Procedure Type: Imaging/Irradiation

Imaging and Irradiation

1. List all imaging/irradiation equipment to be used.

**PerkinElmer Xenogen IVIS 200 In Vivo Bioluminescence Imaging System**

1. Frequency of procedure:             Specific to your experimental plan.
2. Duration of individual imaging/irradiation session.

10-15 minutes with a hour between sessions

1. Will any human patient care areas or equipment be used?           **NO**

Procedure Description

1. Detailed Procedure Description

After anesthesia, the animal will be appropriately positioned on the stage and attched to a nose cone. During imaging, the animal will be monitored visually and the flow of anesthetic gas adjusted to insure anesthetic is maintained at the correct plane. If the animal develops signs of distress during imaging, scanning will be aborted and the animal returned to its cage to allow it to recover. When sets of images have been collected, the animal will be returned to its cage.   
  
Imaging stage is heated to 90 degrees during all sessions.

1. Please list and describe any clinical effects or changes from the normal health and behavior of an untreated animal which may occur as a result of this procedure.

None expected

1. Describe post procedure monitoring, observation schedules, and treatment that will be performed.

The animal will be removed from the stage and allowed to recover from general anesthesia in clean dry cage placed on a heating pad. Animals will be monitored continuously until they recover.

Subcutaneous fluids (LRS and 0.9% saline) may be given at a rate of 1 ml/kg/hour anesthetized if the animal appears dehydrated. Animals are returned to their normal housing room. Immuno-compromised rodents are returned to the designated immunocompromised rodent room. The restraint device, inhalation chamber, nose cone, laminar flow hood, and any other equipment that the animal has come in contact with will be cleaned with disinfectant provided by the animal facility after imaging session.

Specific Clean Up:

1. The animal will be returned to its cage and observed during recovery.
2. The bench drape will be folded inward to preserve bench cleanliness, and disposed of in the appropriate waste container.
3. The anesthesia nose cone will be removed and cleaned or sterilized as provided for by the specific experimental protocol.
4. Any plastic wrap shall be removed from the gantry and disposed of in the appropriate waste container.
5. The bench area and the imaging machine will be sprayed with viracidal/bacteriotoxic cleaner, which will be allowed to work as specified by its manufacture. The residue will be removed by wiping with 70% ethanol solution (in water).
6. Are expected or potential effects from this specific procedure likely to result in more than momentary or slight pain or distress to the animals?             **NO**

Personnel & Location

1. List all personnel who will use the equipment
2. No location required since the equipment is inside DLAR space.

Anesthesia & Analgesia

1. Will anesthesia be administered for this procedure?        **YES**
   1. Parameters used to monitor and ensure appropriate anesthetic depth.  
      toe pinch initially and then visual monitoring
   2. Anesthetic Agents

Isoflurane Inhalation (IN)   
2-4%, drop method followed by nose cone continuous throughout imaging

1. Will animals be recovered after anesthesia?        Specific to your experimental plan.
2. IF YES: montior movement and respirations every few minutes until fully awake
3. Will analgesia be administered for this procedure?          **NO**

Other Drugs Utilized

1. Specific to your experimental plan – Common agents:  
   Luciferase 125-250 mg/kg, <300ul   
   ip or iv, tail Contrast Agent

administered once per session