



## Small Animal Anesthesia Protocol

### *Isoflurane Gas*

#### **Materials:**

- V-1 Table Top System (VetEquip, Catalog #1806)
- Nose cone apparatus / manifold (Xenogen)
- Isoflurane, Abbott Laboratories, 250ml (Burns Vet Supply)
- Activated charcoal evacuation filters, Omnicon (Burns Vet Supply)

#### **Procedure:**

1. Weigh the F/Air filter and replace if necessary.
2. Fill the vaporizer with isoflurane. Dial should be in the 'OFF' position.
3. Turn on oxygen tank. Ensure the pressure is 55 psi.
4. Set the oxygen flowmeter to 1 liter/minute.
5. Place animal(s) in the induction chamber and secure lid.
6. Open stopcock in the chamber tubing line. Ensure the stopcock in the nose cone/camera line is closed.
7. Turn the vaporizer dial to 3%. Animal(s) should begin to fall asleep within 1-2 minutes.
8. When the animal(s) don't respond to the rocking/jiggling of the chamber, turn the vaporizer dial to 1.5-2%.
9. Open stopcock in the nose cone/camera line.
10. Immediately open the chamber and remove animal(s) and place their nose in the nose cones.
11. Close the stopcock in the chamber line.
12. Begin imaging animals using IVIS or begin cell injection. Recovery time is less than 1 minute.

### **When imaging/cell injections are completed:**

13. Turn off the vaporizer dial.
14. Turn off the oxygen tank.
15. Push the oxygen flush button until the oxygen flow-meter reads '0' to evacuate all anesthesia saturated gas from the vaporizer.
16. Clean and sanitize the chamber and nose cones.

### ***Ketamine/Xylazine cocktail***

#### **Materials:**

- Ketamine HCl (Ketaset) (Fort Dodge Animal Health)
- Xylazine (X-Ject SA) (Phoenix Scientific, Inc.)

#### **Procedure:**

1. Prepare a 4:1 mixture of Ketamine (100mg/ml) and Xylazine (20mg/mL).
2. Dosage is ketamine (120 mg/kg) plus xylazine (6mg/kg) for intramuscular injection.
3. Inject 0.03 mL for a 20 gm mouse (15  $\mu$ L per 10g body weight).
4. Anesthesia should take effect in 2-3 minutes. An animal should stay sedated for 20-30 minutes. If necessary, a second dose of 7  $\mu$ L per 10g of body weight can be given, but this increases the risk of over dose.
5. Recovery time is approximately 60-90 minutes for a single dose; animals dosed twice can take as long as 2 hours to recover.