Purpose:
This Standard Operating Procedure describes the methods for the intravenous injection in mice using the lateral tail veins.

Equipment Required:
1. Sterile needle and syringe
   A. >30 gauge needle
   B. 1mL syringe
2. Mouse restraining device
3. Alcohol pads
4. Gauze

Procedure:
1. Restrain the animal in the restraining device
2. Use an alcohol pad to clean and dilate the tail veins running laterally along each side of the tail.
3. Have an assistant stabilize the tail between the thumb and forefinger. Hold the tail above (proximal to) the injection site. (Do not pull the tail)
4. Locate the vein on one side of the tail and begin injections at mid-length or slightly distal (further down the tail).
5. Make certain that prior to insertion there are no air bubbles in the syringe.
6. Insert the needle approximately parallel to the vein.
7. Proper placement must be verifiable.
8. Inject slowly.
9. If there is any resistance to injection, stop injecting immediately and remove the needle. Reinsert slightly above the initial injection site.
10. Remove the needle after injection. Use a clean gauze to hold the injection site for seconds.
11. Observe the injection site for bleeding.
12. Control any bleeding by applying pressure with gauze to the site until bleeding stops
13. Return the animal to its cage.
14. Observe the animal for bleeding or any signs of pain or distress.

Complications:
Tail necrosis: Extravasation (inadvertent administration of solution outside of the vein) can potentially lead to necrosis of the tissues surrounding the injection site. Necrosis indicates that some solution is injected into the tissue.
Animal Health Monitoring:
1. Animals are observed daily by animal care staff for any evidence of illness or change in behavior.
   A. Everyone with access to the animal facility is responsible for immediately informing the facility manager or a university veterinarian when an animal becomes ill or a change in behavior is observed.
2. In the event of suspected illness:
   A. Record your observation on the treatment/observation sheet- include the date, animal #/cage ID, the problem observed, and initials
   B. Contact the ACS facility manager or a university veterinarian:

   Dr. Tiffanie Brooks, Attending Veterinarian
   806-834-8588 Office
   806-239-2120 Cell Phone

   Paul Stonum, Clinical Veterinarian
   806-834-7373 Office
   660-562-4425 Cell Phone

   Sydnee Woodman, Manager
   806-834-2872 Office
   602-758-0670 Cell Phone