Protocol for Surgical Resection of Breast Tumors

1. Surgical resection of the tumors is carried out four days following initial treatment.

2. Prepare the anesthesia drug mixture right before the surgery in the lab hood. The anesthesia drug mixture is composed of Xylazine (10 mg/kg) and Ketamine (88 mg/kg) to be prepared in 300 μl sterile PBS/mouse.

3. Recipient animals are anesthetized with the prepared anesthesia drug mixture by intraperitoneal injection. Keep the anesthesia drug mixture on ice during surgery. *For the sake of time, I suggest that you anesthetize 5 mice at a time, and when the surgery is done on the fourth one, anesthetize 5 more mice and so on.*

4. The area of skin over (and around) the tumor is shaved and sterilized with 70% ethanol then Betadine®.

5. A skin incision is made next to the edge of the tumor, and the skin surrounding the tumor is pulled back to expose the tumor.

6. The tumor is isolated by sharp dissection of the tumor plus the least possible area of skin that is tightly attached to the tumor using sterile (autoclaved) scissors and forceps, followed by cauterization of blood vessels.

7. Suture the incision using 5-0 Ethilon Nylon Suture.

8. Sterilize the area again with Betadine®.

9. Wrap the mouse gently (don’t make it tight) in sterile gauze.

10. Place the mouse back in the cage. The cage is better to be placed on a heating pad, adjusted to moderate (you may get it from the animal facility, schedule ahead!).

11. After recovery of the mice (~30 min), take out the sterile gauze, and put the cage back on the rack.

12. Make sure that all the mice have recovered from anesthesia before leaving the room. Go back to the room 1-2 hours after the surgery to check on the mice.