

	SOP-BCR-6.3	Ketamine/Xylazine Containing Anesthesia for Mouse Surgery Preparation	Author: S. Clouthier  Tahra Luther Approved: M. Wicha 	Rev: 4.0	Issued: 09/24/98 Revised: 4/2/15
---	-------------	--	--	-------------	-------------------------------------

1.0 Purpose

SOP 6.3 outlines the use of anesthesia for mice with ketamine and xylazine containing cocktails for subsequent surgical procedures.

2.0 Scope

SOP 6.3 is intended to cover all resources, personnel and equipment in the BCR laboratory.

3.0 Materials

No.	Name	Description	Storage Location
1.0	Ketamine	Anesthetic	Lock Box (026-320S)
2.0	Xylazine	Clonidine Analogue Anesthetic	Lock Box (026-320S)
3.0	Glycopyrrolate	Muscarinic anticholinergic agent	Lock Box (026-320S)
4.0	Paralube Vet Ointment	Lubricating Eye Ointment	Mouse Surgery Kit/black box (026-374C)
5.0	Physiologic Saline	Distilled water w/0.9% NaCl	Cabinet over sink (026-374C)

4.0 Procedure

4.1 Before Surgery:

- Prepare Ketamine/Xylazine cocktail for surgical anesthesia.
- Obtain paralube vet ointment, alcohol wipes and shaver or Nair.
- Obtain sterile syringes for injection/put together surgery kit.

Use one of the following three Xylazine/Ketamine Containing mixtures:

4.2 Xylazine/Ketamine Anesthetizing Cocktail

- For your purposes a dose of 90 mg/kg Ketamine and 4.5 mg/kg Xylazine should work. Ketamine only comes as a 100 mg/ml, Xylazine as 100 & 20 mg/ mL, order the 20 mg/mL strength.
- Using aseptic techniques and sterile vials make the following dilutions.:
- Xylazine (20 mg/mL): 0.1 mL Xylazine + 3.9 mL PBS
- Mix 0.1 mL Ketamine with 1.0 mL of the diluted Xylazine in 1x PBS.
- Administer the Ketamine: Xylazine mix at a dose of 0.01 mL/gram body weight via IP (Intra-peritoneal) injection.
- If re-dosing is necessary do not use the mix, the mice will be asleep for a long time if you do and the risk of anesthetic death goes up. Use a diluted Ketamine solution and re-dose at 20 mg/kg Ketamine.

4.3 Xylazine/Ketamine/Glycopyrrolate Anesthetizing Cocktail

- Mix 4 mL Ketamine (100 mg/ mL), 400 uL Xylazine (**100 mg/mL**), 1 mL Glycopyrrolate (0.2 mg/mL), and 4.6 mL Physiologic Saline.
NOTE: If Xylazine is at a concentration of 20mg/ml, use only 2 mL of Xylazine and 3 mL of Physiologic Saline.
- Store at room temperature for 7 days in lock box, and if need to store longer, store in locked/secure refrigerator for up to 30 days (it then expires/is no longer good).
- Administer the cocktail via IP injection.




4.4 Alternate Xylazine/Ketamine Anesthetizing Cocktail

- Mix 0.75 mL Ketamine and 0.25 mL Xylazine
- Dilute to 5 mL with sterile 1x PBS.
- Give each 20g mouse 0.125 mL by IP injection.

5.0 Applicable References

6.0 Change Description

Revision	Date	Reference	Description of Change
----------	------	-----------	-----------------------

	SOP-BCR-6.3	Ketamine/Xylazine Containing Anesthesia for Mouse Surgery Preparation	Author: S. Clouthier  Tahra Luther Approved: M. Wicha 	Rev: 4.0	Issued: 09/24/98 Revised: 4/2/15
---	-------------	--	--	-------------	-------------------------------------

1.0	6/22/10	AH	Updates to the concentration/dilution of Xylazine
2.0	7/3/12	CL	Added room locations
3.0	8/21/14	TL	Updated room locations
4.0	4/2/15	TL	Updated anesthesia cocktail storage (lock box and locked fridge)