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U Mass - Chronic drug delivery

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Protocol status: Working

We use this protocol and it's working

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Abstract

Summary:

A subcutaneous or intraperitoneal implantation of Alzet osmotic pump is used to chronically administer selected drug in mice. Chronic drug delivery may be used to examine intermediate to long-term effects of selected drug on obesity, insulin resistance, and metabolism.

Materials

MATERIALS

 Osmotic pump **Alzet Catalog #1007D**

Reagent Preparation:

Reagent 1: Drug or placebo containing osmotic pump

Reagents and Materials:

1. Alzet osmotic pump

Procedure:

1. Prepare drug or placebo solution based on dosage.
2. Load solution into a syringe.
3. Hold the pump with sterilized tweezers and slowly fill the solution (drug/placebo).
4. Close the hole.
5. For immediate delivery of compound upon subcutaneous implantation, osmotic pumps may be warmed by submerging them in warm water immediately prior to surgery.



- 1 Anesthetize mice with an intraperitoneal injection of ketamine (100 mg/kg body weight) and xylazine (10 mg/kg body weight).
- 2 Shave hair at the incision site on the back.
- 3 Make an incision (~0.5 cm) using sterilized scalpel between the scapulae.
- 4 Subcutaneously insert an Alzet mouse osmotic pump containing drug or placebo.
- 5 Suture or close the incision site using sterilized staples.
- 6 Administer ketoprofen to minimize pain and house mice individually.