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Protocol status: Working
We use this protocol and it's working

Stereotaxic α-Syn PFF injection into mouse striatum

Forked from Stereotaxic α-Syn PFF injection into mouse striatum

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ABSTRACT

For stereotaxic injection of α-Syn PFF into the mouse striatum using 2-3 month old mice. This forked protocol has slight variations in anesthesia solution and injection coordinations.

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MATERIALS

- Anesthetic- isoflurane OR pentobarbital (45 mg/kg) diluted 1:1 with 0.9% NaCl OR ketamine cocktail (ketamine 100mg/kg; xylazine 20mg/kg; acepromazine 3mg/kg i.p. or s.c.)
- Small electric shaver
- scalpel
- 26 gauge needle and Hamilton syringe
- minisyringe pump (Model BS-800, Braintree Scientific)
- sterile wound healing clips (7 mm stainless steel wound clip; Reflex 7 skin closure system) or sutures
- bupivacaine (0.4-0.8 ml/kg of a 0.25% solution) OR 0.5% xylocaine 1.4 ml/kg, injected sc, injected) OR 0.5%
  xylocaine

BEFORE START INSTRUCTIONS

Personnel should use aseptic techniques and conduct the surgery using sterile gloves in a sterile environment. Surgical instruments should be sterilized before surgeries using an autoclave and during the procedure using glass bead
sterilizer.

1 Anesthetize mice with a ketamine cocktail (ketamine 100mg/kg; xylazine 10mg/kg; i.p. or s.c.).

2 Shave the animals' skulls.

3 Create a 1.5 cm incision in the scalp after cleaning the scalp with alcohol or betadine swabs.

4 Retract the underlying fascia will and drill a hole in the skull.

5 Insert a 26 gauge needle attached to a 2uL Hamilton syringe containing recombinant α-syn PFF (5 µg/2 µL) or an equivalent volume of PBS into the striatum unilaterally (right hemisphere) at coordinates mediolateral 2.0 mm from bregma, anteroposterior -0.2 mm, and dorsoventral 2.8mm. at a rate of 0.4 ul per minute using a minisyringe pump (Model BS-800, Braintree Scientific).

6 Leave the needle in place for 5 minutes before withdrawing the needle.

7 Close the incision using sterile wound healing clips (7 mm stainless steel wound clip; Reflex 7 skin closure system) or sutures.

8 Immediately after the stereotaxic procedure, treat the stapled wound site with bupivacaine (0.4-0.8 ml/kg of a 0.25% solution, injected sc) or 0.5% xylocaine 1.4 ml/kg, injected sc, injected) or 0.5% xylocaine when necessary or as determined by animal use policy.