

BRAIN CANNULATION - LATERAL VENTRICLE

GENERAL INFORMATION

We use a cannula system from PlasticsOne® for our brain cannulations. It consists of a guide, dummy and internal cannula.



Guide Cannula: The guide is the permanent cannula. It is implanted into the brain at predetermined coordinates.
Catalog#: C315GS-5/SPC
Gauge: 26
Pedestal size: 5 mm
Cut length: 2.0 mm below pedestal



Dummy Cannula: The dummy cannula consists of a cap that screws onto the guide cannula. It has a stylet that inserts into the guide to prevent entry of material into the guide cannula when not in use.
Catalog #: C315DC/SPC
Pedestal size: 5 mm
Cut length: Fits guide cannula with 0.2 mm projection



Internal Cannula or Injector: The internal or injector cannula is inserted into the guide cannula and is used for delivery of compounds into the targeted brain area. The injectors are shipped separately to your facility.
Catalog#: C315IS-5/SPC
Gauge: 33
Pedestal size: 5 mm
Cut length: Fits guide cannula with 0.45 mm projection

Our Standard coordinates for LEFT lateral ventricle are:

ML: +1.0 mm

RC: -0.4 mm

DV: -2.45 mm

- ✓ **To request the use of non-standard coordinates, please specify the desired coordinates at the time of order placement.**

CARE AND USE OF THE CANNULA SYSTEM

- Sterile materials and aseptic technique must be used when performing this procedure.

Materials required:

- Sterile injector cannula
- Sterile PE 50 tubing
- Sterile micro-syringe with a 23 gauge blunt needle
- Sterile 0.9% saline

Procedure for administration of a compound into the ventricle:

1. Attach a length of PE 50 tubing to the injector cannula. To the opposite end of the tubing, insert a 23 gauge blunt needle attached to an appropriately sized micro-syringe loaded with the test compound.
2. Fill the tubing and injector with the test compound.
3. Immobilize the mouse. We recommend the use of isoflurane anesthesia.
4. Avoid handling the guide cannula to prevent damage or dislodgement of the cannula.
5. Clean the dummy cap, guide cannula and adjacent dental cement with 70% ethanol.
6. Unscrew* the dummy cannula and place the stylet on a sterile surface.
7. Insert the injector cannula into the guide cannula. When correctly seated, the injector cannula locks onto the guide cannula.
8. The test material can now be injected through the cannula.
9. The total volume injected should not exceed 5 μ l and the infusion rate should not exceed 1 μ l/min.
10. Remove the injector cannula and reinsert and secure the dummy cannula in the guide cannula.

*Resistance may be felt when trying to unscrew the dummy cannula. This resistance is likely the result of serum build up at the base of the cannula. If resistance is present, follow the steps below:

1. Apply sterile saline with a sterile swab or from a sterile syringe at the base of the dummy cannula.
2. Let the saline sit for \sim 1 minute to loosen the serum.
3. Gently unscrew the dummy cannula.
4. Repeat steps 1-3 if not successful on first attempt.

For additional information, please contact our Technical Information Service at micetech@jax.org