

# 3rd Ventricle Brain Cannulation

Surgery Code: 3RDVENTCAN

## Model Interest

The 3rd ventricle brain cannulation model is of benefit to preclinical or research brain studies involving routine dosing or infusion to the brain.

## Animal Models

Typical selections are listed below; however, choices for strain, age and weight may be limited due to model anatomy and/or physiological conditions.

- Rats: male/female, any strain, weight  $\geq$  150 g
- Mice: male/female, any strain, weight  $\geq$  20 g

## Procedure Details

- **Perioperative care:** Please view our Pre- and Postoperative Care Sheet, which can be found at [www.criver.com/opcare](http://www.criver.com/opcare).
- **Housing:** The animals must be singly housed with adequate clearance to prevent the cannula from coming in contact with the lid.
- **Diet:** No special diet requirements.
- **Postoperative holding period:** At a minimum, post-op animals are held 2 days, with the majority of animals shipping within 7 days of surgery.
- **Maintenance:** Dummy caps should be checked on arrival and daily to ensure security.

## Surgical Summary

The animal is placed in the stereotaxic apparatus. Bregma and lambda are then identified and 3-4 anchoring screw placements are made. The screws are then mounted onto the skull through the anchor holes. A guide cannula is loaded onto the holder of the stereotaxic apparatus, the tip of the cannula is pointed directly over the bregma and the zero coordinates are recorded. This allows the tip of the cannula to be placed over the specified target according to predetermined coordinates. A hole is then drilled into the skull and the guide cannula is lowered through the hole into the brain. A layer of powdered bone graft material is applied to affix the cannula and cover the exposed portion of the skull, and a small amount of bone graft liquid is applied to the powder. Finally, a dummy cannula is inserted into the guide cannula after cranioplastic cement and liquid dry and harden.

## IACUC

The Charles River Institutional Animal Care and Use Committee (IACUC) governs the entire surgical process, including all anesthesia, analgesia, animal preparation and any postoperative holding in Charles River facilities prior to shipment. Review of experimental protocols, authorization to order animals that are surgically modified from Charles River, and all aspects concerning the use of surgically-modified animals after they arrive at the institution are the responsibility of the receiving institution's IACUC.