

## **MIDDLE CEREBRAL ARTERY OCCLUSION**

ORDER CODE: MCA OCCL

SPECIES: Rat

DIET SUPPLEMENT: None required

This procedure involves the occlusion of blood flow in the middle cerebral artery resulting in a focal stroke model.

### **Surgical Procedure**

The animal is prepared for surgery using pre-operative and anesthetic procedures as described in our *Surgical Capabilities Reference Paper*, Vol. 13, No.1, 2005. A ventral midline incision is made in the neck. The omohyoid muscle is separated longitudinally and retracted laterally to expose the right carotid artery. The external and internal carotid arteries are identified and isolated. A loose ligature is then placed around the external carotid artery. The external artery is permanently ligated rostrally. The vessel is transected between the ligatures, and the remaining stump is reflected caudally. A piece of monofilament suture material is inserted into the lumen of the stump and advanced into the internal carotid artery. When completely advanced, the tip of the monofilament should block the blood flow into the middle cerebral artery. The silk ligature is tied around the stump to secure the piece of monofilament. The skin incision is closed using wound clips.

### **IACUC**

Charles River's Institutional Animal Care and Use Committee (IACUC) governs the entire surgical process, including any post-operative holding in CRL facilities prior to shipment. The receiving institution's Animal Care and Use Committee, investigators, and animal care staff are responsible for the well-being of the animal subsequent to its arrival at their institution. Justification for use of surgically-modified animals, 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.

April 2000