



Vagotomy—Multiple Level

Surgery Code: VAGOX-SD, VAGOX or VAGOX-STM

The vagotomy procedure is a valuable tool in preclinical or research studies that involve an early immune response.

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.

VAGOX @ Subdiaphragmatic Level (VAGOX-SD):

- Rats: male/female, weight 90-250 g

VAGOX @ Stomach Level (VAGOX-STM):

- Rats: male/female, weight 90-250 g

VAGOX @ Hepatic Level (VAGOX):

- Mice: male/female, weight 24-32 g
- Rats: male/female, weight 90-250 g

Procedure Details

- **Perioperative care:** Please view our Pre- and Postoperative Care Sheet, which can be found at www.criver.com/opcare.
- **Housing:** The animals may be group housed.
- **Diet:** No special diet is required.
- **Sham surgery:** The surgery protocol is followed up through the creation of the abdominal incision. After opening the abdominal cavity, the incisions are closed as cited in the surgical summary.

- **Postoperative holding period:** At a minimum, post-op animals are held for 3 days, with the majority of animals shipping within 7 days of surgery.
- **Maintenance:** Incision wound clips should be removed 7-10 days after surgery.

Surgical Summary

In all procedures, the animal is placed in dorsal recumbancy and a midline abdominal skin incision is made. The lobes of the liver are retracted cranially while the stomach is retracted caudally to expose the animal's diaphragm. The abdominal vagus nerve consists of two primary trunks penetrating the diaphragm: the dorsal and the ventral trunks, with the ventral trunk branching into the hepatic, accessory celiac and ventral gastric branches.

Subdiaphragmatic Approach

(Standard method for rat)

In the subdiaphragmatic approach, each of the main vagus nerve trunks is carefully isolated below the diaphragm from the surrounding connective tissue and overlying vasculature. A small (2-3 mm) section is excised from each of the isolated vagal nerve trunks. The abdominal incision is closed with sutures and the skin incision is closed with wound clips.

Surgical Summary (continued)

Stomach Approach

(Standard method for rat)

In the stomach approach, the ventral vagus nerve is located where it exits the diaphragm and the gastric branches are identified. From 5-6 mm above the cardia (the point where the esophagus and stomach connect to the diaphragm), a 6-8 mm section of each gastric branch is carefully isolated from the surrounding connective tissue and overlying vasculature and excised. The abdominal incision is closed with sutures and the skin incision is closed with wound clips.

Hepatic Approach

(Standard method for mouse)

In the hepatic approach, the ventral vagus nerve is located where it exits the diaphragm and the hepatic branches are identified. The branches that come from the ventral vagal nerve trunk are carefully isolated from the connective tissue and a small (1-2 mm) section is excised from the isolated hepatic branch. The abdominal incision is closed with sutures and the skin incision is closed with wound clips.

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 the animals after they arrive at the institution are the responsibility of the receiving institution's IACUC.

Contact Us

For more information, visit www.criver.com/surgery. For specific surgery-related questions, please contact our technical experts at 1.877.CRIVER.1 (1.877.274.8371) or askcharlesriver@crl.com. To place an order or get a quote, contact our Customer Service Department at 1.800.LABRATS (1.800.522.7287).