

Materials List for:

Endothelin-1 Induced Middle Cerebral Artery Occlusion Model for Ischemic Stroke with Laser Doppler Flowmetry Guidance in Rat

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Materials

1. Animals: Eight-week-old, male, Sprague Dawley rats (Charles River Farms, Wilmington, MA, USA) weighing 250-300 g at the time of surgery.
2. Anesthesia:
 - a. Inhalation anesthesia system (VetEquip Inc., Pleasanton, CA, USA)
 - b. Isoflurane anesthetic (Baxter Pharmaceuticals, Deerfield, IL, USA)
3. Stereotaxic system (David Kopf Instruments, Tujunga, CA, USA):
 - a. Small animal stereotaxic system
 - b. Non-rupture ear bars for rats
 - c. Gas anesthesia head holder for rats
4. Temperature regulation:
 - a. BAT-12 microprobe thermometer (World Precision Instruments, Inc., Sarasota, FL, USA)
 - b. TPUMP, TP600 Thermal blanket (Gaymar Industries, Inc., Orchard Park, NY, USA)
5. Surgical instruments
 - a. Scalpel handle and #11 blade, iris forceps, Graefe forceps, bulldog clamp retractors, screwdriver, 10 µl syringe with 26 gauge beveled needle (World Precision Instruments, Inc., Sarasota, FL, USA)
 - b. Micromotor drill and stereotaxic holder, Quintessential Stereotaxic Injector (St-Itting, Wood Dale, IL, USA)
 - c. 1.0 mm round drill bur, 1.0 mm inverted cone drill bur (Roboz Surgical Instrument Co., Inc., Gaithersburg, MD, USA)
6. Surgical Supplies
 - a. Mounting screws 0-80 X 3/32 with 2.4 mm shaft length, 21-gauge guide cannula [4mm long below the pedestal] and cannula dummy (Plastics one, Roanoke, VA, USA)
 - b. Jet denture acrylic and liquid (Lang Dental Manufacturing Co., Inc., Wheeling, IL, USA)
 - c. 3.0 nylon suture (Oasis, Mettawa, IL, USA)
 - d. Cotton swabs, Puralube eye ointment (Fisher Scientific, Pittsburg, PA, USA)
 - e. Electric hair clippers (Oster, Providence, RI, USA)
7. Chemicals:
 - a. Endothelin-1 (American Peptide, Sunnyvale, CA, USA)
 - b. Chlorhexidine 2% (AgriLabs, St. Joseph, MO, USA)
 - c. Buprenorphine HCl (Hospira Inc., Lake Forest, IL, USA)
8. Visualization Equipment
 - a. Surgical microscope (Seiler Instrument and Manufacturing; St. Louis, MO, USA)
 - b. Fiber Optic illuminator (TechniQuip Corp., Livermore, CA, USA)
9. Laser Doppler flowmetry system (ADInstruments, Inc., Colorado Springs, CO, USA)
 - a. Standard Pencil Probe
 - b. Probe holder
 - c. Blood FlowMeter
 - d. Powerlab 4/30 with LabChart 7
10. Measurement of infarct volume:
 - a. Rat brain matrix (Zivic-Miller Lab., Inc., Allison Park, PA, USA)
 - b. 2,3,5-triphenyltetrazolium chloride (Sigma-Aldrich Co., St Louis, MO, USA) diluted to 0.05% in PBS
 - c. Flatbed scanner (Epson Perfection V30, Epson America, Inc., Long Beach, CA, USA)

d. Image J software (ImageJ 1.42q software, U.S. National Institutes of Health, Bethesda, MA, USA)