

Materials List for:

Quantification of Neurovascular Protection Following Repetitive Hypoxic Preconditioning and Transient Middle Cerebral Artery Occlusion in Mice

Katherine Poinssatte¹, Uma Maheswari Selvaraj¹, Sterling B. Ortega¹, Erik J. Plautz¹, Xiangmei Kong¹, Jeffrey M. Gidday², Ann M. Stowe¹

¹Department of Neurology and Neurotherapeutics, University of Texas Southwestern Medical Center

²Department of Neurological Surgery, Washington University School of Medicine

Correspondence to: Ann M. Stowe at ann.stowe@utsouthwestern.edu

URL: <https://www.jove.com/video/52675>

DOI: [doi:10.3791/52675](https://doi.org/10.3791/52675)

Materials

Name	Company	Catalog Number	Comments
Flowmeters, regulators	VetEquip, Inc	Specialty order	Four flowmeters are attached to 6.0 mm flexible PVC tubing which connects to the inlet port on each induction chamber with a plastic female connector. These flowmeters are bolted to a 6.5" x 1" x 1" metal bar. This metal bar is bolted to a MI-246-P pressure gauge with a DISS outlet. This pressure gauge and flowmeter equipment can be attached to each new gas cylinder with a wrench.
21% O ₂ tank	AirGas	OX USP200	
11% O ₂ tank	AirGas	Specialty order	
8% O ₂ tank	AirGas	Specialty order	
15 L induction chambers	VetEquip	941454	
Moor Laber Doppler Flow	Moor Instruments	moorVMS-LDF1-HP	0.8 mm diameter probe
High Intensity Illuminator	Nikon	NI-150	
Zoom Stereo Microscope	Nikon	SMZ800	Other surgical microscopes may be used.
Kent Scientific Right Temperature CODA	Kent Scientific Corporation	Discontinued	Recommended replacement is PhysioSuite with RightTemp Temperature Monitoring and Homeothermic Control (Kent Scientific, #PS-RT).
Hovabator Incubator	Stromberg's	2362-E	Our model is the 2362N. 2362E is a later model and includes an electronic thermostat.
V010 Anesthesia system	VetEquip	901807	Includes: ten foot high-pressure oxygen hose, frame, flowmeter, oxygen flush assembly, vaporizer, breathing circuit, chamber, nosecones, waste gas evacuation tubing and two VapoGuard filters
250 ml isoflurane	Butler Schein	NDC-11695	
D-6 Vet Trim Animal Cordless Trimmer	Andis	#23905	Replacement blades are available from Andis (#23995)
Betadine	Fisher Scientific	19-898-867	
Q-tips	Multiple sellers	Catalog number not available	
Gauze Pads	Fisher Scientific	67622	
Surgical drape	Fisher Scientific	GM300	

Silk Sutures	Look/Div Surgical Specialties	SP115	
Nylon Sutures	Look/Div Surgical Specialties	SP185	
Durmont #5 forceps (2)	Fine Science Tools	11251-35	Angled 45°
Surgical Scissors	Fine Science Tools	14028-10	
3 mm Vannas	Kent Scientific Corporation	INS600177	Straight blade
Hartman Hemostats	Fine Scientific Tools	13002-10	
Occluding filaments	Washington University	Specialty order	Filaments are silicone coated at Washington University and provided to UTSW facilities for a fee.
Evans Blue	Sigma Aldrich	E2129-10G	
Filter Paper	Sigma Aldrich	WHA1001150	150 mm, circles, Grade 1
Weigh Boats	Fisher Scientific	02-202-101	2.5" diameter
0.9% Sodium Chloride Injection USP	Baxter Pharmaceuticals	2B1321	
0.3 cc insulin syringe with 29 gauge needle	Becton Dickinson Labware	309301	
Flat bottom restrainer	Braintree Scientific	FB M	2.0" diameter
TTC	Sigma	T8877	
10x PBS, pH 7.4	Fisher Scientific	BP399-20	
Water Bath	Multiple sellers	Catalog number not available	Scintillation tubes with TTC may be manually held under running warm water as an alternative to the water bath.
Styrofoam board	Multiple sellers	Catalog number not available	
Large Syringe Kit	PumpSystems Inc	P-SYRKIT-LG	
Perfusion Pump	PumpSystems Inc	NE-300	
60 cc syringe	Fisher Scientific	NC9203256	
27 gauge winged infusion set	Kawasumi Laboratories, Inc	D3K1-25G 1	
20 ml scintillation vial	Fisher Scientific	50-367-126	
Stainless steel spatula	Fisher Scientific	14-373-25A	
Alto acrylic 1.0 mm mouse brain, coronal	CellPoint Scientific	Catalog number not available	
0.21 mm stainless steel blades, 25 pk	CellPoint Scientific	Catalog number not available	Reusable cryostat blades are an inexpensive alternative.
4% paraformaldehyde	Santa Cruz Biotechnology	SC-281692	
Superfrost microscope slides	Fisher Scientific	12-550-15	
HP Scanjet G4050	Multiple sellers	Catalog number not available	Other commercial scanners are suitable for this step in the protocol.
ImageJ	National Institute of Health	Catalog number not available	
Analytical Balance	Mettler Toledo	XSE 205U	
Precision Compact Oven	Thermo Scientific	PR305225M	
1.7 ml microcentrifuge tubes (Eppendorfs)	Denville Scientific	C2170	
Formamide	Fisher Scientific	BP228-100	
96-well plates	Fisher Scientific	07-200-9	
Epoch Microplate Spectrophotometer	BioTek	Catalog number not available	