

Materials List for:

# A Magnetic Microbead Occlusion Model to Induce Ocular Hypertension-Dependent Glaucoma in Mice

Yoko A. Ito<sup>\*1</sup>, Nicolas Belforte<sup>\*1</sup>, Jorge L. Cueva Vargas<sup>1</sup>, Adriana Di Polo<sup>1</sup>

<sup>1</sup>Department of Neuroscience, CRCHUM and University of Montreal

\*These authors contributed equally

Correspondence to: Adriana Di Polo at [adriana.di.polo@umontreal.ca](mailto:adriana.di.polo@umontreal.ca)

URL: <https://www.jove.com/video/53731>

DOI: [doi:10.3791/53731](https://doi.org/10.3791/53731)

## Materials

Name	Company	Catalog Number	Comments
Puller	Narishige	PC-10	
Thin Wall Glass Capillaries	World Precision Instruments	TW150F-4	Capillary has an outer diameter of 1.5 mm and inner diameter of 1.12 mm
Stereo Microscope	Zeiss	MZ9.5	Zoom factor range of 2.5 to 6.0. Microscope used for needle-making and the micro-bead injection surgery.
Footswitch	Linemaster	T-91-SE	
Stainless Steel Blade	Feather	No. 11	
Microelectrode Beveler	Science Products	BV-10	
Aerosol Duster	Fisher	23-022-523	
Sodium Hydroxide	Fisher Scientific	BP359-500	
Tris Base	Fisher Scientific	BP152-1	
Vortex	Fisher Scientific	12-812	
Dynabeads M-450 Epoxy	Life Technologies	14011	Magnetic beads are 4.5 µm in diameter. Stock solution is at a concentration of 4 x 10 <sup>8</sup> beads/ml. Store at 4°C.
Mini-Tube Rotators	Fisher Scientific	05-450-127	
3 Handheld Magnets	Geomag		0.45 Tesla. Magnet used for microbead preparation and microbead injection surgery.
25 ml serological pipet	Costar	4489	
Pipet	Drummond	4-000-101	
Biological Containment Hood	Biostad	377355	
Balanced salt solution (BSS)	Alcon	0065-0800-25	
P1,000 Micropipet	Gilson	F123602	
Microtube 1.5 ml	Sarstedt	72.690	
P200 Micropipet	Gilson	F123601	
0.2 ml PCR tube	Sarstedt	72737.002	
Ketamine			Controlled substance
Xylazine	Bayer Healthcare		
Acepromazine	Vetoquinol		
U-100 Insulin Syringe	Becton Dickinson and Company	329461	
Balance	Ohaus	CS 200	

Buprenorphine			Controlled substance
Tropicamide ophthalmic solution	Alcon	0998-0355-15	1% Mydracyl
Manual Microsyringe Pump with Digital Display	World Precision Instruments	DMP	
Manual Micromanipulator	World Precision Instruments	M3301R	
Platform	Fisher Scientific	14-673-52	8 x 8 inch
Absorbent swabs	Kettenbach	30601	
P20 Micropipet	Gilson	F123600	
Plastic forcep	Euroband	1001	Ensure forcep is plastic and has a flat surface to avoid damaging the eye
Fluoroquinolone ophthalmic solution	Alcon		Vigamox
Heating pad	Sunbeam	E12107-834	
Tonometer	iCare	TV02	TONOLAB rebound tonometer
Paraformaldehyde, Para	Fisher Scientific	T353-500	
Dissection tools			
Small brush			
Glutaraldehyde solution	Sigma-Aldrich	G7651	
Sodium Cacodylate, tryhydrate	Canemco and Marivec	124-65-2	
Brn-3a antibody (C-20)	Santa Cruz Biotechnology	sc-31984	
Tissue Culture Plate, 48 well	Falcon	353078	
Triton X-100	Fisher Scientific	BP151-500	
Donkey Serum	Sigma-Aldrich	D9663	
Donkey anti-Goat IgG (H+L) Secondary Antibody, Alexa Fluor 594 conjugate	Life Technologies	A-11058	
Aluminum foil			
Microscope Slides	Fisher Scientific	12-550-15	
Slow fade Gold antifade reagent	Life Technologies	S36936	
Cover Glass	Fisher Scientific	12-548-5E	
Osmium tetroxide 2% aqueous solution	Electron Microscopy Sciences	3294949	
Embed-812	Electron Microscopy Sciences	14900	
Dodecenyl succinic anhydride	Electron Microscopy Sciences	13710	
Nadic methyl anhydride	Electron Microscopy Sciences	19000	
DMP-30	Electron Microscopy Sciences	13600	
Propylene oxide	Sigma-Aldrich	110205-1L	
Embedding mold-Dykstra	Electron Microscopy Sciences	70907	
Porter-Blum ultra-microtome	Sorvall	MT-2	
Toluidine blue O (Certified Biological Stain)	Fisher-Scientific	T161-25	