

Materials List for:

Microinjectrode System for Combined Drug Infusion and Electrophysiology

M. Isabel Vanegas¹, Kenneth R. Hubbard^{1,2}, Rahim Esfandyarpour^{3,4}, Behrad Noudoost¹

¹Department of Ophthalmology and Visual Sciences, University of Utah

²Department of Biomedical Engineering, University of Utah

³Department of Electrical Engineering and Computer Science, University of California, Irvine

⁴Department of Biomedical Engineering, University of California, Irvine

Correspondence to: M. Isabel Vanegas at martaisabelv@gmail.com, Behrad Noudoost at behrad.noudoost@utah.edu

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Materials

Name	Company	Catalog Number	Comments
3-port manual valves	LabSmith	Manual 3-Port Selector Valve (MV201-C360)	https://products.labsmith.com/mv201-manual-3-port-selector-valve/#.XNYEC9NKh26
Cannulae	Vita Needle Company	304 Stainless steel tubing, Outer Diameter 228µm, Inner Diameter 165µm	Vita Needle Master Tubing Gauge Chart
Cleaving stone	Molex	Cleaving stone 1" x 1" (part No. 1068680064)	Highly recommended to follow method for cleaving capillary tubing: https://www.cmscientific.com/info_sheets/cleaving_procedure.pdf
Chlorhexidine diacetate	Walmart	Nolvasan solution disinfectant (AAP311)	Used for microfluidic circuit flushing, dissolved at 20 g/L
Custom adapter	Custom provider	-	Custom machined adapter to connect microinjectrode to hydraulic microdrive
Driver	LabSmith	T7 TORX driver for installing breadboard screws (LS-TORX Driver)	https://products.labsmith.com/ls-torx-driver/#.XO8sndNKh25
Epoxy glue	LabSmith	Two-part high-strength epoxy adhesive (LS-EPOXY) for metal and plastic bonding	https://products.labsmith.com/ls-epoxy-12ml-epoxy-adhesive/#.XO8t89NKh24
Ferrule	LabSmith	One-Piece Fitting (C360-100) for connecting capillary, thru hole sized for 360µm OD capillary	https://products.labsmith.com/one-piece-fitting/#.XNYEaNNKh24
Ferrule plug	LabSmith	One-Piece Plug (C360-101) for use in any -C360 port	https://products.labsmith.com/one-piece-fitting-plug/#.XNYFI9NKh24
Ferrule wrench	LabSmith	1/8" hex wrench for installing one-piece fittings and plugs (LS-HEX 1/8" Hex Wrench)	https://products.labsmith.com/ls-hex-1-8-hex-wrench/#.XO8sqtNKh24
Gastight syringe	Hamilton Company	500µL gastight syringe model 1750 (81220) and 1mL gastight syringe model 1001 (81320)	https://www.hamiltoncompany.com/laboratory-products/syringes/81220#top
Gold pins	Aim-Cambridge	Male gold plated crimp-on connector pin (40-9856M)	https://www.masterelectronics.com/aim-cambridge-cinch-connectivity-solutions/409856m-10109145.html
Lint-free wipes	Kimberly Clark	Kimtech Science Kimwipes Delicate Task	Lint-free wipes, used to identify leaks in the system
Liquid food color	McCormick & Co.	Water based, black liquid food color (52100581873)	https://www.mccormick.com/spices-and-flavors/extracts-and-food-colors/food-colors/black-food-color

Low viscosity oil	Clearco Products Co.	Pure Silicone Fluid Octamethyltrisiloxane with a viscosity of 1cSt at 25°C (PSF-1cSt)	http://www.clearcoproducts.com/pure-silicone-super-low-viscosity.html
Luer-Lock connector	LabSmith	Luer-Lock Adapter (C360-300), female fitting for connecting Luer Lock syringe to 360µm capillary tubing	https://products.labsmith.com/luer-lock-adapter-assembly#.XO81MtNKh24
Micro drill bits	Grainger	Micro drill bit, 0.23mm (414H85)	https://www.grainger.com/category/machining/drilling-and-holemaking/drill-bits/machining-drill-bits/micro-drill-bits
Microelectrode	FHC	Metal microelectrode, tungsten with epoxy insulation	https://www.fh-co.com/category/metal-microelectrodes
Oil hydraulic micromanipulator	Narishige Group	Oil Hydraulic Micromanipulator with guide tube attached (MO-96)	http://products.narishige-group.com/group1/MO-96/chronic/english.html
Polymicro Capillary Tubing	Molex	Polymicro Flexible Fused Silica Capillary Tubing (TSP150375), Outer Diameter 375µm, Inner Diameter 150µm	Polymicro Capillary Tubing
Programmable syringe pump	Harvard Apparatus	Standard Infuse/Withdraw Pump, programmable (70-2213)	https://www.harvardapparatus.com/standard-infuse-withdraw-pump-11-pico-plus-elite-programmable-syringe-pump.html
Ruler	Empire	Stainless steel 6" Stiff ruler (27303)	http://www.empirelevel.com/rulers.php
Screw set	LabSmith	Valve mounting screw set (LS-SCREWS .25), thread-forming screws (2-28 x 1/4") to mount valves to breadboard	https://products.labsmith.com/ls-screws-25#.XO8widNKh24
Standard Breadboard	LabSmith	4" x 6" platform (LS600), with 0.25" hole spacing for mounting fluid circuit	https://products.labsmith.com/standard-breadboard/#.XO8xDdNKh24
Sterile saline (sodium chloride) 0.9%	Baxter	0.9% Sodium Chloride sterile	Sterile Intravenous Infusion
Sterile syringe filters	Millipore Sigma	MilliporeSigma™ Millex™-GP Sterile Syringe Filters with PES Membrane (SLGPM33RS)	https://www.fishersci.com/shop/products/emd-millipore-millex-sterile-syringe-filters-pes-membrane-green-4/slgpm33rs
Stoelting manual microsyringe pump	Stoelting Company	Manual infusion/withdrawal pump (51222)	https://www.stoeltingco.com/manual-infusion-withdrawal-pump-2649.html
T-junction	LabSmith	Interconnect tee (C360-203) for combining flow streams, for use with 360µm OD capillary tubing	https://products.labsmith.com/interconnect-tee#.XO8z8dNKh24