

Materials List for:

Methodology for Biomimetic Chemical Neuromodulation of Rat Retinas with the Neurotransmitter Glutamate *In Vitro*

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URL: <https://www.jove.com/video/56645>

DOI: [doi:10.3791/56645](https://doi.org/10.3791/56645)

Materials

Name	Company	Catalog Number	Comments
Microelectrode array, perforated layout	Multi Channel Systems, GmbH	60pMEA200/30iR-Ti-pr	http://www.multichannelsystems.com/products/microelectrode-arrays/60pmea20030ir-ti
MEA amplifier	Multi Channel Systems, GmbH	MEA1060-Inv	http://www.multichannelsystems.com/products/mea1060-inv
Bottom perfusion groundplate for pMEA	Multi Channel Systems, GmbH	MEA1060-Inv-(BC)-PGP	http://www.multichannelsystems.com/products/mea1060-inv-bc-pgp
3-axis Motorized Micromanipulator	Sutter Instruments, Novato, CA	MP-285	https://www.sutter.com/MICROMANIPULATION/mp285.html
Micromanipulator Control System	Sutter Instruments, Novato, CA	MPC-200	https://www.sutter.com/MICROMANIPULATION/mpc200.html
Gantry style micromanipulator stand with linear slide	Sutter Instruments, Novato, CA	MT-75/LS	https://www.sutter.com/STAGES/mt75.html
8-channel Programmable Multichannel Pressure Injector	OEM: MicroData Instrument, S. Plainfield, NJ Vendor: Harvard Apparatus UK	PM-8000 or PM-8	OEM: http://www.microdatamdi.com/pm8000.htm Vendor: https://www.harvardapparatus.co.uk/webapp/wcs/stores/servlet/product_11555_10001_39808_-1_HAUK_Proc
Axopatch 200A Integrating Patch Clamp Amplifier	Molecular Devices, Sunnyvale, CA	Axopatch 200A	Axopatch 200A has been replaced with a newer model Axopatch 200B: https://www.moleculardevices.com/systems/axon-conventional-patch-clamp/axopatch-200b-amplifier
Patch clamp headstage	Molecular Devices, Sunnyvale, CA	CV 201A	http://mdc.custhelp.com/app/answers/detail/a_id/16554/~/axopatch-200a%3A-selection-cv-headstage
Vacuum waste kit	ALA Scientific Instruments, Farmingdale, NY	VMK	http://alascience.com/product/vacuum-waste-kit/
Pipette holder	Warner Instruments, Hamden, CT	QSW-A10P	https://www.warneronline.com/product_info.cfm?id=915
Pre-pulled 10 µm tip diameter glass micropipettes	World Precision Instruments, Sarasota, FL	TIP10TW1	https://www.wpiinc.com/products/laboratory-supplies/make-selection-pre-pulled-glass-pipettes-plain/

Zoom stereomicroscope	Nikon, Tokyo, Japan	SMZ-745T	https://www.nikoninstruments.com/Products/Stereomicroscopes-and-Microscopes/Stereomicroscopes/SMZ745
Microscope boom stand with dual linear ball bearing arm	Old School Industries, Inc., Dacono, CO	OS1010H-16BB	http://www.osi-incorp.com/productdisplay/dual-linear-ball-bearing-arm
Zoom Stereo Microscope with C-LEDS Hybrid LED Stand	Nikon, Tokyo, Japan	SMZ-445	https://www.nikoninstruments.com/Products/Stereomicroscopes-and-Microscopes/Stereomicroscopes/SMZ445
Inverted microscope system	Nikon, Tokyo, Japan	Eclipse Ti-E	https://www.nikoninstruments.com/Products/Inverted-Microscopes/Eclipse-Ti-E
Ames medium	Sigma-Aldrich, St. Louis, MO	A1420	http://www.sigmaaldrich.com/catalog/product/sigma/a1420
L-Glutamic Acid (Glutamate)	Sigma-Aldrich, St. Louis, MO	G5667	http://www.sigmaaldrich.com/catalog/product/mm/100291
Sodium bicarbonate	Sigma-Aldrich, St. Louis, MO	S8761	http://www.sigmaaldrich.com/catalog/product/sigma/s8761
60 mm Petri dish (10 mm tall)	Fischer Scientific, Waltham, MA	FB0875713A	60 mm clear petri dish; https://www.fishersci.com/shop/products/fisherbrand-petri-dishes-clear-lid-12/fb0875713a
Jewelers #5 Forceps	World Precision Instruments, Sarasota, FL	555227F	https://www.wpiinc.com/products/laboratory-supplies/555227f-jewelers-5-forceps-11cm-straight-titanium/
Standard Scalpel Blad #24	World Precision Instruments, Sarasota, FL	500247	https://www.wpiinc.com/products/laboratory-supplies/500247-standard-scalpel-blade-24/
Scalpel Handle #4	World Precision Instruments, Sarasota, FL	500237	https://www.wpiinc.com/products/laboratory-supplies/500237-scalpel-handle-4-14cm/
Vannas Tubingen Dissection Scissors	World Precision Instruments, Sarasota, FL	503378	https://www.wpiinc.com/products/laboratory-supplies/503378-vannas-tubingen-scissors-8cm-straight-german-steel/
Nylon mesh kit	Warner Instruments, Hamden, CT	NYL/MESH	https://www.warneronline.com/product_info.cfm?id=1173
Harp slice grid	ALA Scientific Instruments, Farmingdale, NY	HSG-5AD	http://alascience.com/product/standard-harp-slice-grids/
Ag/AgCl reference electrode pellet	Multi Channel Systems, GmbH	P1060	http://www.multichannelsystems.com/products/p1060
4 Channel Valve Controlled Gravity Perfusion System	ALA Scientific Instruments, Farmingdale, NY	VC3-4xG	http://alascience.com/product/4-channel-valve-controlled-gravity-perfusion-system/
Zyla 5.5 sCMOS microscope camera	Andor Technology, Belfast, UK	Zyla 5.5 sCMOS	http://www.andor.com/scientific-cameras/neo-and-zyla-scmos-cameras/zyla-55-scmos
Silver wire (50 µm diameter)	Fischer Scientific, Waltham, MA	AA44461G5	https://www.fishersci.com/shop/products/silver-wire-0-05mm-0-002-in-dia-annealed-99-99-metals-basis-3/aa44461g5
Tygon microbore tubing (1.6 mm diameter)	Cole Parmer, Vernon Hills, IL	EW-06419-01	https://www.coleparmer.com/i/tygon-microbore-tubing-0-020-x-0-060-od-100-ft-roll/0641901

Tilting Tool Holder with Steel Cannula	ALA Scientific Instruments, Farmingdale, NY	TILTPORT	One each of these were utilized for top perfusion and suction; http://alascience.com/product/tilting-tool-holder-with-steel-cannula/
Roscolux #26 Light Red Filter Sheet	Rosco Laboratories Inc., 52 Harbor View, Stamford, CT	R2611	Manufacturer: http://us.rosco.com/en/products/catalog/roscolux Vendor: https://www.bhphotovideo.com/c/product/43957-REG/Rosco_RS2611_26_Filter_Light.html
Smith & Wesson Galaxy Red Flashlight	Smith & Wesson, 2100 Roosevelt Avenue, Springfield, MA	4588	Manufacturer: https://www.smith-wesson.com/ Vendor: http://www.mypilotstore.com/mypilotstore/sep/4588
MC_Rack Software	Multi Channel Systems, GmbH	MC_Rack	http://www.multichannelsystems.com/software/mc-rack
Labview Software	National Instruments, Austin, TX	LabVIEW	http://www.ni.com/labview/
NIS-Elements: Basic Research Software	Nikon, Tokyo, Japan	NIS-Elements BR	https://www.nikoninstruments.com/Products/Software/NIS-Elements-Basic-Research