

Materials List for:

FM Dye Cycling at the Synapse: Comparing High Potassium Depolarization, Electrical and Channelrhodopsin Stimulation

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Materials

Name	Company	Catalog Number	Comments
SylGard 184 Silicone Elastomer Kit	Fisher Scientific	NC9644388	To put on cover glass for dissections
Microscope Cover Glass 22x22-1	Fisherbrand	12-542-B	To put SylGard on for dissections
Aluminum Top Hot Plate Type 2200	Thermolyne	HPA2235M	To cure the SylGard
Plexi glass dissection chamber	N/A	N/A	Handmade
Borosilicate Glass Capillaries	WPI	1B100F-4	To make suction and glue micropipettes
Laser-Based Micropipette Puller	Sutter Instrument	P-2000	To make suction and glue micropipettes
Tygon E-3603 Laboratory Tubing	Component Supply Co.	TET-031A	For mouth and suction pipette
P2 pipette tip	USA Scientific	1111-3700	For mouth pipette
0.6-mL Eppendorf tube cap	Fisher Scientific	05-408-120	Used to put glue in for dissection
Vetbond 3M	WPI	vetbond	Glue used for dissections
Potassium Chloride	Fisher Scientific	P-217	Forsaline
Sodium Chloride	Millipore Sigma	S5886	For saline
Magnesium Chloride	Fisher Scientific	M35-500	For saline
Calcium Chloride Dihydrate	Millipore Sigma	C7902	For saline
Sucrose	Fisher Scientific	S5-3	For saline
HEPES	Millipore Sigma	H3375	For saline
HRP:Alexa Fluor 647	Jackson ImmunoResearch	123-605-021	To label neuronal membranes
Paintbrush	Winsor & Newton	94376864793	To manipulate the larvae
Dumont Dumostar Tweezers #5	WPI	500233	Used during dissection
7 cm McPherson-Vannas Microscissors (blades 3 mm)	WPI	14177	Used during dissection
FM1-43	Fisher Scientific	T35356	Fluorescent styryl dye
Digital Timer	VWR	62344-641	For timing FM dye load/unload
LSM 510 META laser-scanning confocal microscope	Zeiss		For imaging the fluorescent markers
Zen 2009 SP2 version 6.0	Zeiss		Software for imaging on confocal
HeNe 633nm laser	Lasos		To excite HRP:647 during imaging
Argon 488nm laser	Lasos		To excite the FM dye during imaging
Micro-Forge	WPI	MF200	To fire polish glass micropipettes
20mL Syringe Slip Tip	BD	301625	To suck up the axon for electrical stimulation.

Micro Manipulator (magnetic base)	Narishige	MMN-9	To control the suction electrode for electrical stimulation
Stimulator	Grass	S48	To control the LED and electrical stimulation
Zeiss Axioskop Microscope	Zeiss		Used during electrical stimulation.
40X Achroplan Water Immersion Objective	Zeiss		Used during electrical stimulation and confocal imaging
All-trans Retinal	Millipore Sigma	R2500	Essential co-factor for ChR2
Zeiss Stemi Microscope with camera port	Zeiss	2000-C	Used during channelrhodopsin stimulation
LED 470nm	ThorLabs	M470L2	Used for ChR activation
T-Cube LED Driver	ThorLabs	LEDD1B	To control the LED
LED Power Supply	Cincon Electronics Co.	TR15RA150	To power the LED
Optical Power and Energy Meter	ThorLabs	PM100D	To measure LED intensity