

Materials List for:

New Methods to Study Gustatory Coding

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Materials

Name	Company	Catalog Number	Comments
Dissection and Specimen Preparation			
Polypropylene tube, 15 mL Falcon	Fisher Scientific	14-959-53A	
Needle, Short bevel, 19 G x 1 - 1/2"	MONOJET	888200144	For applying air to remove the hair from the moth.
Modeling Clay-Van Aken Plastalina	DickBlick	33268	
Petri dish -100 x 15 mm	VWR International	89000-304	
Pipette tip (1 - 200 µL)	USA Scientific	1111-0806	
Razor blade	Techni Edge	TE05-071	
22 AWG standard hookup wire	AlphaWire	1551	For inserting the proboscis into the pipette tip.
Batik wax	Jacquard	7946000	
Electric waxer	Almore International	66000	
Stereo Mysroscope	Leica	MZ75	
Dumont #1 forceps (coarse)	World Precision Instruments	500335	For removing fat and non-nervous tissue.
Dumont #5 titanium forceps (fine)	World Precision Instruments	14096	For removing fat and non-nervous tissue.
Dumont #5SF forceps (super-fine)	World Precision Instruments	500085	For desheathing the nervous tissue.
Vannas scissors (fine)	World Precision Instruments	500086	For removing the cuticle.
Collagenase/Dispase	Sigma-Aldrich	11097113001	
Epoxy	Permatex	84101	
Name Company Catalog Number Comments			
Saline Perfusion System			
Extension set with rate flow regulator	B Braun Medical Inc.	V5200	
IV administration set with Y injection site	B Braun Medical Inc.	V1402	
Name Company Catalog Number Comments			
Tastant Delivery System			
White Translucent Nylon Tubing OD 1/4", ID 1/8"	Small Parts Inc.	B001JJT4SA	Rigid tube that connects the four main elements of the system.
Soldering iron	Circuit Specialists	ZD200BK	
Rotary tool-Dremel	Dremel	4200	

Polypropylene mesh, hole size (hole size 0.1 x 0.13 cm)	Industrial Netting	XN5170	For ensuring that the probosises of different animals are placed in the same location.
Pressurized 16-Channel perfusion system	Bioscience Tools	PS-16H	For tastant delivery. This system includes pinch valves, tubing, manifold, solution cylinders, valve controller and fitting accessories.
Polypropylene tubing, ID 0.034", ID 0.050"	Becton, Dickinson & Co	427421	Output tube from the perfusion system.
Pneumatic PicoPump	World Precision Instruments	SYS-PV820	For controlling the output channel of the perfusion system.
Data acquisition software system, LabVIEW PCI-MIO-16E-4 DAQ card	National Instruments	LabVIEW 2011	To control the pico pump for tastant delivery and to record the signals from the color sensor.
Compulab 3 Manostat peristaltic pump	Sigma	P1366	For pumping water.
Silicone tubing, ID 1/16" OD 1/8"	Cole-Parmer	WU-95802-02	To connect the water source to the peristaltic pump tubing, and the outlet tube of the pump to the rigid tube of the delivery system.
Color sensor-digital fiber optic sensor	Keyence	FS-V31M	For monitoring tastant delivery.
Color sensor-reflective fiber unit	Keyence	FU35-FZ	To connect the color sensor device.
Dental periphery Wax	Henry-Schein Dental	6652151	To secure the proboscis into the rigid tube.
Two 3.7 L containers			To provide water to the system, and to recollect the water waste.
Fast green FCF	Sigma	F7258	
Dressing forceps 25.5 cm	WPI	500364	To introduce moth proboscis into the proboscis hole in the rigid tube.
Name	Company	Catalog Number	Comments
Electrophysiology Equipment			
D.C. amplifier	Brown-Lee	440	
Lamp	Schott	Schott Fostec Light Source DCR 2	
Manual micromanipulator	Leica	micromanipulator	To precisely insert the tetrodes into the animal's brain. The manipulator has to allow fine and coarse movements in x, y and z axis.
Stereomicroscope	Leica	MZ75	
Vibration-isolation table (MICRO-g lab table)	TMC	63-541	
Oscilloscope	Tektronix	TDS2014	
16-channel pre-amplifier and amplifier	16 Channel MA-800 Amplifier System	B.E.S 2013	
Computer	Dell	optiplex 780	The following are the minimum recommended requirements. RAM: 3.32 GHz, 3GB. Processor: Intel Core 2 Duo. Graphic card: integrated Intel GMA X4500.
Data acquisition software system, LabVIEW PCI-MIO-16E-4 DAQ card	National Instruments	LabVIEW 2011	To control the pico pump for tastant delivery and to record the signals from the color sensor and electrode.
Name	Company	Catalog Number	Comments
Tastants			

KAc	Sigma-Aldrich	P5708	
LiCl	Sigma-Aldrich	L9650	
NaCl	Sigma-Aldrich	73575	
Sucrose	Sigma-Aldrich	84097	