

Materials List for:

Tuning in the Hippocampal Theta Band *In Vitro*: Methodologies for Recording from the Isolated Rodent Septohippocampal Circuit

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Materials

Name	Company	Catalog Number	Comments
Reagents			
Sodium Chloride	Sigma Aldrich	S9625	
Sucrose	Sigma Aldrich	S9378	
Sodium Bicarbonate	Sigma Aldrich	S5761	
NaH ₂ PO ₄ - sodium phosphate monobasic	Sigma Aldrich	S8282	
Magnesium sulfate	Sigma Aldrich	M7506	
Potassium Chloride	Sigma Aldrich	P3911	
D-(+)-Glucose	Sigma Aldrich	G7528	
Calcium chloride dihydrate	Sigma Aldrich	C5080	
Sodium Ascorbate	Sigma Aldrich	A7631-25G	
Equipment			
Standard Dissecting Scissors	Fisher Scientific	08-951-25	brain extraction
Scalpel Handle #4, 14 cm	WPI	500237	brain extraction
Filter forceps, flat jaws, straight (11 cm)	WPI	500456	brain extraction
Paragon Stainless Steel Scalpel Blades #20	Ultident	02-90010-20	brain extraction
Fine Point Curved Dissecting Scissors	Thermo Fisher Scientific	711999	brain extraction
Teflon (PTFE) -coated thin spatula	VWR	82027-534	hippocampal preparation
Hayman Style Microspatula	Fisher Scientific	21-401-25A	hippocampal preparation
Lab spoon	Fisher Scientific	14-375-20	hippocampal preparation
Borosilicate Glass Pasteur Pipets	Fisher Scientific	13-678-20A	hippocampal preparation
Droper	Fisher Scientific		hippocampal preparation
Razor blades Single edged	VWR	55411-055	hippocampal preparation
Lens paper (4 x 6")	VWR	52846-001	hippocampal preparation
Glass petri dishes (100 x 20 mm)	VWR	25354-080	hippocampal preparation
Plastic tray for ice; size 30 x 20 x 5 cm	n.a.	n.a.	hippocampal preparation
Single Inline Solution Heater	Warner Instruments	SH-27B	perfusion system
Aquarium air stones for bubbling	n.a.	n.a.	perfusion system
Tygon E-3603 tubing (ID 1/16 OD 1/8)	Fisherbrand	14-171-129	perfusion system
Electric Skillet	Black & Decker	n.a.	perfusion system

95% O ₂ /5% CO ₂ gas mixture (carbogen)	Vitalaire	SG466204A	perfusion system
Glass bottles/flasks (4 x 1 L)	n.a.	n.a.	perfusion system
Submerged recording Chamber	custom design (FM)	n.a.	Commercial alternative may be used
Glass pipettes (1.5/0.84 OD/ID (mm))	WPI	1B150F-4	electrophysiology
Hum Bug 50/60 Hz Noise Eliminator	Quest Scientific	Q-Humbug	electrophysiology
Multiclamp 700B patch-clamp amplifier	Molecular devices	MULTICLAMP	electrophysiology
Multiclamp 700B Commander Program	Molecular devices	MULTICLAMP	electrophysiology
Digital/Analogue converter	Molecular devices	DDI440	electrophysiology
PCLAMP10	Molecular devices	PCLAMP10	electrophysiology
Vibration isolation table	Newport	n.a.	electrophysiology
Micromanipulators (manually operated)	Siskiyou	MX130	electrophysiology (LFP)
Micromanipulators (automated)	Siskiyou	MC1000e	electrophysiology (patch)
Audio monitor	A-M Systems	Model 3300	electrophysiology
Micropipette/Patch pipette puller	Sutter	P-97	electrophysiology
Custom-built upright fluorescence microscope	Siskiyou	n.a.	Imaging
Analogue video camera	COHU	4912-2000/0000	Imaging
Digital frame grabber with imaging software	EPIX, Inc	PIXCI-SV7	Imaging
Olympus 2.5X objective	Olympus	MPLFLN	Imaging
Olympus 40X water immersion objective	Olympus	UIS2 LUMPLFLN	Imaging
Custom-made Light-Emitting Diode (LED) system	custom	n.a.	optogenetic stimulation (Amhilon et al., 2015)
Name	Company	Catalog Number	Comments
Animals			
PV::Cre (KI) mice	Jackson Laboratory	stock number 008069	Allow Cre-directed gene expression in PV interneurons
Constitutive-conditional Ai9 mice (R26-lox-stop-lox-tdTomato (KI))	Jackson Laboratory	stock number 007905	Express TdTomato following Cre-mediated recombination
Ai32 mice (R26-lox-stop-lox-ChR2(H134R)-EYFP	Jackson Laboratory	stock number 012569	Express the improved channelrhodopsin-2/EYFP fusion protein following exposure to Cre recombinase
PVChY mice	In house breeding	n.a.	Offspring obtained from cross-breeding the PV-Cre line with Ai32 mice (R26-lox-stop-lox-ChR2(H134R)-EYFP