

Materials List for:

Whole-cell Patch-clamp Recordings in Brain Slices

Amir Segev¹, Francisco Garcia-Oscos¹, Saïd Kourrich¹

¹Department of Psychiatry, University of Texas Southwestern Medical Center

Correspondence to: Saïd Kourrich at Said.Kourrich@UTSouthwestern.edu

URL: <https://www.jove.com/video/54024>

DOI: [doi:10.3791/54024](https://doi.org/10.3791/54024)

Materials

Name	Company	Catalog Number	Comments
Isolated pulse stimulus generator	A.M.P.I	Master-8	
Isolation unit (ISO-Flex)	A.M.P.I	ISO-Flex	
Computer controlled Amplifier	Molecular Devices	Multiclamp 700B	
Digital Acquisition system	Molecular Devices	Digidata 1500	
Microscope	Olympus	BX-51	
Micromanipulator	Sutter Instruments	MPC-200	
Chamber and in-line Heater	Warner Instruments	TC-344B	
Vibratome Slicer	Leica	VT1000 S	
Micropipette Puller	Narishige	PC-10	
Imaging Camera	Q Imaging	QIClick-F-M-12	
Narishige pipette puller PC-10	Narishige	PC-10	
Glass capillaries	WPI	TW150F-3	
Slice hold-down (harp)	Warner Instruments	64-0255	
Slice Chamber	Warner Instruments	RC-26	
Nonmetallic syringe needle	World Precision Instruments	MF28G67-5	
Syringe filters	Nalgene	176-0045	
Glue Gun	Home Depot	various	
Gas dispersion tube	Ace Glass Inc.	various	
Decapitation scissors	Home Depot	100649198	
Scalpel Handle #3	World Precision Instruments	500236	
Small straight sharp tips scissors	World Precision Instruments	14218	
Vessel canulation forceps	World Precision Instruments	500453	
Curved hemostatic forceps	World Precision Instruments	501288	
Economy Tweezers #3	World Precision Instruments	501976-6	
Spatula	Fisher Scientific	14357Q	
Scooping spatula	Fisher Scientific	14-357Q	
Petri dish	Fisher Scientific	08-747B	
Filter paper	Lab Depot	CFP1-110	
Solutions			
Cs-Gluconate internal solution (pH 7.2–7.3, 280–290 mOsm)			
D-gluconic acid 50%	Sigma Aldrich/various	G1951	
Cesium-OH (CsOH) 50%	Sigma Aldrich/various	232041	
NaCl, 2.8 mM	Sigma Aldrich/various	S7653	
HEPES, 20 mM	Sigma Aldrich/various	H3375	
EGTA, 0.4 mM	Sigma Aldrich/various	E4378	

tetraethylammonium-Cl, 5 mM	Sigma Aldrich/various	T2265	
Na ₂ GTP, 0.3 mM	Sigma Aldrich/various	G8877	
MgATP, 2 mM	Sigma Aldrich/various	A9187	
K-Gluconate internal solution (pH 7.2–7.3, 280–290 mOsm)			
K D-gluconate, 120 mM	Sigma Aldrich/various	G4500	
KCl, 20 mM	Sigma Aldrich/various	P3911	
HEPES, 10 mM	Sigma Aldrich/various	H3375	
EGTA, 0.2 mM	Sigma Aldrich/various	E4378	
MgCl ₂	Sigma Aldrich/various	M8266	
Na ₂ GTP, 0.3 mM	Sigma Aldrich/various	G8877	
MgATP, 2 mM	Sigma Aldrich/various	A9187	
Standard artificial cerebrospinal fluid (ACSF, osmolarity ≈ 300-310 mOsm)			
KCl, 2.5 mM	Sigma Aldrich/various	P3911	
NaCl, 119 mM	Sigma Aldrich/various	S7653	
NaH ₂ PO ₄ •H ₂ O, 1 mM	Sigma Aldrich/various	S9638	
NaHCO ₃ , 26.2 mM	Sigma Aldrich/various	S8875	
Glucose, 11 mM	Sigma Aldrich/various	G8270	
MgSO ₄ •7H ₂ O, 1.3 mM	Sigma Aldrich/various	230391	
CaCl ₂ •2H ₂ O, 2.5 mM	Sigma Aldrich/various	C3881	
Additional compounds used for solutions preparation			
KOH	various		
Kynurenic acid	Sigma Aldrich/various	K3375	