

Materials List for:

# Preparation of Acute Hippocampal Slices from Rats and Transgenic Mice for the Study of Synaptic Alterations during Aging and Amyloid Pathology

Diana M. Mathis<sup>1</sup>, Jennifer L. Furman<sup>2</sup>, Christopher M. Norris<sup>2,3</sup>

<sup>1</sup>Graduate Center for Gerontology, University of Kentucky College of Public Health

<sup>2</sup>Department of Molecular and Biomedical Pharmacology, University of Kentucky College of Medicine

<sup>3</sup>Sanders-Brown Center on Aging, University of Kentucky College of Medicine

Correspondence to: Christopher M. Norris at [cnorr2@uky.edu](mailto:cnorr2@uky.edu)

URL: <https://www.jove.com/video/2330>

DOI: [doi:10.3791/2330](https://doi.org/10.3791/2330)

## Materials

Name	Company	Catalog Number	Comments
NaCl	Fisher Scientific	BP358-1	
KCl	Fisher Scientific	BP366-500	
KH <sub>2</sub> PO <sub>4</sub> (monobasic)	Sigma-Aldrich	P5379-100G	
MgSO <sub>4</sub>	Sigma-Aldrich	M2643-500G	
CaCl <sub>2</sub> (dihydrate)	Sigma-Aldrich	C3306-250G	
NaHCO <sub>3</sub>	Fisher Scientific	S233-500	
C <sub>6</sub> H <sub>12</sub> O <sub>6</sub> (dextrose)	Fisher Scientific	BP350-1	
Table 1. Reagents required			
Erlenmeyer Flasks	Fisher Scientific	FB-500-2000 FB-500-1000	
Aquarium Bubbler			Used for oxygenating media. Available at most pet stores
50 mL Glass beaker	Fisher Scientific	02-540G	For brain storage in ACSF
Parafilm	Fisher Scientific	13-374-10	
Small Animal Guillotine	World Precision Instruments, Inc.	DCAP-M	
Flat paper towel			
#11 Feather surgical blade	Fisher Scientific	08-916-5B	
Beebee bone scissors	Fine Science Tools	16044-10	
Lempert Rongeurs	Roboz Surgical Instruments Co.	RS-8321	Use for rats
Friedman-Pearson Rongeurs	Fine Science Tools	16020-14	Use for mice or rats
Hippocampus tool	Fine Science Tools	10099-15	
Spoon			A plastic teaspoon will do
Spatula	Fisher Scientific	21-401-25A	Spatula
Surgical iris scissors	Fine Science Tools	14058-09	
plastic transfer pipets	Fisher Scientific	13-711-43	
110mm Whatman filter paper	Fisher Scientific	09-805E	Whatman cat. 1001-110
Glass petri dish	Fisher Scientific		
<a href="#">Leica VT1000P Manual Vibrating Microtome</a>	Vibratome	VT1000P	
0.1mm FA-10 Feather S blade	Ted Pella, Inc.	121-9	0.1mm FA-10 Feather S blade
Borosilicate Glass Pasteur Pipet (with rubber bulb)	Fisher Scientific	13-678-20A	For transferring slices: Tip is broken off and heat-polished for larger opening
35 mm Polysterine Culture dish	Corning	430588	Used for collecting slices after dissection

Table 2. Tools and materials for dissection			
Holding chamber	Custom Made		
P-97 Horizontal Pipette Puller	Sutter Instrument Co.		
Vibration isolation table	Technical Manufacturing Corp.		
Faraday cage	Custom Made		
Pyrex Aspirator Bottle with Bottom Sidearm	Corning	1220-1L	
Gravity-controlled IV set with regulator	Baxter International Inc.	2C8891	
Central Vacuum Line			Available in most modern labs
95% O <sub>2</sub> / 5% CO <sub>2</sub> Gas Mix	Scott-Gross Co.		
Tygon™ Lab tubing For O <sub>2</sub> /CO <sub>2</sub> delivery	Fisher Scientific		Non-toxic, non-oxidizing, comes in a variety of sizes.
Eclipse E600FN Microscope	Nikon Instruments		with 10x and 40x objectives, near infrared filter, and GFP,DS-Red2 filters
Cool Snap ES Digital Camera	Photometrics		Cool Snap ES Digital Camera
X-Cite Fluorescent Illuminator	EXFO		X-Cite Fluorescent Illuminator
Microscope Platform	Siskiyou, Inc.		Custom assembled
RC-22 Submersible recording chamber	Warner Instruments	64-0228	Requires P-1 platform and stage adaptor (Product # 64-0277 From Warner)
TC2BIP 2/3Ch Temperature controller	Cell Microcontrols		
4 Axis Manual Miniature manipulator	Siskiyou, Inc.		
Platinum Iridium Wire (0.002 in)	World Precision Instruments, Inc.	PTT0203	
A365 Stimulus Isolator	World Precision Instruments, Inc.	A365 Stimulus Isolator	
Multiclamp 700b Amplifier	Axon Instruments		
Digidata 1322A A/D converter	Axon Instruments		
PClamp software	Axon Instruments		
Personal Computer (Pentium 4)	Dell		
Table 3. Electrophysiology equipment and materials			