

Materials List for:

Experimental Demyelination and Remyelination of Murine Spinal Cord by Focal Injection of Lysolecithin

Michael B. Keough¹, Samuel K. Jensen¹, V. Wee Yong^{1,2}

¹Department of Clinical Neurosciences, Hotchkiss Brain Institute at University of Calgary

²Department of Oncology, Hotchkiss Brain Institute at University of Calgary

Correspondence to: V. Wee Yong at vyong@ucalgary.ca

URL: <https://www.jove.com/video/52679>

DOI: [doi:10.3791/52679](https://doi.org/10.3791/52679)

Materials

Name	Company	Catalog Number	Comments
spring scissors	Fine Science Tools	15004-08	
forceps	Fine Science Tools	11254-20	
retractor	Fine Science Tools	17003-03	
clippers	Philips	QG3330	
heating recovery chamber	Peco Services	V1200	
surgical tape	3M	1527-1	
scalpel handle	Fine Science Tools	10003-12	
scalpel blade	Feather	No. 15	
sponge spear	Beaver Visitec	581089	
5-0 Vicryl sutures	Ethicon	J511G	
curved ToughCut spring scissors	Fine Science Tools	15123-12	
32 G metal needle	BD	305106	
needle holders	Fine Science Tools	12002-14	
angled forceps	Fine Science Tools	11251-35	
cotton tipped applicator	Puritan	806-WC	
gauze pads	Safe Cross First Aid	3763	
10 µl syringe	Hamilton	7635-01	make sure to purchase the microliter, not gastight syringe
compression fitting	Hamilton	55750-01	contains the 2 ferrules and removable nut, but the nut that comes with the 10 µl syringe is a tighter fit
priming kit	Hamilton	PRMKIT	contains the priming syringe, removable hub needle and the rubber discs
pre-pulled glass capillaries	WPI	TIP10TW1 (pack of 10)	contains capillaries with 10 µm inner diameter. 30 µm inner diameter also work (TIP30TW1)
stereotactic frame	David Kopf instruments	Model 900	
Ultrasonic cleaner	Fisher Scientific	FS-20	
Tissue-Tek optimal cutting temperature (OCT) compound	VWR	25608-930	
Tissue-Tek intermediate cryomold	VWR	25608-924	
cryostat	Leica	CM1900	
microscope slides	VWR	48311-703	
bright field microscope	Olympus	BX51	

ultramicrotome	Leica EM UC7	EM UC7	
Lysophosphatidylchoine	Sigma	L1381	
2-methylbutane	Sigma	M32631	
Triton x-100	Sigma	X-100	
goat serum	Sigma	G9023	
Mouse anti-SMI312 antibody	Covance	SMI-312R	1:2,000 dilution
Rabbit anti-MBP antibody	Abcam	AB40390	1:1000 dilution
Goat anti-PDGFR α antibody	R&D Systems	AF1062	1:100 dilution
Rabbit anti-Olig2 antibody	Millipore	AB9610	1:200 dilution
Mouse anti-CC1 antibody	Calbiochem	OP80	1:200 dilution
Alexa Fluor 488 goat anti-rabbit IgG	Life technologies	A-11008	1:500 dilution
Alexa Fluor 546 goat anti-mouse IgG	Life technologies	A-11003	1:500 dilution
Alexa Fluor 488 donkey anti-goat IgG	Jackson Immuno	705-546-147	1:500 dilution
Alexa Fluor 594 donkey anti-mouse IgG	Jackson Immuno	715-586-151	1:500 dilution
Alexa Fluor 647 donkey anti-rabbit IgG	Jackson Immuno	711-606-152	1:500 dilution
PBS	Oxoid	BR0014	
isopropyl alcohol	Sigma	109827	
ketamine	CDMV		
xylazine	CDMV		
iodine	West Penetone	2021	
Vaseline petroleum jelly	VWR	CA05971	
paraformaldehyde	Sigma	P6148	
sucrose	Sigma	S5016	
Eriochrome Cyanine R	Sigma	32752	
sulfuric acid	Sigma	320501	
iron(III) chloride	Sigma	157740	
ammonium hydroxide	Sigma	320145	
Acrytol	Leica Biosystems	3801700	
Citrisolv	Fisher Scientific	22-143-975	
horse serum	Sigma	H0146	
glutaraldehyde	Electron Microscopy Sciences	16220	
osmium tetroxide	Electron Microscopy Sciences	19150	highly toxic
potassium hexacyanoferrate (II) trihydrate	Sigma	P3289	
corn oil	Sigma	C8267	
polyvinyl alcohol	Sigma	P8136	
glycerol	Sigma	G9012	
cacodylic acid	Electron Microscopy Sciences	12300	
propylene oxide	Electron Microscopy Sciences	20401	
EMBED kit	Electron Microscopy Sciences	14120	
Toluidine Blue O	Sigma	T3260	
Sodium tetraborate decahydrate	Sigma	S9640	
Recipes			

Eriochrome cyanine solution			
Ingredient			Amount to add
Eriochrome Cyanine R			0.8 g
sulfuric acid			400 ml 0.5%
iron(III)chloride			20 ml 10%
water			80 ml
*add eriochrome cyanine to sulfuric acid, followed by iron(III) chloride and water. Solution can be kept after use. Make fresh once per year.			
Gelvatol			
Ingredient			Amount to add
PBS			140 mL
polyvinyl alcohol			20 g
glycerol			40 g
*mix well, place at 37 °C O/N, centrifuge at 1,960 x g 30 min, aliquot into 40 tubes			