

Materials List for:

An Unbiased Approach of Sampling TEM Sections in Neuroscience

Stefan Wernitznig¹, Florian Reichmann², Mariella Sele¹, Christoph Birkl³, Johannes Haybäck^{4,5}, Florian Kleinegger⁴, Anna Birkl-Töglhofer⁴, Stefanie Krassnig⁴, Christina Wodlej⁴, Peter Holzer², Daniel Kummer¹, Elisabeth Bock¹, Gerd Leitinger¹

¹Department of Cell Biology, Histology and Embryology, Gottfried Schatz Research Center, Medical University of Graz

²Department of Pharmacology, Otto Loewi Research Center, Medical University of Graz

³Division of Neurogeriatrics, Department of Neurology, Medical University of Graz

⁴Institute of Pathology, Medical University of Graz

⁵Department of Pathology, Medical Faculty, Otto von Guericke University Magdeburg

Correspondence to: Gerd Leitinger at gerd.leitinger@medunigraz.at

URL: <https://www.jove.com/video/58745>

DOI: [doi:10.3791/58745](https://doi.org/10.3791/58745)

Materials

Name	Company	Catalog Number	Comments
Pentobarbital	SigmaAldrich	P3761	
Formaldehyde	Merck	1040051000	1kg
Glutardialdehyde	Science Services	E 16210	25%; 100ml; EM grade
cacodylate buffer	Merck	C4945	250g; Dimethylarsinic acid sodium trihydrate
Thionine acetate/Ceristain	Merck	861340	
acetic acid	Merck	1000631000	1 L
Sodium hydroxide	Merck	1064951000	1 kg, pellets
osmium tetroxide	Science Services	E 19110	10x1g
TAAB embedding resin	Science Services	TAT001	500g
DMP-30	Science Services	TAD024	100g
DDSA	Science Services	TAD025	500g
Uranyl acetate dihydrate	Plano GmbH	19481	depleted, 25g
Ultrastain 2	Leica	16707235	Lead citrate
Toluidine blue solution	Agar Scientific	AGR1727	10g
Pioloform	Plano GmbH	R1275	10g Powder
Proylenoxide	SigmaAldrich	82320-1L	1L
DPX embedding medium	Plano GmbH	R1320	embedding medium for semi-thin sections on glass slide, 50 ml
Vibratome, Leica VT 1000	Leica Microsystems, Vienna, Austria		
Leica Ultracut UCT, ultramicrotome	Leica Microsystems, Wetzlar, Germany		
Tecnai G2 20	FEI, Eindhoven, Netherlands		
Megaview wide angle camera	Olympus Soft Imaging Solution, Münster, Germany		
US 1000 digital camera	Gatan, Pleasanton, USA		
TEM Imaging Analysis Software	FEI, Eindhoven, Netherlands		
FEI Serial Section Software	FEI, Eindhoven, Netherlands		
Fiji, ImageJ 1.52e	National Institute of Health, USA		
SPSS 20.0	SPSS Inc., Chicago, IL, USA		
SerialEM	Regents of the University of Colorado		

RPS (random point sampling) software 0.9a	custom-made		
Disector v1.0.2 (ImageJ macro)	custom-made		
EFTEMSerialEM (SerialEM script)	custom-made		