

Materials List for:

Measurement of Total Calcium in Neurons by Electron Probe X-ray Microanalysis

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Materials

Name	Company	Catalog Number	Comments
REAGENTS/MATERIALS			
Thermanox plastic coverslips	Thermo Fischer Scientific	72280	
Culture inserts	BD Falcon	353090	For 6-well plates
Cryopins	Leica Microsystems	16701952	Grooved
Wood applicators	EM Sciences	72300	
Folding EM grids	Ted Pella	4GC100/100	100 mesh
Indium foil	Alfa Aesar	13982	0.25 mm thick
EQUIPMENT			
Plunge freezing device	Leica Microsystems	KF-80	
Slam freezing device	LifeCell	CF-100	
Ultramicrotome	Leica Microsystems	UC6	
Cryoattachment for microtome	Leica Microsystems	FC6	
Diamond cryotrimming tool	Diatome	Cryotrim 45	
Diamond cryoknife	Diatome	Cryo 35	
Antistatic device	Diatome	Hauf Static Line	
Cryo electron microscope	Carl Zeiss Microscopy	EM912 Omega	
EM cryo specimen holder	Gatan	CT3500	
Slow-scan CCD camera, 2k x 2k	Troendle (TRS)	Sharpeye	
Image acquisition software	Olympus SIS	iTEM suite	
ED x-ray detector	Oxford Instruments	Linksystem Pentafet	
Pulse Processor	Oxford Instruments	XP-3	
PCI backplane card	4pi Systems	Spectral Engine II	
Desktop computer	Apple	Any OS9-compatible model	
X-ray analysis software	NIST	DTSA, DTSA II	
Spreadsheet software	Microsoft	Excel	

1. The CF100 is no longer sold commercially, although the machine is available at many academic facilities, and complete machines or parts can be found on-line.
2. A video tutorial for the CT3500 cryotransfer holder is available at http://www.gatan.com/files/Movies/CT3500_Cryo_transfer_holder.mp4.
3. The SEII is obsolete; the Universal Spectral Engine Is a later, PC-compatible product with comparable functionality. 4pi has ceased manufacturing and sales but still provides technical customer support. Used systems are often found online.
4. The original DTSA is now obsolete. NIST offers in the public domain an updated successor, DTSA II ¹² (<http://www.nist.gov/mml/mmsd/software.cfm>)