

Materials List for:

Examination of Synaptic Vesicle Recycling Using FM Dyes During Evoked, Spontaneous, and Miniature Synaptic Activities

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Materials

Name	Company	Catalog Number	Comments
Pulse generator	AMPI	Master-8	
Isolated stimulator	 Digitimer	DS3	
Inverted microscope	Nikon	Eclipse TS100	This is used for assessing the cell morphology at low magnification.
Inverted microscope	Nikon	Eclipse TIE	This is used for high-resolution fluorescence and transmitted light imaging, with minimal focus drift.
Objective lens	Nikon		Water-immersion lens is recommended. Oil-immersion lens is usable unless an imaged structure is deep from the coverslip surface (e.g. >10 µm).
Filter cube	Nikon	77032509	490/20-nm ex, 510-nm dclp, 520-nm-LP em for FM1-43
Filter cube	Nikon	77032809	490/420 nm ex, 510 nm dclp, 650 nm LP em for FM4-64.
EMCCD camera	Andor Technology	iXon EM+ DU-860	This EMCCD camera is used for high-sensitivity detection of fluorescence.
Liquid recirculating chiller	Solid State Cooling Systems	Oasis 160	This is used for continuously perfusing the camera with chilled water for maintaining a temperature of -80°C, and thereby reducing noise.
LED	CoolLED-Custom Interconnect	490 nm	This light source is used for rapid on/off control of fluorescence excitation.
Image acquisition software	Andor Technology	Solis	
Imaging chamber	Warner Instruments	RC-21BRFS	
Fast perfusion system	Warner Instruments	SF-77B	
CNQX	Tocris Bioscience	1045	
D,L-AP5	Tocris Bioscience	0106	
Tetrodotoxin	Tocris Bioscience	1069	Caution: toxic reagent. Handle with care.
FM1-43	Invitrogen	T35356	
Aldehyde-fixable FM1-43 (FM1-43FX)	Invitrogen	F35355	
FM4-64	Invitrogen	T13320	
Aldehyde-fixable FM4-64 (FM4-64FX)	Invitrogen	F34653	

Ionomycin	Sigma-Aldrich	I0634	
Hanks' balanced salt	Sigma-Aldrich	H2387	
Minimum Essential Medium	Invitrogen	51200-038	This solution does not contain phenol red that will interfere with fluorescence imaging.
Paraformaldehyde	Electron Microscopy Sciences	15710	Caution: toxic reagent. Handle with care.
Sucrose	Sigma-Aldrich	S7903	