

Materials List for:

Monitoring Changes in the Intracellular Calcium Concentration and Synaptic Efficacy in the Mollusc *Aplysia*

Bjoern Ch. Ludwar¹, Colin G. Evans^{1,2}, Elizabeth C. Cropper¹

¹Fishberg Department of Neuroscience and Friedman Brain Institute, Mt. Sinai School of Medicine

²Phase Five Communications Inc.

Correspondence to: Bjoern Ch. Ludwar at bjoern@ludwar.net

URL: <https://www.jove.com/video/3907>

DOI: [doi:10.3791/3907](https://doi.org/10.3791/3907)

Materials

Name	Company	Catalog Number	Comments
Calcium Orange	Invitrogen	C-3013	
EGTA	Sigma	E-4378	
Calcium calibration buffer kit	Invitrogen	C-3008MP	Useful for testing the sensitivity and dynamic range of the signal
Table 1. Reagents used.			
FN-1 upright fluorescence microscope	Nikon Instruments	with Narishige ITS-FN1 stage	
NMN-21 manipulators	Narishige	mounted on stage with magnets	
CoolSNAP HQ ² CCD camera	Photometrics		
NIS elements AR	Nikon Instruments	we used version 3.22	
10X/0.3w Plan Fluor objective	Nikon Instruments	this water immersion lens has a very long working distance of 3.5 mm	
X-Cite 120 PC metal halide lamp	EXFO	used for fluorescence imaging	
LS-DWL halogen lamp	Sumica		
ET-CY3 filter set	Chroma Technology		
Power 1401 A/D converter	Cambridge Electronic Design	sampling was done at 3 kHz	
Spike II Software	Cambridge Electronic Design	we used version 7.07	
SEC-10 LX amplifier	NPI electronics	used with a 10X headstage	
Model 410 amplifier	Brownlee precision	used to amplify and filter the signal	
WS-4	minus k Technology	vibration isolation for imaging	
cooling platform	custom made	brass plate through which ice water is pumped at a variable rate	
Table 2. Equipment used.			