

Materials List for:

Single Liposome Measurements for the Study of Proton-Pumping Membrane Enzymes Using Electrochemistry and Fluorescent Microscopy

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Materials

Name	Company	Catalog Number	Comments
6-Mercapto-1-hexanol (6MH)	Sigma	451088	97%
8-hydroxypyrene-1,3,6-trisulphonic acid (HPTS)	BioChemika	56360	
Aluminium holder (Electrochemical cell)	Custom-made		30x30x7 mm; inner diameter: 26 mm; hole diameter: 15 mm
Auxiliary electrode			platinum wire
Chloroform	VWR Chemicals	83627	
E.coli polar lipids	Avanti	100600C	25 mg/mL in chloroform
Epoxy	EPO-TEK	301-2FL	low fluorescence epoxy
Fiji (ImageJ 1.52d)			Required plugins: StackReg and TurboReg (http://bigwww.epfl.ch/thevenaz/stackreg/)
Filter cube ("ATTO633")	Chroma Technology Corporation		Ex: 620/60 nm; DM: 660 nm; Em: 700/75 nm
Filter cube ("HPTS1")	Chroma Technology Corporation		Ex: 470/20 nm; DM: 500 nm; Em: 535/48 nm
Filter cube ("HPTS2")	Chroma Technology Corporation		Ex: 410/300 nm; DM: 500 nm; Em: 535/48 nm
Filter cube ("Texas Red")	Chroma Technology Corporation		Ex: 560/55 nm; DM: 595 nm; Em: 645/75 nm
Fluorescent dye-labelled lipids (FDLL)	ThermoFisher Scientific	T1395MP	TexasRed-DHPC was used in this work (λ_{exc} 595 nm; λ_{em} 615 nm)
Fluorescent dye-labelled lipids (FDLL) (alternative)	ATTO-TEC	AD 633-161	ATTO633-DOPE can be used as alternative (λ_{exc} 630 nm; λ_{em} 651 nm)
Gel filtration column	GE Healthcare	28-9893-33	HiLoad 16/600 Superdex 75 pg, for additional protein purification
Glass coverslips	VWR International	631-0172	No 1.5
Glass syringe	Hamilton	1725 RNR	250 μ L
Glass vials	Scientific Glass Laboratories Ltd	T101/V1	1.75 mL capacity
Gold	GoodFellow		99.99%
Gramacidin	Sigma	G5002	
Mercury sulfate reference electrode	Radiometer (Hash)	E21M012	
Microcentrifuge	Eppendorf	Minispin NL040	
Microscope	Nikon	Eclipse Ti	
Microscope Camera	Andor	Zyla 5.5 sCMOS	

Microscope Lamp	Nikon	Intensilight C-HGFI	
NIS-Elements AR 5.0.2	Nikon		Microscope acquisition software
n-Octyl β -D-glucopyranoside	Melford Laboratories	B2007	
Nova 1.10	Metrohm		Potentiostat control software
Objective	Nikon	Plan Apo λ 60x/1.4 oil	
OriginPro 2017	OriginLab		Plotting software
O-ring (Electrochemical cell)	Orinoko		Inner diameter: 16 mm; cross section: 1.5 mm
Plastic tubes	Eppendorf	3810X	1.5 mL
Polystyrene microbeads	Bio-RAD	152-3920	Biobeads, 20-50 mesh
Potentiostat	Metrohm Autolab	PGSTAT 128N	
Potentiostat	CH Instruments	CHI604C	
Scripting software	Matlab	R2017a	Required toolboxes: 'Image Processing Toolbox', 'Parallel Computing Toolbox', 'Curve Fitting Toolbox', 'System Identification Toolbox', 'Optimization Toolbox'
Silicon wafers	IDB Technologies LTD	Si-C2 (N<100>P)	$\varnothing$ 25 mm, 525 μ m thick
Teflon cell (Electrochemical cell)	Custom-made		Outer diameter: 26 mm; inner diameter: 13.5 mm
Temple-Stripped Ultra-Flat Gold Surfaces	Platypus Technologies	AU.1000.SWTSG	Alternative ready-to-use ultra-flat gold surfaces (Thickness below 100 nm on demand)
Thin micropipette tips	Sarstedt	70.1190.100	or similar gelloader tips 200 μ L
Ubiquinone-10	Sigma	C-9538	
Ultracentrifuge	Beckman-Coulter	L-80XP	with Ti 45 rotor
Ultrasonic bath	Fisher Scientific	FB15063	