

Materials List for:

# Pulling Membrane Nanotubes from Giant Unilamellar Vesicles

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## Materials

Name	Company	Catalog Number	Comments
1,2-Dioleoyl-sn-glycero-3-phosphatidylcholine (DOPC)	Avanti	850375	Example lipid used in data for Figure 3
1,2-distearoyl-sn-glycero-3-phosphoethanolamine-N-[biotinyl(polyethyleneglycol)-2000] [DSPE-PEG(2000)-biotin]	Avanti	880129	biotinylated lipid
BODIPY-TR-C5-ceramide	Molecular Probes (ThermoFisher)	D7540	fluorescent lipid
BODIPY- FLC5-hexadecanoyl phosphatidylcholine (HPC*)	Molecular Probes (ThermoFisher)		fluorescent lipid for protein density calibration
egg L- $\alpha$ -phosphatidylcholine (eggPC)	Avanti	840051	used for calibrating the tube radius constant
$\beta$ -casein from bovine milk (>99%)	Sigma Aldrich	C6905	used for passivating the micropipette and the experimental chamber
Sucrose	Sigma Aldrich	S7903	
D(+) glucose	Sigma Aldrich	G7021	
NaCl	Sigma Aldrich	S7653	
Tris	Sigma Aldrich	10708976001	
osmometer	Loser	n/a	
Pt-wires, 0.5 mm diameter, 99.99% pure	Goodfellow USA	PT005139	used for GUV electroformation
function generator		n/a	used to create current for GUV electroformation
putty sealant	Vitrex (from CML France)	CRIT 140013	used to seal the electroformation chamber
bath sonicator		n/a	useful to clean the electroformation chamber, but not crucial
Nikon TE2000 inverted microscope, eC1 confocal system (Nikon), with two laser lines ( $\lambda$ = 488 nm and 543 nm); optical tweezers induced by a 5 W ytterbium fiber continuous wave laser ( $\lambda$ > 1070 nm; IPG GmbH Germany)			an example of a confocal microscopy system equipped with optical tweezers
micromanipulators		n/a	

borosilicate capillaries (with internal and external radii of 0.78 mm and 1 mm, respectively)	Harvard apparatus	30-0036	
micropipette puller	Sutter Instrument	P-2100	
microforge	Narishige	MF-800	
piezoelectric actuator	Physik Instrumente	n/a	
polystyrene streptavidin coated beads (diameter 3.2 $\mu$ m)	Spherotech	SVP-30-5	