

Materials List for:

In Vitro Reconstitution of Self-Organizing Protein Patterns on Supported Lipid Bilayers

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URL: <https://www.jove.com/video/58139>

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Materials

Name	Company	Catalog Number	Comments
Reagents			
DOPC	Avanti Polar Lipids	850375	
DOPG	Avanti Polar Lipids	840475	
E.coli polar lipid extract	Avanti Polar Lipids	100600	
Adenosine 5'-triphosphate disodium salt trihydrate	Roche		
Adenosine 5'-diphosphate monopotassium salt dihydrate	Sigma	A5285-1G	
Sodium chloride	VWR	27810.295	
Potassium chloride	Roth	6781.1	
Tris-base	Sigma Aldrich	T1503-1kg	
Hydrochloric acid	Roth	9277.1	
TCEP-HCl	Termo Fisher Scientific	20491	
Ethylene Diamine Tetraacetate	Merck Millipore	1.08418.1000	
Sulfuric Acid 98%	Applchem	173163.1611	
Hydrogen Peroxide 50%	Applchem	147064.1211	
HEPES	Biomol	05288.1	
dimethyl sulfoxide (DMSO)	Merck	102950	Uvasol
Glycerol 86%	Roth	4043.1	
TB medium			
Isopropyl β-D-1-thiogalactopyranoside (IPTG)	Roth	2316.x	
Atto-655-DOPE	Atto Tec	AD 655-161	
Ni-NTA agarose	Qiagen	30210	
PDMS base	Dow Corning Corporation		SYLGARD 184
PDMS crosslinker	Dow Corning Corporation		
Materials			
UV Glue	Norland Products	6801	#68 and #63 both work well
Coverslips #1.5 24x24 mm	Menzel Gläser		
Coverslips #1 24x24 mm	Menzel Gläser		used only for PDMS microstructures
0.5 ml reaction tube	Eppendorf	0030123301	
culture flask 2L	Corning	e.g. 734-1905	
His-Trap HP	GE Healthcare Life Sciences		

Gelfiltration column: HiLoad Superdex 75 PG or 200 PG	GE Healthcare Life Sciences		
Econo-Pac 10DG desalting column prepacked column	Biorad	7322010	
dialysis device: Slide-A-Lyzer Dialysis Cassettes, 3.5K MWCO, 0.1 - 0.5 mL or 0.5-3 mL	Termo Fisher Scientific	66333 or 66330	
razor blade			
Instruments			
ultrapure water: Milli-Q Type 1 Ultrapure Water Systems	Merck		
automated protein purification system: Äkta Pure	GE Healthcare Life Sciences		
bath sonicator	Branson		e.g. Model 1510
ARE-250 mixer	Thinky Corporation		
Plasma cleaner Zepto	Diener electronic		use oxygen as process gas
positive displacement pipettes	Brand		Transferpettor models with glass tips
LSM780 confocal laser scanning microscope	Zeiss		Fitted with Zeiss C-Apochromat 40X/1.20 water-immersion objective
Plasmids			
pET28a-His-MinD_MinE	Department of Cellular and Molecular Biophysics, MPI of Biochemistry, Prof. Schwille		plasmid encoding His-MinD and non-tagged MinE to improve yield
pET28a-His-MinE	Department of Cellular and Molecular Biophysics, MPI of Biochemistry, Prof. Schwille		plasmid encoding His-MinE
pET28a-His-EGFP-MinD	Department of Cellular and Molecular Biophysics, MPI of Biochemistry, Prof. Schwille		plasmid encoding His-EGFP-MinD
pET28a-His-mRuby3-MinD	Department of Cellular and Molecular Biophysics, MPI of Biochemistry, Prof. Schwille		plasmid encoding His-mRuby3-MinD
pET28a-His- MinC	Department of Cellular and Molecular Biophysics, MPI of Biochemistry, Prof. Schwille		plasmid encoding His-MinC