

Materials List for:

# Contrast-Matching Detergent in Small-Angle Neutron Scattering Experiments for Membrane Protein Structural Analysis and *Ab Initio* Modeling

Ryan C. Oliver<sup>1</sup>, Swe-Htet Naing<sup>2</sup>, Kevin L. Weiss<sup>1</sup>, Sai Venkatesh Pingali<sup>1</sup>, Raquel L. Lieberman<sup>2</sup>, Volker S. Urban<sup>1</sup>

<sup>1</sup>Neutron Scattering Division, Oak Ridge National Laboratory

<sup>2</sup>School of Chemistry and Biochemistry, Georgia Institute of Technology

Correspondence to: Volker S. Urban at [urbanvs@ornl.gov](mailto:urbanvs@ornl.gov)

URL: <https://www.jove.com/video/57901>

DOI: [doi:10.3791/57901](https://doi.org/10.3791/57901)

## Materials

Name	Company	Catalog Number	Comments
Amicon Ultra MWCO 50KDa concentrator	EMD Millipore	UFC905096	labware
Ammonium citrate dibasic	Fisher Scientific	A663	medium component
Ammonium sulfate	EMD Millipore	2150	medium component
Bioflo 310 Bioreactor System	Eppendorf	M1287-2110	equipment
Calcium chloride dihydrate	Acros	423525000	medium component
Carbenicillin	IBI Scientific	IB02025	antibiotic
Chloramphenicol	EMD Millipore	3130	antibiotic
Cobalt (II) chloride	Acros	AC21413-0050	medium component
Copper (II) sulfate	Acros	AC19771-1000	medium component
Deuterium oxide	Sigma-Aldrich	756822	medium component
Drierite Gas Purifier	W.A. Hammond Drierite Co. Ltd.	27068	
EDTA, disodium, dihydrate	EMD Millipore	4010	medium component
Emulsiflex-C3	Avestin	EF-C3	equipment
Äkta Purifier UPC100	GE Healthcare		equipment
Glycerol	Sigma-Aldrich	G5516	medium component
HEPES	Sigma-Aldrich	H4034	
HiPrep 16/60 Sephacryl S-300 HR column	GE Healthcare	17116701	
Imidazole	VWR	97064-622	
IPTG	Teknova	I3325	
Iron(III) chloride hexahydrate	MP Biochemicals	ICN19404590	medium component
LB Agar Miller	Fisher Scientific	BP1425-2	
Magnesium sulfate heptahydrate	VWR	97062-134	medium component
Manganese(II) sulfate monohydrate	Acros	AC20590-5000	medium component
MaxQ 6000 Incubated/Refrigerated Shaker	Thermo Scientific	SHKE6000-7	equipment
n-Dodecyl-d25-β-D-maltopyranoside	Anatrace	D310T	
n-Dodecyl-β-D-maltopyranoside	Anatrace	D310A	
Potassium phosphate monobasic	VWR	97062-346	medium component
RC 6 Plus Centrifuge	Thermo Scientific Sorvall	46910	equipment
SIGMAFAST protease inhibitor cocktail tablets, EDTA-free	Sigma-Aldrich	S8830	

Sodium chloride	Sigma-Aldrich	S3014	
Sodium hydroxide	Sigma-Aldrich	795429	
Sodium phosphate dibasic	Sigma-Aldrich	S7907	medium component
Sterile 25mm syringe filter with 0.2µm PES membrane	VWR	28145-501	labware
Sterile disposable bottle top filter with 0.2µm PES membrane	Thermo Scientific	596-4520	labware
Superdex 200 10/300 GL	GE Healthcare	17517501	
Superose-12 10/300 GL column	GE Healthcare	17517301	
Ultrospec 10 Cell Density Meter	GE Healthcare	80211630	equipment
Zinc sulfate monohydrate	Acros	AC38980-2500	medium component