

Materials List for:

Expression, Solubilization, and Purification of Eukaryotic Borate Transporters

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Materials

Name	Company	Catalog Number	Comments
2-mercaptoethanol	Sigma-Aldrich	M3148	
4-Morpholinoethanesulfonic acid hydrate (MES)	Acros	172591000	
Äkta Pure 25 L FPLC	GE Healthcare	29018224	
Amicon Ultra 15 mL, 50 kDa MWCO concentrator	Millipore	UFC905024	for concentrating nickel column fractions
Amicon Ultra 4 mL, 50 kDa MWCO concentrator	Millipore	UFC805024	for concentrating S200 fractions
Bacto Peptone	BD Diagnostics	211677	
Bacto Yeast Extract	BD Diagnostics	288620	
Glass Erlenmeyer flask, 2L	Sigma-Aldrich	CLS44442L	
Benchtop centrifuge	Sorvall	Legend RT	
Bottle top filter	Nalgene	595-4520	the membrane is removed and used to filter glass beads
Bromophenol blue	Sigma-Aldrich	114391	
Complete supplement mixture without histidine	Sunrise Science	1006-100	
D-Galactose	Sigma-Aldrich	G0750	
D-Glucose	Sigma-Aldrich	RDD016	
Ethanol, 200 proof	Pharmco-Aaper	111000200	
Ethylenediaminetetraacetic Acid (EDTA)	Sigma-Aldrich	EDS-500G	
Gel tank SDS-PAGE system	Bio-Rad	1658004	
Glass bead-beating cell disruptor	BioSpec	1107900	
Glass beads, 0.5mm	BioSpec	11079105	
Glutaraldehyde	Electron Microscopy Sciences	16019	sent as an 8% solution under nitrogen
Glycerol	Sigma-Aldrich	G7893	
HiTrap IMAC FF column, 1 mL	GE Healthcare	17-0921-02	charged with nickel
Hydrochloric acid	Sigma-Aldrich	258148	
Imidazole	Acros	12202	
Instant Blue gel stain	Expedeon	ISB1L	
JA-10 rotor	Beckman	369687	
JA-14 rotor	Beckman	339247	
Microcentrifuge tubes, 1.5mL	Thermo Scientific	3451	
Microcentrifuge, refrigerated	Fisher	13-100-676	
Mini-Protean Tris-glycine gels, 4-20%	Bio-Rad	456-1096	

Minipuls 3 peristaltic pump	Gilson	F155005	used for loading lysate onto affinity column
n-Dodecyl-beta-D-Maltopyranoside (DDM)	Inalco	1758-1350	
Nickel(II) Sulfate Hexahydrate	Sigma-Aldrich	227676	
Orbital shaking incubator with temperature control	New Brunswick	C24	
p423 GAL1 plasmid with borate transporter insert			available from authors
Phenylmethanesulfonyl fluoride (PMSF)	Acros	215740050	
Polycarbonate ultracentrifuge tubes	Beckman	355618	
Polypropylene bottles, 250mL	Beckman	356011	
Polypropylene bottles, 500mL	Beckman	355607	
Precision Plus Protein Kaleidoscope Standards	Bio-Rad	1610375	
<i>S. cerevisiae</i> expression strain DSY-5			available from authors
Sodium chloride	Sigma-Aldrich	S7653	
Sodium dodecyl sulfate	Sigma-Aldrich	L3771	
Sodium hydroxide	Sigma-Aldrich	S8045	
Spin column with 0.2 µm filter, 0.5mL	Millipore	UFC30GV0S	for filtering protein before injecting onto S200 column
Sterile Falcon tubes, 15mL	Lab Depot	TLD431696	
Sterile Falcon tubes, 50mL	Lab Depot	TLD431698	
Superdex 200 10/300 GL column	GE Healthcare	17-5175-01	used for SEC purification
Syringe filter, 5µm	Pall	4650	for filtering lysate before loading affinity column
Tris-base	Sigma-Aldrich	T1503	
Type 70 Ti rotor	Beckman	337922	
Ultracentrifuge	Beckman	L8-70M	
YNB+Nitrogen without amino acids	Sunrise Science	1501-500	