

Materials List for

Extracting Modified Microtubules from Mammalian Cells to Study Microtubule-Protein Complexes by Cryo-Electron Microscopy

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jove.com/video/65126

Materials

Name	Company	Catalog Number	Comments
Material			
0.05% trypsin-EDTA	Gibco	25300-054	Cell culture
10 cm plate	Falcon	353003	Cell culture
15 cm plate	Thermo FisherScientific	168381	Cell culture
50 mL tubes	Sarstedt	62.547255	Cell culture
300 mesh quantifoil holey carbon copper grid R1.2/1.3	Quantifoil Micro Tools	N1-C14nCu30-01	Cryo-EM grid preparation
Cell scrapers	Falcon	353085	Cell culture
DMEM	Gibco	41966-029	Cell culture
EDTA	Merck	108418	Cell culture
EGTA	Sigma Aldrich	E3899	Microtubule extraction
Ethane gas			Cryo-EM grid preparation
FCS	Serana	s-FBS-EU-015	Cell culture
Glycerol	VWR	24.397.296	Microtubule extraction
GTP	Fisher Scientific	G8877-1G	Microtubule extraction
HCT116 VASH1 VASH2 MATCAP KO cells	self made	Wild type HCT116 cells RRID: CVCL_0291	Cell culture
KOH	Merck	1.05033	Microtubule extraction
MgCl ₂	Merck	105833	Microtubule extraction
Microtubule binding protein	self made		Cryo-EM grid preparation
Needle	BD microlance	300600	Microtubule extraction
Paclitaxel	Santa Cruz Biotechnology	sc-212517	caution toxic, microtubule extraction
PBS	Fisher Scientific	BP399	Cell culture
Penicillin and streptomycin	Sigma Aldrich	P0781-100mL	Cell culture
PIPES	Merck	P8203	Microtubule extraction
PMSF (in EtOH)	Roche	16837091001	Microtubule extraction

SDS sample buffer	self made		Quality assessment
Syringe	BD plastipak	309658	Microtubule extraction
Ultra protease tables mini	Fisher Scientific	NC0975224	Microtubule extraction
Whatman blotting paper	Whatman	47000-100	Cryo-EM grid preparation
Equipment			
Flow hood			cell culture
GloQube	Quorum		Cryo-EM grid preparation
Grid storage box	SWISSCI	41018	Cryo-EM grid storage
Heating block, electric or metal			to warm the buffers
Incubator, cell culture	NUAIR		cell culture
LN2 dewar			Cryo-EM grid storage
Plunge-tweezers	Electron Microscopy Sciences	0508-L5-PS	Cryo-EM grid preparation, hole drilled in top to fit the vitrobot
Polystyrene box			to keep the buffers warm
Sonicator	Qsonica	Q700	Microtubule extraction
Standard light microscope	Olympus	CKX 41	Quality assessment
TLA 100.3 rotor	Beckman Coulter		Microtubule extraction
TLA 120.2 rotor	Beckman Coulter		Microtubule extraction
Tubes for TLA 100.3 rotor	Beckman Coulter	326819	Microtubule extraction
Tubes for TLA 120.2 rotor	Beckman Coulter	347356	Microtubule extraction
Ultracentrifuge	Beckman Coulter	Optima MAX-XP	Microtubule extraction
Vitrobot	FEI, ThermoFischer Scientific	mark IV	Cryo-EM grid preparation
Vitrobot polystyrene container assembly with metal ethane cup	ThermoFisher Scientific	200703	Cryo-EM grid preparation
Water bath			cell culture