

Materials List for

Micropatterning Transmission Electron Microscopy Grids to Direct Cell Positioning within Whole-Cell Cryo-Electron Tomography Workflows

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Materials

Name	Company	Catalog Number	Comments
0.1% (w/v) Poly-L-Lysine	Sigma	P8920-100ML	
0.22 µm syringe filters PVDF membrane	Genesee	25-240	
22x60-1 Glass cover slip	Fisher	12545F	
5/15 Tweezers	EMS (Dumont)	0203-5/15-PO	
Antibiotic-Antimycotic (100X)	ThermoFisher (Gibco)	15240096	
BEAS-2B cells	ATCC	CRL-9609	
Collagen I, bovine	ThermoFisher (Gibco)	A1064401	
Concanavalin A, Alexa Fluor 350 Conjugate	ThermoFisher (Invitrogen)	C11254	
DMEM	Fisher (Lonza)	BW12-604F	
EtOH	Fisher (Decon Labs)	22-032-600	
Fetal Bovine Serum	ATCC	30-2020	
Fibrinogen From Human Plasma, Alexa Fluor 647 Conjugate	ThermoFisher (Invitrogen)	F35200	
Fibronectin Bovine Protein, Plasma	ThermoFisher (Gibco)	33010018	
Glass bottom dish	MatTek	P35G-1.5-20-C	
Glucose	VWR	0643-1KG	
Grid prep holder	EMS	71175-01	
HeLa cells	ATCC	CCL-2	
Hemocytometer	Fisher (SKC, Inc.)	22600100	
HEPES	Fisher (ACROS Organics)	AC172572500	
Hoechst 33342	ThermoFisher (Invitrogen)	H3570	
Insulin	Fisher (Sigma Aldrich)	NC0520015	

KCl	MP Bio	194844	
KH ₂ PO ₄	Fisher (ACROS Organics)	AC212595000	
Leica-DMi8	Leica Microsystems		Can be customized with camera, stage, and objective attachments
Leonardo	Alvéole		https://www.alveolelab.com/our-products/leonardo-photopatterning-software/
Liberase Research Grade	Fisher (Supply Solutions)	50-100-3280	
LIVE/DEAD Viability/Cytotoxicity Kit	ThermoFisher (Invitrogen)	L3224	
Microscope camera	Hamamatsu	C13440-20CU	
Motorized stage	Märzhäuser Wetzlar	00-24-599-0000	
NaCl	Fisher (Fisher BioReagents)	BP358-1	
NaH ₂ PO ₄	Fisher (ACROS Organics)	AC207802500	
NaOH	Fisher (Alfa Aesar)	AAA1603736	
PBS	Corning	21-040-CV	
PDMS stencils	nanoscaleLABS	PDMS_STENCILS_EM	https://www.alveolelab.com/our-products/pdms-stencil-multiwell-plate/
PEG-SVA	nanoscaleLABS	PEG-SVA-1GR	mPEG-Succinimidyl Valerate, MW 5,000
Penicillin	Fisher (Research Products International Corp)	50-213-641	
pH strips	Fisher (Millipore Sigma)	M1095350001	pH probe can also be used
PLPP gel	nanoscaleLABS	PLPP-GEL-300UL	https://www.alveolelab.com/our-products/plpp-photoactivatable-reagent/
PRIMO	Alvéole		https://www.alveolelab.com/our-products/primo-micropatterning/
pSynkRSV-I19F (BAC containing RSV A2-mK+ antigenomic cDNA)	BEI Resources	NR-36460	https://www.beiresources.org/Catalog/BEIPlasmidVectors/NR-36460.aspx
Quantifoil grids	EMS (Quantifoil)	Q2100AR1	2 µm holes spaced 1 µm apart, other dimensions are available
RPMI	Fisher (Lonza)	BW12-702F	
RSV A2-mK+	see entry for pSynkRSV-19F	-	Described in Hotard et al. [22]. Can be generated from pSynkRSV-I19F
Schneider's Media	ThermoFisher (Gibco)	21720-024	
SerialEM	SerialEM (https://bio3d.colorado.edu/SerialEM/)		https://bio3d.colorado.edu/SerialEM/
Straight tweezers	EMS (Dumont)	72812-D	
Streptomycin	Fisher (Fisher BioReagents)	BP910-50	
Sucrose	Avantor	4097-04	
Tetracycline	Sigma	T8032-10MG	
Titan Krios electron microscope	ThermoFisher		300kV, with direct electron detector camera and energy filter
Trypsin	ThermoFisher (Gibco)	15090046	
Tube Revolver/Rotator	Fisher (Thermo Scientific)	11676341	
UAS:mcD8:GFP Drosophila fly strain	Bloomington Drosophila Stock Center	5146	http://flybase.org/reports/FBtp0002652.html