

Materials List for:

High-resolution Time-lapse Imaging and Automated Analysis of Microtubule Dynamics in Living Human Umbilical Vein Endothelial Cells

Alexander Braun¹, Nicole M. Caesar¹, Kyvan Dang¹, Kenneth A. Myers¹

¹Department of Biological Sciences, University of the Sciences in Philadelphia

Correspondence to: Kenneth A. Myers at k.myers@usciences.edu

URL: <https://www.jove.com/video/54265>

DOI: [doi:10.3791/54265](https://doi.org/10.3791/54265)

Materials

Name	Company	Catalog Number	Comments
Aurora A Inhibitor I	Selleck Chemicals	S1451	
2% Bis solution	Bio-Rad	1610142	
3-aminopropyltrimethyloxysilane	Sigma-Aldrich	A3648	
40% acrylamide	Bio-Rad	1610140	
405, 488, 561, 640 nm high power MLC400 laser combiner module	Agilent Technologies	99462	
Ammonium persulfate	Sigma-Aldrich	A3678	
anti-mouse IgG immunoprecipitation beads	TrueBlot Reagents; Rockland Inc.	88-1688-31	
anti-rabbit IgG immunoprecipitation beads	TrueBlot Reagents; Rockland Inc.	88-7788-31	
ET455/50m, DAPI-ET Emission Filter	Chroma Technology Corp.	ET455/50m	
ET525/36m Emission Filter	Chroma Technology Corp.	ET525/36m	
ET605/70m Emission Filter	Chroma Technology Corp.	ET605/70m	
ET700/75m Emission Filter	Chroma Technology Corp.	ET700/75m	
Bovine Serum Albumin Fraction V	RPI Products	A30075-100.0	
Clara cooled charge-coupled device camera	Andor Technology	77026010	
Cy3 donkey anti-rabbit	Jackson ImmunoResearch	711-165-152	
DPBS	Thermo Fisher Scientific	14190250	
Dyelight 649 goat anti-rat	Jackson ImmunoResearch	112-496-068	
EGM-MV SingleQuot Supply & Growth Factors (contents shown below)	Lonza	CC-4143	
Fetal bovine serum 25 ml			
Bovine brain extract 2.0 ml			
Gentamycin sulfate 0.5 ml			
Epidermal growth factor 0.5 ml			
Hydrocortisone 0.5 ml			
Penicillin/Streptomycin (10,000 IU Pen/ml, 10,000 µg Strep/ml) 10.0 ml			
EGTA	Sigma-Aldrich	E3884-100G	
Electronic shutter	Sutter instrument	77016099	
Fibronectin	EMD Millipore	FC010	
Glutaraldehyde	Thermo Fisher Scientific	S80026	

HALT Protease inhibitor	Thermo Fisher Scientific	PI-78425	
HEPES	Sigma-Aldrich	H4034	
HRP goat anti-mouse	Jackson ImmunoResearch	115-036-062	
HRP goat anti-rabbit	Jackson ImmunoResearch	111-036-045	
Immuno-Blot PVDF Membrane	Bio-Rad	162-0174	
Lanolin	Thermo Fisher Scientific	8006-54-0	
Magnesium sulfate	Sigma-Aldrich	M2643-500G	
Microscope	Nikon TiE	MEA53100	
Motorized stage	ASI Technologies	MS-2000	
Mounting medium	Dako	CS70330-2	
Mouse anti-Aurora A	Abcam	ab130156	
Mouse anti-GAPDH	Abcam	ab9484	
Mouse anti-MCAK	Abcam	ab50778	
Mouse anti-tubulin (DM1A)	Cell Signaling Technology	3873S	
Nail Polish	Electron Microscopy Sciences	72180	
NIS Elements software	Nikon	MQS310000	
Nucleofector Kit V	Lonza	VACA-1003	Contains the electroporation buffer
Paraffin	Thermo Fisher Scientific	P31-500	
Penicillin-Streptomycin (10,000 IU Pen/ml, 10,000 µg Strep/ml)	MP Biomedicals	91670249	
Petroleum jelly	Dow Corning	2021854-1113	
Pipes	Sigma-Aldrich	P6757-100G	
plusTipTracker			
Rabbit anti-GFP	Abcam	ab290	
Rabbit anti-pT288-Aurora A	Abcam	ab18318	
Rat anti- α -tubulin	AbD Serotec	MCA78G	
Sodium borohydride	Thermo Fisher Scientific	678-10	
Spinning disk	Andor Technology	Yokagawa CSU-X1	
Sulfo-SANPAH	Thermo Fisher Scientific	PI-22589	
SuperSignal West Pico Chemiluminescent Substrate	Thermo Fisher Scientific	34080	
Triton X-100	Thermo Fisher Scientific	BP151-500	
Trypsin	Corning	MT25053CI	
Tween-20	Thermo Fisher Scientific	BP337	