

Materials List for

Simultaneous Visualization of the Dynamics of Crosslinked and Single Microtubules *In Vitro* by TIRF Microscopy

Nandini Mani^{*1,2}, Michelle F. Marchan^{*1}, Radhika Subramanian^{1,2}

¹Molecular Biology, Massachusetts General Hospital ²Department of Genetics, Harvard Medical School

*These authors contributed equally

Corresponding Author

Radhika Subramanian

radhika@molbio.mgh.harvard.edu

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Materials

Name	Company	Catalog Number	Comments
(±)-6-Hydroxy-2,5,7,8-tetramethylchromane-2-carboxylic acid (Trolox)	Sigma Aldrich	238813	
1,4-piperazinediethanesulfonic acid (PIPES)	Sigma Aldrich	P6757	
18x18 mm #1.5 coverslips	Electron Microscopy Sciences	63787	
2-Mercaptoethanol (BME)	Sigma Aldrich	M-6250	
24x60 mm #1.5 coverslips	Electron Microscopy Sciences	63793	
405/488/560/647 nm Laser Quad Band	Chroma	TRF89901-NK	
Acetone	Sigma Aldrich	320110	
Adenosine 5'-triphosphate disodium salt hydrate (ATP)	Sigma Aldrich	A7699-5G	
Avidin, NeutrAvidin® Biotin-binding Protein (Molecular Probes®)	Thermo Fischer Scientific	A2666	
Bath sonicator: Branson 2800 Cleaner	Branson	CPX2800H	
Beckman Coulter Polycarbonate Thickwall Tubes, 11 x 34 mm	Beckman-Coulter	343778	
Beckman Coulter Polycarbonate Thickwall Tubes, 8 x 34 mm	Beckman-Coulter	343776	
Biotin-PEG-SVA, MW 5,000	Laysan Bio	#Biotin-PEG-SVA-5000	
Bovine Serum Albumin (BSA)	Sigma Aldrich	2905	
Catalase	Sigma Aldrich	C40	
Corning LSE Mini Microcentrifuge, AC100-240V	Corning	6670	
Delicate Task Wipes	Kimtech	34120	
Dithiothreitol (DTT)	GoldBio	DTT10	

Emission filter	Chroma	ET610/75m	
Ethanol (200-proof)	Decon Labs	2705	
Ethylene glycol tetraacetic acid (EGTA)	Sigma Aldrich	3777	
Glucose Oxidase	Sigma Aldrich	G2133	
GMPCPP	Jena Bioscience	NU-405	
Guanosine 5'-triphosphate sodium salt hydrate (GTP)	Sigma Aldrich	G8877	
Hellmanex III detergent	Sigma Aldrich	Z805939	
Immersion oil, Type A	Fisher Scientific	77010	
Kappa-casein	Sigma Aldrich	C0406	
Lanolin	Fisher Scientific	S25376	
Lens Cleaning Tissue	ThorLabs	MC-5	
Magnesium Chloride (MgCl ₂)	Sigma Aldrich	M9272	
Methylcellulose	Sigma Aldrich	M0512	
Microfuge 16 Benchtop Centrifuge	Beckman-Coulter	A46474	
Microscope Slides, Diamond White Glass, 25 x 75mm, 90° Ground Edges, WHITE Frosted	Globe Scientific	1380-50W	
mPEG-Succinimidyl Valerate, MW 5,000	Laysan Bio	#NH2-PEG-VA-5K	
Optima™ Max-XP Tabletop Ultracentrifuge	Beckman-Coulter	393315	
Paraffin	Fisher Scientific	P31-500	
PELCO Reverse (self-closing), Fine Tweezers	Ted Pella	5377-NM	
Petrolatum, White	Fisher Scientific	18-605-050	
Plasma Cleaner, 115V	Harrick Plasma	PDC-001	
Potassium Hydroxide (KOH)	Sigma Aldrich	221473	
Sodium bicarbonate	Sigma Aldrich	S6014	
Sucrose	Sigma Aldrich	S7903	
Thermal-Lok 1-Position Dry Heat Bath	USA Scientific	2510-1101	
Thermal-Lok Block for 1.5 and 2.0 mL Tubes	USA Scientific	2520-0000	
Thermo Scientific™ Pierce™ Bond-Breaker™ TCEP Solution, Neutral pH; 500mM	Thermo Fischer Scientific	PI-77720	
TIRF 100X NA 1.49 Oil Objective	Nikon	CFI Apochromat TIRF 100XC Oil	
TIRF microscope	Nikon	Eclipse Ti	
TLA 120.1 rotor	Beckman-Coulter	362224	
TLA 120.2 rotor	Beckman-Coulter	357656	
Tubulin protein (>99% pure): porcine brain	Cytoskeleton	T240	
Tubulin Protein (Biotin): Porcine Brain	Cytoskeleton	T333P	
Tubulin protein (fluorescent HiLyte 647): porcine brain	Cytoskeleton	TL670M	
Tubulin protein (X-rhodamine): bovine brain	Cytoskeleton	TL620M	
VECTABOND® Reagent, Tissue Section Adhesion	Vector Biolabs	SP-1800-7	

VWR® Personal-Sized Incubator, 120V, 50/60Hz, 0.6A	VWR	97025-630	
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