

Materials List for:

# Three-dimensional Super Resolution Microscopy of F-actin Filaments by Interferometric PhotoActivated Localization Microscopy (iPALM)

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## Materials

Name	Company	Catalog Number	Comments
optical table	Newport, CA	RS4000	iPALM, installed on 4 Newport Stabilizer vibration isolators
vibration isolator for optical table	Newport, CA	S-2000	
laser-642	Newport, CA	1185055	output power=100 mw
laser-561	Newport, CA	1168931	output power=200 mw
laser-488	Newport, CA	1137970	output power=200 mw
laser-405	Newport, CA	1142279	output power=100 mw
broadband dielectric mirrors	Thorlabs, NJ	BB1-E02	laser combiner
dichroic beamsplitter	Semrock, NY	LM01-427-25	
acousto-optic tunable filter	AA Opto-Electronic, France	AOTFnc-VIS-TN	
Linear polarizer	Newport, CA	05LP-VIS-B	
baseplate	local workshop	customized	
turning mirror (22.5°)	Reynard Corporation, CA	customized	22.5° mirror
motorized optic mounts	New Focus, CA	8816	
motorized XYZ translation stage	Thorlabs, NJ	MT3/M-Z6	sample holder
T-Cube DC servo motor controller	Thorlabs, NJ	TDC001	
Piezo Phase Shifter	Physik Instrumente, Germany	S-303.CD	
objective lens	Nikon, Japan	MRD01691	objective. Apo TIRF 60X/1.49 oil
translation stage	New Focus, CA	9062-COM-M	
Pico Motor Actuator	New Focus, CA	8301	
rotary Solenoid/Shutter	DACO Instruments, CT	5423-458	
3-way beam splitter	Rocky Mountain Instruments, CO	customized	beamsplitter
Piezo Z/Tip/Tilt scanner	Physik Instrumente, Germany	S-316.10	
motorized five-axis tilt aligner	New Focus, CA	8081	
Picmotor ethernet controller	New Focus, CA	8752	
Piezo controllers/amplifier/digital operation module	Physik Instrumente, Germany	E-509/E-503/E-517	
band-pass filter	Semrock, NY	FF01-523/20	filters
band-pass filter	Semrock, NY	FF01-588/21	
band-pass filter	Semrock, NY	FF01-607/30	
band-pass filter	Semrock, NY	FF01-676/37	
notch filter	Semrock, NY	NF01-405/488/561/635	

motorized filter wheel with controller	Thorlabs, NJ	FW103H	
EMCCD	Andor, UK	DU-897U-CSO-#BV	3 sets
Desktop computers for controlling cameras and synchronization	Dell	Precision T3500	PC, 4 sets
coverslips with fiducial	Hestzig, VA	600-100AuF	sample preparation. fiducial marks with various density and spectra available
fibronectin	Millipore, MT	FC010	
paraformaldehyde	Electron Microscopy Sciences, PA	15710	fixation. 16%
glutaraldehyde	Electron Microscopy Sciences, PA	16220	25%
triton X-100	Sigma aldrich, MO	T8787	
HUVEC cells	Life Technologies, CA	C-015-10C	
Medium 200	Life Technologies, CA	M-200-500	
Large Vessel Endothelial Factors	Life Technologies, CA	A14608-01	
Dulbecco's Phosphate Buffered Saline		14190367	
Penicillin/Streptomycin		15140122	
Trypsin/EDTA	Life Technologies, CA	25200056	
PIPES	Sigma aldrich, MO	P1851	PHEM
HEPES	1st base, Malaysia	BIO-1825	
EGTA	Sigma aldrich, MO	E3889	
MgCl <sub>2</sub>	Millipore, MT	5985	
Alexa Fluor 647 Phalloidin	Invitrogen, CA	A22287	staining
sodium borohydride (NaBH <sub>4</sub> )	Sigma aldrich, MO	480886	quenching
glucose	1st base, Malaysia	BIO-1101	imaging buffer
glucose oxidase	Sigma aldrich, MO	G2133	
catalase	Sigma aldrich, MO	C9322	
cysteamine	Sigma aldrich, MO	30070	
Epoxy	Thorlabs, NJ	G14250	
vaseline	Sigma aldrich, MO	16415	sample sealing
lanolin	Sigma aldrich, MO	L7387	
parafin wax	Sigma aldrich, MO	327204	
Immersion oil	Electron Microscopy Sciences, PA	16915-04	imaging. Cargille Type HF