

Materials List for:

Label-Free Imaging of Single Proteins Secreted from Living Cells via iSCAT Microscopy

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Materials

Name	Company	Catalog Number	Comments
Item/Device			
100x / 1.46 NA objective	Zeiss	420792-9800-000	alpha Plan Apochromat oil immersion
20x / 0.4 NA objective	Leica	566049	N Plan
Piezo Stage	PI	P-517k020	3-axis stage with 100x100x10µm range
Diode laser (445 nm)	Lasertack	PD-01236	
Optics/Optomechanics	Thorlabs/Newport	-	lenses, mirrors, posts, mounts
Pinhole	Thorlabs	P30H	
LED light source	Thorlabs	MCWHL5	
Shortpass filter (580 nm)	Omega Optical	580SP	to modify the spectrum of the LED for fluorescence excitation
Longpass filter (500 nm)	Thorlabs	FEL0500	to modify the spectrum of the LED for fluorescence excitation
70R/30T beam splitter	Newport	20Q20BS.1	
Economy beam splitter	Thorlabs	EBS1	used for the comparison of fringe effects
Wedged plate beam splitter	Thorlabs	BSW26	used for the comparison of fringe effects
Shortpass dichroic mirror (550 nm)	Edmund Optics	66249	
8R/92T beam splitter	Thorlabs	BP108	
CMOS camera	Photonfocus	MV1-D1024E-160-CL	for iSCAT aquisition
CMOS cameras	Mightex	SCE-B013-U	for bright field / fluorescence aquisition
Longpass filter (600 nm)	Thorlabs	FELH0600	
Computer	Fujitsu Siemens	-	Core i7 Processor, 16 GB RAM, SSD
Acquisition Software	LabVIEW	-	LabVIEW 2016 Suite
Analysis Software	Matlab	-	Matlab 2014 Suite
Plasma Cleaner	Diener	Diener pico	
Incubator	Binder	Model CB	
Centrifuge	Eppendorf	5810R	
Reagent/Material			
RPMP 1640 medium	Gibco	11835063	without phenol red

HEPES Buffer Solution (1M)	Sigma Aldrich	59205C	
Cover slides	Marienfeld	107052	
Glass bottom culture dishes	ibidi	81158	
Fluorescent Microspheres	Invitrogen	F8821	used for calibration
Immersol immersion oil	Zeiss	444960	
Propidium iodide stain	Invitrogen	R37108	
Small pipette tips	Eppendorf	30075005	
Flexible pipette tips	Eppendorf	5242956003	
Ethanol, 99.8%	Fisher Scientific	E/0650DF/15	
Sodium hydroxide, pellets	Sigma Aldrich	221465	for preparing 0.2M NaOH solution