

Materials List for:

Multi-color Localization Microscopy of Single Membrane Proteins in Organelles of Live Mammalian Cells

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Materials

Name	Company	Catalog Number	Comments
(2-(4-(2-hydroxyethyl)-1-piperazinyl)-ethanesulfonic acid, 1 M) (HEPES)	Biochrom	#1104E	
DC1: Dichroid beam splitter	Chroma	640 dcxr	NC506031
DC2: Polychroic Mirror, beamsplitter	Chroma	zt405/488/561/640rpc	discontinued
Dulbecco's Phosphate-Buffered Saline (PBS) 1x (w/o Ca & Mg)	Sigma-Aldrich & Co.	#RNBF8311	
Earle's MEM without phenol red, without L-Glutamine and without NaHCO ₃ containing 1% FBS, 0.1% HEPES, 0.1% NEAA, 0.1% Alanine-L-Glutamine and 34.78% sodium hydrogen carbonate (NaHCO ₃ 0.75g/l)			Imaging medium
Earle's minimum essential medium (MEM) with phenol red, containing 1% Fetal Bovine Serum Superior (FBS), 0.1% HEPES (2-(4-(2-hydroxyethyl)-1-piperazinyl)-ethanesulfonic acid, 1 M), and 0.1% non-essential amino acids (NEAA)			Growth medium
EF: Emission filter quadbandpass	AHF analysentechnik	F72-866	Brightline HC 446 nm/523 nm/600 nm/677 nm
EMCCD camera	Andor	Andor iXON 897	EMCCD camera
Emission filter QuadView filter cubes, orange	AHF analysentechnik	F39-637	bandpass 582 - 619 nm
Emission filter QuadView filter cubes, red	Chroma		bandpass 655 - 725 nm (HQ 690/70)
FBS (Fetal bovine serum) superior	Biochrom	S0615	
Fluorescent beads: TetraSpeck™ Microspheres, 0.1 μm, fluorescent blue/green/orange/dark red	Thermo Fisher Scientific	T7279	fluorescent microspheres
Glutamine	Biochrom	#0951C	
HeLa cells	DSMZ	ACC-57	Cervical carcinoma cells from patient Henrietta Lacks
Hela cells Cl::paGFP, stable	Muster et al., PLOSOne 2010		
Hela cells CV g::Halo7-Tag, stable	Appelhans et al., NanoLett 2012		

Hela cells Tom20::Halo7-Tag, stable	Appelhans et al., NanoLett 2012		
Image splitter	Photometrics	Dual-View QV2	image splitter emission
Imaging processing software	ImageJ2 / Fiji	freeware	
Immersion Oil - Immersol TM 518 F (ne = 1.518, ve = 45)	Carl Zeiss Jena GmbH	444960-0000-000	
Inverted epifluorescence microscope	Olympus IX-71/73/83		
Laser 561 nm, 200 mW	CrystaLaser	CL-561-200	561 nm emission
Laser 642 nm, 140 mW	Omicron	Luxe-642-140	642 nm emission
MATLAB	MathWorks	version R2013a	
MEM with Earle's Balanced Salt Solution 2.2 g/L NaHCO ₃ , stable glutamine w/o PR	Biochrom	FG-0385	
MEM with Earle's Balanced Salt Solution with 2.2 g/L NaHCO ₃ , stable glutamine, Phenolred	Biochrom	FG-0325	
MitoTracker [®] Deep Red FM	Thermo Fisher Scientific	M22426	dye
MitoTracker [®] Green FM	Thermo Fisher Scientific	M7514	dye
Multi-mode-optical polarization maintaining monomode fiber	Pointsource/Qioptiq		KineFLEX
NHS-PEG-MAL, Rapp Polymer	Rapp Polymere GmbH Tübingen		coverslip coating
non-essential amino acids (NEAA)	Biochrom	#0802E	
PEG 800 (Polyethylene glycol) 10 %	Carl Roth GmbH	Art No. 0263.1	coverslip coating
Penicillin/Streptomycin	Biochrom	#0122E	
Plasmid for PINK1-Halo7-Tag expression	Beinlich et al., ACS Chemical Biology 2015		
Poly-L-lysine (1.2 mg/ml)	Sigma-Aldrich & Co.	Cat. No.P9155	coverslip coating
RGD Peptide (Ac-CGRGDS-COOH)	Coring System Diagnostix GmbH, Gernsheim		coverslip coating / Intergrin receptor motif
Silicon Rhodamine linked to HaloTag [®] -Ligand (SiRHTL)	personal gift from Kai Johnson		dye
Software analysis plugin	self-written C. P. Richter, Biophysik Osnabrück	SLIMFAST 16g	
Tetramethylrhodamine / SNAP-Cell [®] TMR-Star linked to SNAP-Ligand (TMRstar)	New England Biolab [®]	S9105S	dye
Tetramethylrhodamine linked to HaloTag [®] -Ligand (TMRHTL)	Promega	G8251	dye
TIRF condensor	Olympus	Cell [^] TIRF MITICO System	TIRF condensor
TIRF microscope controlling software	Olympus cellSens 1.12		
TIRF objective	Olympus	150x oil objective (N.A. 1.45; Olympus UAPO)	
Trypsin/EDTA 10x	Biochrom	#0266	
Water H ₂ O 99,5 % Rotipuran [®] Low organic	Carl Roth GmbH	Art. No. HN57.1	