

Materials List for:

Single-Molecule Tracking Microscopy - A Tool for Determining the Diffusive States of Cytosolic Molecules

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Materials

Name	Company	Catalog Number	Comments
2,6-diaminopimelic acid	Chem Impex International	5411	Necessary for growth of <i>Y. enterocolitica</i> cells used.
4f lenses	Thorlabs	AC508-080-A	f = 80mm, 2"
514 nm laser	Coherent	Genesis MX514 MTM	Use for fluorescence excitation
agarose	Invitrogen	16520100	Used to make gel pads to mount liquid bacterial sample on microscope.
ammonium chloride	Sigma Aldrich	A9434	M2G ingredient.
bandpass filter	Chroma	ET510/bp	Excitation pathway.
Brain Heart Infusion	Sigma Aldrich	53286	Growth media for <i>Y. enterocolitica</i> .
calcium chloride	Sigma Aldrich	223506	M2G ingredient.
camera	Imaging Source	DMK 23UP031	Camera for phase contrast imaging.
dielectric phase mask	Double Helix, LLC	N/A	Produces DHPSF signal.
disodium phosphate	Sigma Aldrich	795410	M2G ingredient.
ethylenediaminetetraacetic acid	Fisher Scientific	S311-100	Chelates Ca ²⁺ . Induces secretion in the T3SS.
flip mirror	Newport	8892-K	Allows for switching between fluorescence and phase contrast pathways.
fluospheres	Invitrogen	F8792	Fluorescent beads. 540/560 excitation and emission wavelengths. 40 nm diameter.
glass cover slip	VWR	16004-302	#1.5, 22mmx22mm
glucose	Chem Impex International	811	M2G ingredient.
immersion oil	Olympus	Z-81025	Placed on objective lens.
iron(II) sulfate	Sigma Aldrich	F0518	M2G ingredient.
long pass filter	Semrock	LP02-514RU-25	Emission pathway.
magnesium sulfate	Fisher Scientific	S25414A	M2G ingredient.
microscope platform	Mad City Labs	custom	Platform for inverted microscope.
nalidixic acid	Sigma Aldrich	N4382	<i>Y. enterocolitica</i> cells used are resistant to nalidixic acid.
objective lens	Olympus	1-U2B991	60X, 1.4 NA
Ozone cleaner	Novascan	PSD-UV4	Used to eliminate background fluorescence on glass cover slips.
potassium phosphate	Sigma Aldrich	795488	M2G ingredient.

Red LED	Thorlabs	M625L3	Illuminates sample for phase contrast imaging. 625nm.
sCMOS camera	Hamamatsu	ORCA-Flash 4.0 V2	Camera for fluorescence imaging.
short pass filter	Chroma	ET700SP-2P8	Emission pathway.
Tube lens	Thorlabs	AC508-180-A	f=180 mm, 2"
<i>Yersinia enterocolitica</i> dHOPEMTasd	N/A	N/A	Strain AD4442, eYFP-YscQ
zero-order quarter-wave plate	Thorlabs	WPQ05M-514	Excitation pathway.