

Materials List for:

# A Label-free Technique for the Spatio-temporal Imaging of Single Cell Secretions

Deepa Raghu<sup>1</sup>, Joseph A. Christodoulides<sup>1</sup>, James B. Delehanty<sup>2</sup>, Jeff M. Byers<sup>1</sup>, Marc P. Raphael<sup>1</sup>

<sup>1</sup>Materials Science and Technology, Naval Research Laboratory

<sup>2</sup>Center for Bio/Molecular Science and Engineering, Naval Research Laboratory

Correspondence to: Marc P. Raphael at [marc.raaphael@nrl.navy.mil](mailto:marc.raaphael@nrl.navy.mil)

URL: <https://www.jove.com/video/53120>

DOI: [doi:10.3791/53120](https://doi.org/10.3791/53120)

## Materials

Name	Company	Catalog Number	Comments
25 mm diameter glass coverslips	Bioscience Tools	CSHP-No1.5-25	170±5 µm is optimal
Poly-methyl methacrylate	Microchem	PMMA 950 A4	
Ethyl lactate methyl metacrylate	Microchem	MMA EL6	
Electron beam evaporator	Temescal	FC-2000	
Electron beam lithography	Raith	Series 150	
Ethanol	Sigma-Aldrich	459836	
Acetone	Sigma-Aldrich	320110	
CR-7 chromium etchant	Cyantek	CR-7	
Scanning electron microscope	Zeiss	Ultra 55	
Atomic force microscope	Veeco	Nanoscope III	
Plasma ashing system	Technics	Series 85 RIE	
SH-(CH <sub>2</sub> ) <sub>8</sub> -EG <sub>3</sub> -OH (SPO)	Prochimia	TH 001-m8.n3-0.2	
SH-(CH <sub>2</sub> ) <sub>11</sub> -EG <sub>3</sub> -COOH (SPC)	Prochimia	TH 003m11n3-0.1	
SH-(CH <sub>2</sub> ) <sub>11</sub> -EG <sub>3</sub> -NH <sub>2</sub> (SPN)	Prochimia	TH 002-m11.n3-0.2	
Surface plasmon resonance system	Biorad	XPR36	
Bare gold chip	Biorad	GLC chip	Plasma ashed to remove the monolayer
1-Ethyl-3-(3-dimethylaminopropyl) carbodiimide	Thermo	22980	
N-hydroxysuccinimide (NHS)	Thermo	24510	
Pentylamine-Biotin	Thermo	21345	
Ethanolamine	Sigma-Aldrich	E9508	
Neutraavidin	Thermo	31000	
Phosphate buffered saline	Thermo	28374	
Tween 20	Sigma-Aldrich	P2287	
Inverted microscope	Zeiss	Axio Observer	Microscope is equipped with 40X oil immersion objective; CO <sub>2</sub> and humidity incubation from Pecon GmbH
CCD camera	Hamamatsu	Orca R2	Thermoelectrically cooled (16 bit)
Spectrometer	Ocean Optics	QE65Pro	
Spectrasuite	Ocean Optics	version1.4	
c-myc peptide HyNic Tag	Solulink	SP-E003	
monoclonal anti-c-myc antibody	Sigma-Aldrich	M4439	

Hybridoma cell line	ATCC	CRL-1729	
Antibiotic Antimycotic Solution (100×)	Sigma-Aldrich	A5955	
Serum free media RPMI 1640	Invitrogen	11835-030	
Fetal bovine serum	ATCC	30-2020	
Rhodamine DHPE	Life Technologies	L-1392	