

Materials List for:

Fluorescence Imaging with One-nanometer Accuracy (FIONA)

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Materials

Name	Company	Catalog Number	Comments
Double-sided tape	3M		~75 µm thick
EMCCD camera	Andor Technology	DU-897E-CS0-#BV	
Ultrasonic cleaner	Branson	2510	
Fluorescence filter set	Chroma	49016	
Actin polymerization buffer	Cytoskeleton	BSA02	
Biotin G-actin	Cytoskeleton	AB07	
G-actin	Cytoskeleton	AKL95	
General actin buffer	Cytoskeleton	BSA01	
Laser shutter (with driver)	Electro-Optical Products Corp.	SH-10-MP	
IDL	Exelis Visual Information Solutions		
Neutravidin	Fisher Scientific	PI-31000	
Coverslip	Fisherbrand	22X30-1.5	0.16-0.19 mm thick
Microscope slide	Gold Seal Microslides	30103X1	0.93-1.05 mm thick
Plasma cleaner	Harrick Plasma	PDC-001	
Glass bottom dish	In Vitro Scientific	D35-20-1.5-N	
Cy3-DNA oligos	Integrated DNA Technologies		5'-Cy3/ GCCTCGCTGCCGTCGCCA-3'Bio
Fluorescent beads	Invitrogen	T-7280	
Qdot 605-streptavidin	Invitrogen	Q10101MP	
Qdot605	Invitrogen	Q21301MP	
Qdot705	Invitrogen	Q22021MP	
Qdot705 Antibody Conjugation Kit	Invitrogen	Q22061MP	
MATLAB	MathWorks		
Optical table	Newport Corp		RS4000 Series
60X Objective	Nikon	Plan Apo VC 60x WI	
100X Objective	Olympus	PlanApo 100X/1.45 Oil ∞/0.17	
60X Objective	Olympus	UPlanApo 60X/1.20W	
Inverted microscope	Olympus	IX71/IX70/IX81	
Origin	OriginLab		
Anti-FLAG antibody	Sigma Aldrich	F7425-.2MG	
ATP	Sigma Aldrich	A7699	
BME	Sigma Aldrich	63689-25ML-F	
BSA	Sigma Aldrich	A7906	

BSA-biotin	Sigma Aldrich	A8549-10MG	
CK	Sigma Aldrich	C3755	Creatine Phosphokinase from rabbit muscle
CP	Sigma Aldrich	P1937	Phosphocreatine di(tris) salt
DTT	Sigma Aldrich	43815	DL-Dithiothreitol
EGTA	Sigma Aldrich	E3889	Ethylene glycol-bis(2-aminoethylether)- <i>N,N,N',N'</i> -tetraacetic acid
HCl	Sigma Aldrich	93363-500G	
HEPES	Sigma Aldrich	H0887	
KCl	Sigma Aldrich	P9333	
MgCl ₂	Sigma Aldrich	M1028	
NaCl	Sigma Aldrich	S7653	
PCA	Sigma Aldrich	03930590	Protocatechuic acid
PCD	Sigma Aldrich	P8279	Protocatechuate-3,4-dioxygenase
TMOS	Sigma Aldrich	341436-25G	Tetramethyl orthosilicate
Tris-HCl	Sigma Aldrich	93363	
Trolox	Sigma Aldrich	238813	6-hydroxy-2,5,7,8-tetramethylchromane-2-carboxylic acid
1" diameter broadband dielectric mirrors with mounts	Thorlabs	BB1-E02, KM100	Quantity: 2
½" diameter posts	Thorlabs	TR4	Quantity ≥ 6
10X beam expander	Thorlabs	BE10M-A	
2" diameter f = 300 mm lens with mount	Thorlabs	LA1256-A, LMR2	TIR lens
Fluorescent alignment target	Thorlabs	VRC2SM1	
Laser safety goggles	Thorlabs	LG3	
ND filter(s)	Thorlabs	FW1AND	
Optical beam profiler	Thorlabs	BP209-VIS	
Post-mounted iris diaphragm	Thorlabs	ID25	Quantity: 2
Shearing interferometer	Thorlabs	SI100	
XYZ translation stage, ½" travel	Thorlabs	T12XYZ	
Laser	World Star Technologies	TECGL-30	532 nm, 30 mW