

# Dissecting Mechanoenzymatic Properties of Processive Myosins with Ultrafast Force-Clamp Spectroscopy

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## Materials

Name	Company	Catalog Number	Comments
Aliphatic Amine Latex Beads	ThermoFisher	A37362	1.0- $\mu$ m diameter, 2% (w/v)
Acetone	Sigma	32201	
Actin polymerization buffer	Cytoskeleton	BSA02	10X
AODs (acousto-optic deflectors)	AA Opto Electronic	DTS-XY 250	Laser beam deflectors
ATP	Sigma	A7699	
Biotinylated-BSA	ThermoFisher	29130	
BSA	Sigma	B4287	
Calmodulin from porcine brain (CaM)	Merck Millipore	208783	
Catalase from bovine liver	Sigma	C40	
Condenser	Olympus	OlympusU-AAC, Aplanat, Achromat	NA 1.4, oil immersion
Creatine phosphate disodium salt tetrahydrate	Sigma	27920	
Creatine Phosphokinase from rabbit muscle	Sigma	C3755	
DDs	AA Opto Electronic	AA.DDS.XX	Two-channel digital synthesizer
DL-Dithiothreitol (DTT)/td>	Sigma	43819	
EGTA	Sigma	E4378	
G-actin protein	Cytoskeleton	AKL99	
Glucose	Sigma	G7528	
Glucose Oxidase from Aspergillus niger	Sigma	G7141	
HaloTag succinimidyl ester O2 ligand	Promega	P1691	
High vacuum silicone grease heavy	Merck Millipore	107921	
KCl	Sigma	P9541	
KH <sub>2</sub> PO <sub>4</sub> /K <sub>2</sub> HPO <sub>4</sub>	Sigma	P5379/ P8281	
Labview	National Instruments	version 8.1	Data acquisition
Labview FPGA module	National Instruments	version 8.1	Fast Force-Clamp
Matlab	MathWorks	2016	Data analysis

MgCl <sub>2</sub>	Fluka	63020	
Microscope Objective	Nikon	Plan-Apo 60X	NA 1.2, WD 0.2 mm, water imm.
MOPS	Sigma	M1254	
Nitrocellulose	Sigma	N8267	0.45 pore size
Pentyl acetate solution	Sigma	46022	
Pure Ethanol	Sigma	2860	
QPDs	UDT	DLS-20	D Position Detecto
Rhodamine BSA	Molecular Probes	A23016	
Rhodamine Phalloidin	Sigma	P1951	
Silica beads	Bangslabs	SS04N	1.21 mm, 10% solids
Sodium azide	Sigma	S2002	
Streptavidin protein	Sigma	189730	