

Materials List for:

# Direct Observation of Enzymes Replicating DNA Using a Single-molecule DNA Stretching Assay

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URL: <https://www.jove.com/video/1689>

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## Materials

Name	Company	Catalog Number	Comments
Bacteriophage λ DNA	New England Biolabs	N3011L	
DNA Oligonucleotides	Integrated DNA Technologies		
T4 DNA Ligase	New England Biolabs	M0202L	
T4 Polynucleotide Kinase	New England Biolabs	M0201L	
α-digoxigenin Fab	Roche Group	11214667001	
Tosyl Activated Beads	Invitrogen	142-03	
Magnetic Separator	Invitrogen	Dynal MPC	
3-aminopropyl-triethoxysilane	Sigma-Aldrich	A3648	Other aminosilanes can be used or mixed with non-amine reactive silanes for sparser surfaces
Succinimidyl propionate PEG	Nektar		Similar PEGs can be purchased from Nanocs, CreativePEGWorks, etc.
Biotin-PEG-NHS	Nektar		Similar PEGs can be purchased from Nanocs, CreativePEGWorks, etc.
Double-sided tape	Grace Bio-Lab Inc.	SA-S-1L	100 μm thickness
Quartz slide	Technical Glass	20 mm (W)x 50 mm (L)x 1mm (H)	Size to fit on coverslips. Drill holes with diamond-tip drill bits (DiamondBurs.net)
Polyethylene tubing	BD Biosciences	427416	0.76 mm ID, 1.22 OD Other size tubing can be substituted.
Streptavidin	Sigma-Aldrich	S4762	Make 1 mg/mL solution, 25 μL aliquots in PBS pH 7.3
Deoxyribonucleotide triphosphate solution mix	New England Biolabs	N0447	
Inverted Optical Microscope with 10X Objective	Olympus Corporation	Olympus IX-51	
Permanent rare-earth magnet	National Imports	<a href="http://www.rare-earth-magnets.com">www.rare-earth-magnets.com</a>	
CCD Camera	QImaging	Rolera-XR Fast 139	
Syringe Pump	Harvard Apparatus	11 Plus	Operate in refill mode to facilitate solution changes
Fiber Illuminator	Thorlabs Inc.	OSL1	