

Materials List for:

Atomic Force Microscopy Investigations of DNA Lesion Recognition in Nucleotide Excision Repair

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URL: <https://www.jove.com/video/55501>

DOI: [doi:10.3791/55501](https://doi.org/10.3791/55501)

Materials

Name	Company	Catalog Number	Comments
Molecular Force Probe (MFP) 3D	Asylum Research	N/A	atomic force microscope (AFM)
Precision 390	DELL	N/A	computer
ThermoMixer and 1.5 mL block	Eppendorf	5382000015	heat block for DNA preparation
Rotilabo Block-Heater H 250 & blocks for 0.5 mL tubes	Carl Roth GmbH	Y264.1 & Y267.1	heat block for protein-DNA incubations
Mini-Sub Cell GT	Bio-Rad Laboratories GmbH	1704467	electrophoresis chamber with gel caster and power supply
Power Pac Basic	Bio-Rad Laboratories GmbH	1645050	electrophoresis power supply
Centifuge 5415 D with rotor	Eppendorf	2262120-3	table centrifuge
Ultra-Lum electronic UV transilluminator MEB-15	Ultralum	900-1322-02	UV irradiation table
NanoDrop ND-1000	VWR International / PEQLAB Biotechnologie GmbH	N/A	UV spectrophotometer
TKAX-CAD with 0.2 µm capsule filter	Unity Lab Services	N/A	water deionization and filter unit
Name	Company	Catalog number	Comments
Software			
MFP software on Igor Pro	Asylum Research	N/A	AFM software
ImageJ (open source Java image processing)	NIH Image	N/A	Image analysis software
Excel (Microsoft Office)	Microsoft Corporation	N/A	data analysis software
Origin9 / Origin2016	OriginLab Corporation	N/A	statistical data analysis and graphing software
Name	Company	Catalog number	Comments
Material			
OMCL-AC240TS	Olympus	OMCL-AC240TS	AFM cantilevers
grade V-5 muscovite	SPI Supplies	1805	mica sheets
Amicon Ultra 0.5 mL 50k Ultracell	Millipore Ireland Ltd.	UFC505096	centrifuge filters
NucleoSpin Extract II	Macherey-Nagel GmbH	740 609.250	Agarose gel extraction kit
Rotilabo cellulose paper type 111A	Carl Roth GmbH	AP59.1	AFM deposition blotting paper
Anatop 25 (0.02 µm)	Whatman GmbH	6809-2102	syringe filter
SSpl, BspQI	New England Biolabs (NEB)	R0132, R0712	restriction enzymes for DNA substrate preparation
XhoI, BglII		R0146, R0144	restriction enzymes for DNA preparation controls

nicking restriction enzyme Nt.BstNBI	New England Biolabs (NEB)	R0607	nickase
T4 DNA ligase	New England Biolabs (NEB)	M0202S	Ligase
Tris, HEPES	Carl Roth GmbH	4855, 9105	buffer chemicals
NaCl, MgCl ₂ , KCl, MgAcetate	Carl Roth GmbH	3957, HN03, HN02, P026	salt chemicals
NaAc	Sigma-Aldrich Chemie GmbH	32318	salt chemicals
DTT, TCEP, EDTA		6908, HN95, 8040	chemicals/reagents
agarose, acetic acid, HCl	Carl Roth GmbH	2267, 3738, K025	reagents
ATP	Carl Roth GmbH	K054	nucleotides
oligonucleotide #1 in Table 1	Biomers	custom	complementary DNA oligonucleotide
oligonucleotides #2, #3, and #6 in Table 1	Integrated DNA Technologies (IDT)	custom	fluorescein containing oligonucleotides
oligonucleotides #4 and #5 in Table 1	private (available from e.g. TriLink or GlenResearch)		CPD containing oligonucleotides
SafeSeal reaction tube 0.5 mL and 1.5 mL	Sarstedt	72.704 and 72.706	incubation tubes
GeneRuler 1 kb	Thermo Scientific	SM0311	DNA ladder
6x concentrate gel loading dye purple	New England Biolabs (NEB)	51406	DNA loading dye
Midori Green	Nippon Genetics Europe GmbH	999MG28055	DNA stain