

Mark Dillingham

List of Publications by Year in descending order

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84
papers

6,138
citations

109321

35
h-index

85541

71
g-index

105
all docs

105
docs citations

105
times ranked

4046
citing authors

#	ARTICLE	IF	CITATIONS
1	Structure and Mechanism of Helicases and Nucleic Acid Translocases. Annual Review of Biochemistry, 2007, 76, 23-50.	11.1	1,098
2	Crystal Structures of Complexes of PcrA DNA Helicase with a DNA Substrate Indicate an Inchworm Mechanism. Cell, 1999, 97, 75-84.	28.9	756
3	RecBCD Enzyme and the Repair of Double-Stranded DNA Breaks. Microbiology and Molecular Biology Reviews, 2008, 72, 642-671.	6.6	479
4	Crystal structure of RecBCD enzyme reveals a machine for processing DNA breaks. Nature, 2004, 432, 187-193.	27.8	383
5	Demonstration of Unidirectional Single-Stranded DNA Translocation by PcrA Helicase: Measurement of Step Size and Translocation Speed. Biochemistry, 2000, 39, 205-212.	2.5	222
6	RecBCD enzyme is a bipolar DNA helicase. Nature, 2003, 423, 893-897.	27.8	196
7	A Molecular Throttle. Cell, 2003, 114, 647-654.	28.9	176
8	Rep Provides a Second Motor at the Replisome to Promote Duplication of Protein-Bound DNA. Molecular Cell, 2009, 36, 654-666.	9.7	158
9	Uncoupling DNA translocation and helicase activity in PcrA: direct evidence for an active mechanism. EMBO Journal, 2000, 19, 3799-3810.	7.8	141
10	Iron-sulphur clusters in nucleic acid processing enzymes. Current Opinion in Structural Biology, 2012, 22, 94-100.	5.7	126
11	DNA binding mediates conformational changes and metal ion coordination in the active site of PcrA helicase 1 Edited by A. R. Fersht. Journal of Molecular Biology, 1999, 290, 137-148.	4.2	110
12	Direct Measurement of Single-Stranded DNA Translocation by PcrA Helicase Using the Fluorescent Base Analogue 2-Aminopurine. Biochemistry, 2002, 41, 643-651.	2.5	105
13	Defining the roles of individual residues in the single-stranded DNA binding site of PcrA helicase. Proceedings of the National Academy of Sciences of the United States of America, 2001, 98, 8381-8387.	7.1	95
14	An Iron-Sulfur Cluster Is Essential for the Binding of Broken DNA by AddAB-type Helicase-Nucleases. Journal of Biological Chemistry, 2009, 284, 7746-7755.	3.4	92
15	Site-directed mutagenesis of motif III in PcrA helicase reveals a role in coupling ATP hydrolysis to strand separation. Nucleic Acids Research, 1999, 27, 3310-3317.	14.5	89
16	The conflict between DNA replication and transcription. Molecular Microbiology, 2012, 85, 12-20.	2.5	82
17	The processing of double-stranded DNA breaks for recombinational repair by helicase-nuclease complexes. DNA Repair, 2010, 9, 276-285.	2.8	79
18	Plasmid replication initiator protein RepD increases the processivity of PcrA DNA helicase. Nucleic Acids Research, 1999, 27, 1421-1428.	14.5	70

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19	Specific and non-specific interactions of ParB with DNA: implications for chromosome segregation. <i>Nucleic Acids Research</i> , 2015, 43, 719-731.	14.5	68
20	A Dual-nuclease Mechanism for DNA Break Processing by AddAB-type Helicase-nucleases. <i>Journal of Molecular Biology</i> , 2007, 371, 66-78.	4.2	64
21	The structural basis for dynamic DNA binding and bridging interactions which condense the bacterial centromere. <i>ELife</i> , 2017, 6, .	6.0	64
22	Fluorescent Single-Stranded DNA Binding Protein as a Probe for Sensitive, Real-Time Assays of Helicase Activity. <i>Biophysical Journal</i> , 2008, 95, 3330-3339.	0.5	63
23	Superfamily I helicases as modular components of DNA-processing machines. <i>Biochemical Society Transactions</i> , 2011, 39, 413-423.	3.4	59
24	Visualizing helicases unwinding DNA at the single molecule level. <i>Nucleic Acids Research</i> , 2010, 38, 4448-4457.	14.5	58
25	The unstructured C-terminal extension of UvrD interacts with UvrB, but is dispensable for nucleotide excision repair. <i>DNA Repair</i> , 2009, 8, 1300-1310.	2.8	56
26	Insights into Chi recognition from the structure of an AddAB-type helicase-nuclease complex. <i>EMBO Journal</i> , 2012, 31, 1568-1578.	7.8	56
27	Molecular determinants responsible for recognition of the single-stranded DNA regulatory sequence, χ , by RecBCD enzyme. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 8901-8906.	7.1	52
28	Structural basis for the inhibition of RecBCD by Gam and its synergistic antibacterial effect with quinolones. <i>ELife</i> , 2016, 5, .	6.0	50
29	The Conserved C-Terminus of the PcrA/UvrD Helicase Interacts Directly with RNA Polymerase. <i>PLoS ONE</i> , 2013, 8, e78141.	2.5	48
30	Directional Loading and Stimulation of PcrA Helicase by the Replication Initiator Protein RepD. <i>Journal of Molecular Biology</i> , 2007, 371, 336-348.	4.2	47
31	AFM volumetric methods for the characterization of proteins and nucleic acids. <i>Methods</i> , 2013, 60, 113-121.	3.8	47
32	Bipolar DNA Translocation Contributes to Highly Processive DNA Unwinding by RecBCD Enzyme. <i>Journal of Biological Chemistry</i> , 2005, 280, 37069-37077.	3.4	44
33	Structural basis for translocation by AddAB helicase-nuclease and its arrest at χ sites. <i>Nature</i> , 2014, 508, 416-419.	27.8	43
34	Direct removal of RNA polymerase barriers to replication by accessory replicative helicases. <i>Nucleic Acids Research</i> , 2019, 47, 5100-5113.	14.5	41
35	Translocation by the RecB Motor Is an Absolute Requirement for χ -Recognition and RecA Protein Loading by RecBCD Enzyme. <i>Journal of Biological Chemistry</i> , 2005, 280, 37078-37087.	3.4	40
36	The AddAB Helicase/Nuclease Forms a Stable Complex with Its Cognate χ Sequence During Translocation. <i>Journal of Biological Chemistry</i> , 2006, 281, 18610-18617.	3.4	40

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37	A New Method for Inferring Hidden Markov Models from Noisy Time Sequences. PLoS ONE, 2012, 7, e29703.	2.5	40
38	Monomeric PcrA helicase processively unwinds plasmid lengths of DNA in the presence of the initiator protein RepD. Nucleic Acids Research, 2013, 41, 5010-5023.	14.5	40
39	The AddAB helicaseâ€“nuclease catalyses rapid and processive DNA unwinding using a single Superfamily 1A motor domain. Nucleic Acids Research, 2011, 39, 2271-2285.	14.5	39
40	Using DNA as a Fiducial Marker To Study SMC Complex Interactions with the Atomic Force Microscope. Biophysical Journal, 2012, 102, 839-848.	0.5	37
41	Recombination Hotspots and Single-Stranded DNA Binding Proteins Couple DNA Translocation to DNA Unwinding by the AddAB Helicase-Nuclease. Molecular Cell, 2011, 42, 806-816.	9.7	36
42	On the mechanism of recombination hotspot scanning during double-stranded DNA break resection. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, E2562-71.	7.1	34
43	Superfamily 1 helicases. Frontiers in Bioscience - Scholar, 2013, S5, 206-216.	2.1	34
44	CTP promotes efficient ParB-dependent DNA condensation by facilitating one-dimensional diffusion from parS. ELife, 2021, 10, .	6.0	32
45	The structure and function of an RNA polymerase interaction domain in the PcrA/UvrD helicase. Nucleic Acids Research, 2017, 45, 3875-3887.	14.5	31
46	Repercussions of DNA tracking by the type IC restriction endonuclease EcoR124I on linear, circular and catenated substrates. EMBO Journal, 1996, 15, 6335-47.	7.8	30
47	Alteration of Î± recognition by RecBCD reveals a regulated molecular latch and suggests a channel-bypass mechanism for biological control. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 8907-8912.	7.1	27
48	Force determination in lateral magnetic tweezers combined with TIRF microscopy. Nanoscale, 2018, 10, 4579-4590.	5.6	27
49	Refined measurement of SecA-driven protein secretion reveals that translocation is indirectly coupled to ATP turnover. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 31808-31816.	7.1	27
50	CtIP forms a tetrameric dumbbell-shaped particle which bridges complex DNA end structures for double-strand break repair. ELife, 2019, 8, .	6.0	23
51	Escherichia coli ribosomal protein L3 stimulates the helicase activity of the Bacillus stearothermophilus PcrA helicase. Nucleic Acids Research, 1998, 26, 2374-2379.	14.5	22
52	The 2B subdomain of Rep helicase links translocation along DNA with protein displacement. Nucleic Acids Research, 2018, 46, 8917-8925.	14.5	22
53	ParB dynamics and the critical role of the CTD in DNA condensation unveiled by combined force-fluorescence measurements. ELife, 2019, 8, .	6.0	22
54	Probing DNA Helicase Kinetics with Temperatureâ€“Controlled Magnetic Tweezers. Small, 2015, 11, 1273-1284.	10.0	21

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55	A Step Backward in Advancing DNA Replication. <i>Molecular Cell</i> , 2001, 8, 734-736.	9.7	20
56	Analysis of the PcrA-RNA polymerase complex reveals a helicase interaction motif and a role for PcrA/UvrD helicase in the suppression of R-loops. <i>ELife</i> , 2021, 10, .	6.0	18
57	Protein modification for single molecule fluorescence microscopy. <i>Organic and Biomolecular Chemistry</i> , 2008, 6, 3031.	2.8	16
58	Human HELB is a processive motor protein that catalyzes RPA clearance from single-stranded DNA. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, e2112376119.	7.1	16
59	Towards a molecular mechanism underlying mitochondrial protein import through the TOM and TIM23 complexes. <i>ELife</i> , 0, 11, .	6.0	15
60	Highly efficient CRISPR-mediated large DNA docking and multiplexed prime editing using a single baculovirus. <i>Nucleic Acids Research</i> , 2022, 50, 7783-7799.	14.5	15
61	A Single-Molecule Approach to Visualize the Unwinding Activity of DNA Helicases. <i>Methods in Molecular Biology</i> , 2011, 778, 193-214.	0.9	12
62	Inhibiting translation elongation can aid genome duplication in <i>Escherichia coli</i> . <i>Nucleic Acids Research</i> , 2017, 45, 2571-2584.	14.5	12
63	Single molecule approaches to monitor the recognition and resection of double-stranded DNA breaks during homologous recombination. <i>DNA Repair</i> , 2014, 20, 119-129.	2.8	11
64	The molecular basis of protein toxin HicA-dependent binding of the protein antitoxin HicB to DNA. <i>Journal of Biological Chemistry</i> , 2018, 293, 19429-19440.	3.4	10
65	Recombination hotspots attenuate the coupled ATPase and translocase activities of an AddAB-type helicase-nuclease. <i>Nucleic Acids Research</i> , 2014, 42, 5633-5643.	14.5	8
66	A stapled peptide mimetic of the CtIP tetramerization motif interferes with double-strand break repair and replication fork protection. <i>Science Advances</i> , 2021, 7, .	10.3	8
67	Engineering a reagentless biosensor for single-stranded DNA to measure real-time helicase activity in <i>Bacillus</i> . <i>Biosensors and Bioelectronics</i> , 2014, 61, 579-586.	10.1	6
68	Chi hotspots trigger a conformational change in the helicase-like domain of AddAB to activate homologous recombination. <i>Nucleic Acids Research</i> , 2016, 44, 2727-2741.	14.5	6
69	Bulk and single-molecule analysis of a bacterial DNA2-like helicase-nuclease reveals a single-stranded DNA looping motor. <i>Nucleic Acids Research</i> , 2020, 48, 7991-8005.	14.5	5
70	Targeted control of pneumolysin production by a mobile genetic element in <i>Streptococcus pneumoniae</i> . <i>Microbial Genomics</i> , 2022, 8, .	2.0	5
71	How to Build a DNA Unwinding Machine. <i>Structure</i> , 2012, 20, 1127-1128.	3.3	3
72	Replicative Helicases: A Staircase with a Twist. <i>Current Biology</i> , 2006, 16, R844-R847.	3.9	2

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73	Crystal structure of RecBCD : a machine for processing DNA breaks. , 0, 2005, .		1
74	Long DNA constructs to study helicases and nucleic acid translocases using optical tweezers. Methods in Enzymology, 2022, , .	1.0	1
75	Probing DNA Unwinding By Single Helicases. Biophysical Journal, 2009, 96, 414a.	0.5	0
76	Atomic Force Microscopy Shows that Chi Sequences and SSB Proteins Prevent DNA Reannealing Behind the Translocating AddAB Helicase-Nuclease. Biophysical Journal, 2010, 98, 65a.	0.5	0
77	Activation of a Helicase Motor Upon Encounter With a Specific Sequence in the DNA Track. Biophysical Journal, 2010, 98, 66a.	0.5	0
78	Recombination Hotspots and SSB Proteins Couple Translocation and Unwinding Activities of the AddAb Helicase-Nuclease. Biophysical Journal, 2011, 100, 239a.	0.5	0
79	Modulation of the Translocation Properties of a Model Helicase by DNA Damage and Sequence Content within the Track. Biophysical Journal, 2012, 102, 611a.	0.5	0
80	DNA Scanning Mechanism of a Translocating Motor Protein. Biophysical Journal, 2013, 104, 540a-541a.	0.5	0
81	Condensation of DNA Mediated by the Bacterial Centromere Binding Protein Spo0J/ParB. Biophysical Journal, 2014, 106, 429a.	0.5	0
82	Interactions Between the SMC-Complex, Spo0J and DNA. Biophysical Journal, 2014, 106, 73a-74a.	0.5	0
83	Probing the Kinetics of a Model Helicase-Nuclease with a Temperature-Controlled Magnetic Tweezers. Biophysical Journal, 2014, 106, 393a-394a.	0.5	0
84	The Conformational Landscape of SMC: A FRET Study. Biophysical Journal, 2018, 114, 209a.	0.5	0