Deborah L Croteau

List of Publications by Year
in descending order

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128 papers	12,551 citations	34105 52 h-index	27406 106 g-index
132 all docs	132 docs citations	132 times ranked	13727 citing authors

#	Article	IF	Citations
1	Ageing as a risk factor for neurodegenerative disease. Nature Reviews Neurology, 2019, 15, 565-581.	10.1	1,578
2	Mitophagy inhibits amyloid-Î² and tau pathology and reverses cognitive deficits in models of Alzheimerâ€™s disease. Nature Neuroscience, 2019, 22, 401-412.	14.8	1,008
3	Defective Mitophagy in XPA via PARP-1 Hyperactivation and NAD+/SIRT1 Reduction. Cell, 2014, 157, 882-896.	28.9	554
4	Human RecQ Helicases in DNA Repair, Recombination, and Replication. Annual Review of Biochemistry, 2014, 83, 519-552.	11.1	461
5	Repair of Oxidative Damage to Nuclear and Mitochondrial DNA in Mammalian Cells. Journal of Biological Chemistry, 1997, 272, 25409-25412.	3.4	427
6	NAD + Replenishment Improves Lifespan and Healthspan in Ataxia Telangiectasia Models via Mitophagy and DNA Repair. Cell Metabolism, 2016, 24, 566-581.	16.2	420
7	NAD + in Aging: Molecular Mechanisms and Translational Implications. Trends in Molecular Medicine, 2017, 23, 899-916.	6.7	333
8	NAD ⁺ supplementation normalizes key Alzheimerâ€™s features and DNA damage responses in a new AD mouse model with introduced DNA repair deficiency. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E1876-E1885.	7.1	316
9	A High-Fat Diet and NAD + Activate Sirt1 to Rescue Premature Aging in Cockayne Syndrome. Cell Metabolism, 2014, 20, 840-855.	16.2	306
10	Prokaryotic Nucleotide Excision Repair:â€‰ The UvrABC System. Chemical Reviews, 2006, 106, 233-252.	47.7	294
11	Nuclear DNA damage signalling to mitochondria in ageing. Nature Reviews Molecular Cell Biology, 2016, 17, 308-321.	37.0	294
12	DNA Damage, DNA Repair, Aging, and Neurodegeneration. Cold Spring Harbor Perspectives in Medicine, 2015, 5, a025130.	6.2	285
13	Protecting the mitochondrial powerhouse. Trends in Cell Biology, 2015, 25, 158-170.	7.9	260
14	Mitochondrial DNA repair pathways. Mutation Research DNA Repair, 1999, 434, 137-148.	3.7	200
15	Crystal Structure of the FeS Clusterâ€“Containing Nucleotide Excision Repair Helicase XPD. PLoS Biology, 2008, 6, e149.	5.6	195
16	Cockayne syndrome: Clinical features, model systems and pathways. Ageing Research Reviews, 2017, 33, 3-17.	10.9	184
17	Cockayne syndrome group B protein prevents the accumulation of damaged mitochondria by promoting mitochondrial autophagy. Journal of Experimental Medicine, 2012, 209, 855-869.	8.5	177
18	NAD ⁺ supplementation reduces neuroinflammation and cell senescence in a transgenic mouse model of Alzheimerâ€™s disease via cGASâ€“STING. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	176

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19	NAD+ augmentation restores mitophagy and limits accelerated aging in Werner syndrome. Nature Communications, 2019, 10, 5284.	12.8	165
20	An Oxidative Damage-specific Endonuclease from Rat Liver Mitochondria. Journal of Biological Chemistry, 1997, 272, 27338-27344.	3.4	143
21	The role of DNA repair in brain related disease pathology. DNA Repair, 2013, 12, 578-587.	2.8	127
22	â€˜Close-fitting sleevesâ€™: DNA damage recognition by the UvrABC nuclease system. Mutation Research - Fundamental and Molecular Mechanisms of Mutagenesis, 2005, 577, 92-117.	1.0	125
23	The mitochondrial transcription factor A functions in mitochondrial base excision repair. DNA Repair, 2010, 9, 1080-1089.	2.8	120
24	DNA polymerase Î² deficiency leads to neurodegeneration and exacerbates Alzheimer disease phenotypes. Nucleic Acids Research, 2015, 43, 943-959.	14.5	110
25	Homologous Recombination but Not Nucleotide Excision Repair Plays a Pivotal Role in Tolerance of DNA-Protein Cross-links in Mammalian Cells. Journal of Biological Chemistry, 2009, 284, 27065-27076.	3.4	109
26	Evidence that OGG1 Glycosylase Protects Neurons against Oxidative DNA Damage and Cell Death under Ischemic Conditions. Journal of Cerebral Blood Flow and Metabolism, 2011, 31, 680-692.	4.3	101
27	RECQL4, the Protein Mutated in Rothmund-Thomson Syndrome, Functions in Telomere Maintenance. Journal of Biological Chemistry, 2012, 287, 196-209.	3.4	99
28	RECQL4 localizes to mitochondria and preserves mitochondrial DNA integrity. Aging Cell, 2012, 11, 456-466.	6.7	97
29	Structural insights into the first incision reaction during nucleotide excision repair. EMBO Journal, 2005, 24, 885-894.	7.8	84
30	Genome instability in Alzheimer disease. Mechanisms of Ageing and Development, 2017, 161, 83-94.	4.6	83
31	WRN regulates pathway choice between classical and alternative non-homologous end joining. Nature Communications, 2016, 7, 13785.	12.8	81
32	RECQL4 Promotes DNA End Resection in Repair of DNA Double-Strand Breaks. Cell Reports, 2016, 16, 161-173.	6.4	81
33	Homogenous repair of singlet oxygen-induced DNA damage in differentially transcribed regions and strands of human mitochondrial DNA. Nucleic Acids Research, 1998, 26, 662-1997.	14.5	80
34	Heterochromatin: an epigenetic point of view in aging. Experimental and Molecular Medicine, 2020, 52, 1466-1474.	7.7	78
35	The involvement of human RECQL4 in DNA doubleâ€strand break repair. Aging Cell, 2010, 9, 358-371.	6.7	76
36	Aprataxin localizes to mitochondria and preserves mitochondrial function. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 7437-7442.	7.1	76

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37	Direct and indirect roles of RECQL4 in modulating base excision repair capacity. Human Molecular Genetics, 2009, 18, 3470-3483.	2.9	75
38	Gene-specific nuclear and mitochondrial repair of formamidopyrimidine DNA glycosylase-sensitive sites in Chinese hamster ovary cells. Mutation Research DNA Repair, 1996, 364, 183-192.	3.7	72
39	Cell cycle-dependent phosphorylation regulates RECQL4 pathway choice and ubiquitination in DNA double-strand break repair. Nature Communications, 2017, 8, 2039.	12.8	71
40	Human Claspin Is a Ring-shaped DNA-binding Protein with High Affinity to Branched DNA Structures. Journal of Biological Chemistry, 2004, 279, 39289-39295.	3.4	66
41	Analyzing the Handoff of DNA from UvrA to UvrB Utilizing DNA-Protein Photoaffinity Labeling. Journal of Biological Chemistry, 2004, 279, 45245-45256.	3.4	66
42	Initiation of Repair of DNAâ^'Polypeptide Cross-Links by the UvrABC Nucleaseâ€. Biochemistry, 2005, 44, 3000-3009.	2.5	66
43	RecQ helicases in DNA double strand break repair and telomere maintenance. Mutation Research - Fundamental and Molecular Mechanisms of Mutagenesis, 2012, 736, 15-24.	1.0	66
44	Mitochondrial deficiency in Cockayne syndrome. Mechanisms of Ageing and Development, 2013, 134, 275-283.	4.6	66
45	Endonuclease VIII-like 1 (NEIL1) promotes short-term spatial memory retention and protects from ischemic stroke-induced brain dysfunction and death in mice. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 14948-14953.	7.1	64
46	RECQL4 in genomic instability and aging. Trends in Genetics, 2012, 28, 624-631.	6.7	64
47	Interactions between UvrA and UvrB: the role of UvrB's domain 2 in nucleotide excision repair. EMBO Journal, 2004, 23, 2498-2509.	7.8	61
48	Conserved helicase domain of human RecQ4 is required for strand annealing-independent DNA unwinding. DNA Repair, 2010, 9, 796-804.	2.8	61
49	Spatial Transcriptomics Reveals Genes Associated with Dysregulated Mitochondrial Functions and Stress Signaling in Alzheimer Disease. IScience, 2020, 23, 101556.	4.1	61
50	Base excision DNA repair levels in mitochondrial lysates ofÂAlzheimer's disease. Neurobiology of Aging, 2014, 35, 1293-1300.	3.1	58
51	Recent Advances in Understanding Werner Syndrome. F1000Research, 2017, 6, 1779.	1.6	58
52	DNA damage and mitochondria in cancer and aging. Carcinogenesis, 2020, 41, 1625-1634.	2.8	58
53	NAD⁺ supplementation prevents STINGâ€induced senescence in ataxia telangiectasia by improving mitophagy. Aging Cell, 2021, 20, e13329.	6.7	58
54	Olfactory dysfunction in aging and neurodegenerative diseases. Ageing Research Reviews, 2021, 70, 101416.	10.9	56

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55	Structure of the C-terminal half of UvrC reveals an RNase H endonuclease domain with an Argonaute-like catalytic triad. EMBO Journal, 2007, 26, 613-622.	7.8	55
56	A novel diagnostic tool reveals mitochondrial pathology in human diseases and aging. Aging, 2013, 5, 192-208.	3.1	53
57	Functional Characterization and Atomic Force Microscopy of a DNA Repair Protein Conjugated to a Quantum Dot. Nano Letters, 2008, 8, 1631-1637.	9.1	52
58	The human RecQ helicases BLM and RECQL4 cooperate to preserve genome stability. Nucleic Acids Research, 2012, 40, 6632-6648.	14.5	52
59	RECQ helicase RECQL4 participates in non-homologous end joining and interacts with the Ku complex. Carcinogenesis, 2014, 35, 2415-2424.	2.8	52
60	Toward understanding genomic instability, mitochondrial dysfunction and aging. FEBS Journal, 2019, 286, 1058-1073.	4.7	52
61	Telomeric D-loops Containing 8-Oxo-2â€²-deoxyguanosine Are Preferred Substrates for Werner and Bloom Syndrome Helicases and Are Bound by POT1. Journal of Biological Chemistry, 2009, 284, 31074-31084.	3.4	51
62	The C-terminal Zinc Finger of UvrA Does Not Bind DNA Directly but Regulates Damage-specific DNA Binding. Journal of Biological Chemistry, 2006, 281, 26370-26381.	3.4	49
63	NAD⁺ Metabolism in Aging and Cancer. Annual Review of Cancer Biology, 2019, 3, 105-130.	4.5	48
64	Sporadic Alzheimer disease fibroblasts display an oxidative stress phenotype. Free Radical Biology and Medicine, 2012, 53, 1371-1380.	2.9	47
65	RECQ1 is required for cellular resistance to replication stress and catalyzes strand exchange on stalled replication fork structures. Cell Cycle, 2012, 11, 4252-4265.	2.6	46
66	Short-term NAD+ supplementation prevents hearing loss in mouse models of Cockayne syndrome. Npj Aging and Mechanisms of Disease, 2020, 6, 1.	4.5	45
67	Biological sex and DNA repair deficiency drive Alzheimerâ€™s disease via systemic metabolic remodeling and brain mitochondrial dysfunction. Acta Neuropathologica, 2020, 140, 25-47.	7.7	45
68	DNA Tandem Lesion Repair by Strand Displacement Synthesis and Nucleotide Excision Repair. Biochemistry, 2008, 47, 4306-4316.	2.5	43
69	RECQL5 cooperates with Topoisomerase II alpha in DNA decatenation and cell cycle progression. Nucleic Acids Research, 2012, 40, 1621-1635.	14.5	43
70	<scp>RECQL4</scp> helicase has oncogenic potential in sporadic breast cancers. Journal of Pathology, 2016, 238, 495-501.	4.5	43
71	UvrB Domain 4, an Autoinhibitory Gate for Regulation of DNA Binding and ATPase Activity. Journal of Biological Chemistry, 2006, 281, 15227-15237.	3.4	42
72	NAD⁺ in DNA repair and mitochondrial maintenance. Cell Cycle, 2017, 16, 491-492.	2.6	40

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73	Mitophagy and DNA damage signaling in human aging. Mechanisms of Ageing and Development, 2020, 186, 111207.	4.6	40
74	Contribution of defective mitophagy to the neurodegeneration in DNA repair-deficient disorders. Autophagy, 2014, 10, 1468-1469.	9.1	39
75	Human RECQL1 participates in telomere maintenance. Nucleic Acids Research, 2014, 42, 5671-5688.	14.5	38
76	DNA polymerase Î² decrement triggers death of olfactory bulb cells and impairs olfaction in a mouse model of Alzheimer's disease. Aging Cell, 2017, 16, 162-172.	6.7	38
77	Camptothecin targets WRN protein: mechanism and relevance in clinical breast cancer. Oncotarget, 2016, 7, 13269-13284.	1.8	38
78	Identification of Residues within UvrB That Are Important for Efficient DNA Binding and Damage Processing. Journal of Biological Chemistry, 2004, 279, 51574-51580.	3.4	37
79	Activation-induced deaminase, AID, is catalytically active as a monomer on single-stranded DNA. DNA Repair, 2008, 7, 77-87.	2.8	36
80	Selfâ€assembly of multiâ€component mitochondrial nucleoids via phase separation. EMBO Journal, 2021, 40, e107165.	7.8	36
81	Relationships between human vitality and mitochondrial respiratory parameters, reactive oxygen species production and dNTP levels in peripheral blood mononuclear cells. Aging, 2013, 5, 850-864.	3.1	36
82	Hippocampal tau oligomerization early in tau pathology coincides with a transient alteration of mitochondrial homeostasis and DNA repair in a mouse model of tauopathy. Acta Neuropathologica Communications, 2020, 8, 25.	5.2	35
83	Cockayne syndrome group A and B proteins function in rRNA transcription through nucleolin regulation. Nucleic Acids Research, 2020, 48, 2473-2485.	14.5	34
84	Purification and Characterization of a Mitochondrial Thymine Glycol Endonuclease from Rat Liver. Journal of Biological Chemistry, 1999, 274, 7128-7136.	3.4	33
85	Identification of a Chemical That Inhibits the Mycobacterial UvrABC Complex in Nucleotide Excision Repair. Biochemistry, 2011, 50, 1329-1335.	2.5	33
86	Clinicopathological and prognostic significance of RECQL5 helicase expression in breast cancers. Carcinogenesis, 2016, 37, 63-71.	2.8	31
87	DNA damage invokes mitophagy through a pathway involving Spata18. Nucleic Acids Research, 2020, 48, 6611-6623.	14.5	31
88	Human RECQL5: Guarding the crossroads of DNA replication and transcription and providing backup capability. Critical Reviews in Biochemistry and Molecular Biology, 2013, 48, 289-299.	5.2	30
89	The role of DNA base excision repair in brain homeostasis and disease. DNA Repair, 2015, 32, 172-179.	2.8	30
90	Cooperative damage recognition by UvrA and UvrB: Identification of UvrA residues that mediate DNA binding. DNA Repair, 2008, 7, 392-404.	2.8	29

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91	Recruitment and retention dynamics of RECQL5 at DNA double strand break sites. DNA Repair, 2012, 11, 624-635.	2.8	29
92	Human RECQL5 participates in the removal of endogenous DNA damage. Molecular Biology of the Cell, 2012, 23, 4273-4285.	2.1	28
93	DNA repair gets physical: Mapping an XPA-binding site on ERCC1. DNA Repair, 2008, 7, 819-826.	2.8	27
94	Age-Related Disease Association of Endogenous Î³-H2AX Foci in Mononuclear Cells Derived from Leukapheresis. PLoS ONE, 2012, 7, e45728.	2.5	26
95	Cockayne syndrome group B deficiency reduces H3K9me3 chromatin remodeler SETDB1 and exacerbates cellular aging. Nucleic Acids Research, 2019, 47, 8548-8562.	14.5	26
96	Cockayne syndrome proteins CSA and CSB maintain mitochondrial homeostasis through NAD⁺ signaling. Aging Cell, 2020, 19, e13268.	6.7	26
97	The RECQL4 protein, deficient in Rothmundâ€“Thomson syndrome is active on telomeric D-loops containing DNA metabolism blocking lesions. DNA Repair, 2013, 12, 518-528.	2.8	25
98	A high-throughput screen to identify novel small molecule inhibitors of the Werner Syndrome Helicase-Nuclease (WRN). PLoS ONE, 2019, 14, e0210525.	2.5	24
99	DNA binding residues in the RQC domain of Werner protein are critical for its catalytic activities. Aging, 2012, 4, 417-429.	3.1	24
100	Human RECQL5Î² stimulates flap endonuclease 1. Nucleic Acids Research, 2010, 38, 2904-2916.	14.5	23
101	RECQL5 plays co-operative and complementary roles with WRN syndrome helicase. Nucleic Acids Research, 2013, 41, 881-899.	14.5	23
102	Diminished OPA1 expression and impaired mitochondrial morphology and homeostasis in Aprataxin-deficient cells. Nucleic Acids Research, 2019, 47, 4086-4110.	14.5	23
103	A brain proteomic signature of incipient Alzheimerâ€™s disease in young APOE Îµ4 carriers identifies novel drug targets. Science Advances, 2021, 7, eabi8178.	10.3	23
104	The role of RecQ helicases in non-homologous end-joining. Critical Reviews in Biochemistry and Molecular Biology, 2014, 49, 463-472.	5.2	22
105	Skin Abnormalities in Disorders with DNA Repair Defects, Premature Aging, and Mitochondrial Dysfunction. Journal of Investigative Dermatology, 2021, 141, 968-975.	0.7	21
106	Loss of NEIL1 causes defects in olfactory function in mice. Neurobiology of Aging, 2015, 36, 1007-1012.	3.1	18
107	RAPADILINO RECQL4 mutant protein lacks helicase and ATPase activity. Biochimica Et Biophysica Acta - Molecular Basis of Disease, 2012, 1822, 1727-1734.	3.8	17
108	Partial loss of the DNA repair scaffolding protein, Xrcc1 , results in increased brain damage and reduced recovery from ischemic stroke in mice. Neurobiology of Aging, 2015, 36, 2319-2330.	3.1	17

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109	Enhanced mitochondrial DNA repair of the common disease-associated variant, Ser326Cys, of hOGG1 through small molecule intervention. Free Radical Biology and Medicine, 2018, 124, 149-162.	2.9	17
110	NEIL1 stimulates neurogenesis and suppresses neuroinflammation after stress. Free Radical Biology and Medicine, 2019, 141, 47-58.	2.9	17
111	Interaction between RECQL4 and OGG1 promotes repair of oxidative base lesion 8-oxoG and is regulated by SIRT1 deacetylase. Nucleic Acids Research, 2020, 48, 6530-6546.	14.5	17
112	Functional deficit associated with a missense Werner syndrome mutation. DNA Repair, 2013, 12, 414-421.	2.8	16
113	Substrate specific stimulation of NEIL1 by WRN but not the other human RecQ helicases. DNA Repair, 2010, 9, 636-642.	2.8	15
114	RECQL5 has unique strand annealing properties relative to the other human RecQ helicase proteins. DNA Repair, 2016, 37, 53-66.	2.8	15
115	Differential and Concordant Roles for Poly(ADP-Ribose) Polymerase 1 and Poly(ADP-Ribose) in Regulating WRN and RECQL5 Activities. Molecular and Cellular Biology, 2015, 35, 3974-3989.	2.3	12
116	NAD+ augmentation with nicotinamide riboside improves lymphoid potential of Atmâ^'/â^' and old mice HSCs. Npj Aging and Mechanisms of Disease, 2021, 7, 25.	4.5	12
117	Robust Incision of Benoz[a]pyrene-7,8-dihyrodiol-9,10-epoxideâ^'DNA Adducts by a Recombinant Thermoresistant Interspecies Combination UvrABC Endonuclease Systemâ€. Biochemistry, 2006, 45, 7834-7843.	2.5	11
118	The RecQ helicase RECQL5 participates in psoralen-induced interstrand cross-link repair. Carcinogenesis, 2013, 34, 2218-2230.	2.8	11
119	DNA polymerase Î² outperforms DNA polymerase Î³ in key mitochondrial base excision repair activities. DNA Repair, 2021, 99, 103050.	2.8	11
120	The helicase and ATPase activities of RECQL4 are compromised by mutations reported in three human patients. Aging, 2012, 4, 790-802.	3.1	10
121	DNA Repair and the Accumulation of Oxidatively Damaged DNA Are Affected by Fruit Intake in Mice. Journals of Gerontology - Series A Biological Sciences and Medical Sciences, 2010, 65A, 1300-1311.	3.6	9
122	Werner syndrome resembles normal aging. Cell Cycle, 2009, 8, 2319-2323.	2.6	7
123	CDK2 phosphorylation of Werner protein (WRN) contributes to WRNâ€™s DNA doubleâ€strand break repair pathway choice. Aging Cell, 2021, 20, e13484.	6.7	7
124	Werner syndrome resembles normal aging. Cell Cycle, 2009, 8, 2323.	2.6	4
125	Damage Recognition by the Bacterial Nucleotide Excision Repair Machinery. , 2005, , .		0
126	Characterization of RecQL4 biochemical and cellular functions. FASEB Journal, 2011, 25, lb33.	0.5	0

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127	Cockayne syndrome group B protein prevents the accumulation of damaged mitochondria by promoting mitochondrial autophagy. Journal of Cell Biology, 2012, 197, i4-i4.	5.2	0
128	Xeroderma pigmentosum group A protein modulates mitophagy through regulation of mitochondrialâ€associated proteins. FASEB Journal, 2013, 27, lb468.	0.5	0