Sheila S David

List of Publications by Year
in descending order

91 papers	6,705 citations	87888 38 h-index	62596 80 g-index
98 all docs	98 docs citations	98 times ranked	5260 citing authors

#	Article	IF	Citations
1	Inherited variants of MYH associated with somatic G:Câ†'T:A mutations in colorectal tumors. Nature Genetics, 2002, 30, 227-232.	21.4	1,239
2	Base-excision repair of oxidative DNA damage. Nature, 2007, 447, 941-950.	27.8	1,021
3	Chemistry of Glycosylases and Endonucleases Involved in Base-Excision Repair. Chemical Reviews, 1998, 98, 1221-1262.	47.7	489
4	DNA-mediated charge transport for DNA repair. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 12543-12547.	7.1	219
5	Single-Turnover and Pre-Steady-State Kinetics of the Reaction of the Adenine Glycosylase MutY with Mismatch-Containing DNA Substratesâ€. Biochemistry, 1998, 37, 14756-14764.	2.5	184
6	DNA-Bound Redox Activity of DNA Repair Glycosylases Containing [4Fe-4S] Clusters. Biochemistry, 2005, 44, 8397-8407.	2.5	167
7	RNA editing changes the lesion specificity for the DNA repair enzyme NEIL1. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 20715-20719.	7.1	132
8	Removal of Hydantoin Products of 8-Oxoguanine Oxidation by the Escherichia coli DNA Repair Enzyme, FPG. Biochemistry, 2000, 39, 14984-14992.	2.5	128
9	Superior Removal of Hydantoin Lesions Relative to Other Oxidized Bases by the Human DNA Glycosylase hNEIL1. Biochemistry, 2008, 47, 7137-7146.	2.5	127
10	A role for ironâ€"sulfur clusters in DNA repair. Current Opinion in Chemical Biology, 2005, 9, 145-151.	6.1	121
11	Protein-DNA charge transport: Redox activation of a DNA repair protein by guanine radical. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 3546-3551.	7.1	120
12	A Substrate Recognition Role for the [4Fe-4S]2+Cluster of the DNA Repair Glycosylase MutYâ€. Biochemistry, 1998, 37, 6465-6475.	2.5	100
13	Insight into the Functional Consequences of Inherited Variants of the hMYH Adenine Glycosylase Associated with Colorectal Cancer: Complementation Assays with hMYH Variants and Pre-steady-state Kinetics of the Corresponding Mutated E.coli Enzymes. Journal of Molecular Biology, 2003, 327, 431-443.	4.2	94
14	Mutation versus Repair: NEIL1 Removal of Hydantoin Lesions in Single-Stranded, Bulge, Bubble, and Duplex DNA Contexts. Biochemistry, 2010, 49, 1658-1666.	2.5	85
15	Specific Recognition of Substrate Analogs by the DNA Mismatch Repair Enzyme MutY. Journal of the American Chemical Society, 1996, 118, 10684-10692.	13.7	82
16	Anion binding to uteroferrin. Evidence for phosphate coordination to the iron(III) ion of the dinuclear active site and interaction with the hydroxo bridge. Journal of the American Chemical Society, 1990, 112, 6455-6463.	13.7	81
17	Efficient recognition of substrates and substrate analogs by the adenine glycosylase MutY requires the C-terminal domain. Nucleic Acids Research, 2001, 29, 553-564.	14.5	78
18	Repair of 8-oxoG:A mismatches by the MUTYH glycosylase: Mechanism, metals and medicine. Free Radical Biology and Medicine, 2017, 107, 202-215.	2.9	77

#	Article	IF	Citations
19	Recognition and Removal of Oxidized Guanines in Duplex DNA by the Base Excision Repair Enzymes hOGG1, yOGG1, and yOGG2â€. Biochemistry, 2003, 42, 11373-11381.	2.5	76
20	NMR evidence for specific intercalation of .DELTA.-rh(phen)2.phi.3+ in [d(GTCGAC)2]. Journal of the American Chemical Society, 1993, 115, 2984-2985.	13.7	73
21	Direct Fluorescence Monitoring of DNA Base Excision Repair. Angewandte Chemie - International Edition, 2012, 51, 1689-1692.	13.8	71
22	Structure and potential mutagenicity of new hydantoin products from guanosine and 8-oxo-7,8-dihydroguanine oxidation by transition metals.. Environmental Health Perspectives, 2002, 110, 713-717.	6.0	70
23	Damage sensor role of UV-DDB during base excision repair. Nature Structural and Molecular Biology, 2019, 26, 695-703.	8.2	64
24	Substrate recognition by Escherichia coli MutY using substrate analogs. Nucleic Acids Research, 1999, 27, 3197-3204.	14.5	59
25	Site-Directed Mutagenesis of the Cysteine Ligands to the [4Feâ^'4S] Cluster of Escherichia coli MutY. Biochemistry, 1999, 38, 6997-7007.	2.5	56
26	Probing the Requirements for Recognition and Catalysis in Fpg and MutY with Nonpolar Adenine Isosteres. Journal of the American Chemical Society, 2003, 125, 16235-16242.	13.7	55
27	Structure and stereochemistry of the base excision repair glycosylase MutY reveal a mechanism similar to retaining glycosidases. Nucleic Acids Research, 2016, 44, 801-810.	14.5	54
28	Repair of Hydantoin Lesions and Their Amine Adducts in DNA by Base and Nucleotide Excision Repair. Journal of the American Chemical Society, 2013, 135, 13851-13861.	13.7	53
29	Insight into the functional consequences of hMYH variants associated with colorectal cancer: distinct differences in the adenine glycosylase activity and the response to AP endonucleases of Y150C and G365D murine MYH. DNA Repair, 2005, 4, 315-325.	2.8	52
30	The DNA glycosylase AlkD uses a non-base-flipping mechanism to excise bulky lesions. Nature, 2015, 527, 254-258.	27.8	52
31	Adenine removal activity and bacterial complementation with the human MutY homologue (MUTYH) and Y165C, G382D, P391L and Q324R variants associated with colorectal cancer. DNA Repair, 2009, 8, 1400-1410.	2.8	51
32	Electron trap for DNA-bound repair enzymes: A strategy for DNA-mediated signaling. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 3610-3614.	7.1	50
33	Escherichia coli Apurinic-Apyrimidinic Endonucleases Enhance the Turnover of the Adenine Glycosylase MutY with G:A Substrates. Journal of Biological Chemistry, 2002, 277, 22605-22615.	3.4	49
34	Escherichia coliMutY and Fpg Utilize a Processive Mechanism for Target Locationâ€. Biochemistry, 2003, 42, 801-810.	2.5	49
35	Mechanism-Based DNAâ^'Protein Cross-Linking of MutY via Oxidation of 8-Oxoguanosine. Journal of the American Chemical Society, 1999, 121, 9901-9902.	13.7	48
36	DNA damage recognition and repair by the murine MutY homologue. DNA Repair, 2005, 4, 91-102.	2.8	46

#	Article	IF	Citations
37	Formation of a Schiff Base Intermediate Is Not Required for the Adenine Glycosylase Activity ofEscherichia coliMutYâ€. Biochemistry, 1999, 38, 15417-15424.	2.5	43
38	Microscopic mechanism of DNA damage searching by hOGG1. Nucleic Acids Research, 2014, 42, 9295-9303.	14.5	41
39	Synthesis and Characterization of 8-Methoxy-2'-Deoxyadenosine-Containing Oligonucleotides to Probe the Syn Glycosidic Conformation of 2'-deoxyadenosine Within DNA. Nucleic Acids Research, 1996, 24, 890-897.	14.5	39
40	Insight into the Roles of Tyrosine 82 and Glycine 253 in theEscherichia coliAdenine Glycosylase MutYâ€. Biochemistry, 2005, 44, 14179-14190.	2.5	39
41	A Single Engineered Point Mutation in the Adenine Glycosylase MutY Confers Bifunctional Glycosylase/AP Lyase Activity. Biochemistry, 2000, 39, 10098-10109.	2.5	38
42	Cancer-associated variants and a common polymorphism of MUTYH exhibit reduced repair of oxidative DNA damage using a GFP-based assay in mammalian cells. Carcinogenesis, 2012, 33, 2301-2309.	2.8	38
43	Surprising Repair Activities of Nonpolar Analogs of 8-oxoG Expose Features of Recognition and Catalysis by Base Excision Repair Glycosylases. Journal of the American Chemical Society, 2012, 134, 1653-1661.	13.7	38
44	Noncysteinyl Coordination to the [4Fe-4S]2+Cluster of the DNA Repair Adenine Glycosylase MutY Introduced via Site-Directed Mutagenesis. Structural Characterization of an Unusual Histidinyl-Coordinated Clusterâ€,â€¡. Biochemistry, 2002, 41, 3931-3942.	2.5	37
45	DNA-Mediated Charge Transport as a Probe of MutY/DNA Interactionâ€. Biochemistry, 2002, 41, 8464-8470.	2.5	36
46	Unnatural substrates reveal the importance of 8-oxoguanine for in vivo mismatch repair by MutY. Nature Chemical Biology, 2008, 4, 51-58.	8.0	35
47	Positively Charged Residues within the Ironâ€"Sulfur Cluster Loop of E. coli MutY Participate in Damage Recognition and Removal. Archives of Biochemistry and Biophysics, 2000, 380, 11-19.	3.0	31
48	Inorganic chemical biology: from small metal complexes in biological systems to metalloproteins. Current Opinion in Chemical Biology, 2008, 12, 194-196.	6.1	31
49	Catalytic Contributions of Key Residues in the Adenine Glycosylase MutY Revealed by pH-dependent Kinetics and Cellular Repair Assays. Chemistry and Biology, 2012, 19, 276-286.	6.0	31
50	Frataxin Deficiency Promotes Excess Microglial DNA Damage and Inflammation that Is Rescued by PJ34. PLoS ONE, 2016, 11, e0151026.	2.5	31
51	Electrochemistry of the [4Fe4S] Cluster in Base Excision Repair Proteins: Tuning the Redox Potential with DNA. Langmuir, 2017, 33, 2523-2530.	3.5	30
52	Unusual Structural Features of Hydantoin Lesions Translate into Efficient Recognition by Escherichia coli Fpg. Biochemistry, 2007, 46, 9355-9365.	2.5	29
53	When youâ€™re strange: Unusual features of the MUTYH glycosylase and implications in cancer. DNA Repair, 2019, 80, 16-25.	2.8	27
54	Distinct functional consequences of MUTYH variants associated with colorectal cancer: Damaged DNA affinity, glycosylase activity and interaction with PCNA and Hus1. DNA Repair, 2015, 34, 39-51.	2.8	26

#	Article	IF	Citations
55	Recognition of the Nonpolar Base 4-Methylindole in DNA by the DNA Repair Adenine Glycosylase MutY. Organic Letters, 2000, 2, 1341-1344.	4.6	24
56	Ser 524 is a phosphorylation site in MUTYH and Ser 524 mutations alter 8-oxoguanine (OG): A mismatch recognition. DNA Repair, 2010, 9, 1026-1037.	2.8	24
57	In Vitro Ligation of Oligodeoxynucleotides Containing C8-Oxidized Purine Lesions Using Bacteriophage T4 DNA Ligaseâ€. Biochemistry, 2007, 46, 3734-3744.	2.5	23
58	Profiling base excision repair glycosylases with synthesized transition state analogs. Bioorganic and Medicinal Chemistry Letters, 2011, 21, 4969-4972.	2.2	23
59	Gas-Phase Studies of Substrates for the DNA Mismatch Repair Enzyme MutY. Journal of the American Chemical Society, 2012, 134, 19839-19850.	13.7	23
60	NMR Evidence of Sequence Specific DNA Binding by a Cobalt(III)-Bleomycin Analog with Tethered Acridine. Inorganic Chemistry, 1994, 33, 4295-4308.	4.0	22
61	A Zinc Linchpin Motif in the MUTYH Glycosylase Interdomain Connector Is Required for Efficient Repair of DNA Damage. Journal of the American Chemical Society, 2014, 136, 7829-7832.	13.7	22
62	Structureâ€“Activity Relationships Reveal Key Features of 8-Oxoguanine: A Mismatch Detection by the MutY Glycosylase. ACS Chemical Biology, 2017, 12, 2335-2344.	3.4	22
63	A Residue in MutY Important for Catalysis Identified by Photocross-Linking and Mass Spectrometryâ€. Biochemistry, 2004, 43, 651-662.	2.5	21
64	Recognition of DNA adducts by edited and unedited forms of DNA glycosylase NEIL1. DNA Repair, 2020, 85, 102741.	2.8	20
65	Hydrogen and deuterium NMR studies of carboxylate coordination to iron(III) complexes: diverse chemical shift values for coordinated carboxyl residues. Inorganic Chemistry, 1987, 26, 2779-2784.	4.0	19
66	Sulfur K-Edge XAS Studies of the Effect of DNA Binding on the [Fe₄S₄] Site in EndoIII and MutY. Journal of the American Chemical Society, 2017, 139, 11434-11442.	13.7	19
67	Structural Basis for Finding OG Lesions and Avoiding Undamaged G by the DNA Glycosylase MutY. ACS Chemical Biology, 2020, 15, 93-102.	3.4	19
68	An Ironâ€“Sulfur Cluster Loop Motif in the <i>Archaeoglobus fulgidus</i> Uracilâ€“DNA Glycosylase Mediates Efficient Uracil Recognition and Removal. Biochemistry, 2012, 51, 5187-5197.	2.5	18
69	Selective base excision repair of DNA damage by the nonâ€baseâ€flipping DNA glycosylase AlkC. EMBO Journal, 2018, 37, 63-74.	7.8	17
70	Structure, function and evolution of the Helix-hairpin-Helix DNA glycosylase superfamily: Piecing together the evolutionary puzzle of DNA base damage repair mechanisms. DNA Repair, 2021, 108, 103231.	2.8	16
71	Efficient Synthesis of 2'-Deoxyformycin A Containing Oligonucleotides and Characterization of Their Stability in Duplex DNA. Journal of Organic Chemistry, 1995, 60, 7094-7095.	3.2	15
72	Single molecule analysis indicates stimulation of MUTYH by UV-DDB through enzyme turnover. Nucleic Acids Research, 2021, 49, 8177-8188.	14.5	15

#	Article	IF	Citations
73	NEIL1 Binding to DNA Containing 2â€²â€Fluorothymidine Glycol Stereoisomers and the Effect of Editing. ChemBioChem, 2012, 13, 1338-1348.	2.6	13
74	Designer Fluorescent Adenines Enable Real-Time Monitoring of MUTYH Activity. ACS Central Science, 2020, 6, 1735-1742.	11.3	13
75	Structural Insights into the Mechanism of Base Excision by MBD4. Journal of Molecular Biology, 2021, 433, 167097.	4.2	13
76	Feâ€"S Clusters and MutY Base Excision Repair Glycosylases: Purification, Kinetics, and DNA Affinity Measurements. Methods in Enzymology, 2018, 599, 21-68.	1.0	12
77	Unique Hydrogen Bonding of Adenine with the Oxidatively Damaged Base 8-Oxoguanine Enables Specific Recognition and Repair by DNA Glycosylase MutY. Journal of the American Chemical Society, 2020, 142, 20340-20350.	13.7	11
78	Evolution of Base Excision Repair in Entamoeba histolytica is shaped by gene loss, gene duplication, and lateral gene transfer. DNA Repair, 2019, 76, 76-88.	2.8	10
79	Detection of OG:A Lesion Mispairs by MutY Relies on a Single His Residue and the 2-Amino Group of 8-Oxoguanine. Journal of the American Chemical Society, 2020, 142, 13283-13287.	13.7	10
80	The DNA repair enzyme MUTYH potentiates cytotoxicity of the alkylating agent MNNG by interacting with abasic sites. Journal of Biological Chemistry, 2020, 295, 3692-3707.	3.4	10
81	An Excimer Clamp for Measuring Damagedâ€Base Excision by the DNA Repair Enzyme NTH1. Angewandte Chemie - International Edition, 2020, 59, 7450-7455.	13.8	9
82	DNA search and rescue. Nature, 2005, 434, 569-570.	27.8	8
83	The Zinc Linchpin Motif in the DNA Repair Glycosylase MUTYH: Identifying the Zn²⁺ Ligands and Roles in Damage Recognition and Repair. Journal of the American Chemical Society, 2018, 140, 13260-13271.	13.7	8
84	The GO Repair Pathway: OGG1 and MUTYH. , 2017, , 63-115.		7
85	DNMT1 and Cancer: An Electrifying Link. Chemistry and Biology, 2015, 22, 810-811.	6.0	6
86	Cellular Assays for Studying the Feâ€"S Cluster Containing Base Excision Repair Glycosylase MUTYH and Homologs. Methods in Enzymology, 2018, 599, 69-99.	1.0	5
87	2â€²-Fluorinated Hydantoins as Chemical Biology Tools for Base Excision Repair Glycosylases. ACS Chemical Biology, 2020, 15, 915-924.	3.4	5
88	RNA Editing of the Human DNA Glycosylase NEIL1 Alters Its Removal of 5-Hydroxyuracil Lesions in DNA. Biochemistry, 2021, 60, 1485-1497.	2.5	4
89	Base Excision Repair of N6-Deoxyadenosine Adducts of 1,3-Butadiene. Biochemistry, 2016, 55, 6070-6081.	2.5	3
90	Targeting Base Excision Repair Glycosylases with DNA Containing Transition State Mimics Prepared via Click Chemistry. ACS Chemical Biology, 2019, 14, 27-36.	3.4	2

#	Article	IF	Citations
91	Spectroscopic and electrochemical studies of the diiron core of uteroferrin and its anion complexes.. Journal of Inorganic Biochemistry, 1991, 43, 137.	3.5	1