Patrick J O'brien

List of Publications by Year
in descending order

42 papers	1,684 citations	471061 17 h-index	315357 38 g-index
43 all docs	43 docs citations	43 times ranked	1699 citing authors

#	Article	IF	Citations
1	Human DNA ligase I completely encircles and partially unwinds nicked DNA. Nature, 2004, 432, 473-478.	13.7	293
2	Transient Hoogsteen base pairs in canonical duplex DNA. Nature, 2011, 470, 498-502.	13.7	291
3	Dissecting the Broad Substrate Specificity of Human 3-Methyladenine-DNA Glycosylase. Journal of Biological Chemistry, 2004, 279, 9750-9757.	1.6	149
4	Catalytic Promiscuity and the Divergent Evolution of DNA Repair Enzymes. Chemical Reviews, 2006, 106, 720-752.	23.0	122
5	Human Alkyladenine DNA Glycosylase Uses Acidâ€'Base Catalysis for Selective Excision of Damaged Purinesâ€. Biochemistry, 2003, 42, 12418-12429.	1.2	99
6	The Escherichia coli 3-Methyladenine DNA Glycosylase AlkA Has a Remarkably Versatile Active Site. Journal of Biological Chemistry, 2004, 279, 26876-26884.	1.6	90
7	Human Alkyladenine DNA Glycosylase Employs a Processive Search for DNA Damage. Biochemistry, 2008, 47, 11434-11445.	1.2	67
8	Hopping Enables a DNA Repair Glycosylase To Search Both Strands and Bypass a Bound Protein. ACS Chemical Biology, 2010, 5, 427-436.	1.6	60
9	Human AP Endonuclease 1 Stimulates Multiple-Turnover Base Excision by Alkyladenine DNA Glycosylase. Biochemistry, 2009, 48, 6022-6033.	1.2	45
10	Kinetic Mechanism for the Flipping and Excision of 1,N⁶-Ethenoadenine by Human Alkyladenine DNA Glycosylase. Biochemistry, 2009, 48, 11357-11369.	1.2	44
11	Genetic and chemotherapeutic influences on germline hypermutation. Nature, 2022, 605, 503-508.	13.7	43
12	Isolating Contributions from Intersegmental Transfer to DNA Searching by Alkyladenine DNA Glycosylase*. Journal of Biological Chemistry, 2013, 288, 24550-24559.	1.6	32
13	Biallelic mutations in DNA ligase 1 underlie a spectrum of immune deficiencies. Journal of Clinical Investigation, 2018, 128, 5489-5504.	3.9	32
14	Efficient Recognition of an Unpaired Lesion by a DNA Repair Glycosylase. Journal of the American Chemical Society, 2009, 131, 17742-17743.	6.6	31
15	Kinetic Mechanism of Human DNA Ligase I Reveals Magnesium-dependent Changes in the Rate-limiting Step That Compromise Ligation Efficiency. Journal of Biological Chemistry, 2011, 286, 23054-23062.	1.6	31
16	Two-tiered enforcement of high-fidelity DNA ligation. Nature Communications, 2019, 10, 5431.	5.8	25
17	Nonspecific DNA Binding and Coordination of the First Two Steps of Base Excision Repair. Biochemistry, 2010, 49, 7879-7891.	1.2	20
18	Repair of Alkylation Damage in Eukaryotic Chromatin Depends on Searching Ability of Alkyladenine DNA Glycosylase. ACS Chemical Biology, 2015, 10, 2606-2615.	1.6	18

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19	Critical role of DNA intercalation in enzyme-catalyzed nucleotide flipping. Nucleic Acids Research, 2014, 42, 12681-12690.	6.5	17
20	Base Excision Repair Enzymes Protect Abasic Sites in Duplex DNA from Interstrand Cross-Links. Biochemistry, 2015, 54, 1849-1857.	1.2	16
21	Probing the DNA Structural Requirements for Facilitated Diffusion. Biochemistry, 2015, 54, 557-566.	1.2	16
22	LIG1 syndrome mutations remodel a cooperative network of ligand binding interactions to compromise ligation efficiency. Nucleic Acids Research, 2021, 49, 1619-1630.	6.5	14
23	Human Base Excision Repair Creates a Bias Toward â^'1 Frameshift Mutations. Journal of Biological Chemistry, 2010, 285, 25203-25212.	1.6	12
24	Substitution of Active Site Tyrosines with Tryptophan Alters the Free Energy for Nucleotide Flipping by Human Alkyladenine DNA Glycosylase. Biochemistry, 2011, 50, 1864-1874.	1.2	12
25	Defining the functional footprint for recognition and repair of deaminated DNA. Nucleic Acids Research, 2012, 40, 11638-11647.	6.5	11
26	Kinetic analyses of single-stranded break repair by human DNA ligase III isoforms reveal biochemical differences from DNA ligase I. Journal of Biological Chemistry, 2017, 292, 15870-15879.	1.6	11
27	Kinetic Mechanism for the Excision of Hypoxanthine by Escherichia coli AlkA and Evidence for Binding to DNA Ends. Biochemistry, 2011, 50, 4350-4359.	1.2	10
28	Expansion of base excision repair compensates for a lack of DNA repair by oxidative dealkylation in budding yeast. Journal of Biological Chemistry, 2019, 294, 13629-13637.	1.6	8
29	Transient kinetic analysis of oxidative dealkylation by the direct reversal DNA repair enzyme AlkB. Journal of Biological Chemistry, 2020, 295, 7317-7326.	1.6	8
30	Reactivity and Cross-Linking of 5â€²-Terminal Abasic Sites within DNA. Chemical Research in Toxicology, 2017, 30, 1317-1326.	1.7	7
31	Mechanisms of glycosylase induced genomic instability. PLoS ONE, 2017, 12, e0174041.	1.1	7
32	N-Glycosyl Bond Formation Catalyzed by Human Alkyladenine DNA Glycosylase. Biochemistry, 2010, 49, 9024-9026.	1.2	6
33	Kinetic Mechanism for the Flipping and Excision of 1,N⁶-Ethenoadenine by AlkA. Biochemistry, 2015, 54, 898-908.	1.2	6
34	Search for DNA damage by human alkyladenine DNA glycosylase involves early intercalation by an aromatic residue. Journal of Biological Chemistry, 2017, 292, 16070-16080.	1.6	6
35	Distinguishing Specific and Nonspecific Complexes of Alkyladenine DNA Glycosylase. Biochemistry, 2018, 57, 4440-4454.	1.2	6
36	Transient Kinetic Methods for Mechanistic Characterization of DNA Binding and Nucleotide Flipping. Methods in Enzymology, 2017, 592, 377-415.	0.4	4

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37	Recognition of 1,N2-ethenoguanine by alkyladenine DNA glycosylase is restricted by a conserved active-site residue. Journal of Biological Chemistry, 2020, 295, 1685-1693.	1.6	4
38	Hitting a moving target?â€"Understanding how conformational diversity impacts enzymatic catalysis. Current Opinion in Chemical Biology, 2010, 14, 634-635.	2.8	2
39	Kinetics of DNA bending by a human DNA glycosylase. FASEB Journal, 2021, 35, .	0.2	0
40	Kinetic mechanism of human DNA ligase I. FASEB Journal, 2013, 27, 998.7.	0.2	0
41	DNA intercalation impacts multiple steps in the recognition of damaged bases by a DNA glycosylase. FASEB Journal, 2013, 27, .	0.2	0
42	Mechanisms of DNA ligation. FASEB Journal, 2019, 33, 619.7.	0.2	0