Paul L Modrich

List of Publications by Year
in descending order

104 papers	14,536 citations	22099 59 h-index	30848 102 g-index
105 all docs	105 docs citations	105 times ranked	7913 citing authors

#	Article	IF	Citations
1	Mismatch Repair in Replication Fidelity, Genetic Recombination, and Cancer Biology. Annual Review of Biochemistry, 1996, 65, 101-133.	5.0	1,442
2	Hypermutability and mismatch repair deficiency in RER+ tumor cells. Cell, 1993, 75, 1227-1236.	13.5	1,031
3	Mechanisms and Biological Effects of Mismatch Repair. Annual Review of Genetics, 1991, 25, 229-253.	3.2	917
4	DNA Mismatch Repair:â€‰ Functions and Mechanisms. Chemical Reviews, 2006, 106, 302-323.	23.0	771
5	BLMâ€"DNA2â€"RPAâ€"MRN and EXO1â€"BLMâ€"RPAâ€"MRN constitute two DNA end resection machineries for human DNA break repair. Genes and Development, 2011, 25, 350-362.	2.7	585
6	Endonucleolytic Function of MutLÎ± in Human Mismatch Repair. Cell, 2006, 126, 297-308.	13.5	553
7	Mechanisms in Eukaryotic Mismatch Repair. Journal of Biological Chemistry, 2006, 281, 30305-30309.	1.6	372
8	Isolation of MutSÎ² from Human Cells and Comparison of the Mismatch Repair Specificities of MutSÎ² and MutSÎ±. Journal of Biological Chemistry, 1998, 273, 19895-19901.	1.6	355
9	HIF-1Î± Induces Genetic Instability by Transcriptionally Downregulating MutSÎ± Expression. Molecular Cell, 2005, 17, 793-803.	4.5	332
10	EFFECTS OF HIGH LEVELS OF DNA ADENINE METHYLATION ON METHYL-DIRECTED MISMATCH REPAIR IN <i>ESCHERICHIA COLI</i>. Genetics, 1983, 104, 571-582.	1.2	314
11	Structure of the Human MutSÎ± DNA Lesion Recognition Complex. Molecular Cell, 2007, 26, 579-592.	4.5	311
12	Human exonuclease 1 and BLM helicase interact to resect DNA and initiate DNA repair. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 16906-16911.	3.3	265
13	Cisplatin and Adriamycin Resistance Are Associated with MutLÎ± and Mismatch Repair Deficiency in an Ovarian Tumor Cell Line. Journal of Biological Chemistry, 1996, 271, 19645-19648.	1.6	251
14	PCNA function in the activation and strand direction of MutLÎ± endonuclease in mismatch repair. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 16066-16071.	3.3	239
15	Mechanism of 5â€²-Directed Excision in Human Mismatch Repair. Molecular Cell, 2003, 12, 1077-1086.	4.5	219
16	Saccharomyces cerevisiae MutLÎ± Is a Mismatch Repair Endonuclease. Journal of Biological Chemistry, 2007, 282, 37181-37190.	1.6	217
17	Strand-specific Mismatch Repair in Mammalian Cells. Journal of Biological Chemistry, 1997, 272, 24727-24730.	1.6	213
18	A Defined Human System That Supports Bidirectional Mismatch-Provoked Excision. Molecular Cell, 2004, 15, 31-41.	4.5	210

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19	Human Exonuclease I Is Required for 5â€² and 3â€² Mismatch Repair. Journal of Biological Chemistry, 2002, 277, 13302-13311.	1.6	208
20	Human Mismatch Repair. Journal of Biological Chemistry, 2005, 280, 39752-39761.	1.6	195
21	DNA Polymerase Î´ Is Required for Human Mismatch Repair in Vitro. Journal of Biological Chemistry, 1997, 272, 10917-10921.	1.6	186
22	Nucleotide sequence of a cDNA for a member of the human 90-kDa heat-shock protein family. Gene, 1987, 53, 235-245.	1.0	183
23	Poly(ADP-ribose) polymerase-1 inhibition reverses temozolomide resistance in a DNA mismatch repairâ€“deficient malignant glioma xenograft. Molecular Cancer Therapeutics, 2005, 4, 1364-1368.	1.9	173
24	Engineering Life: Building a FAB for Biology. Scientific American, 2006, 294, 44-51.	1.0	165
25	Nucleotide-promoted Release of hMutSÎ± from Heteroduplex DNA Is Consistent with an ATP-dependent Translocation Mechanism. Journal of Biological Chemistry, 1998, 273, 32055-32062.	1.6	164
26	Targeting Wide-Range Oncogenic Transformation via PU24FCl, a Specific Inhibitor of Tumor Hsp90. Chemistry and Biology, 2004, 11, 787-797.	6.2	159
27	Enzymatic Joining of Polynucleotides. Journal of Biological Chemistry, 1970, 245, 3626-3631.	1.6	146
28	Genetic and enzymatic characterization of a conditional lethal mutant of Escherichia coli K12 with a temperature-sensitive DNA ligase. Journal of Molecular Biology, 1973, 77, 519-529.	2.0	142
29	Structures of Human Exonuclease 1 DNA Complexes Suggest a Unified Mechanism for Nuclease Family. Cell, 2011, 145, 212-223.	13.5	136
30	MutS and MutL Activate DNA Helicase II in a Mismatch-dependent Manner. Journal of Biological Chemistry, 1998, 273, 9197-9201.	1.6	135
31	Genomic mismatch scanning: a new approach to genetic linkage mapping. Nature Genetics, 1993, 4, 11-18.	9.4	134
32	Mismatch-, MutS-, MutL-, and Helicase II-dependent Unwinding from the Single-strand Break of an Incised Heteroduplex. Journal of Biological Chemistry, 1998, 273, 9202-9207.	1.6	123
33	Structure of the Endonuclease Domain of MutL: Unlicensed to Cut. Molecular Cell, 2010, 39, 145-151.	4.5	122
34	A possible mechanism for exonuclease 1-independent eukaryotic mismatch repair. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 8495-8500.	3.3	120
35	Structures and mechanisms of DNA restriction and modification enzymes. Quarterly Reviews of Biophysics, 1979, 12, 315-369.	2.4	118
36	Direct Visualization of Asymmetric Adenine Nucleotide-Induced Conformational Changes in MutLÎ±. Molecular Cell, 2008, 29, 112-121.	4.5	117

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37	Redundant Exonuclease Involvement in Escherichia coli Methyl-directed Mismatch Repair. Journal of Biological Chemistry, 2001, 276, 31053-31058.	1.6	114
38	The MutL ATPase Is Required for Mismatch Repair. Journal of Biological Chemistry, 2000, 275, 9863-9869.	1.6	113
39	Studies on Sequence Recognition By Type II Restriction and Modification Enzyme. Critical Reviews in Biochemistry, 1982, 13, 287-323.	7.5	112
40	Deoxyribonucleic Acid Ligase. Journal of Biological Chemistry, 1973, 248, 7495-7501.	1.6	108
41	MSH6, a Saccharomyces cerevisiae protein that binds to mismatches as a heterodimer with MSH2. Current Biology, 1996, 6, 484-486.	1.8	100
42	A Naturally Occurring <i>hPMS2</i> Mutation Can Confer a Dominant Negative Mutator Phenotype. Molecular and Cellular Biology, 1998, 18, 1635-1641.	1.1	94
43	Mismatch-containing oligonucleotide duplexes bound by theE.coli mutS-encoded protein. Nucleic Acids Research, 1988, 16, 7843-7853.	6.5	90
44	DNA Chain Length Dependence of Formation and Dynamics of hMutSÎ±Â·hMutLÎ±Â·Heteroduplex Complexes. Journal of Biological Chemistry, 2001, 276, 33233-33240.	1.6	90
45	Modulation of MutS ATP Hydrolysis by DNA Cofactorsâ€. Biochemistry, 2000, 39, 3176-3183.	1.2	85
46	Distinct MutS DNA-binding Modes That Are Differentially Modulated by ATP Binding and Hydrolysis. Journal of Biological Chemistry, 2001, 276, 34339-34347.	1.6	82
47	The Î² Sliding Clamp Binds to Multiple Sites within MutL and MutS. Journal of Biological Chemistry, 2006, 281, 14340-14349.	1.6	80
48	Mechanisms of DNA-mismatch correction. Mutation Research DNA Repair, 1990, 236, 253-267.	3.8	77
49	Mismatch Repair-dependent Iterative Excision at Irreparable O6-Methylguanine Lesions in Human Nuclear Extracts. Journal of Biological Chemistry, 2006, 281, 22674-22683.	1.6	76
50	Mechanisms in <i>E. coli</i> and Human Mismatch Repair (Nobel Lecture). Angewandte Chemie - International Edition, 2016, 55, 8490-8501.	7.2	76
51	Mismatch repair and nucleotide excision repair proteins cooperate in the recognition of DNA interstrand crosslinks. Nucleic Acids Research, 2009, 37, 4420-4429.	6.5	75
52	Deoxyribonucleic Acid Ligase. Journal of Biological Chemistry, 1973, 248, 7502-7511.	1.6	72
53	Substrate dependence of the mechanism of EcoRI endonuclease. Nucleic Acids Research, 1978, 5, 2991-2998.	6.5	69
54	PMS2 endonuclease activity has distinct biological functions and is essential for genome maintenance. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 13384-13389.	3.3	68

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55	Interactions of Human Mismatch Repair Proteins MutSÎ± and MutLÎ± with Proteins of the ATR-Chk1 Pathway. Journal of Biological Chemistry, 2010, 285, 5974-5982.	1.6	68
56	Mismatch Repair Deficiency Does Not Mediate Clinical Resistance to Temozolomide in Malignant Glioma. Clinical Cancer Research, 2008, 14, 4859-4868.	3.2	67
57	The mismatch DNA repair heterodimer, hMSH2/6, regulates BLM helicase. Oncogene, 2004, 23, 3749-3756.	2.6	66
58	Extrahelical (CAG)/(CTG) triplet repeat elements support proliferating cell nuclear antigen loading and MutLÎ± endonuclease activation. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 12277-12282.	3.3	65
59	Protein roadblocks and helix discontinuities are barriers to the initiation of mismatch repair. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 12709-12713.	3.3	64
60	The Kinetic Mechanism of EcoRI Endonuclease. Journal of Biological Chemistry, 1999, 274, 31896-31902.	1.6	61
61	DNA-dependent Activation of the hMutSÎ± ATPase. Journal of Biological Chemistry, 1998, 273, 32049-32054.	1.6	59
62	Assembly and Molecular Activities of the MutS Tetramer. Journal of Biological Chemistry, 2003, 278, 34667-34673.	1.6	58
63	MutL traps MutS at a DNA mismatch. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 10914-10919.	3.3	58
64	Differential and Simultaneous Adenosine Di- and Triphosphate Binding by MutS. Journal of Biological Chemistry, 2003, 278, 18557-18562.	1.6	54
65	MutLÎ± and Proliferating Cell Nuclear Antigen Share Binding Sites on MutSÎ². Journal of Biological Chemistry, 2010, 285, 11730-11739.	1.6	52
66	Human MutLÎ³, the MLH1â€"MLH3 heterodimer, is an endonuclease that promotes DNA expansion. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 3535-3542.	3.3	52
67	Coupling of Human DNA Excision Repair and the DNA Damage Checkpoint in a Defined in Vitro System. Journal of Biological Chemistry, 2014, 289, 5074-5082.	1.6	51
68	Functions of MutLÎ±, Replication Protein A (RPA), and HMGB1 in 5â€²-Directed Mismatch Repair. Journal of Biological Chemistry, 2009, 284, 21536-21544.	1.6	48
69	Modulation of cyclophosphamide activity by O ? 6 -alkylguanine-DNA alkyltransferase. Cancer Chemotherapy and Pharmacology, 1999, 43, 80-85.	1.1	47
70	Differential Specificities and Simultaneous Occupancy of Human MutSÎ± Nucleotide Binding Sites. Journal of Biological Chemistry, 2004, 279, 28402-28410.	1.6	47
71	PARP-1 enhances the mismatch-dependence of 5â€²-directed excision in human mismatch repair in vitro. DNA Repair, 2011, 10, 1145-1153.	1.3	47
72	Mapping Individual Cosmid DNAs by Direct AFM Imaging. Genomics, 1997, 41, 379-384.	1.3	46

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73	Involvement of the Î² Clamp in Methyl-directed Mismatch Repair in Vitro. Journal of Biological Chemistry, 2009, 284, 32782-32791.	1.6	45
74	Stereochemical course of nucleotidyl transfer catalyzed by bacteriophage T7 induced DNA polymerase. Biochemistry, 1982, 21, 2570-2572.	1.2	41
75	â€˜Interactiveâ€™ recognition inEcoRl restriction enzyme-DNA complex. Nucleic Acids Research, 1984, 12, 7285-7292.	6.5	41
76	Interaction of proliferating cell nuclear antigen with PMS2 is required for MutLÎ± activation and function in mismatch repair. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 4930-4935.	3.3	41
77	The MutSÎ±-Proliferating Cell Nuclear Antigen Interaction in Human DNA Mismatch Repair. Journal of Biological Chemistry, 2008, 283, 13310-13319.	1.6	40
78	Repair of Large Insertion/Deletion Heterologies in Human Nuclear Extracts Is Directed by a 5â€² Single-strand Break and Is Independent of the Mismatch Repair System. Journal of Biological Chemistry, 1999, 274, 7474-7481.	1.6	36
79	Somatic mutation of hPMS2 as a possible cause of sporadic human colon cancer with microsatellite instability. Oncogene, 2000, 19, 2249-2256.	2.6	30
80	Gap formation is associated with methyl-directed mismatch correction under conditions of restricted DNA synthesis. Genome, 1989, 31, 104-111.	0.9	28
81	Mechanisms of resistance to 1,3-bis(2-chloroethyl)-1-nitrosourea in human medulloblastoma and rhabdomyosarcoma. Molecular Cancer Therapeutics, 2002, 1, 727-36.	1.9	28
82	Brain tumor cell lines resistant to O6-benzylguanine/1,3-bis(2-chloroethyl)-1-nitrosourea chemotherapy have O6-alkylguanine-DNA alkyltransferase mutations. Molecular Cancer Therapeutics, 2004, 3, 1127-35.	1.9	28
83	Methyl-directed DNA mismatch repair in Escherichia coli. Mutation Research - Fundamental and Molecular Mechanisms of Mutagenesis, 1988, 198, 37-43.	0.4	26
84	Hydrolytic function of Exo1 in mammalian mismatch repair. Nucleic Acids Research, 2014, 42, 7104-7112.	6.5	25
85	Preliminary X-ray diffraction studies of EcoRI restriction endonuclease-DNA complex. Journal of Molecular Biology, 1981, 145, 607-610.	2.0	23
86	A phase II window trial of procarbazine and topotecan in children with high-grade glioma: a report from the childrenâ€™s oncology group. Journal of Neuro-Oncology, 2006, 77, 193-198.	1.4	23
87	[12] Purification and properties of EcoRI endonuclease. Methods in Enzymology, 1980, 65, 96-104.	0.4	22
88	The mutagen and carcinogen cadmium is a high-affinity inhibitor of the zinc-dependent MutLÎ± endonuclease. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 7314-7319.	3.3	22
89	Hydrolytically Deficient MutS E694A Is Defective in the MutL-dependent Activation of MutH and in the Mismatch-dependent Assembly of the MutS Â· MutL Â· Heteroduplex Complex. Journal of Biological Chemistry, 2003, 278, 49505-49511.	1.6	19
90	Therapeutic efficacy of vinorelbine against pediatric and adult central nervous system tumors. Cancer Chemotherapy and Pharmacology, 1998, 42, 479-482.	1.1	17

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91	Multiple DNA repair mechanisms and alkylator resistance in the human medulloblastoma cell line D-283 Med (4-HCR). Cancer Chemotherapy and Pharmacology, 1999, 43, 73-79.	1.1	17
92	DNA synthesis in strains of Escherichia coli K12 with temperature-sensitive DNA ligase and DNA polymerase I. Journal of Molecular Biology, 1974, 90, 115-126.	2.0	16
93	Increased transversions in a novel mutator colon cancer cell line. Oncogene, 1998, 16, 1125-1130.	2.6	13
94	Analysis of the Excision Step in Human DNA Mismatch Repair. Methods in Enzymology, 2006, 408, 273-284.	0.4	13
95	Christian Raetz: Scientist and Friend Extraordinaire. Annual Review of Biochemistry, 2013, 82, 1-24.	5.0	9
96	Investigation of the complexes of EcoRI endonuclease with decanucleotides containing canonical and modified recognition sequences using fluorescence and optical detection of magnetic resonance spectroscopy. Biochimica Et Biophysica Acta Gene Regulatory Mechanisms, 1988, 949, 189-194.	2.4	6
97	Identifying sequence similarities between DNA molecules. Ultramicroscopy, 2000, 82, 237-244.	0.8	3
98	Purification, crystallization and preliminary X-ray diffraction analysis of the human mismatch repair protein MutSÎ². Acta Crystallographica Section F: Structural Biology Communications, 2011, 67, 947-952.	0.7	3
99	The C-terminal 20 Amino Acids of Drosophila Topoisomerase 2 Are Required for Binding to a BRCA1 C Terminus (BRCT) Domain-containing Protein, Mus101, and Fidelity of DNA Segregation. Journal of Biological Chemistry, 2016, 291, 13216-13228.	1.6	3
100	Early thinking on the nature of mismatch repair. DNA Repair, 2005, 4, 103-131.	1.3	1
101	Coupling of Human DNA Excision Repair and the ATRâ€mediated DNA Damage Checkpoint. FASEB Journal, 2015, 29, 490.1.	0.2	1
102	Mechanismen der Fehlpaarungsreparatur in <i>E. coli</i> und im Menschen (Nobelâ€Aufsatz). Angewandte Chemie, 2016, 128, 8630-8642.	1.6	0
103	Interactions of human mismatch repair proteins MutSalpha and MutLalpha with proteins of the ATRâ€Chk1 pathway. FASEB Journal, 2010, 24, 492.10.	0.2	0
104	Mismatch repair, genetic stability and tumour avoidance. , 1995, , 85-91.		0