Petr Cejka

List of Publications by Year in descending order

80 papers	6,467 citations	76294 40 h-index	74108 75 g-index
93 all docs	93 docs citations	93 times ranked	5727 citing authors

#	Article	IF	Citations
1	DNA end resection by Dna2â€“Sgs1â€“RPA and its stimulation by Top3â€“Rmi1 and Mre11â€“Rad50â€–Xrs2. Nature, 2010, 467, 112-116.	13.7	421
2	Pif1 family helicases suppress genome instability at G-quadruplex motifs. Nature, 2013, 497, 458-462.	13.7	403
3	Sae2 promotes dsDNA endonuclease activity within Mre11â€“Rad50â€–Xrs2 to resect DNA breaks. Nature, 2014, 514, 122-125.	13.7	364
4	Restoration of Replication Fork Stability in BRCA1- and BRCA2-Deficient Cells by Inactivation of SNF2-Family Fork Remodelers. Molecular Cell, 2017, 68, 414-430.e8.	4.5	295
5	DNA2 drives processing and restart of reversed replication forks in human cells. Journal of Cell Biology, 2015, 208, 545-562.	2.3	280
6	Main steps in DNA double-strand break repair: an introduction to homologous recombination and related processes. Chromosoma, 2018, 127, 187-214.	1.0	242
7	Phosphorylated CtIP Functions as a Co-factor of the MRE11-RAD50-NBS1 Endonuclease in DNA End Resection. Molecular Cell, 2016, 64, 940-950.	4.5	237
8	Mismatch repair-dependent G2 checkpoint induced by low doses of SN1 type methylating agents requires the ATR kinase. Genes and Development, 2004, 18, 1331-1344.	2.7	206
9	DNA End Resection: Nucleases Team Up with the Right Partners to Initiate Homologous Recombination. Journal of Biological Chemistry, 2015, 290, 22931-22938.	1.6	179
10	BRCA2 controls DNA:RNA hybrid level at DSBs by mediating RNase H2 recruitment. Nature Communications, 2018, 9, 5376.	5.8	176
11	Rmi1 stimulates decatenation of double Holliday junctions during dissolution by Sgs1â€“Top3. Nature Structural and Molecular Biology, 2010, 17, 1377-1382.	3.6	175
12	H4K20me0 marks post-replicative chromatin and recruits the TONSLâ€–MMS22L DNA repair complex. Nature, 2016, 534, 714-718.	13.7	172
13	DNA2 Cooperates with the WRN and BLM RecQ Helicases to Mediate Long-range DNA End Resection in Human Cells. Journal of Biological Chemistry, 2014, 289, 27314-27326.	1.6	162
14	Methylation-induced G2/M arrest requires a full complement of the mismatch repair protein hMLH1. EMBO Journal, 2003, 22, 2245-2254.	3.5	160
15	SAMHD1 Promotes DNA End Resection to Facilitate DNA Repair by Homologous Recombination. Cell Reports, 2017, 20, 1921-1935.	2.9	147
16	Ribonucleotides Misincorporated into DNA Act as Strand-Discrimination Signals in Eukaryotic Mismatch Repair. Molecular Cell, 2013, 50, 323-332.	4.5	139
17	The Saccharomyces cerevisiae Mlh1-Mlh3 Heterodimer Is an Endonuclease That Preferentially Binds to Holliday Junctions. Journal of Biological Chemistry, 2014, 289, 5674-5686.	1.6	116
18	Relationship of DNA degradation by Saccharomyces cerevisiae Exonuclease 1 and its stimulation by RPA and Mre11-Rad50-Xrs2 to DNA end resection. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, E1661-8.	3.3	110

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19	The Full-length Saccharomyces cerevisiae Sgs1 Protein Is a Vigorous DNA Helicase That Preferentially Unwinds Holliday Junctions. Journal of Biological Chemistry, 2010, 285, 8290-8301.	1.6	106
20	Physiological protein blocks direct the Mre11â€“Rad50â€“Xrs2 and Sae2 nuclease complex to initiate DNA end resection. Genes and Development, 2017, 31, 2325-2330.	2.7	106
21	Expression of the MutL Homologue hMLH3 in Human Cells and its Role in DNA Mismatch Repair. Cancer Research, 2005, 65, 10759-10766.	0.4	105
22	DNA End Resection: Mechanism and Control. Annual Review of Genetics, 2021, 55, 285-307.	3.2	105
23	Top3-Rmi1 Dissolve Rad51-Mediated D Loops by a Topoisomerase-Based Mechanism. Molecular Cell, 2015, 57, 595-606.	4.5	103
24	Dependence of the Cytotoxicity of DNA-Damaging Agents on the Mismatch Repair Status of Human Cells. Cancer Research, 2004, 64, 3391-3394.	0.4	102
25	A meiotic XPFâ€“ERCC1-like complex recognizes joint molecule recombination intermediates to promote crossover formation. Genes and Development, 2018, 32, 283-296.	2.7	98
26	Decatenation of DNA by the S.Âcerevisiae Sgs1-Top3-Rmi1 and RPA Complex: A Mechanism for Disentangling Chromosomes. Molecular Cell, 2012, 47, 886-896.	4.5	92
27	Regulation of the MLH1â€“MLH3 endonuclease in meiosis. Nature, 2020, 586, 618-622.	13.7	88
28	RECQL4 Promotes DNA End Resection in Repair of DNA Double-Strand Breaks. Cell Reports, 2016, 16, 161-173.	2.9	81
29	Structural and mechanistic insight into Holliday-junction dissolution by Topoisomerase IIIÎ± and RMI1. Nature Structural and Molecular Biology, 2014, 21, 261-268.	3.6	71
30	Concerted action of the MutLÎ² heterodimer and Mer3 helicase regulates the global extent of meiotic gene conversion. ELife, 2017, 6, .	2.8	67
31	Xrs2 Dependent and Independent Functions of the Mre11-Rad50 Complex. Molecular Cell, 2016, 64, 405-415.	4.5	66
32	The MMS22Lâ€“TONSL heterodimer directly promotes RAD51â€dependent recombination upon replication stress. EMBO Journal, 2016, 35, 2584-2601.	3.5	64
33	Regulatory control of DNA end resection by Sae2 phosphorylation. Nature Communications, 2018, 9, 4016.	5.8	64
34	NBS1 promotes the endonuclease activity of the MRE11â€RAD50 complex by sensing CtIP phosphorylation. EMBO Journal, 2019, 38, .	3.5	63
35	The MRE11 complex: A versatile toolkit for the repair of broken DNA. DNA Repair, 2020, 91-92, 102869.	1.3	62
36	Human DNA2 possesses a cryptic DNA unwinding activity that functionally integrates with BLM or WRN helicases. ELife, 2016, 5, .	2.8	59

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37	Nuclease activity of Saccharomyces cerevisiae Dna2 inhibits its potent DNA helicase activity. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, E1992-2001.	3.3	52
38	CtIP promotes the motor activity of DNA2 to accelerate long-range DNA end resection. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 8859-8869.	3.3	51
39	Stepwise 5â€² DNA end-specific resection of DNA breaks by the Mre11-Rad50-Xrs2 and Sae2 nuclease ensemble. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 5505-5513.	3.3	49
40	Dissection of the Functions of the Saccharomyces cerevisiae RAD6 Postreplicative Repair Group in Mutagenesis and UV Sensitivity. Genetics, 2001, 159, 953-963.	1.2	45
41	MRE11-RAD50-NBS1 Complex Is Sufficient to Promote Transcription by RNA Polymerase II at Double-Strand Breaks by Melting DNA Ends. Cell Reports, 2021, 34, 108565.	2.9	43
42	High Doses of SN1 Type Methylating Agents Activate DNA Damage Signaling Cascades that are Largely Independent of Mismatch Repair. Cell Cycle, 2005, 4, 473-477.	1.3	40
43	TheSaccharomyces cerevisiaeDna2 can function as a sole nuclease in the processing of Okazaki fragments in DNA replication. Nucleic Acids Research, 2015, 43, 7888-7897.	6.5	40
44	The Mre11-Nbs1 Interface Is Essential for Viability and Tumor Suppression. Cell Reports, 2017, 18, 496-507.	2.9	39
45	The motor activity of DNA2 functions as an ssDNA translocase to promote DNA end resection. Genes and Development, 2017, 31, 493-502.	2.7	39
46	Homologous Recombination Rescues Mismatch-Repair-Dependent Cytotoxicity of SN1-Type Methylating Agents in S. cerevisiae. Current Biology, 2005, 15, 1395-1400.	1.8	33
47	Regulated Proteolysis of MutSÎ³ Controls Meiotic Crossing Over. Molecular Cell, 2020, 78, 168-183.e5.	4.5	33
48	Replication intermediates that escape Dna2 activity are processed by Holliday junction resolvase Yen1. Nature Communications, 2016, 7, 13157.	5.8	31
49	Force regulated dynamics of RPA on a DNA fork. Nucleic Acids Research, 2016, 44, 5837-5848.	6.5	31
50	Methods to Study DNA End Resection I: Recombinant Protein Purification. Methods in Enzymology, 2018, 600, 25-66.	0.4	29
51	Exo1 recruits Cdc5 polo kinase to MutLÎ³ to ensure efficient meiotic crossover formation. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 30577-30588.	3.3	28
52	MCM8IP activates the MCM8-9 helicase to promote DNA synthesis and homologous recombination upon DNA damage. Nature Communications, 2020, 11, 2948.	5.8	28
53	Phosphorylation of the RecQ Helicase Sgs1/BLM Controls Its DNA Unwinding Activity during Meiosis and Mitosis. Developmental Cell, 2020, 53, 706-723.e5.	3.1	26
54	Competing interaction partners modulate the activity of Sgs1 helicase during <scp>DNA</scp> end resection. EMBO Journal, 2019, 38, e101516.	3.5	21

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55	Phosphorylated CtIP bridges DNA to promote annealing of broken ends. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 21403-21412.	3.3	21
56	Inhibition of MRN activity by a telomere protein motif. Nature Communications, 2021, 12, 3856.	5.8	20
57	Is mismatch repair really required for ionizing radiationâ€“induced DNA damage signaling?. Nature Genetics, 2004, 36, 432-433.	9.4	18
58	Molecular basis of the dual role of the Mlh1-Mlh3 endonuclease in MMR and in meiotic crossover formation. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	18
59	Mismatch repair-dependent transcriptome changes in human cells treated with the methylating agent N-methyl-n'-nitro-N-nitrosoguanidine. Cancer Research, 2003, 63, 8158-66.	0.4	18
60	Strand annealing and motor driven activities of SMARCAL1 and ZRANB3 are stimulated by RAD51 and the paralog complex. Nucleic Acids Research, 2022, 50, 8008-8022.	6.5	18
61	Sae2 and Rif2 regulate MRX endonuclease activity at DNA double-strand breaks in opposite manners. Cell Reports, 2021, 34, 108906.	2.9	17
62	Interplay of DNA Repair Pathways Controls Methylation Damage Toxicity in Saccharomyces cerevisiae. Genetics, 2008, 179, 1835-1844.	1.2	16
63	Methods to Study DNA End Resection II: Biochemical Reconstitution Assays. Methods in Enzymology, 2018, 600, 67-106.	0.4	16
64	MRNIP is a replication fork protection factor. Science Advances, 2020, 6, eaba5974.	4.7	16
65	The Pif1 helicase is actively inhibited during meiotic recombination which restrains gene conversion tract length. Nucleic Acids Research, 2021, 49, 4522-4533.	6.5	16
66	Mre11-Rad50 oligomerization promotes DNA double-strand break repair. Nature Communications, 2022, 13, 2374.	5.8	15
67	The ironâ€“sulphur cluster in human DNA2 is required for all biochemical activities of DNA2. Communications Biology, 2020, 3, 322.	2.0	13
68	The CDK1-TOPBP1-PLK1 axis regulates the Bloomâ€™s syndrome helicase BLM to suppress crossover recombination in somatic cells. Science Advances, 2022, 8, eabk0221.	4.7	13
69	The internal region of CtIP negatively regulates DNA end resection. Nucleic Acids Research, 2020, 48, 5485-5498.	6.5	12
70	Sumoylation regulates the stability and nuclease activity of Saccharomyces cerevisiae Dna2. Communications Biology, 2019, 2, 174.	2.0	11
71	Crossover or non-crossover outcomes: tailored processing of homologous recombination intermediates. Current Opinion in Genetics and Development, 2021, 71, 39-47.	1.5	10
72	Distinct RPA domains promote recruitment and the helicase-nuclease activities of Dna2. Nature Communications, 2021, 12, 6521.	5.8	9

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73	A Disease-Causing Single Amino Acid Deletion in the Coiled-Coil Domain of RAD50 Impairs MRE11 Complex Functions in Yeast and Humans. Cell Reports, 2020, 33, 108559.	2.9	7
74	Differential killing of mismatch repair-deficient and -proficient cells: towards the therapy of tumors with microsatellite instability. Cancer Research, 2003, 63, 8113-7.	0.4	7
75	Complex assistance for DNA invasion. Nature, 2017, 550, 342-343.	13.7	4
76	Single-molecule studies illuminate the function of RAD51 paralogs. Molecular Cell, 2021, 81, 898-900.	4.5	4
77	Somatic hypermutation and mismatch repair in non-Bâ€„cells. European Journal of Immunology, 2005, 35, 2222-2229.	1.6	3
78	Seeing is believing: DNA zipping promotes DNA repair. Journal of Biological Chemistry, 2019, 294, 3321-3322.	1.6	0
79	DNA Bridging by the Homologous Recombination Component CtIP Investigated on the Single DNA Molecule Level. Biophysical Journal, 2020, 118, 30a.	0.2	0
80	Mechanism of Replication Fork Reversal and Protection by Human RAD51 and RAD51 Paralogs. SSRN Electronic Journal, 0, , .	0.4	0