Wolf-Dietrich Heyer

List of Publications by Year
in descending order

109 papers	8,242 citations	57631 44 h-index	51492 86 g-index
138 all docs	138 docs citations	138 times ranked	6709 citing authors

#	Article	IF	Citations
1	Regulation of Homologous Recombination in Eukaryotes. Annual Review of Genetics, 2010, 44, 113-139.	3.2	899
2	Homologous recombination in DNA repair and DNA damage tolerance. Cell Research, 2008, 18, 99-113.	5.7	845
3	Homologous recombination and the repair of DNA double-strand breaks. Journal of Biological Chemistry, 2018, 293, 10524-10535.	1.6	461
4	Human BRCA2 protein promotes RAD51 filament formation on RPA-covered single-stranded DNA. Nature Structural and Molecular Biology, 2010, 17, 1260-1262.	3.6	327
5	Alternate pathways involving Sgs1/Top3, Mus81/ Mms4, and Srs2 prevent formation of toxic recombination intermediates from single-stranded gaps created by DNA replication. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 16887-16892.	3.3	294
6	Damage Tolerance Protein Mus81 Associates with the FHA1 Domain of Checkpoint Kinase Cds1. Molecular and Cellular Biology, 2000, 20, 8758-8766.	1.1	265
7	Rad54, a Swi2/Snf2-like Recombinational Repair Protein, Disassembles Rad51:dsDNA Filaments. Molecular Cell, 2002, 10, 1175-1188.	4.5	238
8	Rad54: the Swiss Army knife of homologous recombination?. Nucleic Acids Research, 2006, 34, 4115-4125.	6.5	222
9	Rad51 paralogues Rad55â€“Rad57 balance the antirecombinase Srs2 in Rad51 filament formation. Nature, 2011, 479, 245-248.	13.7	183
10	Rad54 Protein Is Targeted to Pairing Loci by the Rad51 Nucleoprotein Filament. Molecular Cell, 2000, 6, 583-592.	4.5	182
11	Recombinational repair in yeast: functional interactions between Rad51 and Rad54 proteins. EMBO Journal, 1997, 16, 2535-2544.	3.5	177
12	Processing of joint molecule intermediates by structure-selective endonucleases during homologous recombination in eukaryotes. Chromosoma, 2011, 120, 109-127.	1.0	174
13	DNA Repair Protein Rad55 Is a Terminal Substrate of the DNA Damage Checkpoints. Molecular and Cellular Biology, 2000, 20, 4393-4404.	1.1	150
14	NADH-coupled microplate photometric assay for kinetic studies of ATP-hydrolyzing enzymes with low and high specific activities. Analytical Biochemistry, 2003, 321, 266-271.	1.1	150
15	Human and mouse homologs of the Saccharomyces cerevisiaeRAD54 DNA repair gene: evidence for functional conservation. Current Biology, 1996, 6, 828-838.	1.8	147
16	Rad54 Functions as a Heteroduplex DNA Pump Modulated by Its DNA Substrates and Rad51 during D Loop Formation. Molecular Cell, 2014, 53, 420-432.	4.5	131
17	Autism and Cancer Share Risk Genes, Pathways, and Drug Targets. Trends in Genetics, 2016, 32, 139-146.	2.9	123
18	Eukaryotic DNA Polymerases in Homologous Recombination. Annual Review of Genetics, 2016, 50, 393-421.	3.2	121

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19	PCNA Is Required for Initiation of Recombination-Associated DNA Synthesis by DNA Polymerase Î´. Molecular Cell, 2009, 36, 704-713.	4.5	120
20	Functions of the Snf2/Swi2 family Rad54 motor protein in homologous recombination. Biochimica Et Biophysica Acta - Gene Regulatory Mechanisms, 2011, 1809, 509-523.	0.9	120
21	Rad54 protein stimulates heteroduplex DNA formation in the synaptic phase of DNA strand exchange via specific interactions with the presynaptic Rad51 nucleoprotein filament11Edited by M. Belfort. Journal of Molecular Biology, 2001, 307, 1207-1221.	2.0	115
22	Top3-Rmi1 Dissolve Rad51-Mediated D Loops by a Topoisomerase-Based Mechanism. Molecular Cell, 2015, 57, 595-606.	4.5	103
23	Multi-invasions Are Recombination Byproducts that Induce Chromosomal Rearrangements. Cell, 2017, 170, 760-773.e15.	13.5	101
24	Direct Kinase-to-Kinase Signaling Mediated by the FHA Phosphoprotein Recognition Domain of the Dun1 DNA Damage Checkpoint Kinase. Molecular and Cellular Biology, 2003, 23, 1441-1452.	1.1	99
25	Holliday junctions in the eukaryotic nucleus: resolution in sight?. Trends in Biochemical Sciences, 2003, 28, 548-557.	3.7	96
26	The Fuss about Mus81. Cell, 2001, 107, 551-554.	13.5	89
27	RAD54 controls access to the invading 3â€²-OH end after RAD51-mediated DNA strand invasion in homologous recombination in Saccharomyces cerevisiae. Nucleic Acids Research, 2009, 37, 638-646.	6.5	87
28	Regulation of Recombination and Genomic Maintenance. Cold Spring Harbor Perspectives in Biology, 2015, 7, a016501.	2.3	85
29	Dynamic Processing of Displacement Loops during Recombinational DNA Repair. Molecular Cell, 2019, 73, 1255-1266.e4.	4.5	84
30	Saccharomyces cerevisiae Mus81-Mms4 is a catalytic, DNA structure-selective endonuclease. Nucleic Acids Research, 2008, 36, 2182-2195.	6.5	81
31	Nek1 Regulates Rad54 to Orchestrate Homologous Recombination and Replication Fork Stability. Molecular Cell, 2016, 62, 903-917.	4.5	80
32	Phosphorylation of Rad55 on Serines 2, 8, and 14 Is Required for Efficient Homologous Recombination in the Recovery of Stalled Replication Forks. Molecular and Cellular Biology, 2006, 26, 8396-8409.	1.1	79
33	Homologous Recombination and the Formation of Complex Genomic Rearrangements. Trends in Cell Biology, 2019, 29, 135-149.	3.6	76
34	RAD54 family translocases counter genotoxic effects of RAD51 in human tumor cells. Nucleic Acids Research, 2015, 43, 3180-3196.	6.5	72
35	Rad51 and Rad54 ATPase activities are both required to modulate Rad51-dsDNA filament dynamics. Nucleic Acids Research, 2007, 35, 4124-4140.	6.5	69
36	A New Recombinational DNA Repair Gene From Schizosaccharomyces pombe With Homology to Escherichia coli RecA. Genetics, 1999, 152, 1557-1572.	1.2	66

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37	Terminal association of Rad54 protein with the Rad51-dsDNA filament. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 9767-9772.	3.3	58
38	Distinct Roles of Mus81, Yen1, Slx1-Slx4, and Rad1 Nucleases in the Repair of Replication-Born Double-Strand Breaks by Sister Chromatid Exchange. Molecular and Cellular Biology, 2012, 32, 1592-1603.	1.1	58
39	Mus81-Mms4 Functions as a Single Heterodimer To Cleave Nicked Intermediates in Recombinational DNA Repair. Molecular and Cellular Biology, 2012, 32, 3065-3080.	1.1	55
40	POLÎ¸-mediated end joining is restricted by RAD52 and BRCA2 until the onset of mitosis. Nature Cell Biology, 2021, 23, 1095-1104.	4.6	55
41	Some disassembly required: role of DNA translocases in the disruption of recombination intermediates and dead-end complexes. Genes and Development, 2006, 20, 2479-2486.	2.7	54
42	Srs2 promotes synthesis-dependent strand annealing by disrupting DNA polymerase Î´-extending D-loops. ELife, 2017, 6, .	2.8	54
43	Reconstitution of recombination-associated DNA synthesis with human proteins. Nucleic Acids Research, 2013, 41, 4913-4925.	6.5	53
44	Recombination: Holliday Junction Resolution and Crossover Formation. Current Biology, 2004, 14, R56-R58.	1.8	50
45	Extremely high frequency electromagnetic fields at low power density do not affect the division of exponential phase Saccharomyces cerevisiae cells. Bioelectromagnetics, 1997, 18, 142-155.	0.9	47
46	In vitro role of Rad54 in Rad51-ssDNA filament-dependent homology search and synaptic complexes formation. Nature Communications, 2019, 10, 4058.	5.8	45
47	Moving forward one step back at a time: reversibility during homologous recombination. Current Genetics, 2019, 65, 1333-1340.	0.8	44
48	Rad54 Protein Exerts Diverse Modes of ATPase Activity on Duplex DNA Partially and Fully Covered with Rad51 Protein. Journal of Biological Chemistry, 2002, 277, 46205-46215.	1.6	43
49	Presynaptic filament dynamics in homologous recombination and DNA repair. Critical Reviews in Biochemistry and Molecular Biology, 2011, 46, 240-270.	2.3	42
50	Esc4/Rtt107 and the control of recombination during replication. DNA Repair, 2006, 5, 618-628.	1.3	41
51	Saccharomyces cerevisiae cells lacking the homologous pairing protein p175 SEP1 arrest at pachytene during meiotic prophase. Chromosoma, 1994, 103, 129-141.	1.0	39
52	Specific negative effects resulting from elevated levels of the recombinational repair protein Rad54p inSaccharomyces cerevisiae. , 1999, 15, 721-740.		37
53	Strand displacement synthesis by yeast DNA polymerase Îµ. Nucleic Acids Research, 2016, 44, 8229-8240.	6.5	37
54	The Yeast <i>HRS1</i> Gene Encodes a Polyglutamine-Rich Nuclear Protein Required for Spontaneous and <i>hpr1</i>-Induced Deletions Between Direct Repeats. Genetics, 1996, 142, 705-716.	1.2	37

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55	DNA polymerases Î´ and Î» cooperate in repairing double-strand breaks by microhomology-mediated end-joining in Saccharomyces cerevisiae. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E6907-E6916.	3.3	36
56	Biochemistry of Meiotic Recombination: Formation, Processing, and Resolution of Recombination Intermediates. Genome Dynamics and Stability, 2008, 3, 91-164.	1.1	34
57	A junction branch point adjacent to a DNA backbone nick directs substrate cleavage by Saccharomyces cerevisiae Mus81-Mms4. Nucleic Acids Research, 2009, 37, 2026-2036.	6.5	32
58	Spontaneous and double-strand break-induced recombination, and gene conversion tract lengths, are differentially affected by overexpression of wild-type or ATPase-defective yeast Rad54. Nucleic Acids Research, 2002, 30, 2727-2735.	6.5	31
59	No mutagenic or recombinogenic effects of mobile phone fields at 900 MHz detected in the yeastSaccharomyces cerevisiae. Bioelectromagnetics, 2000, 21, 515-523.	0.9	30
60	In Vitro Assays for DNA Pairing and Recombination-Associated DNA Synthesis. Methods in Molecular Biology, 2011, 745, 363-383.	0.4	28
61	Multiâ€Invasionâ€Induced Rearrangements as a Pathway for Physiological and Pathological Recombination. BioEssays, 2018, 40, e1700249.	1.2	28
62	Meiotic recombination in RAD54 mutants of Saccharomyces cerevisiae. Chromosoma, 2000, 109, 86-93.	1.0	27
63	Synthetic Lethality between Gene Defects Affecting a Single Non-essential Molecular Pathway with Reversible Steps. PLoS Computational Biology, 2013, 9, e1003016.	1.5	26
64	Molecular Genetics of Recombination. Topics in Current Genetics, 2007, 17, 95-133.	0.7	25
65	Genome instability in rad54 mutants of Saccharomyces cerevisiae. Nucleic Acids Research, 2003, 31, 1013-1023.	6.5	24
66	A truncated DNA-damage-signaling response is activated after DSB formation in the G1 phase of Saccharomyces cerevisiae. Nucleic Acids Research, 2010, 38, 2302-2313.	6.5	23
67	DSS1 and ssDNA regulate oligomerization of BRCA2. Nucleic Acids Research, 2020, 48, 7818-7833.	6.5	21
68	Identification of functional domains in the Sep1 protein (= Kem1, Xrn1), which is required for transition through meiotic prophase in Saccharomyces cerevisiae. Chromosoma, 1995, 104, 215-222.	1.0	19
69	The DNA damage checkpoint pathways exert multiple controls on the efficiency and outcome of the repair of a double-stranded DNA gap. Nucleic Acids Research, 2004, 32, 4257-4268.	6.5	19
70	Gly-103 in the N-terminal Domain of Saccharomyces cerevisiae Rad51 Protein Is Critical for DNA Binding. Journal of Biological Chemistry, 2005, 280, 26303-26311.	1.6	19
71	Two Alternatively Spliced Transcripts Generated from OsMUS81, a Rice Homolog of Yeast MUS81, Are Up-Regulated by DNA-Damaging Treatments. Plant and Cell Physiology, 2007, 48, 648-654.	1.5	18
72	Nonsense-mediated decay regulates key components of homologous recombination. Nucleic Acids Research, 2016, 44, 5218-5230.	6.5	18

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73	Biochemistry of eukaryotic homologous recombination. Topics in Current Genetics, 2007, , 95-133.	0.7	18
74	Rdh54/Tid1 inhibits Rad51-Rad54-mediated D-loop formation and limits D-loop length. ELife, 2020, 9, .	2.8	18
75	The Mus81-Mms4 structure-selective endonuclease requires nicked DNA junctions to undergo conformational changes and bend its DNA substrates for cleavage. Nucleic Acids Research, 2014, 42, 6511-6522.	6.5	17
76	Guardians of the Genome: BRCA2 and Its Partners. Genes, 2021, 12, 1229.	1.0	17
77	A Proximity Ligation-Based Method for Quantitative Measurement of D-Loop Extension in S. cerevisiae. Methods in Enzymology, 2018, 601, 27-44.	0.4	15
78	Cancer testis antigens and genomic instability: More than immunology. DNA Repair, 2021, 108, 103214.	1.3	14
79	Loop 2 in Saccharomyces cerevisiae Rad51 protein regulates filament formation and ATPase activity. Nucleic Acids Research, 2009, 37, 158-171.	6.5	11
80	Biochemistry of Eukaryotic Homologous Recombination. , 2006, , 95-133.		10
81	Guidelines for DNA recombination and repair studies: Mechanistic assays of DNA repair processes. Microbial Cell, 2019, 6, 65-101.	1.4	10
82	A Conserved Sequence Extending Motif III of the Motor Domain in the Snf2-Family DNA Translocase Rad54 Is Critical for ATPase Activity. PLoS ONE, 2013, 8, e82184.	1.1	10
83	Damage Signaling: RecQ Sends an SOS to You. Current Biology, 2004, 14, R895-R897.	1.8	9
84	DNA Damageâ€Induced Phosphorylation of Rad55 Protein as a Sentinel for DNA Damage Checkpoint Activation in S. cerevisiae. Methods in Enzymology, 2006, 409, 166-182.	0.4	9
85	Use of Monoclonal Antibodies in the Functional Characterization of the Saccharomyces Cerevisiae Sepl Protein. FEBS Journal, 1995, 231, 329-336.	0.2	8
86	Cooperation between non-essential DNA polymerases contributes to genome stability in Saccharomyces cerevisiae. DNA Repair, 2019, 76, 40-49.	1.3	6
87	Saccharomyces cerevisiae cells lacking the homologous pairing protein p175 SEP1 arrest at pachytene during meiotic prophase. Chromosoma, 1994, 103, 129-141.	1.0	6
88	Use of Monoclonal Antibodies in the Functional Characterization of the <i>Saccharomyces Cerevisiae</i> Sepl Protein. FEBS Journal, 1995, 231, 329-336.	0.2	5
89	Physical and Genetic Assays for the Study of DNA Joint Molecules Metabolism and Multi-invasion-Induced Rearrangements in S. cerevisiae. Methods in Molecular Biology, 2021, 2153, 535-554.	0.4	5
90	Quality Control of Purified Proteins Involved in Homologous Recombination. Methods in Molecular Biology, 2011, 745, 329-343.	0.4	5

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91	Bisulfite treatment and single-molecule real-time sequencing reveal D-loop length, position, and distribution. ELife, 2020, 9, .	2.8	5
92	A new deal for Holliday junctions. Nature Structural and Molecular Biology, 2004, 11, 117-119.	3.6	4
93	Role of the Srs2â€"Rad51 Interaction Domain in Crossover Control in Saccharomyces cerevisiae. Genetics, 2019, 212, 1133-1145.	1.2	4
94	Assays for Structure-Selective DNA Endonucleases. Methods in Molecular Biology, 2011, 745, 345-362.	0.4	4
95	Saccharomyces cerevisiae Mus81-Mms4 prevents accelerated senescence in telomerase-deficient cells. PLoS Genetics, 2020, 16, e1008816.	1.5	2
96	Turning end-joining upside down in mitosis. Molecular and Cellular Oncology, 2021, 8, 2007029.	0.3	1
97	Recombination | Recombination DNA-Strand Transferases. , 2021, , 149-157.		0
98	The role of the ATPase activities of the Rad51 and Rad54 proteins in the postsynaptic stage of homologous recombination. FASEB Journal, 2006, 20, A942.	0.2	0
99	Biochemical analysis of Saccharomyces cerevisiae Mus81â€Mms4, an endonuclease that supports eukaryotic DNA replication. FASEB Journal, 2006, 20, A76.	0.2	0
100	Mechanism of recombination in eukaryotes: Some remodeling required. FASEB Journal, 2008, 22, 405.3.	0.2	0
101	Regulation Of Homologous Recombination: Robustness Through Reversibility. FASEB Journal, 2016, 30, 239.1.	0.2	0
102	Saccharomyces cerevisiae Mus81-Mms4 prevents accelerated senescence in telomerase-deficient cells. , 2020, 16, e1008816.		0
103	Saccharomyces cerevisiae Mus81-Mms4 prevents accelerated senescence in telomerase-deficient cells. , 2020, 16, e1008816.		0
104	Saccharomyces cerevisiae Mus81-Mms4 prevents accelerated senescence in telomerase-deficient cells. , 2020, 16, e1008816.		0
105	Saccharomyces cerevisiae Mus81-Mms4 prevents accelerated senescence in telomerase-deficient cells. , 2020, 16, e1008816.		0
106	Saccharomyces cerevisiae Mus81-Mms4 prevents accelerated senescence in telomerase-deficient cells. , 2020, 16, e1008816.		0
107	Saccharomyces cerevisiae Mus81-Mms4 prevents accelerated senescence in telomerase-deficient cells. , 2020, 16, e1008816.		0
108	Saccharomyces cerevisiae Mus81-Mms4 prevents accelerated senescence in telomerase-deficient cells. , 2020, 16, e1008816.		0

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109	Identification of functional domains in the Sep1 protein (= Kem1, Xrn1), which is required for transition through meiotic prophase in Saccharomyces cerevisiae. Chromosoma, 1995, 104, 215-222.	1.0	0