Patrick Sung

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/7849523/publications.pdf

Version: 2024-02-01

131 papers	10,588 citations	43973 48 h-index	35952 97 g-index
138 all docs	138 docs citations	138 times ranked	9099 citing authors

#	Article	IF	Citations
1	Mechanism of Eukaryotic Homologous Recombination. Annual Review of Biochemistry, 2008, 77, 229-257.	5.0	1,349
2	Mechanism of homologous recombination: mediators and helicases take on regulatory functions. Nature Reviews Molecular Cell Biology, 2006, 7, 739-750.	16.1	568
3	Function of Yeast Rad52 Protein as a Mediator between Replication Protein A and the Rad51 Recombinase. Journal of Biological Chemistry, 1997, 272, 28194-28197.	1.6	489
4	DNA damage-induced cell cycle checkpoints and DNA strand break repair in development and tumorigenesis. Oncogene, 1999, 18, 7883-7899.	2.6	413
5	Catalysis of homologous DNA pairing by yeast Rad51 and Rad54 proteins. Nature, 1998, 393, 91-94.	13.7	406
6	Rad51 Recombinase and Recombination Mediators. Journal of Biological Chemistry, 2003, 278, 42729-42732.	1.6	366
7	Mechanism of the ATP-dependent DNA end-resection machinery from Saccharomyces cerevisiae. Nature, 2010, 467, 108-111.	13.7	349
8	Pif1 helicase and Polî´ promote recombination-coupled DNA synthesis via bubble migration. Nature, 2013, 502, 393-396.	13.7	265
9	BRCA1â€“BARD1 promotes RAD51-mediated homologous DNA pairing. Nature, 2017, 550, 360-365.	13.7	262
10	Superhelicity-Driven Homologous DNA Pairing by Yeast Recombination Factors Rad51 and Rad54. Molecular Cell, 2000, 6, 563-572.	4.5	213
11	The antitumorigenic roles of BRCA1â€“BARD1 in DNA repair and replication. Nature Reviews Molecular Cell Biology, 2020, 21, 284-299.	16.1	199
12	Yeast Rad54 Promotes Rad51-dependent Homologous DNA Pairing via ATP Hydrolysis-driven Change in DNA Double Helix Conformation. Journal of Biological Chemistry, 1999, 274, 29453-29462.	1.6	190
13	DNA Sequence Alignment by Microhomology Sampling during Homologous Recombination. Cell, 2015, 160, 856-869.	13.5	182
14	Concentration-Dependent Exchange of Replication Protein A on Single-Stranded DNA Revealed by Single-Molecule Imaging. PLoS ONE, 2014, 9, e87922.	1.1	176
15	Chromatinâ€bound <scp>cGAS</scp> is an inhibitor of DNA repair and hence accelerates genome destabilization and cell death. EMBO Journal, 2019, 38, e102718.	3.5	173
16	Rad54p Is a Chromatin Remodeling Enzyme Required for Heteroduplex DNA Joint Formation with Chromatin. Journal of Biological Chemistry, 2003, 278, 9212-9218.	1.6	164
17	Enhancement of RAD51 recombinase activity by the tumor suppressor PALB2. Nature Structural and Molecular Biology, 2010, 17, 1255-1259.	3.6	146
18	Base triplet stepping by the Rad51/RecA family of recombinases. Science, 2015, 349, 977-981.	6.0	145

#	Article	IF	Citations
19	Promotion of BRCA2-Dependent Homologous Recombination by DSS1 via RPA Targeting and DNA Mimicry. Molecular Cell, 2015, 59, 176-187.	4.5	141
20	Differential Contributions of Mammalian Rad54 Paralogs to Recombination, DNA Damage Repair, and Meiosis. Molecular and Cellular Biology, 2006, 26, 976-989.	1.1	134
21	Homologous DNA Pairing by Human Recombination Factors Rad51 and Rad54. Journal of Biological Chemistry, 2002, 277, 42790-42794.	1.6	132
22	Promotion of Homologous Recombination and Genomic Stability by RAD51AP1 via RAD51 Recombinase Enhancement. Molecular Cell, 2007, 28, 482-490.	4.5	122
23	Protein dynamics of human RPA and RAD51 on ssDNA during assembly and disassembly of the RAD51 filament. Nucleic Acids Research, 2017, 45, 749-761.	6.5	120
24	Cryo-EM structures of human RAD51 recombinase filaments during catalysis of DNA-strand exchange. Nature Structural and Molecular Biology, 2017, 24, 40-46.	3.6	109
25	Recombination Mediator and Rad51 Targeting Activities of a Human BRCA2 Polypeptide. Journal of Biological Chemistry, 2006, 281, 11649-11657.	1.6	108
26	Biochemical mechanism of DSB end resection and its regulation. DNA Repair, 2015, 32, 66-74.	1.3	107
27	The BRCA Tumor Suppressor Network in Chromosome Damage Repair by Homologous Recombination. Annual Review of Biochemistry, 2019, 88, 221-245.	5.0	104
28	Plasticity of the Mre11â€“Rad50â€“Xrs2â€“Sae2 nuclease ensemble in the processing of DNA-bound obstacles. Genes and Development, 2017, 31, 2331-2336.	2.7	96
29	UAP56/DDX39B is a major cotranscriptional RNAâ€“DNA helicase that unwinds harmful R loops genome-wide. Genes and Development, 2020, 34, 898-912.	2.7	83
30	FANCI Binds Branched DNA and Is Monoubiquitinated by UBE2T-FANCL. Journal of Biological Chemistry, 2009, 284, 23182-23186.	1.6	82
31	Regulation of DNA Pairing in Homologous Recombination. Cold Spring Harbor Perspectives in Biology, 2014, 6, a017954-a017954.	2.3	82
32	Protein dynamics during presynaptic-complex assembly on individual single-stranded DNA molecules. Nature Structural and Molecular Biology, 2014, 21, 893-900.	3.6	81
33	Regulation of FANCD2 and FANCI monoubiquitination by their interaction and by DNA. Nucleic Acids Research, 2014, 42, 5657-5670.	6.5	77
34	Rad54 Drives ATP Hydrolysis-Dependent DNA Sequence Alignment during Homologous Recombination. Cell, 2020, 181, 1380-1394.e18.	13.5	77
35	Avoidance of ribonucleotide-induced mutations by RNase H2 and Srs2-Exo1 mechanisms. Nature, 2014, 511, 251-254.	13.7	75
36	Breast Cancer Proteins PALB2 and BRCA2 Stimulate Polymerase Î· in Recombination-Associated DNA Synthesis at Blocked Replication Forks. Cell Reports, 2014, 6, 553-564.	2.9	72

#	Article	IF	Citations
37	Functions and regulation of the multitasking FANCM family of DNA motor proteins. Genes and Development, 2015, 29, 1777-1788.	2.7	66
38	Smc5/6 Mediated Sumoylation of the Sgs1-Top3-Rmi1 Complex Promotes Removal of Recombination Intermediates. Cell Reports, 2016, 16, 368-378.	2.9	66
39	Stress and DNA repair biology of the Fanconi anemia pathway. Blood, 2014, 124, 2812-2819.	0.6	65
40	Binding of FANCI-FANCD2 Complex to RNA and R-Loops Stimulates Robust FANCD2 Monoubiquitination. Cell Reports, 2019, 26, 564-572.e5.	2.9	65
41	Multiple Interactions with the Rad51 Recombinase Govern the Homologous Recombination Function of Rad54. Journal of Biological Chemistry, 2004, 279, 51973-51980.	1.6	62
42	Telomeric Overhang Length Determines Structural Dynamics and Accessibility to Telomerase and ALT-Associated Proteins. Structure, 2014, 22, 842-853.	1.6	62
43	Role of the Pif1-PCNA Complex in Pol Î´-Dependent Strand Displacement DNA Synthesis and Break-Induced Replication. Cell Reports, 2017, 21, 1707-1714.	2.9	62
44	Elimination of Radiation-Induced Senescence in the Brain Tumor Microenvironment Attenuates Glioblastoma Recurrence. Cancer Research, 2021, 81, 5935-5947.	0.4	62
45	Multifaceted role of the Topo IIIÎ±â€“RMI1-RMI2 complex and DNA2 in the BLM-dependent pathway of DNA break end resection. Nucleic Acids Research, 2014, 42, 11083-11091.	6.5	60
46	Restriction of Replication Fork Regression Activities by a Conserved SMC Complex. Molecular Cell, 2014, 56, 436-445.	4.5	60
47	Promotion of presynaptic filament assembly by the ensemble of S. cerevisiae Rad51 paralogues with Rad52. Nature Communications, 2015, 6, 7834.	5.8	60
48	Enhancement of BLM-DNA2-Mediated Long-Range DNA End Resection by CtIP. Cell Reports, 2017, 21, 324-332.	2.9	58
49	Down-Regulation of Rad51 Activity during Meiosis in Yeast Prevents Competition with Dmc1 for Repair of Double-Strand Breaks. PLoS Genetics, 2014, 10, e1004005.	1.5	53
50	NUCKS1 is a novel RAD51AP1 paralog important for homologous recombination and genome stability. Nucleic Acids Research, 2015, 43, gkv859.	6.5	51
51	Role of the Rad52 Amino-terminal DNA Binding Activity in DNA Strand Capture in Homologous Recombination. Journal of Biological Chemistry, 2009, 284, 33275-33284.	1.6	50
52	Significance of ligand interactions involving Hop2-Mnd1 and the RAD51 and DMC1 recombinases in homologous DNA repair and XX ovarian dysgenesis. Nucleic Acids Research, 2015, 43, 4055-4066.	6.5	50
53	C1QBP Promotes Homologous Recombination by Stabilizing MRE11 and Controlling the Assembly and Activation of MRE11/RAD50/NBS1 Complex. Molecular Cell, 2019, 75, 1299-1314.e6.	4.5	49
54	Promotion of RAD51-Mediated Homologous DNA Pairing by the RAD51AP1-UAF1 Complex. Cell Reports, 2016, 15, 2118-2126.	2.9	47

#	Article	IF	Citations
55	Human RAD52 interactions with replication protein A and the RAD51 presynaptic complex. Journal of Biological Chemistry, 2017, 292, 11702-11713.	1.6	47
56	The Rad51 paralog complex Rad55-Rad57 acts as a molecular chaperone during homologous recombination. Molecular Cell, 2021, 81, 1043-1057.e8.	4.5	45
57	Fanconi anemia protein FANCI functions in ribosome biogenesis. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 2561-2570.	3.3	44
58	Tel1 and Rif2 Regulate MRX Functions in End-Tethering and Repair of DNA Double-Strand Breaks. PLoS Biology, 2016, 14, e1002387.	2.6	44
59	Dissociation of Rad51 Presynaptic Complexes and Heteroduplex DNA Joints by Tandem Assemblies of Srs2. Cell Reports, 2017, 21, 3166-3177.	2.9	43
60	Non-catalytic Roles for XPG with BRCA1 and BRCA2 in Homologous Recombination and Genome Stability. Molecular Cell, 2016, 61, 535-546.	4.5	42
61	DNA requirement in FANCD2 deubiquitination by USP1-UAF1-RAD51AP1 in the Fanconi anemia DNA damage response. Nature Communications, 2019, 10, 2849.	5.8	42
62	Purification and Assays of Saccharomyces cerevisiae Homologous Recombination Proteins. Methods in Enzymology, 2006, 408, 445-463.	0.4	41
63	Mechanistic Insights into RAD51-associated Protein 1 (RAD51AP1) Action in Homologous DNA Repair. Journal of Biological Chemistry, 2012, 287, 12343-12347.	1.6	40
64	Investigations of homologous recombination pathways and their regulation. Yale Journal of Biology and Medicine, 2013, 86, 453-61.	0.2	40
65	Enrichment of Cdk1-cyclins at DNA double-strand breaks stimulates Fun30 phosphorylation and DNA end resection. Nucleic Acids Research, 2016, 44, 2742-2753.	6.5	39
66	Interplay between Ku and Replication Protein A in the Restriction of Exo1-mediated DNA Break End Resection. Journal of Biological Chemistry, 2015, 290, 18806-18816.	1.6	38
67	Defining the influence of Rad51 and Dmc1 lineage-specific amino acids on genetic recombination. Genes and Development, 2019, 33, 1191-1207.	2.7	38
68	Synthetic viability genomic screening defines Sae2 function in DNA repair. EMBO Journal, 2015, 34, 1509-1522.	3.5	37
69	Rad52 Restrains Resection at DNA Double-Strand Break Ends in Yeast. Molecular Cell, 2019, 76, 699-711.e6.	4.5	37
70	Yeast Srs2 Helicase Promotes Redistribution of Single-Stranded DNA-Bound RPA and Rad52 in Homologous Recombination Regulation. Cell Reports, 2017, 21, 570-577.	2.9	36
71	Role of Replication Protein A in Double Holliday Junction Dissolution Mediated by the BLM-Topo IIIÎ±-RMI1-RMI2 Protein Complex. Journal of Biological Chemistry, 2013, 288, 14221-14227.	1.6	35
72	Role of RAD51AP1 in homologous recombination DNA repair and carcinogenesis. DNA Repair, 2017, 59, 76-81.	1.3	35

#	Article	IF	Citations
73	Regulatory control of Sgs1 and Dna2 during eukaryotic DNA end resection. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 6091-6100.	3.3	35
74	Structurally distinct Mre11 domains mediate MRX functions in resection, end-tethering and DNA damage resistance. Nucleic Acids Research, 2018, 46, 2990-3008.	6.5	34
75	The MHF complex senses branched DNA by binding a pair of crossover DNA duplexes. Nature Communications, 2014, 5, 2987.	5.8	33
76	Nucleosome-like, Single-stranded DNA (ssDNA)-Histone Octamer Complexes and the Implication for DNA Double Strand Break Repair. Journal of Biological Chemistry, 2017, 292, 5271-5281.	1.6	33
77	A novel role of the Dna2 translocase function in DNA break resection. Genes and Development, 2017, 31, 503-510.	2.7	33
78	Regulation of Hed1 and Rad54 binding during maturation of the meiosisâ€specific presynaptic complex. EMBO Journal, 2018, 37, .	3.5	33
79	Single-molecule visualization of human BLM helicase as it acts upon double- and single-stranded DNA substrates. Nucleic Acids Research, 2019, 47, 11225-11237.	6.5	32
80	Rad52, Maestro of Inverse Strand Exchange. Molecular Cell, 2017, 67, 1-3.	4.5	30
81	Meiosis-specific recombinase Dmc1 is a potent inhibitor of the Srs2 antirecombinase. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E10041-E10048.	3.3	29
82	Role of the Nuclease Activity of Saccharomyces cerevisiae Mre11 in Repair of DNA Double-Strand Breaks in Mitotic Cells. Genetics, 2004, 166, 1701-1713.	1.2	29
83	Structural insights into 5â€² flap DNA unwinding and incision by the human FAN1 dimer. Nature Communications, 2014, 5, 5726.	5.8	28
84	Sequence imperfections and base triplet recognition by the Rad51/RecA family of recombinases. Journal of Biological Chemistry, 2017, 292, 11125-11135.	1.6	26
85	The Rad51 paralogs facilitate a novel DNA strand specific damage tolerance pathway. Nature Communications, 2019, 10, 3515.	5.8	26
86	The RecQ helicase Sgs1 drives ATP-dependent disruption of Rad51 filaments. Nucleic Acids Research, 2019, 47, 4694-4706.	6.5	26
87	Phospho-dependent recruitment of the yeast NuA4 acetyltransferase complex by MRX at DNA breaks regulates RPA dynamics during resection. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 10028-10033.	3.3	25
88	Spontaneous self-segregation of Rad51 and Dmc1 DNA recombinases within mixed recombinase filaments. Journal of Biological Chemistry, 2018, 293, 4191-4200.	1.6	24
89	Tumor Intrinsic PD-L1 Promotes DNA Repair in Distinct Cancers and Suppresses PARP Inhibitorâ€“Induced Synthetic Lethality. Cancer Research, 2022, 82, 2156-2170.	0.4	23
90	MiR223-3p promotes synthetic lethality in BRCA1-deficient cancers. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 17438-17443.	3.3	22

#	Article	IF	Citations
91	Specificity of end resection pathways for double-strand break regions containing ribonucleotides and base lesions. Nature Communications, 2020, 11, 3088.	5.8	22
92	The <scp>MRX</scp> complex regulates Exo1 resection activity by altering <scp>DNA</scp> end structure. EMBO Journal, 2018, 37, .	3.5	21
93	A Tale of Loops and Tails: The Role of Intrinsically Disordered Protein Regions in R-Loop Recognition and Phase Separation. Frontiers in Molecular Biosciences, 2021, 8, 691694.	1.6	21
94	A DNA nick at Ku-blocked double-strand break ends serves as an entry site for exonuclease 1 (Exo1) or Sgs1â€“Dna2 in long-range DNA end resection. Journal of Biological Chemistry, 2018, 293, 17061-17069.	1.6	19
95	Dynamic interactions of the homologous pairing 2 (Hop2)â€“meiotic nuclear divisions 1 (Mnd1) protein complex with meiotic presynaptic filaments in budding yeast. Journal of Biological Chemistry, 2019, 294, 490-501.	1.6	19
96	Mechanism and significance of chromosome damage repair by homologous recombination. Essays in Biochemistry, 2020, 64, 779-790.	2.1	19
97	Introduction to the Thematic Minireview Series: DNA double-strand break repair and pathway choice. Journal of Biological Chemistry, 2018, 293, 10500-10501.	1.6	18
98	Assay for Human Rad51-Mediated DNA Displacement Loop Formation. Cold Spring Harbor Protocols, 2009, 2009, pdb.prot5120.	0.2	17
99	The Fanconi Anemia Proteins FANCD2 and FANCJ Interact and Regulate Each Other's Chromatin Localization. Journal of Biological Chemistry, 2014, 289, 25774-25782.	1.6	17
100	Selective modulation of the functions of a conserved DNA motor by a histone fold complex. Genes and Development, 2015, 29, 1000-1005.	2.7	17
101	Differential regulation of the anti-crossover and replication fork regression activities of Mph1 by Mte1. Genes and Development, 2016, 30, 687-699.	2.7	17
102	Rad54 and Rdh54 occupy spatially and functionally distinct sites within the Rad51â€ss <scp>DNA</scp> presynaptic complex. EMBO Journal, 2020, 39, e105705.	3.5	17
103	A Germline Polymorphism of Thymine DNA Glycosylase Induces Genomic Instability and Cellular Transformation. PLoS Genetics, 2014, 10, e1004753.	1.5	16
104	Tolerance of DNA Mismatches in Dmc1 Recombinase-mediated DNA Strand Exchange. Journal of Biological Chemistry, 2016, 291, 4928-4938.	1.6	15
105	Ddc2ATRIP promotes Mec1ATR activation at RPA-ssDNA tracts. PLoS Genetics, 2019, 15, e1008294.	1.5	15
106	Single-molecule visualization of human RECQ5 interactions with single-stranded DNA recombination intermediates. Nucleic Acids Research, 2021, 49, 285-305.	6.5	15
107	Solution Structure and DNA-binding Properties of the Winged Helix Domain of the Meiotic Recombination HOP2 Protein. Journal of Biological Chemistry, 2014, 289, 14682-14691.	1.6	13
108	A conserved Ctp1/CtIP C-terminal peptide stimulates Mre11 endonuclease activity. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	13

#	Article	IF	Citations
109	Rad54 and Rdh54 prevent Srs2-mediated disruption of Rad51 presynaptic filaments. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	11
110	Bloom helicase mediates formation of large singleâ€“stranded DNA loops during DNA end processing. Nature Communications, 2022, 13, 2248.	5.8	11
111	Guidelines for DNA recombination and repair studies: Mechanistic assays of DNA repair processes. Microbial Cell, 2019, 6, 65-101.	1.4	10
112	The DNA-binding activity of USP1-associated factor 1 is required for efficient RAD51-mediated homologous DNA pairing and homology-directed DNA repair. Journal of Biological Chemistry, 2020, 295, 8186-8194.	1.6	10
113	RAD51AP1 and RAD54L Can Underpin Two Distinct RAD51-Dependent Routes of DNA Damage Repair via Homologous Recombination. Frontiers in Cell and Developmental Biology, 2022, 10, .	1.8	10
114	Roles of DNA helicases and Exo1 in the avoidance of mutations induced by Top1-mediated cleavage at ribonucleotides in DNA. Cell Cycle, 2016, 15, 331-336.	1.3	9
115	The splicing component ISY1 regulates APE1 in base excision repair. DNA Repair, 2020, 86, 102769.	1.3	9
116	The ZGRF1 Helicase Promotes Recombinational Repair of Replication-Blocking DNA Damage in Human Cells. Cell Reports, 2020, 32, 107849.	2.9	9
117	Dual and Opposite Effects of hRAD51 Chemical Modulation on HIV-1 Integration. Chemistry and Biology, 2015, 22, 712-723.	6.2	8
118	Reconstituted System for the Examination of Repair DNA Synthesis in Homologous Recombination. Methods in Enzymology, 2017, 591, 307-325.	0.4	8
119	Molecular Mechanism of Resolving Trinucleotide Repeat Hairpin by Helicases. Structure, 2015, 23, 1018-1027.	1.6	6
120	Importance of homo-dimerization of Fanconi-associated nuclease 1 in DNA flap cleavage. DNA Repair, 2018, 64, 53-58.	1.3	6
121	INTS11 regulates hematopoiesis by promoting PRC2 function. Science Advances, 2021, 7, eabh1684.	4.7	6
122	Long-term survival of an ovarian cancer patient harboring a RAD51C missense mutation. Journal of Physical Education and Sports Management, 2021, 7, a006083.	0.5	5
123	The nuclease activity of DNA2 promotes exonuclease 1â€“independent mismatch repair. Journal of Biological Chemistry, 2022, 298, 101831.	1.6	4
124	Biochemical Analysis of D-Loop Extension and DNA Strand Displacement Synthesis. Methods in Molecular Biology, 2021, 2153, 87-99.	0.4	3
125	To Cut or Not to Cut: Discovery of a Novel Regulator of DNA Break Resection. Molecular Cell, 2016, 61, 325-326.	4.5	2
126	Mechanism and Regulation of the Helicaseâ€driven Path of DNA End Resection in Saccharomyces cerevisiae. FASEB Journal, 2012, 26, 536.7.	0.2	0

#	Article	IF	Citations
127	Structural insights into the function of FANCMâ€mediated complexes. FASEB Journal, 2012, 26, 536.8.	0.2	0
128	The Role of UAF1 in the Fanconi Anemia Pathway Regulation of Homologous Recombination-Mediated Genome Maintenance. Blood, 2016, 128, 1041-1041.	0.6	0
129	FANCI-FANCD2 Binds RNA, Which Stimulates Its Monoubiquitination. Blood, 2018, 132, 645-645.	0.6	0
130	Single-molecule studies of yeast Rad51 paralogs. Methods in Enzymology, 2021, 661, 343-362.	0.4	0
131	TLK1 Phosphorylates RAD54 To Promote Homology Driven DSB Repair. FASEB Journal, 2022, 36, .	0.2	0