

# Alan E Tomkinson

## List of Publications by Year in descending order

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81  
papers

6,448  
citations

85707

38  
h-index

67958

78  
g-index

85  
all docs

85  
docs citations

85  
times ranked

5690  
citing authors

#	ARTICLE	IF	CITATIONS
1	AP Endonuclease-Independent DNA Base Excision Repair in Human Cells. <i>Molecular Cell</i> , 2004, 15, 209-220.	9.6	441
2	Human DNA ligase I completely encircles and partially unwinds nicked DNA. <i>Nature</i> , 2004, 432, 473-478.	36.2	299
3	Eukaryotic DNA Ligases: Structural and Functional Insights. <i>Annual Review of Biochemistry</i> , 2008, 77, 313-338.	11.2	292
4	Chromosomal Translocations in Human Cells Are Generated by Canonical Nonhomologous End-Joining. <i>Molecular Cell</i> , 2014, 55, 829-842.	9.6	287
5	Promotion of Dnl4-Catalyzed DNA End-Joining by the Rad50/Mre11/Xrs2 and Hdf1/Hdf2 Complexes. <i>Molecular Cell</i> , 2001, 8, 1105-1115.	9.6	277
6	Mutations in the DNA ligase I gene of an individual with immunodeficiencies and cellular hypersensitivity to DNA-damaging agents. <i>Cell</i> , 1992, 69, 495-503.	27.8	270
7	Mechanism of DNA double-strand break repair by non-homologous end joining. <i>DNA Repair</i> , 2005, 4, 639-648.	2.9	266
8	Specific Interaction of DNA Polymerase $\beta$ and DNA Ligase I in a Multiprotein Base Excision Repair Complex from Bovine Testis. <i>Journal of Biological Chemistry</i> , 1996, 271, 16000-16007.	3.5	243
9	Interaction between PCNA and DNA ligase I is critical for joining of Okazaki fragments and long-patch base-excision repair. <i>Current Biology</i> , 2000, 10, 919-S2.	4.0	222
10	Physical and Functional Interaction between DNA Ligase III $\alpha$ and Poly(ADP-Ribose) Polymerase 1 in DNA Single-Strand Break Repair. <i>Molecular and Cellular Biology</i> , 2003, 23, 5919-5927.	2.5	209
11	Interactions of the DNA Ligase IV-XRCC4 Complex with DNA Ends and the DNA-dependent Protein Kinase. <i>Journal of Biological Chemistry</i> , 2000, 275, 26196-26205.	3.5	193
12	Repair of DNA double-strand breaks by mammalian alternative end-joining pathways. <i>Journal of Biological Chemistry</i> , 2018, 293, 10536-10546.	3.5	182
13	XRCC1 co-localizes and physically interacts with PCNA. <i>Nucleic Acids Research</i> , 2004, 32, 2193-2201.	14.0	174
14	Mutant FUS causes DNA ligation defects to inhibit oxidative damage repair in Amyotrophic Lateral Sclerosis. <i>Nature Communications</i> , 2018, 9, 3683.	13.2	152
15	A Flexible Interface between DNA Ligase and PCNA Supports Conformational Switching and Efficient Ligation of DNA. <i>Molecular Cell</i> , 2006, 24, 279-291.	9.6	143
16	Up-regulation of WRN and DNA ligase III $\alpha$ in chronic myeloid leukemia: consequences for the repair of DNA double-strand breaks. <i>Blood</i> , 2008, 112, 1413-1423.	1.4	138
17	NEIL2-initiated, APE-independent repair of oxidized bases in DNA: Evidence for a repair complex in human cells. <i>DNA Repair</i> , 2006, 5, 1439-1448.	2.9	130
18	Role of Dnl4 $\alpha$ -Lif1 in nonhomologous end-joining repair complex assembly and suppression of homologous recombination. <i>Nature Structural and Molecular Biology</i> , 2007, 14, 639-646.	8.1	120

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19	Human Mre11/Human Rad50/Nbs1 and DNA Ligase III $\beta$ /XRCC1 Protein Complexes Act Together in an Alternative Nonhomologous End Joining Pathway. <i>Journal of Biological Chemistry</i> , 2011, 286, 33845-33853.	3.5	115
20	Structural basis of long-range to short-range synaptic transition in NHEJ. <i>Nature</i> , 2021, 593, 294-298.	36.2	105
21	A Physical and Functional Interaction between Yeast Pol4 and Dnl4-Lif1 Links DNA Synthesis and Ligation in Nonhomologous End Joining. <i>Journal of Biological Chemistry</i> , 2002, 277, 45630-45637.	3.5	99
22	Completion of base excision repair by mammalian DNA ligases. <i>Progress in Molecular Biology and Translational Science</i> , 2001, 68, 151-164.	2.1	94
23	DNA Ligase III Is Recruited to DNA Strand Breaks by a Zinc Finger Motif Homologous to That of Poly(ADP-ribose) Polymerase. <i>Journal of Biological Chemistry</i> , 1999, 274, 21679-21687.	3.5	92
24	Human DNA Ligase III Recognizes DNA Ends by Dynamic Switching between Two DNA-Bound States. <i>Biochemistry</i> , 2010, 49, 6165-6176.	2.6	91
25	Physical and Functional Interaction between the XPF/ERCC1 Endonuclease and hRad52. <i>Journal of Biological Chemistry</i> , 2004, 279, 13634-13639.	3.5	88
26	Targeting Abnormal DNA Repair in Therapy-Resistant Breast Cancers. <i>Molecular Cancer Research</i> , 2012, 10, 96-107.	3.5	82
27	Identification and Validation of Human DNA Ligase Inhibitors Using Computer-Aided Drug Design. <i>Journal of Medicinal Chemistry</i> , 2008, 51, 4553-4562.	6.6	73
28	Purification and Characterization of DNA Ligase III from Bovine Testes. <i>Journal of Biological Chemistry</i> , 1995, 270, 9683-9690.	3.5	69
29	Thermodynamics of Human DNA Ligase I Trimerization and Association with DNA Polymerase $\beta$ . <i>Journal of Biological Chemistry</i> , 1998, 273, 20540-20550.	3.5	69
30	An Intrinsically Disordered APLF Links Ku, DNA-PKcs, and XRCC4-DNA Ligase IV in an Extended Flexible Non-homologous End Joining Complex. <i>Journal of Biological Chemistry</i> , 2016, 291, 26987-27006.	3.5	65
31	SCR7 is neither a selective nor a potent inhibitor of human DNA ligase IV. <i>DNA Repair</i> , 2016, 43, 18-23.	2.9	60
32	A Conserved Interaction between the Replicative Clamp Loader and DNA Ligase in Eukaryotes. <i>Journal of Biological Chemistry</i> , 2004, 279, 55196-55201.	3.5	51
33	Two DNA-binding and Nick Recognition Modules in Human DNA Ligase III. <i>Journal of Biological Chemistry</i> , 2008, 283, 10764-10772.	3.5	50
34	DNA Ligase I, the Replicative DNA Ligase. <i>Sub-Cellular Biochemistry</i> , 2012, 62, 327-341.	0.0	50
35	Structure and function of the DNA ligases encoded by the mammalian LIG3 gene. <i>Gene</i> , 2013, 531, 150-157.	2.3	49
36	Processing and Joining of DNA Ends Coordinated by Interactions among Dnl4/Lif1, Pol4, and FEN-1. <i>Journal of Biological Chemistry</i> , 2004, 279, 47580-47588.	3.5	48

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37	Translocation of XRCC1 and DNA ligase III $\beta$ from centrosomes to chromosomes in response to DNA damage in mitotic human cells. <i>Nucleic Acids Research</i> , 2005, 33, 422-429.	14.0	47
38	Yeast Nej1 Is a Key Participant in the Initial End Binding and Final Ligation Steps of Nonhomologous End Joining. <i>Journal of Biological Chemistry</i> , 2011, 286, 4931-4940.	3.5	43
39	The C-terminal Domain (CTD) of Human DNA Glycosylase NEIL1 Is Required for Forming BERosome Repair Complex with DNA Replication Proteins at the Replicating Genome. <i>Journal of Biological Chemistry</i> , 2015, 290, 20919-20933.	3.5	42
40	XRCC1 promotes replication restart, nascent fork degradation and mutagenic DNA repair in BRCA2-deficient cells. <i>NAR Cancer</i> , 2020, 2, zcaa013.	3.0	37
41	Genetic Instability Induced by Overexpression of DNA Ligase I in Budding Yeast. <i>Genetics</i> , 2005, 171, 427-441.	2.9	36
42	CTG/CAG Repeat Instability Is Modulated by the Levels of Human DNA Ligase I and Its Interaction with Proliferating Cell Nuclear Antigen. <i>Journal of Biological Chemistry</i> , 2009, 284, 26631-26645.	3.5	36
43	The Nucleotide Sequence, DNA Damage Location, and Protein Stoichiometry Influence the Base Excision Repair Outcome at CAG/CTG Repeats. <i>Biochemistry</i> , 2012, 51, 3919-3932.	2.6	36
44	The SWI/SNF ATP-dependent nucleosome remodeler promotes resection initiation at a DNA double-strand break in yeast. <i>Nucleic Acids Research</i> , 2017, 45, 5887-5900.	14.0	33
45	Human DNA Ligases I, III, and IV $\beta$ Purification and New Specific Assays for These Enzymes. <i>Methods in Enzymology</i> , 2006, 409, 39-52.	1.7	32
46	The Interaction between Polynucleotide Kinase Phosphatase and the DNA Repair Protein XRCC1 Is Critical for Repair of DNA Alkylation Damage and Stable Association at DNA Damage Sites. <i>Journal of Biological Chemistry</i> , 2012, 287, 39233-39244.	3.5	30
47	Reduced repair of DNA double-strand breaks by homologous recombination in a DNA ligase I-deficient human cell line. <i>DNA Repair</i> , 2005, 4, 649-654.	2.9	29
48	The Human Ligase III $\beta$ -XRCC1 Protein Complex Performs DNA Nick Repair after Transient Unwrapping of Nucleosomal DNA. <i>Journal of Biological Chemistry</i> , 2017, 292, 5227-5238.	3.5	29
49	Phosphorylation of Human DNA Ligase I Regulates Its Interaction with Replication Factor C and Its Participation in DNA Replication and DNA Repair. <i>Molecular and Cellular Biology</i> , 2009, 29, 2042-2052.	2.5	28
50	Distinct kinetics of human DNA ligases I, III $\beta$ , III $\gamma$ , and IV reveal direct DNA sensing ability and differential physiological functions in DNA repair. <i>DNA Repair</i> , 2009, 8, 961-968.	2.9	28
51	Ubiquitin-specific Peptidase 20 Regulates Rad17 Stability, Checkpoint Kinase 1 Phosphorylation and DNA Repair by Homologous Recombination. <i>Journal of Biological Chemistry</i> , 2014, 289, 22739-22748.	3.5	28
52	Human DNA ligases in replication and repair. <i>DNA Repair</i> , 2020, 93, 102908.	2.9	28
53	Human DNA ligase III bridges two DNA ends to promote specific intermolecular DNA end joining. <i>Nucleic Acids Research</i> , 2015, 43, 7021-7031.	14.0	25
54	Absence of MutS $\beta$ leads to the formation of slipped-DNA for CTG/CAG contractions at primate replication forks. <i>DNA Repair</i> , 2016, 42, 107-118.	2.9	24

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55	An atypical BRCTâ€“BRCT interaction with the XRCC1 scaffold protein compacts human DNA Ligase III± within a flexible DNA repair complex. <i>Nucleic Acids Research</i> , 2021, 49, 306-321.	14.0	24
56	The DNA binding domain of human DNA ligase I interacts with both nicked DNA and the DNA sliding clamps, PCNA and hRad9-hRad1-hHus1. <i>DNA Repair</i> , 2009, 8, 912-919.	2.9	23
57	Human DNA Ligase I Interacts with and Is Targeted for Degradation by the DCAF7 Specificity Factor of the Cul4-DDB1 Ubiquitin Ligase Complex. <i>Journal of Biological Chemistry</i> , 2016, 291, 21893-21902.	3.5	21
58	Inhibiting Mitochondrial DNA Ligase III± Activates Caspase 1â€“Dependent Apoptosis in Cancer Cells. <i>Cancer Research</i> , 2016, 76, 5431-5441.	0.9	21
59	Altered DNA ligase activity in human disease. <i>Mutagenesis</i> , 2020, 35, 51-60.	2.6	21
60	A Conserved Physical and Functional Interaction between the Cell Cycle Checkpoint Clamp Loader and DNA Ligase I of Eukaryotes. <i>Journal of Biological Chemistry</i> , 2007, 282, 22721-22730.	3.5	20
61	Structure-activity relationships among DNA ligase inhibitors: Characterization of a selective uncompetitive DNA ligase I inhibitor. <i>DNA Repair</i> , 2017, 60, 29-39.	2.9	19
62	Aromatase Inhibitorâ€“Mediated Downregulation of INrf2 (Keap1) Leads to Increased Nrf2 and Resistance in Breast Cancer. <i>Molecular Cancer Therapeutics</i> , 2015, 14, 1728-1737.	3.7	17
63	Role of the yeast DNA repair protein Nej1 in end processing during the repair of DNA double strand breaks by non-homologous end joining. <i>DNA Repair</i> , 2015, 31, 1-10.	2.9	16
64	A High-Throughput Scintillation Proximity-Based Assay for Human DNA Ligase IV. <i>Assay and Drug Development Technologies</i> , 2012, 10, 235-249.	1.5	14
65	Dynamic DNA-bound PCNA complexes co-ordinate Okazaki fragment synthesis, processing and ligation. <i>Journal of Molecular Biology</i> , 2020, 432, 166698.	4.3	13
66	Phosphorylation of Serine 51 Regulates the Interaction of Human DNA Ligase I with Replication Factor C and Its Participation in DNA Replication and Repair. <i>Journal of Biological Chemistry</i> , 2012, 287, 36711-36719.	3.5	12
67	Optimization of Native and Formaldehyde iPOND Techniques for Use in Suspension Cells. <i>Methods in Enzymology</i> , 2017, 591, 1-32.	1.7	11
68	Ligase 1 is a predictor of platinum resistance and its blockade is synthetically lethal in XRCC1 deficient epithelial ovarian cancers. <i>Theranostics</i> , 2021, 11, 8350-8361.	9.9	11
69	<i>POLD1</i> variants leading to reduced polymerase activity can cause hearing loss without syndromic features. <i>Human Mutation</i> , 2020, 41, 913-920.	2.8	7
70	Direct interaction of DNA repair protein tyrosyl DNA phosphodiesterase 1 and the DNA ligase III catalytic domain is regulated by phosphorylation of its flexible N-terminus. <i>Journal of Biological Chemistry</i> , 2021, 297, 100921.	3.5	7
71	Cryo-EM structures and biochemical insights into heterotrimeric PCNA regulation of DNA ligase. <i>Structure</i> , 2022, 30, 371-385.e5.	3.4	7
72	Synthesis and structure determination of SCR7, a DNA ligase inhibitor. <i>Tetrahedron Letters</i> , 2016, 57, 3204-3207.	1.4	6

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73	The CSB chromatin remodeler regulates PARP1- and PARP2-mediated single-strand break repair at actively transcribed DNA regions. <i>Nucleic Acids Research</i> , 2023, 51, 7342-7356.	14.0	5
74	Mammalian DNA ligases; roles in maintaining genome integrity. <i>Journal of Molecular Biology</i> , 2024, 436, 168276.	4.3	4
75	NAD <sup>+</sup> is not utilized as a co-factor for DNA ligation by human DNA ligase IV. <i>Nucleic Acids Research</i> , 2020, 48, 12746-12750.	14.0	3
76	FUS unveiled in mitochondrial DNA repair and targeted ligase-1 expression rescues repair-defects in FUS-linked motor neuron disease. <i>Nature Communications</i> , 2024, 15, .	13.2	3
77	<sup>1</sup> HN, <sup>13</sup> C, and <sup>15</sup> N backbone resonance assignments of the human DNA ligase 3 DNA-binding domain (residues 257-477). <i>Biomolecular NMR Assignments</i> , 2019, 13, 305-308.	0.7	1
78	Synergistic enhancement of 5-fluorouracil cytotoxicity by deoxyuridine analogs in cancer cells. <i>Oncoscience</i> , 2015, 2, 272-284.	0.5	1
79	SUMO-ylating the base excision repair machinery for differentiation. <i>EMBO Journal</i> , 2019, 38, .	8.2	0
80	Purification and Characterization of Human DNA Ligase III± Complexes After Expression in Insect Cells. <i>Methods in Molecular Biology</i> , 2022, 2444, 243-269.	0.0	0
81	Redundant but essential functions of PARP1 and PARP2 in DNA ligase I-independent DNA replication. <i>Nucleic Acids Research</i> , 0, , .	14.0	0