Frederick W Alt

List of Publications by Year
in descending order

131 papers	20,316 citations	18482 62 h-index	15266 126 g-index
136 all docs	136 docs citations	136 times ranked	16128 citing authors

#	Article	IF	Citations
1	An early haematopoietic defect in mice lacking the transcription factor GATA-2. Nature, 1994, 371, 221-226.	27.8	1,314
2	Plasma cell differentiation requires the transcription factor XBP-1. Nature, 2001, 412, 300-307.	27.8	1,146
3	Transcription-targeted DNA deamination by the AID antibody diversification enzyme. Nature, 2003, 422, 726-730.	27.8	681
4	Preferential utilization of the most JH-proximal VH gene segments in pre-B-cell lines. Nature, 1984, 311, 727-733.	27.8	654
5	A Critical Role for DNA End-Joining Proteins in Both Lymphogenesis and Neurogenesis. Cell, 1998, 95, 891-902.	28.9	622
6	Genome-wide detection of DNA double-stranded breaks induced by engineered nucleases. Nature Biotechnology, 2015, 33, 179-186.	17.5	590
7	Interplay of p53 and DNA-repair protein XRCC4 in tumorigenesis, genomic stability and development. Nature, 2000, 404, 897-900.	27.8	541
8	IgH class switching and translocations use a robust non-classical end-joining pathway. Nature, 2007, 449, 478-482.	27.8	523
9	Late embryonic lethality and impaired V (D)J recombination in mice lacking DNA ligase IV. Nature, 1998, 396, 173-177.	27.8	520
10	Insertion of N regions into heavy-chain genes is correlated with expression of terminal deoxytransferase in B cells. Nature, 1984, 311, 752-755.	27.8	517
11	MECHANISM AND CONTROL OF V(D)J RECOMBINATION AT THE IMMUNOGLOBULIN HEAVY CHAIN LOCUS. Annual Review of Immunology, 2006, 24, 541-570.	21.8	502
12	DNA Ligase IV Deficiency in Mice Leads to Defective Neurogenesis and Embryonic Lethality via the p53 Pathway. Molecular Cell, 2000, 5, 993-1002.	9.7	457
13	Introduced T cell receptor variable region gene segments recombine in pre-B cells: Evidence that B and T cells use a common recombinase. Cell, 1986, 44, 251-259.	28.9	455
14	Regulation of Genome Rearrangement Events during Lymphocyte Differentiation. Immunological Reviews, 1986, 89, 5-30.	6.0	425
15	A functional T3 molecule associated with a novel heterodimer on the surface of immature human thymocytes. Nature, 1986, 322, 179-181.	27.8	423
16	Growth Retardation and Leaky SCID Phenotype of Ku70-Deficient Mice. Immunity, 1997, 7, 653-665.	14.3	414
17	Genome-wide Translocation Sequencing Reveals Mechanisms of Chromosome Breaks and Rearrangements in B Cells. Cell, 2011, 147, 107-119.	28.9	411
18	Mechanisms of Programmed DNA Lesions and Genomic Instability in the Immune System. Cell, 2013, 152, 417-429.	28.9	407

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19	Unrepaired DNA Breaks in p53-Deficient Cells Lead to Oncogenic Gene Amplification Subsequent to Translocations. Cell, 2002, 109, 811-821.	28.9	395
20	Defective signalling through the T- and B-cell antigen receptors in lymphoid cells lacking the vav proto-oncogene. Nature, 1995, 374, 470-473.	27.8	390
21	Increased T-cell apoptosis and terminal B-cell differentiation induced by inactivation of the Ets-1 proto-oncogene. Nature, 1995, 377, 635-638.	27.8	314
22	DNA double strand break repair and chromosomal translocation: Lessons from animal models. Oncogene, 2001, 20, 5572-5579.	5.9	303
23	Telomere dysfunction impairs DNA repair and enhances sensitivity to ionizing radiation. Nature Genetics, 2000, 26, 85-88.	21.4	297
24	ACCESSIBILITY CONTROL OF ANTIGEN-RECEPTOR VARIABLE-REGION GENE ASSEMBLY: Role ofcis-Acting Elements. Annual Review of Immunology, 1996, 14, 459-481.	21.8	287
25	The cellular response to general and programmed DNA double strand breaks. DNA Repair, 2004, 3, 781-796.	2.8	279
26	Novel immunoglobulin heavy chains are produced from DJH gene segment rearrangements in lymphoid cells. Nature, 1984, 312, 418-423.	27.8	276
27	Human N-myc is closely related in organization and nucleotide sequence to c-myc. Nature, 1986, 319, 73-77.	27.8	254
28	CTCF-binding elements mediate control of V(D)J recombination. Nature, 2011, 477, 424-430.	27.8	251
29	SIRT7 Represses Myc Activity to Suppress ER Stress and Prevent Fatty Liver Disease. Cell Reports, 2013, 5, 654-665.	6.4	241
30	Long Neural Genes Harbor Recurrent DNA Break Clusters in Neural Stem/Progenitor Cells. Cell, 2016, 164, 644-655.	28.9	225
31	Convergent Transcription at Intragenic Super-Enhancers Targets AID-Initiated Genomic Instability. Cell, 2014, 159, 1538-1548.	28.9	221
32	Detecting DNA double-stranded breaks in mammalian genomes by linear amplificationâ€"mediated high-throughput genome-wide translocation sequencing. Nature Protocols, 2016, 11, 853-871.	12.0	213
33	Induction of HIV Neutralizing Antibody Lineages in Mice with Diverse Precursor Repertoires. Cell, 2016, 166, 1471-1484.e18.	28.9	198
34	CD3Îµ-mediated signals rescue the development of CD4+CD8+ thymocytes in RAG-2â^'/â^' mice in the absence of TCR Î² chain expression. International Immunology, 1994, 6, 995-1001.	4.0	194
35	Function of the TCRÎ± Enhancer in Î±Î² and Î³Î´ T Cells. Immunity, 1997, 7, 505-515.	14.3	191
36	S-S Synapsis during Class Switch Recombination Is Promoted by Distantly Located Transcriptional Elements and Activation-Induced Deaminase. Immunity, 2007, 27, 711-722.	14.3	184

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37	Alternative end-joining catalyzes robust IgH locus deletions and translocations in the combined absence of ligase 4 and Ku70. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 3034-3039.	7.1	168
38	Elucidation of IgH intronic enhancer functions via germ-line deletion. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 14362-14367.	7.1	165
39	Alternative end-joining catalyzes class switch recombination in the absence of both Ku70 and DNA ligase 4. Journal of Experimental Medicine, 2010, 207, 417-427.	8.5	161
40	RAG2:GFP Knockin Mice Reveal Novel Aspects of RAG2 Expression in Primary and Peripheral Lymphoid Tissues. Immunity, 1999, 11, 201-212.	14.3	157
41	AID expression levels determine the extent of <i>cMyc</i> oncogenic translocations and the incidence of B cell tumor development. Journal of Experimental Medicine, 2008, 205, 1949-1957.	8.5	140
42	Chromosomal Loop Domains Direct the Recombination of Antigen Receptor Genes. Cell, 2015, 163, 947-959.	28.9	140
43	Sequence-Intrinsic Mechanisms that Target AID Mutational Outcomes on Antibody Genes. Cell, 2015, 163, 1124-1137.	28.9	136
44	AID Recognizes Structured DNA for Class Switch Recombination. Molecular Cell, 2017, 67, 361-373.e4.	9.7	136
45	A systematic analysis of recombination activity andÂgenotype-phenotype correlation in human recombination-activating gene 1 deficiency. Journal of Allergy and Clinical Immunology, 2014, 133, 1099-1108.e12.	2.9	132
46	Flexible Long-Range Loops in the VH Gene Region of the Igh Locus Facilitate the Generation of a Diverse Antibody Repertoire. Immunity, 2013, 39, 229-244.	14.3	130
47	The fundamental role of chromatin loop extrusion in physiological V(D)J recombination. Nature, 2019, 573, 600-604.	27.8	126
48	eccDNAs are apoptotic products with high innate immunostimulatory activity. Nature, 2021, 599, 308-314.	27.8	121
49	Mechanism of tandem duplication formation in BRCA1-mutant cells. Nature, 2017, 551, 590-595.	27.8	118
50	Targeted selection of HIV-specific antibody mutations by engineering B cell maturation. Science, 2019, 366, .	12.6	118
51	Robust chromosomal DNA repair via alternative end-joining in the absence of X-ray repair cross-complementing protein 1 (XRCC1). Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 2473-2478.	7.1	106
52	Phosphatidylinositol 3-kinase Î´ blockade increases genomic instability in B cells. Nature, 2017, 542, 489-493.	27.8	105
53	Fundamental roles of chromatin loop extrusion in antibody class switching. Nature, 2019, 575, 385-389.	27.8	105
54	CTCF-Binding Elements Mediate Accessibility of RAG Substrates During Chromatin Scanning. Cell, 2018, 174, 102-116.e14.	28.9	100

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55	Orientation-specific joining of AID-initiated DNA breaks promotes antibody class switching. Nature, 2015, 525, 134-139.	27.8	93
56	Antibody Class Switching Mediated by Yeast Endonuclease-Generated DNA Breaks. Science, 2007, 315, 377-381.	12.6	92
57	PAXX and XLF DNA repair factors are functionally redundant in joining DNA breaks in a G1-arrested progenitor B-cell line. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 10619-10624.	7.1	88
58	Transcription-associated processes cause DNA double-strand breaks and translocations in neural stem/progenitor cells. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 2258-2263.	7.1	88
59	CTCF orchestrates long-range cohesin-driven V(D)J recombinational scanning. Nature, 2020, 586, 305-310.	27.8	82
60	Internal IgH class switch region deletions are position-independent and enhanced by AID expression. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 9984-9989.	7.1	81
61	Highly sensitive and unbiased approach for elucidating antibody repertoires. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 7846-7851.	7.1	77
62	DNA double-strand breaks as drivers of neural genomic change, function, and disease. DNA Repair, 2018, 71, 158-163.	2.8	75
63	Related Mechanisms of Antibody Somatic Hypermutation and Class Switch Recombination. Microbiology Spectrum, 2015, 3, MDNA3-0037-2014.	3.0	73
64	An Oncogenic Role for Alternative NF-Î°B Signaling in DLBCL Revealed upon Deregulated BCL6 Expression. Cell Reports, 2015, 11, 715-726.	6.4	66
65	Defective DNA damage repair leads to frequent catastrophic genomic events in murine and human tumors. Nature Communications, 2018, 9, 4760.	12.8	66
66	Loop extrusion mediates physiological Igh locus contraction for RAG scanning. Nature, 2021, 590, 338-343.	27.8	66
67	BCR selection and affinity maturation in Peyerâ€™s patch germinal centres. Nature, 2020, 582, 421-425.	27.8	65
68	The role of short homology repeats and TdT in generation of the invariant Î³Î´ antigen receptor repertoire in the fetal thymus. Immunity, 1995, 3, 439-447.	14.3	61
69	CTCF-binding elements 1 and 2 in the <i>Igh</i> intergenic control region cooperatively regulate V(D)J recombination. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 1815-1820.	7.1	61
70	Increased Neural Progenitor Proliferation in a hiPSC Model of Autism Induces Replication Stress-Associated Genome Instability. Cell Stem Cell, 2020, 26, 221-233.e6.	11.1	61
71	Developmental Regulation of TCRÎ´ Locus Accessibility and Expression by the TCRÎ´ Enhancer. Immunity, 1999, 10, 503-513.	14.3	60
72	DNA double-strand break response factors influence end-joining features of IgH class switch and general translocation junctions. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 762-767.	7.1	58

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73	Functional overlaps between XLF and the ATM-dependent DNA double strand break response. DNA Repair, 2014, 16, 11-22.	2.8	56
74	Myc family of cellular oncogenes. Journal of Cellular Biochemistry, 1987, 33, 257-266.	2.6	52
75	Antigen-Independent Appearance of Recombination Activating Gene (Rag)-Positive Bone Marrow B Cells in the Spleens of Immunized Mice. Journal of Experimental Medicine, 2000, 192, 1745-1754.	8.5	52
76	RAG Chromatin Scanning During V(D)J Recombination and Chromatin Loop Extrusion are Related Processes. Advances in Immunology, 2018, 139, 93-135.	2.2	50
77	The role of chromatin loop extrusion in antibody diversification. Nature Reviews Immunology, 2022, 22, 550-566.	22.7	50
78	VH to VHDJH rearrangement is mediated by the internal VH heptamer. International Immunology, 1990, 2, 579-583.	4.0	48
79	IL-2 receptor Î± chain expression during early B lymphocyte differentiation. International Immunology, 1994, 6, 1265-1268.	4.0	48
80	Evolution of Phosphorylation-Dependent Regulation of Activation-Induced Cytidine Deaminase. Molecular Cell, 2008, 32, 285-291.	9.7	43
81	Sequence intrinsic somatic mutation mechanisms contribute to affinity maturation of VRC01-class HIV-1 broadly neutralizing antibodies. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 8614-8619.	7.1	42
82	DNA melting initiates the RAG catalytic pathway. Nature Structural and Molecular Biology, 2018, 25, 732-742.	8.2	40
83	The Ig heavy chain intronic enhancer core region is necessary and sufficient to promote efficient class switch recombination. International Immunology, 1999, 11, 1709-1713.	4.0	38
84	Orientation-specific RAG activity in chromosomal loop domains contributes to <i>Tcrd</i> V(D)J recombination during T cell development. Journal of Experimental Medicine, 2016, 213, 1921-1936.	8.5	38
85	Neural blastocyst complementation enables mouse forebrain organogenesis. Nature, 2018, 563, 126-130.	27.8	38
86	Generation of normal lymphocyte populations by Rb-deficient embryonic stem cells. Current Biology, 1993, 3, 405-413.	3.9	37
87	Human Ig knockin mice to study the development and regulation of <scp>HIV</scp>â€‘1 broadly neutralizing antibodies. Immunological Reviews, 2017, 275, 89-107.	6.0	37
88	Three classes of recurrent DNA break clusters in brain progenitors identified by 3D proximity-based break joining assay. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 1919-1924.	7.1	36
89	Vaccination induces maturation in a mouse model of diverse unmutated VRC01-class precursors to HIV-neutralizing antibodies with >50% breadth. Immunity, 2021, 54, 324-339.e8.	14.3	36
90	Developmental propagation of V(D)J recombination-associated DNA breaks and translocations in mature B cells via dicentric chromosomes. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 10269-10274.	7.1	32

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91	Repertoires of Antigen Receptors in Tdt Congenitally Deficient Mice. International Reviews of Immunology, 1996, 13, 317-325.	3.3	31
92	T cell receptor (TCR) Â/Â locus enhancer identity and position are critical for the assembly of TCR Â and Â variable region genes. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 2598-2603.	7.1	31
93	Downstream class switching leads to IgE antibody production by B lymphocytes lacking IgM switch regions. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 3040-3045.	7.1	30
94	Immune checkpoint modulation enhances HIV-1 antibody induction. Nature Communications, 2020, 11, 948.	12.8	27
95	Diversity of immunoglobulin heavy chain gene segment rearrangement in B lymphoblastoid cell lines from X-linked agammaglobulinemia patients. European Journal of Immunology, 1991, 21, 2355-2363.	2.9	24
96	Sequential activation and distinct functions for distal and proximal modules within the IgH 3â€² regulatory region. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 1618-1623.	7.1	24
97	Kinase-dependent structural role of DNA-PKcs during immunoglobulin class switch recombination. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 8615-8620.	7.1	23
98	mRNA-encoded HIV-1 Env trimer ferritin nanoparticles induce monoclonal antibodies that neutralize heterologous HIV-1 isolates in mice. Cell Reports, 2022, 38, 110514.	6.4	23
99	Synthetic lethality between murine DNA repair factors XLF and DNA-PKcs is rescued by inactivation of Ku70. DNA Repair, 2017, 57, 133-138.	2.8	21
100	Ku70 suppresses alternative end joining in G1-arrested progenitor B cells. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	21
101	Productive Coupling of Accessible VÎ²14 Segments and DJÎ² Complexes Determines the Frequency of VÎ²14 Rearrangement. Journal of Immunology, 2008, 180, 2339-2346.	0.8	20
102	An Ectopic CTCF Binding Element Inhibits <i>Tcrd</i> Rearrangement by Limiting Contact between VÎ´ and DÎ´ Gene Segments. Journal of Immunology, 2016, 197, 3188-3197.	0.8	20
103	Human Heavy Chain Variable Region Gene Diversity, Organization, and Expression. International Reviews of Immunology, 1990, 5, 203-214.	3.3	19
104	Mechanisms That Can Promote Peripheral B-cell Lymphoma in ATM-Deficient Mice. Cancer Immunology Research, 2014, 2, 857-866.	3.4	17
105	Physiological role of the 3â€²IgH CBEs super-anchor in antibody class switching. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	16
106	Topoisomerase I inhibition and peripheral nerve injury induce DNA breaks and ATF3-associated axon regeneration in sensory neurons. Cell Reports, 2021, 36, 109666.	6.4	16
107	Immunology: Exclusive immunoglobulin genes. Nature, 1984, 312, 502-503.	27.8	15
108	RNA editing meets DNA shuffling. Nature, 2000, 407, 31-33.	27.8	15

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109	Gene Expression in Renal Growth and Regrowth. Journal of Urology, 1988, 140, 1145-1148.	0.4	14
110	Aberrant TCRÎ´ rearrangement underlies the T-cell lymphocytopenia and t(12;14) translocation associated with ATM deficiency. Blood, 2015, 125, 2665-2668.	1.4	14
111	Histone methyltransferase MMSET promotes AID-mediated DNA breaks at the donor switch region during class switch recombination. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E10560-E10567.	7.1	13
112	Induction of recurrent break cluster genes in neural progenitor cells differentiated from embryonic stem cells in culture. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 10541-10546.	7.1	13
113	Ig Enhancers Increase RNA Polymerase II Stalling at Somatic Hypermutation Target Sequences. Journal of Immunology, 2022, 208, 143-154.	0.8	13
114	Vav Family Proteins Couple to Diverse Cell Surface Receptors. Molecular and Cellular Biology, 2000, 20, 6364-6373.	2.3	12
115	Parp3 promotes long-range end joining in murine cells. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 10076-10081.	7.1	11
116	Antibody diversity: New mechanism revealed. Nature, 1986, 322, 772-773.	27.8	10
117	Conditional antibody expression to avoid central B cell deletion in humanized HIV-1 vaccine mouse models. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 7929-7940.	7.1	10
118	Recurrently Breaking Genes in Neural Progenitors: Potential Roles of DNA Breaks in Neuronal Function, Degeneration and Cancer. Research and Perspectives in Neurosciences, 2017, , 63-72.	0.4	7
119	SHLD1 is dispensable for 53BP1-dependent V(D)J recombination but critical for productive class switch recombination. Nature Communications, 2022, 13, .	12.8	7
120	NHEJ and Other Repair Factors in V(D)J Recombination. , 2016, , 107-114.		5
121	Câ€terminal deletionâ€induced condensation sequesters AID from IgH targets in immunodeficiency. EMBO Journal, 2022, 41, e109324.	7.8	5
122	Direct analysis of brain phenotypes via neural blastocyst complementation. Nature Protocols, 2020, 15, 3154-3181.	12.0	4
123	Reprint of â€œFunctional overlaps between XLF and the ATM-dependent DNA double strand break responseâ€. DNA Repair, 2014, 17, 52-63.	2.8	3
124	A Rapid Embryonic Stem Cellâ€"Based Mouse Model for B-cell Lymphomas Driven by Epsteinâ€"Barr Virus Protein LMP1. Cancer Immunology Research, 2015, 3, 641-649.	3.4	3
125	An in vivo method for diversifying the functions of therapeutic antibodies. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	3
126	Related Mechanisms of Antibody Somatic Hypermutation and Class Switch Recombination. , 0, , 325-348.		3

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127	Activating Notch1 Mutations in Mouse Models of T-ALL.. Blood, 2005, 106, 2609-2609.	1.4	2
128	PI3Kdelta Inhibitors Increase Genomic Instability By Upregulating Aid Expression. Blood, 2015, 126, 164-164.	1.4	1
129	From gene amplification to V(D)J recombination and back: A personal account of my early years in B cell biology. European Journal of Immunology, 2007, 37, S138-S147.	2.9	0
130	Guiding a mutator in antibody diversification. Cell Research, 2018, 28, 963-964.	12.0	0
131	The BCL11B Tumor Suppressor Is Mutated In Human T-Cell Acute Lymphoblastic Leukemia. Blood, 2010, 116, 4177-4177.	1.4	0