David G Schatz

List of Publications by Citations

152 papers	11,245 citations	56 h-index	104 g-index
171 ext. papers	12,564 ext. citations	18.7 avg, IF	6.33 L-index

#	Paper	IF	Citations
152	The V(D)J recombination activating gene, RAG-1. *Cell*, **1989**, 59, 1035-48	56.2	989
151	Transposition mediated by RAG1 and RAG2 and its implications for the evolution of the immune system. *Nature*, **1998**, 394, 744-51	50.4	633
150	The RAG proteins and V(D)J recombination: complexes, ends, and transposition. *Annual Review of Immunology*, **2000**, 18, 495-527	34.7	498
149	Two levels of protection for the B cell genome during somatic hypermutation. *Nature*, **2008**, 451, 841-5	50.4	453
148	Recombination centres and the orchestration of V(D)J recombination. *Nature Reviews Immunology*, **2011**, 11, 251-63	36.5	361
147	V(D)J recombination: mechanisms of initiation. *Annual Review of Genetics*, **2011**, 45, 167-202	14.5	353
146	Down-regulation of RAG1 and RAG2 gene expression in preB cells after functional immunoglobulin heavy chain rearrangement. *Immunity*, **1995**, 3, 601-8	32.3	307
145	RAG1 and RAG2 form a stable postcleavage synaptic complex with DNA containing signal ends in V(D)J recombination. *Cell*, **1997**, 89, 43-53	56.2	257
144	The recombination activating gene-1 (RAG-1) transcript is present in the murine central nervous system. *Cell*, **1991**, 64, 189-200	56.2	253
143	Genomic landscape of cutaneous T cell lymphoma. *Nature Genetics*, **2015**, 47, 1011-9	36.3	247
142	Targeting of somatic hypermutation. *Nature Reviews Immunology*, **2006**, 6, 573-83	36.5	242
141	Cell-cycle-regulated DNA double-stranded breaks in somatic hypermutation of immunoglobulin genes. *Nature*, **2000**, 408, 216-21	50.4	222
140	The in vivo pattern of binding of RAG1 and RAG2 to antigen receptor loci. *Cell*, **2010**, 141, 419-31	56.2	218
139	Initiation of V(D)J recombination in vitro obeying the 12/23 rule. *Nature*, **1996**, 380, 85-8	50.4	206
138	A role for cohesin in T-cell-receptor rearrangement and thymocyte differentiation. *Nature*, **2011**, 476, 467-71	50.4	178
137	RAG1 mediates signal sequence recognition and recruitment of RAG2 in V(D)J recombination. *Cell*, **1996**, 87, 253-62	56.2	178
136	Defective DNA repair and increased genomic instability in Artemis-deficient murine cells. *Journal of Experimental Medicine*, **2003**, 197, 553-65	16.6	161

135	Somatic hypermutation of immunoglobulin genes: merging mechanisms for genetic diversity. *Cell*, **2002**, 109 Suppl, S35-44	56.2	157
134	Balancing AID and DNA repair during somatic hypermutation. *Trends in Immunology*, **2009**, 30, 173-81	14.4	155
133	Stable expression of immunoglobulin gene V(D)J recombinase activity by gene transfer into 3T3 fibroblasts. *Cell*, **1988**, 53, 107-15	56.2	153
132	Identification of two catalytic residues in RAG1 that define a single active site within the RAG1/RAG2 protein complex. *Molecular Cell*, **2000**, 5, 97-107	17.6	140
131	Factors and forces controlling V(D)J recombination. *Advances in Immunology*, **2001**, 78, 169-232	5.6	137
130	Pax5 is required for recombination of transcribed, acetylated, 5' IgH V gene segments. *Genes and Development*, **2003**, 17, 37-42	12.6	127
129	Selective expression of RAG-2 in chicken B cells undergoing immunoglobulin gene conversion. *Cell*, **1991**, 64, 201-8	56.2	124
128	Mechanisms of clonal evolution in childhood acute lymphoblastic leukemia. *Nature Immunology*, **2015**, 16, 766-774	19.1	121
127	Crystal structure of the RAG1 dimerization domain reveals multiple zinc-binding motifs including a novel zinc binuclear cluster. *Nature Structural Biology*, **1997**, 4, 586-91		121
126	Discovery of an Active RAG Transposon Illuminates the Origins of V(D)J Recombination. *Cell*, **2016**, 166, 102-14	56.2	117
125	The RAG recombinase dictates functional heterogeneity and cellular fitness in natural killer cells. *Cell*, **2014**, 159, 94-107	56.2	114
124	RAG-1 and ATM coordinate monoallelic recombination and nuclear positioning of immunoglobulin loci. *Nature Immunology*, **2009**, 10, 655-64	19.1	114
123	Chromosomal Loop Domains Direct the Recombination of Antigen Receptor Genes. *Cell*, **2015**, 163, 947-59	56.2	108
122	In-frame TCR delta gene rearrangements play a critical role in the alpha beta/gamma delta T cell lineage decision. *Immunity*, **1995**, 2, 617-27	32.3	107
121	DNA hairpin opening mediated by the RAG1 and RAG2 proteins. *Molecular and Cellular Biology*, **1999**, 19, 4159-66	4.8	100
120	V(D)J recombination. *Immunological Reviews*, **2004**, 200, 5-11	11.3	99
119	A zinc-binding domain involved in the dimerization of RAG1. *Journal of Molecular Biology*, **1996**, 260, 70-84	6.5	95
118	Uracil residues dependent on the deaminase AID in immunoglobulin gene variable and switch regions. *Nature Immunology*, **2011**, 12, 70-6	19.1	94

117	The activation-induced deaminase functions in a postcleavage step of the somatic hypermutation process. *Journal of Experimental Medicine*, **2002**, 195, 1193-8	16.6	94
116	B cell-specific loss of histone 3 lysine 9 methylation in the V(H) locus depends on Pax5. *Nature Immunology*, **2004**, 5, 853-61	19.1	93
115	cDNA representational difference analysis: a sensitive and flexible method for identification of differentially expressed genes. *Methods in Enzymology*, **1999**, 303, 325-49	1.7	85
114	Staggered AID-dependent DNA double strand breaks are the predominant DNA lesions targeted to S mu in Ig class switch recombination. *International Immunology*, **2004**, 16, 549-57	4.9	78
113	RAG Represents a Widespread Threat to the Lymphocyte Genome. *Cell*, **2015**, 162, 751-65	56.2	72
112	Rearranging views on neurogenesis: neuronal death in the absence of DNA end-joining proteins. *Neuron*, **1999**, 22, 7-10	13.9	70
111	Detection of RAG protein-V(D)J recombination signal interactions near the site of DNA cleavage by UV cross-linking. *Molecular and Cellular Biology*, **1999**, 19, 3788-97	4.8	69
110	Structure of the RAG1 nonamer binding domain with DNA reveals a dimer that mediates DNA synapsis. *Nature Structural and Molecular Biology*, **2009**, 16, 499-508	17.6	68
109	Expression of activation-induced cytidine deaminase is regulated by cell division, providing a mechanistic basis for division-linked class switch recombination. *Proceedings of the National Academy of Sciences of the United States of America*, **2005**, 102, 13242-7	11.5	68
108	Evidence of a critical architectural function for the RAG proteins in end processing, protection, and joining in V(D)J recombination. *Genes and Development*, **2002**, 16, 1934-49	12.6	66
107	Ebf1-dependent control of the osteoblast and adipocyte lineages. *Bone*, **2009**, 44, 537-46	4.7	65
106	Transposon molecular domestication and the evolution of the RAG recombinase. *Nature*, **2019**, 569, 79-84	50.4	64
105	Histone modifications associated with somatic hypermutation. *Immunity*, **2005**, 23, 101-10	32.3	64
104	Identification of an AID-independent pathway for chromosomal translocations between the Igh switch region and Myc. *Nature Immunology*, **2004**, 5, 1117-23	19.1	62
103	Antigen receptor genes and the evolution of a recombinase. *Seminars in Immunology*, **2004**, 16, 245-56	10.7	61
102	Sin1-mTORC2 suppresses rag and il7r gene expression through Akt2 in B cells. *Molecular Cell*, **2010**, 39, 433-43	17.6	60
101	Regulation of RAG1/RAG2-mediated transposition by GTP and the C-terminal region of RAG2. *EMBO Journal*, **2003**, 22, 1922-30	13	60
100	A functional analysis of the spacer of V(D)J recombination signal sequences. *PLoS Biology*, **2003**, 1, E1	9.7	58

99	Extrachromosomal recombination substrates recapitulate beyond 12/23 restricted VDJ recombination in nonlymphoid cells. *Immunity*, **2003**, 18, 65-74	32.3	58
98	Promoters, enhancers, and transcription target RAG1 binding during V(D)J recombination. *Journal of Experimental Medicine*, **2010**, 207, 2809-16	16.6	57
97	Biochemistry of V(D)J recombination. *Current Topics in Microbiology and Immunology*, **2005**, 290, 49-85	3.3	56
96	B cells and osteoblast and osteoclast development. *Immunological Reviews*, **2005**, 208, 141-53	11.3	56
95	Coding joint formation in a cell-free V(D)J recombination system. *Immunity*, **1997**, 7, 303-14	32.3	55
94	New insights into the evolutionary origins of the recombination-activating gene proteins and V(D)J recombination. *FEBS Journal*, **2017**, 284, 1590-1605	5.7	53
93	Pax5-deficient mice exhibit early onset osteopenia with increased osteoclast progenitors. *Journal of Immunology*, **2004**, 173, 6583-91	5.3	52
92	Control of gene conversion and somatic hypermutation by immunoglobulin promoter and enhancer sequences. *Journal of Experimental Medicine*, **2006**, 203, 2919-28	16.6	49
91	Strand-biased spreading of mutations during somatic hypermutation. *Science*, **2007**, 317, 1227-30	33.3	49
90	Regulation and Evolution of the RAG Recombinase. *Advances in Immunology*, **2015**, 128, 1-39	5.6	48
89	Alpha beta lineage-committed thymocytes can be rescued by the gamma delta T cell receptor (TCR) in the absence of TCR beta chain. *European Journal of Immunology*, **1997**, 27, 2948-58	6.1	47
88	Genetic modulation of T cell receptor gene segment usage during somatic recombination. *Journal of Experimental Medicine*, **2000**, 192, 1191-6	16.6	46
87	Identification of basic residues in RAG2 critical for DNA binding by the RAG1-RAG2 complex. *Molecular Cell*, **2001**, 8, 899-910	17.6	45
86	Mobilization of RAG-generated signal ends by transposition and insertion in vivo. *Molecular and Cellular Biology*, **2006**, 26, 1558-68	4.8	43
85	Up-regulation of Hlx in immature Th cells induces IFN-gamma expression. *Journal of Immunology*, **2004**, 172, 114-22	5.3	42
84	TET enzymes augment activation-induced deaminase (AID) expression via 5-hydroxymethylcytosine modifications at the superenhancer. *Science Immunology*, **2019**, 4,	28	40
83	V(D)J recombination moves in vitro. *Seminars in Immunology*, **1997**, 9, 149-59	10.7	39
82	Leaky severe combined immunodeficiency and aberrant DNA rearrangements due to a hypomorphic RAG1 mutation. *Blood*, **2009**, 113, 2965-75	2.2	38

81	Roles of the Ig kappa light chain intronic and 3' enhancers in Igk somatic hypermutation. *Journal of Immunology*, **2006**, 177, 1146-51	5.3	38
80	Targeting of somatic hypermutation by immunoglobulin enhancer and enhancer-like sequences. *PLoS Biology*, **2014**, 12, e1001831	9.7	37
79	Identification of V(D)J recombination coding end intermediates in normal thymocytes. *Journal of Molecular Biology*, **1997**, 267, 1-9	6.5	36
78	Dendritic cell-mediated activation-induced cytidine deaminase (AID)-dependent induction of genomic instability in human myeloma. *Blood*, **2012**, 119, 2302-9	2.2	35
77	The ataxia telangiectasia mutated kinase controls Igκ allelic exclusion by inhibiting secondary Vκ-to-Jκ rearrangements. *Journal of Experimental Medicine*, **2013**, 210, 233-9	16.6	34
76	Collaboration of RAG2 with RAG1-like proteins during the evolution of V(D)J recombination. *Genes and Development*, **2016**, 30, 909-17	12.6	33
75	Modeling altered T-cell development with induced pluripotent stem cells from patients with RAG1-dependent immune deficiencies. *Blood*, **2016**, 128, 783-93	2.2	32
74	Localized epigenetic changes induced by DH recombination restricts recombinase to DJH junctions. *Nature Immunology*, **2012**, 13, 1205-12	19.1	32
73	Higher-order looping and nuclear organization of Tcra facilitate targeted rag cleavage and regulated rearrangement in recombination centers. *Cell Reports*, **2013**, 3, 359-70	10.6	31
72	Multiple transcription factor binding sites predict AID targeting in non-Ig genes. *Journal of Immunology*, **2013**, 190, 3878-88	5.3	29
71	Role of activation-induced deaminase protein kinase A phosphorylation sites in Ig gene conversion and somatic hypermutation. *Journal of Immunology*, **2007**, 179, 5274-80	5.3	27
70	RAG1-DNA binding in V(D)J recombination. Specificity and DNA-induced conformational changes revealed by fluorescence and CD spectroscopy. *Journal of Biological Chemistry*, **2003**, 278, 5584-96	5.4	27
69	DNA mismatches and GC-rich motifs target transposition by the RAG1/RAG2 transposase. *Nucleic Acids Research*, **2003**, 31, 6180-90	20.1	27
68	DNA melting initiates the RAG catalytic pathway. *Nature Structural and Molecular Biology*, **2018**, 25, 732-742	17.6	26
67	Cooperative recruitment of HMGB1 during V(D)J recombination through interactions with RAG1 and DNA. *Nucleic Acids Research*, **2013**, 41, 3289-301	20.1	26
66	Uncovering the V(D)J recombinase. *Cell*, **2004**, 116, S103-6, 2 p following S106	56.2	25
65	Developmental neurobiology: Alternative ends for a familiar story?. *Current Biology*, **1999**, 9, R251-3	6.3	25
64	Histone reader BRWD1 targets and restricts recombination to the Igk locus. *Nature Immunology*, **2015**, 16, 1094-103	19.1	24

63	Targeting of AID-mediated sequence diversification by cis-acting determinants. *Advances in Immunology*, **2007**, 94, 109-25	5.6	24
62	Peripheral subnuclear positioning suppresses Tcrb recombination and segregates Tcrb alleles from RAG2. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, E4628-37	11.5	23
61	Mutational analysis of terminal deoxynucleotidyltransferase-mediated N-nucleotide addition in V(D)J recombination. *Journal of Immunology*, **2004**, 172, 5478-88	5.3	23
60	The beyond 12/23 restriction is imposed at the nicking and pairing steps of DNA cleavage during V(D)J recombination. *Molecular and Cellular Biology*, **2007**, 27, 6288-99	4.8	22
59	Radiosensitization of MDA-MB-231 breast tumor cells by adenovirus-mediated overexpression of a fragment of the XRCC4 protein. *Molecular Cancer Therapeutics*, **2005**, 4, 1541-7	6.1	22
58	Origins of peripheral B cells in IL-7 receptor-deficient mice. *Molecular Immunology*, **2006**, 43, 326-34	4.3	21
57	Immunology. One AID to unite them all. *Science*, **2002**, 295, 1244-5	33.3	21
56	A dual interaction between the DNA damage response protein MDC1 and the RAG1 subunit of the V(D)J recombinase. *Journal of Biological Chemistry*, **2012**, 287, 36488-98	5.4	20
55	New concepts in the regulation of an ancient reaction: transposition by RAG1/RAG2. *Immunological Reviews*, **2004**, 200, 261-71	11.3	20
54	Identification of core DNA elements that target somatic hypermutation. *Journal of Immunology*, **2012**, 189, 5314-26	5.3	19
53	Structural basis of mismatch recognition by a SARS-CoV-2 proofreading enzyme. *Science*, **2021**, 373, 1142-1146	33.3	19
52	AID and Igh switch region-Myc chromosomal translocations. *DNA Repair*, **2006**, 5, 1259-64	4.3	18
51	Single-molecule analysis of RAG-mediated V(D)J DNA cleavage. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, E1715-23	11.5	17
50	Mapping and Quantitation of the Interaction between the Recombination Activating Gene Proteins RAG1 and RAG2. *Journal of Biological Chemistry*, **2015**, 290, 11802-17	5.4	16
49	RAG and HMGB1 create a large bend in the 23RSS in the V(D)J recombination synaptic complexes. *Nucleic Acids Research*, **2013**, 41, 2437-54	20.1	16
48	Non-redundancy of cytidine deaminases in class switch recombination. *European Journal of Immunology*, **2004**, 34, 844-849	6.1	16
47	Intermolecular V(D)J recombination. *Journal of Biological Chemistry*, **2000**, 275, 8341-8	5.4	16
46	Synapsis alters RAG-mediated nicking at Tcrb recombination signal sequences: implications for the Beyond 12/23 rule. *Molecular and Cellular Biology*, **2014**, 34, 2566-80	4.8	15

45	Fluorescence resonance energy transfer analysis of recombination signal sequence configuration in the RAG1/2 synaptic complex. *Molecular and Cellular Biology*, **2007**, 27, 4745-58	4.8	15
44	Synapsis of recombination signal sequences located in cis and DNA underwinding in V(D)J recombination. *Molecular and Cellular Biology*, **2004**, 24, 8727-44	4.8	14
43	RAG1 targeting in the genome is dominated by chromatin interactions mediated by the non-core regions of RAG1 and RAG2. *Nucleic Acids Research*, **2016**, 44, 9624-9637	20.1	14
42	Immature Lymphocytes Inhibit and Transcription and V(D)J Recombination in Response to DNA Double-Strand Breaks. *Journal of Immunology*, **2017**, 198, 2943-2956	5.3	13
41	Structures of a RAG-like transposase during cut-and-paste transposition. *Nature*, **2019**, 575, 540-544	50.4	13
40	Transposition mediated by RAG1 and RAG2 and the evolution of the adaptive immune system. *Immunologic Research*, **1999**, 19, 169-82	4.3	13
39	Topologically Associated Domains Delineate Susceptibility to Somatic Hypermutation. *Cell Reports*, **2019**, 29, 3902-3915.e8	10.6	12
38	Identification of RAG-like transposons in protostomes suggests their ancient bilaterian origin. *Mobile DNA*, **2020**, 11, 17	4.4	11
37	A critical context-dependent role for E boxes in the targeting of somatic hypermutation. *Journal of Immunology*, **2013**, 191, 1556-66	5.3	11
36	Imatinib resistance and progression of CML to blast crisis: somatic hypermutation AIDing the way. *Cancer Cell*, **2009**, 16, 174-6	24.3	10
35	Nucleolar localization of RAG1 modulates V(D)J recombination activity. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 4300-4309	11.5	9
34	The architecture of the 12RSS in V(D)J recombination signal and synaptic complexes. *Nucleic Acids Research*, **2015**, 43, 917-31	20.1	8
33	Spatio-temporal regulation of RAG2 following genotoxic stress. *DNA Repair*, **2015**, 27, 19-27	4.3	8
32	The Mechanism of V(D)J Recombination **2015**, 13-34		8
31	Immunology. UNGstoppable switching. *Science*, **2004**, 305, 1113-4	33.3	8
30	Super-enhancer transcription converges on AID. *Cell*, **2014**, 159, 1490-2	56.2	6
29	Activation-induced cytidine deaminase-mediated sequence diversification is transiently targeted to newly integrated DNA substrates. *Journal of Biological Chemistry*, **2007**, 282, 25308-13	5.4	6
28	Recruitment of RAG1 and RAG2 to Chromatinized DNA during V(D)J Recombination. *Molecular and Cellular Biology*, **2015**, 35, 3701-13	4.8	5

27	AID-targeting and hypermutation of non-immunoglobulin genes does not correlate with proximity to immunoglobulin genes in germinal center B cells. *PLoS ONE*, **2012**, 7, e39601	3.7	5
26	Disease-associated CTNNBL1 mutation impairs somatic hypermutation by decreasing nuclear AID. *Journal of Clinical Investigation*, **2020**, 130, 4411-4422	15.9	5
25	Bcl6 Is Required for Somatic Hypermutation and Gene Conversion in Chicken DT40 Cells. *PLoS ONE*, **2016**, 11, e0149146	3.7	5
24	Structural basis for the activation and suppression of transposition during evolution of the RAG recombinase. *EMBO Journal*, **2020**, 39, e105857	13	5
23	Structural visualization of transcription activated by a multidrug-sensing MerR family regulator. *Nature Communications*, **2021**, 12, 2702	17.4	5
22	The RAG1 N-terminal region regulates the efficiency and pathways of synapsis for V(D)J recombination. *Journal of Experimental Medicine*, **2021**, 218,	16.6	5
21	Partial reconstitution of V(D)J rearrangement and lymphocyte development in RAG-deficient mice expressing inducible, tetracycline-regulated RAG transgenes. *Molecular Immunology*, **2004**, 40, 813-29	4.3	4
20	Sequence-dependent dynamics of synthetic and endogenous RSSs in V(D)J recombination. *Nucleic Acids Research*, **2020**, 48, 6726-6739	20.1	3
19	Inducible, reversible hair loss in transgenic mice. *Transgenic Research*, **2002**, 11, 241-7	3.3	3
18	Induction of homologous recombination between sequence repeats by the activation induced cytidine deaminase (AID) protein. *ELife*, **2014**, 3, e03110	8.9	3
17	Structural insights into the evolution of the RAG recombinase. *Nature Reviews Immunology*, **2021**,	36.5	3
16	rag-1 and rag-2: biochemistry and protein interactions. *Current Topics in Microbiology and Immunology*, **1996**, 217, 11-29	3.3	3
15	Intra-V Cluster Recombination Shapes the Ig Kappa Locus Repertoire. *Cell Reports*, **2019**, 29, 4471-4481.e6	10.6	3
14	Charles A. Janeway, Jr. (1943-2003). *Cell*, **2003**, 113, 433-434	56.2	2
13	Response to 'Amplifying Igh translocations'. *Nature Immunology*, **2005**, 6, 118-118	19.1	2
12	Direct observation of RAG recombinase recruitment to chromatin and the IgH locus in live pro-B cells		2
11	Recombination activating gene-1 (RAG-1) transcription in the mammalian CNS **1993**, 283-295		2
10	Transcription factor binding at Ig enhancers is linked to somatic hypermutation targeting. *European Journal of Immunology*, **2020**, 50, 380-395	6.1	2

9	A Role for Small RNA Molecules during the DNA Repair Phase of Somatic Hypermutation. *Blood*, **2008**, 112, 785-785	2.2	1
8	RAG2 abolishes RAG1 aggregation to facilitate V(D)J recombination. *Cell Reports*, **2021**, 37, 109824	10.6	1
7	TET enzymes augment AID expression via 5hmC modifications at the Aicda superenhancer		1
6	Sequence-Dependent Dynamics of Synthetic and Endogenous RSSs in V(D)J Recombination		1
5	A Future Outlook on Molecular Mechanisms of Immunity. *Trends in Immunology*, **2020**, 41, 549-555	14.4	0
4	Making ends meet in class switch recombination. *Cell Research*, **2020**, 30, 711-712	24.7	
3	Understanding the spread of mutations during somatic hypermutation. *FASEB Journal*, **2008**, 22, 849.3	0.9	
2	The Role of RAG in V(D)J Recombination **2016**, 99-106		
1	Negative Regulation of Activation-Induced Cytidine Deaminase Protein Prevents Aberrant Somatic Hypermutation and Lymphomagenesis.. *Blood*, **2009**, 114, 94-94	2.2	