Scott Keeney

List of Publications by Year
in descending order

113 papers	14,349 citations	31974 53 h-index	25787 108 g-index
150 all docs	150 docs citations	150 times ranked	7132 citing authors

#	Article	IF	Citations
1	Meiosis-Specific DNA Double-Strand Breaks Are Catalyzed by Spo11, a Member of a Widely Conserved Protein Family. Cell, 1997, 88, 375-384.	28.9	1,640
2	Recombinational DNA double-strand breaks in mice precede synapsis. Nature Genetics, 2001, 27, 271-276.	21.4	818
3	Chromosome Synapsis Defects and Sexually Dimorphic Meiotic Progression in Mice Lacking Spo11. Molecular Cell, 2000, 6, 989-998.	9.7	639
4	Mechanism and control of meiotic recombination initiation. Current Topics in Developmental Biology, 2001, 52, 1-53.	2.2	573
5	Endonucleolytic processing of covalent protein-linked DNA double-strand breaks. Nature, 2005, 436, 1053-1057.	27.8	536
6	A Hierarchical Combination of Factors Shapes the Genome-wide Topography of Yeast Meiotic Recombination Initiation. Cell, 2011, 144, 719-731.	28.9	520
7	Clarifying the mechanics of DNA strand exchange in meiotic recombination. Nature, 2006, 442, 153-158.	27.8	383
8	Mouse HORMAD1 and HORMAD2, Two Conserved Meiotic Chromosomal Proteins, Are Depleted from Synapsed Chromosome Axes with the Help of TRIP13 AAA-ATPase. PLoS Genetics, 2009, 5, e1000702.	3.5	361
9	Mechanism and Regulation of Meiotic Recombination Initiation. Cold Spring Harbor Perspectives in Biology, 2015, 7, a016634.	5.5	357
10	Crossover Homeostasis in Yeast Meiosis. Cell, 2006, 126, 285-295.	28.9	320
11	Computed structures of core eukaryotic protein complexes. Science, 2021, 374, eabm4805.	12.6	316
12	Where the crossovers are: recombination distributions in mammals. Nature Reviews Genetics, 2004, 5, 413-424.	16.3	295
13	Spo11 and the Formation of DNA Double-Strand Breaks in Meiosis. , 2008, 2, 81-123.		271
14	ATM controls meiotic double-strand-break formation. Nature, 2011, 479, 237-240.	27.8	248
15	The Landscape of Mouse Meiotic Double-Strand Break Formation, Processing, and Repair. Cell, 2016, 167, 695-708.e16.	28.9	240
16	Distinct Properties of the XY Pseudoautosomal Region Crucial for Male Meiosis. Science, 2011, 331, 916-920.	12.6	236
17	Self-Organization of Meiotic Recombination Initiation: General Principles and Molecular Pathways. Annual Review of Genetics, 2014, 48, 187-214.	7.6	220
18	Homeostatic control of recombination is implemented progressively in mouse meiosis. Nature Cell Biology, 2012, 14, 424-430.	10.3	213

#	Article	IF	Citations
19	Surveillance of Different Recombination Defects in Mouse Spermatocytes Yields Distinct Responses despite Elimination at an Identical Developmental Stage. Molecular and Cellular Biology, 2005, 25, 7203-7215.	2.3	212
20	Genome destabilization by homologous recombination in the germ line. Nature Reviews Molecular Cell Biology, 2010, 11, 182-195.	37.0	211
21	Progression of meiotic DNA replication is modulated by interchromosomal interaction proteins, negatively by Spo11p and positively by Rec8p. Genes and Development, 2000, 14, 493-503.	5.9	209
22	Distinct DNA-damage-dependent and -independent responses drive the loss of oocytes in recombination-defective mouse mutants. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 737-742.	7.1	207
23	Meiotic homologue alignment and its quality surveillance are controlled by mouse HORMAD1. Nature Cell Biology, 2011, 13, 599-610.	10.3	207
24	Homologue engagement controls meiotic DNA break number and distribution. Nature, 2014, 510, 241-246.	27.8	186
25	Numerical constraints and feedback control of double-strand breaks in mouse meiosis. Genes and Development, 2013, 27, 873-886.	5.9	174
26	Mouse TRIP13/PCH2 Is Required for Recombination and Normal Higher-Order Chromosome Structure during Meiosis. PLoS Genetics, 2010, 6, e1001062.	3.5	170
27	Antiviral Protein Ski8 Is a Direct Partner of Spo11 in Meiotic DNA Break Formation, Independent of Its Cytoplasmic Role in RNA Metabolism. Molecular Cell, 2004, 13, 549-559.	9.7	158
28	A global view of meiotic double-strand break end resection. Science, 2017, 355, 40-45.	12.6	155
29	Meiotic DNA break formation requires the unsynapsed chromosome axis-binding protein IHO1 (CCDC36) inÂmice. Nature Cell Biology, 2016, 18, 1208-1220.	10.3	145
30	Cyclin-Dependent Kinase Directly Regulates Initiation of Meiotic Recombination. Cell, 2006, 125, 1321-1332.	28.9	138
31	Tying synaptonemal complex initiation to the formation and programmed repair of DNA double-strand breaks. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 4519-4524.	7.1	133
32	ketu mutant mice uncover an essential meiotic function for the ancient RNA helicase YTHDC2. ELife, 2018, 7, .	6.0	129
33	Interactions between Mei4, Rec114, and other proteins required for meiotic DNA double-strand break formation in Saccharomyces cerevisiae. Chromosoma, 2007, 116, 471-486.	2.2	126
34	Temporospatial Coordination of Meiotic DNA Replication and Recombination via DDK Recruitment to Replisomes. Cell, 2014, 158, 861-873.	28.9	125
35	ATM Promotes the Obligate XY Crossover and both Crossover Control and Chromosome Axis Integrity on Autosomes. PLoS Genetics, 2008, 4, e1000076.	3.5	116
36	Mouse tetrad analysis provides insights into recombination mechanisms and hotspot evolutionary dynamics. Nature Genetics, 2014, 46, 1072-1080.	21.4	110

#	Article	IF	Citations
37	Nonparadoxical evolutionary stability of the recombination initiation landscape in yeast. Science, 2015, 350, 932-937.	12.6	109
38	The kinetochore prevents centromere-proximal crossover recombination during meiosis. ELife, 2015, 4, .	6.0	108
39	A Mouse Homolog of the Saccharomyces cerevisiae Meiotic Recombination DNA Transesterase Spo11p. Genomics, 1999, 61, 170-182.	2.9	106
40	Comprehensive, Fine-Scale Dissection of Homologous Recombination Outcomes at a Hot Spot in Mouse Meiosis. Molecular Cell, 2010, 39, 700-710.	9.7	100
41	Identification of Residues in Yeast Spo11p Critical for Meiotic DNA Double-Strand Break Formation. Molecular and Cellular Biology, 2002, 22, 1106-1115.	2.3	97
42	Evolutionarily diverse determinants of meiotic DNA break and recombination landscapes across the genome. Genome Research, 2014, 24, 1650-1664.	5.5	92
43	REC114 Partner ANKRD31 Controls Number, Timing, and Location of Meiotic DNA Breaks. Molecular Cell, 2019, 74, 1053-1068.e8.	9.7	89
44	The Configuration of RPA, RAD51, and DMC1 Binding in Meiosis Reveals the Nature of Critical Recombination Intermediates. Molecular Cell, 2020, 79, 689-701.e10.	9.7	87
45	The ATM Signaling Cascade Promotes Recombination-Dependent Pachytene Arrest in Mouse Spermatocytes. PLoS Genetics, 2015, 11, e1005017.	3.5	82
46	Numerical and spatial patterning of yeast meiotic DNA breaks by Tel1. Genome Research, 2017, 27, 278-288.	5.5	78
47	Spatial organization and dynamics of the association of Rec102 and Rec104 with meiotic chromosomes. EMBO Journal, 2004, 23, 1815-1824.	7.8	77
48	Communication between homologous chromosomes: genetic alterations at a nucleaseâ€hypersensitive site can alter mitotic chromatin structure at that site both in <i>cis</i> and in <i>trans</i>. Genes To Cells, 1996, 1, 475-489.	1.2	74
49	Evolutionary conservation of meiotic DSB proteins: more than just Spo11. Genes and Development, 2010, 24, 1201-1207.	5.9	74
50	Ensuring meiotic DNA break formation in the mouse pseudoautosomal region. Nature, 2020, 582, 426-431.	27.8	73
51	DNA-driven condensation assembles the meiotic DNA break machinery. Nature, 2021, 592, 144-149.	27.8	71
52	Synaptonemal complex formation: where does it start?. BioEssays, 2005, 27, 995-998.	2.5	68
53	ATR is a multifunctional regulator of male mouse meiosis. Nature Communications, 2018, 9, 2621.	12.8	66
54	Regulating the formation of DNA double-strand breaks in meiosis. Genes and Development, 2008, 22, 286-292.	5.9	63

#	Article	IF	Citations
55	The tricky path to recombining X and Y chromosomes in meiosis. Annals of the New York Academy of Sciences, 2012, 1267, 18-23.	3.8	63
56	Functional Interactions Between <i>SPO11</i> and <i>REC102</i> During Initiation of Meiotic Recombination in <i>Saccharomyces cerevisiae</i>. Genetics, 2002, 160, 111-122.	2.9	62
57	Genomic and chromatin features shaping meiotic double-strand break formation and repair in mice. Cell Cycle, 2017, 16, 1870-1884.	2.6	56
58	rahu is a mutant allele of Dnmt3c, encoding a DNA methyltransferase homolog required for meiosis and transposon repression in the mouse male germline. PLoS Genetics, 2017, 13, e1006964.	3.5	56
59	Scale matters. Cell Cycle, 2012, 11, 1496-1503.	2.6	54
60	Mechanisms of germ line genome instability. Seminars in Cell and Developmental Biology, 2016, 54, 177-187.	5.0	53
61	Exploiting Spore-Autonomous Fluorescent Protein Expression to Quantify Meiotic Chromosome Behaviors in Saccharomyces cerevisiae. Genetics, 2011, 189, 423-439.	2.9	52
62	p53 and TAp63 participate in the recombination-dependent pachytene arrest in mouse spermatocytes. PLoS Genetics, 2017, 13, e1006845.	3.5	50
63	Multilayered mechanisms ensure that short chromosomes recombine in meiosis. Nature, 2020, 582, 124-128.	27.8	50
64	Shu complex SWS1-SWSAP1 promotes early steps in mouse meiotic recombination. Nature Communications, 2018, 9, 3961.	12.8	49
65	Gel Electrophoresis Assays for Analyzing DNA Double-Strand Breaks in Saccharomyces cerevisiae at Various Spatial Resolutions. Methods in Molecular Biology, 2009, 557, 117-142.	0.9	49
66	Dynamics of DOT1L localization and H3K79 methylation during meiotic prophase I in mouse spermatocytes. Chromosoma, 2014, 123, 147-164.	2.2	48
67	High-Resolution Global Analysis of the Influences of Bas1 and Ino4 Transcription Factors on Meiotic DNA Break Distributions in <i>Saccharomyces cerevisiae</i>. Genetics, 2015, 201, 525-542.	2.9	47
68	Cyclin B3 promotes anaphase I onset in oocyte meiosis. Journal of Cell Biology, 2019, 218, 1265-1281.	5.2	47
69	Persistent DNA-break potential near telomeres increases initiation of meiotic recombination on short chromosomes. Nature Communications, 2019, 10, 970.	12.8	47
70	Molecular structures and mechanisms of DNA break processing in mouse meiosis. Genes and Development, 2020, 34, 806-818.	5.9	46
71	Preaching about the converted: how meiotic gene conversion influences genomic diversity. Annals of the New York Academy of Sciences, 2012, 1267, 95-102.	3.8	42
72	ATR is required to complete meiotic recombination in mice. Nature Communications, 2018, 9, 2622.	12.8	41

#	Article	IF	Citations
73	Structural and functional characterization of the Spo11 core complex. Nature Structural and Molecular Biology, 2021, 28, 92-102.	8.2	41
74	Local and sex-specific biases in crossover vs. noncrossover outcomes at meiotic recombination hot spots in mice. Genes and Development, 2015, 29, 1721-1733.	5.9	39
75	Chromosome-autonomous feedback down-regulates meiotic DNA break competence upon synaptonemal complex formation. Genes and Development, 2020, 34, 1605-1618.	5.9	35
76	Histone H3 Threonine 11 Phosphorylation Is Catalyzed Directly by the Meiosis-Specific Kinase Mek1 and Provides a Molecular Readout of Mek1 Activity <i>in Vivo</i>. Genetics, 2017, 207, 1313-1333.	2.9	34
77	Distinct DNA-binding surfaces in the ATPase and linker domains of MutLÎ³ determine its substrate specificities and exert separable functions in meiotic recombination and mismatch repair. PLoS Genetics, 2017, 13, e1006722.	3.5	34
78	Concerted cutting by Spo11 illuminates meiotic DNA break mechanics. Nature, 2021, 594, 572-576.	27.8	34
79	Mouse BAZ1A (ACF1) Is Dispensable for Double-Strand Break Repair but Is Essential for Averting Improper Gene Expression during Spermatogenesis. PLoS Genetics, 2013, 9, e1003945.	3.5	32
80	Meiotic Recombination Initiation in and around Retrotransposable Elements in Saccharomyces cerevisiae. PLoS Genetics, 2013, 9, e1003732.	3.5	32
81	End-Labeling and Analysis of Spo11-Oligonucleotide Complexes in Saccharomyces cerevisiae. Methods in Molecular Biology, 2009, 557, 183-195.	0.9	29
82	Exo1 recruits Cdc5 polo kinase to MutLÎ³ to ensure efficient meiotic crossover formation. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 30577-30588.	7.1	28
83	Expression of Arf Tumor Suppressor in Spermatogonia Facilitates Meiotic Progression in Male Germ Cells. PLoS Genetics, 2011, 7, e1002157.	3.5	27
84	Mechanistic Insight into Crossing over during Mouse Meiosis. Molecular Cell, 2020, 78, 1252-1263.e3.	9.7	27
85	Control of meiotic double-strand-break formation by ATM: local and global views. Cell Cycle, 2018, 17, 1155-1172.	2.6	26
86	Meiotic recombination: Making and breaking go hand in hand. Current Biology, 2001, 11, R45-R48.	3.9	25
87	De novo deletions and duplications at recombination hotspots in mouse germlines. Cell, 2021, 184, 5970-5984.e18.	28.9	25
88	YTHDC2 control of gametogenesis requires helicase activity but not m⁶A binding. Genes and Development, 2022, 36, 180-194.	5.9	25
89	YTHDC2 is essential for pachytene progression and prevents aberrant microtubule-driven telomere clustering in male meiosis. Cell Reports, 2021, 37, 110110.	6.4	24
90	Meiotic crossover hotspots contained in haplotype block boundaries of the mouse genome. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 13396-13401.	7.1	22

#	Article	IF	Citations
91	S1-seq Assay for Mapping Processed DNA Ends. Methods in Enzymology, 2018, 601, 309-330.	1.0	19
92	Histone methylation sets the stage for meiotic DNA breaks. EMBO Journal, 2009, 28, 81-83.	7.8	18
93	Mice deficient for the type II topoisomerase-like DNA transesterase Spo11 show normal immunoglobulin somatic hypermutation and class switching. European Journal of Immunology, 2002, 32, 316-321.	2.9	16
94	How much is enough? Control of DNA double-strand break numbers in mouse meiosis. Cell Cycle, 2013, 12, 2719-2720.	2.6	16
95	Molecular Cartography: Mapping the Landscape of Meiotic Recombination. PLoS Biology, 2007, 5, e333.	5.6	15
96	Sequencing Spo11 Oligonucleotides for Mapping Meiotic DNA Double-Strand Breaks in Yeast. Methods in Molecular Biology, 2017, 1471, 51-98.	0.9	13
97	Probing Meiotic Recombination Decisions. Developmental Cell, 2008, 15, 331-332.	7.0	11
98	DDK links replication and recombination in meiosis. Cell Cycle, 2014, 13, 3621-3622.	2.6	11
99	Breaking DNA. Science, 2016, 351, 916-917.	12.6	11
100	Cyclin B3 is dispensable for mouse spermatogenesis. Chromosoma, 2019, 128, 473-487.	2.2	10
101	Homologous Recombination During Meiosis. , 2016, , 131-151.		8
102	yama, a mutant allele of Mov10l1, disrupts retrotransposon silencing and piRNA biogenesis. PLoS Genetics, 2021, 17, e1009265.	3.5	8
103	How do small chromosomes know they are small? Maximizing meiotic break formation on the shortest yeast chromosomes. Current Genetics, 2021, 67, 431-437.	1.7	8
104	Triple-helix potential of the mouse genome. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2203967119.	7.1	8
105	Detection of SPO11-Oligonucleotide Complexes from Mouse Testes. Methods in Molecular Biology, 2009, 557, 197-207.	0.9	7
106	Meiosis. Methods in Molecular Biology, 2009, 557, v-vi.	0.9	7
107	Meiosis. Methods in Molecular Biology, 2009, 558, v-vi.	0.9	6
108	shani mutation in mouse affects splicing of Spata22 and leads to impaired meiotic recombination. Chromosoma, 2020, 129, 161-179.	2.2	5

#	Article	IF	Citations
109	Zip it up to shut it down. Cell Cycle, 2014, 13, 2157-2158.	2.6	4
110	Special issue on â€œrecent advances in meiotic chromosome structure, recombination and segregationâ€• Chromosoma, 2016, 125, 173-175.	2.2	3
111	PCH'ing Together an Understanding of Crossover Control. PLoS Genetics, 2009, 5, e1000576.	3.5	1
112	Editorial: Meiosis: From Molecular Basis to Medicine. Frontiers in Cell and Developmental Biology, 2021, 9, 812292.	3.7	1
113	Meiosis: Disentangling polyploid chromosomes with supercharged crossover interference. Current Biology, 2021, 31, R1442-R1444.	3.9	0