Peter G Gillespie

List of Publications by Year
in descending order

109 papers	8,495 citations	53794 45 h-index	46799 89 g-index
117 all docs	117 docs citations	117 times ranked	5640 citing authors

#	Article	IF	Citations
1	Molecular basis of mechanosensory transduction. Nature, 2001, 413, 194-202.	27.8	621
2	Unconventional Myosins in Inner-Ear Sensory Epithelia. Journal of Cell Biology, 1997, 137, 1287-1307.	5.2	522
3	Cadherin 23 is a component of the tip link in hair-cell stereocilia. Nature, 2004, 428, 950-955.	27.8	492
4	Mechanotransduction by Hair Cells: Models, Molecules, and Mechanisms. Cell, 2009, 139, 33-44.	28.9	365
5	Pulling springs to tune transduction: Adaptation by hair cells. Neuron, 1994, 12, 1-9.	8.1	322
6	A Chemical-Genetic Strategy Implicates Myosin-1c in Adaptation by Hair Cells. Cell, 2002, 108, 371-381.	28.9	318
7	High-resolution structure of hair-cell tip links. Proceedings of the National Academy of Sciences of the United States of America, 2000, 97, 13336-13341.	7.1	276
8	Plasma Membrane Ca²⁺-ATPase Extrudes Ca²⁺from Hair Cell Stereocilia. Journal of Neuroscience, 1998, 18, 610-624.	3.6	212
9	Plasma Membrane Ca²⁺-ATPase Isoform 2a Is the PMCA of Hair Bundles. Journal of Neuroscience, 2001, 21, 5066-5078.	3.6	202
10	Regeneration of broken tip links and restoration of mechanical transduction inâ€‰hairâ€‰cells. Proceedings of the National Academy of Sciences of the United States of America, 1996, 93, 15469-15474.	7.1	199
11	Hair-Cell Mechanotransduction and Cochlear Amplification. Neuron, 2005, 48, 403-415.	8.1	199
12	Tip-link protein protocadherin 15 interacts with transmembrane channel-like proteins TMC1 and TMC2. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 12907-12912.	7.1	168
13	Molecular architecture of the chick vestibular hair bundle. Nature Neuroscience, 2013, 16, 365-374.	14.8	166
14	Hair Cells Require Phosphatidylinositol 4,5-Bisphosphate for Mechanical Transduction and Adaptation. Neuron, 2004, 44, 309-320.	8.1	159
15	Physical and Functional Interaction between Protocadherin 15 and Myosin VIIa in Mechanosensory Hair Cells. Journal of Neuroscience, 2006, 26, 2060-2071.	3.6	158
16	Myosin-1c, the Hair Cell's Adaptation Motor. Annual Review of Physiology, 2004, 66, 521-545.	13.1	152
17	New treatment options for hearing loss. Nature Reviews Drug Discovery, 2015, 14, 346-365.	46.4	151
18	Harmonin Mutations Cause Mechanotransduction Defects in Cochlear Hair Cells. Neuron, 2009, 62, 375-387.	8.1	149

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19	Identification of a 120 kd hair-bundle myosin located near stereociliary tips. Neuron, 1993, 11, 581-594.	8.1	145
20	Fast Adaptation in Vestibular Hair Cells Requires Myosin-1c Activity. Neuron, 2005, 47, 541-553.	8.1	142
21	Accurate Label-Free Protein Quantitation with High- and Low-Resolution Mass Spectrometers. Journal of Proteome Research, 2014, 13, 1034-1044.	3.7	135
22	Hair Bundles Are Specialized for ATP Delivery via Creatine Kinase. Neuron, 2007, 53, 371-386.	8.1	114
23	Myosin and Adaptation by Hair Cells. Neuron, 1997, 19, 955-958.	8.1	113
24	Molecular Remodeling of Tip Links Underlies Mechanosensory Regeneration in Auditory Hair Cells. PLoS Biology, 2013, 11, e1001583.	5.6	113
25	Loss-of-Function Mutations of ILDR1 Cause Autosomal-Recessive Hearing Impairment DFNB42. American Journal of Human Genetics, 2011, 88, 127-137.	6.2	108
26	The R109H Variant of Fascin-2, a Developmentally Regulated Actin Crosslinker in Hair-Cell Stereocilia, Underlies Early-Onset Hearing Loss of DBA/2J Mice. Journal of Neuroscience, 2010, 30, 9683-9694.	3.6	107
27	The Chloride Intracellular Channel Protein CLIC5 Is Expressed at High Levels in Hair Cell Stereocilia and Is Essential for Normal Inner Ear Function. Journal of Neuroscience, 2006, 26, 10188-10198.	3.6	102
28	Localization of Myosin-Iβ near Both Ends of Tip Links in Frog Saccular Hair Cells. Journal of Neuroscience, 1998, 18, 8637-8647.	3.6	92
29	Xenopus TRPN1 (NOMPC) localizes to microtubule-based cilia in epithelial cells, including inner-ear hair cells. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 12572-12577.	7.1	92
30	The Enteropathogenic E. coli Effector EspB Facilitates Microvillus Effacing and Antiphagocytosis by Inhibiting Myosin Function. Cell Host and Microbe, 2007, 2, 383-392.	11.0	88
31	Single-cell proteomics reveals changes in expression during hair-cell development. ELife, 2019, 8, .	6.0	80
32	Splice-Site A Choice Targets Plasma-Membrane Ca2+-ATPase Isoform 2 to Hair Bundles. Journal of Neuroscience, 2006, 26, 6172-6180.	3.6	75
33	Myosin-1c Interacts with Hair-Cell Receptors through Its Calmodulin-Binding IQ Domains. Journal of Neuroscience, 2002, 22, 2487-2495.	3.6	73
34	Stereocilia-staircase spacing is influenced by myosin III motors and their cargos espin-1 and espin-like. Nature Communications, 2016, 7, 10833.	12.8	72
35	Myosin-I nomenclature. Journal of Cell Biology, 2001, 155, 703-704.	5.2	71
36	Engineering of the Myosin-Iβ Nucleotide-binding Pocket to Create Selective Sensitivity to N 6-modified ADP Analogs. Journal of Biological Chemistry, 1999, 274, 31373-31381.	3.4	68

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37	Integration of Tmc1/2 into the mechanotransduction complex in zebrafish hair cells is regulated by Transmembrane O-methyltransferase (Tomt). ELife, 2017, 6, .	6.0	67
38	Myosin-I Isozymes in Neonatal Rodent Auditory and Vestibular Epithelia. JARO - Journal of the Association for Research in Otolaryngology, 2002, 3, 375-389.	1.8	66
39	Myosin Iβ Is Located at Tip Link Anchors in Vestibular Hair Bundles. Journal of Neuroscience, 1998, 18, 4603-4615.	3.6	65
40	Localization of PDZD7 to the Stereocilia Ankle-Link Associates this Scaffolding Protein with the Usher Syndrome Protein Network. Journal of Neuroscience, 2012, 32, 14288-14293.	3.6	61
41	Have we found the tip link, transduction channel, and gating spring of the hair cell?. Current Opinion in Neurobiology, 2005, 15, 389-396.	4.2	59
42	Na+/K+-ATPase α1 Identified as an Abundant Protein in the Blood-Labyrinth Barrier That Plays an Essential Role in the Barrier Integrity. PLoS ONE, 2011, 6, e16547.	2.5	59
43	Stereocilia Membrane Deformation: Implications for the Gating Spring and Mechanotransduction Channel. Biophysical Journal, 2012, 102, 201-210.	0.5	55
44	Phosphate Analogs Block Adaptation in Hair Cells by Inhibiting Adaptation-Motor Force Production. Neuron, 1996, 17, 523-533.	8.1	54
45	Measurement of cochlear power gain in the sensitive gerbil ear. Nature Communications, 2011, 2, 216.	12.8	54
46	Plastin 1 widens stereocilia by transforming actin filament packing from hexagonal to liquid. Journal of Cell Biology, 2016, 215, 467-482.	5.2	54
47	Vestibular Hair Bundles Control pH with (Na+, K+)/H+ Exchangers NHE6 and NHE9. Journal of Neuroscience, 2006, 26, 9944-9955.	3.6	52
48	Mechanotransduction-Dependent Control of Stereocilia Dimensions and Row Identity in Inner Hair Cells. Current Biology, 2020, 30, 442-454.e7.	3.9	50
49	Heterodimeric capping protein is required for stereocilia length and width regulation. Journal of Cell Biology, 2017, 216, 3861-3881.	5.2	48
50	Developmental Assembly of Transduction Apparatus in Chick Basilar Papilla. Journal of Neuroscience, 2003, 23, 10815-10826.	3.6	47
51	Large Membrane Domains in Hair Bundles Specify Spatially Constricted Radixin Activation. Journal of Neuroscience, 2012, 32, 4600-4609.	3.6	47
52	The hair cell's transduction channel. Current Opinion in Neurobiology, 2002, 12, 380-386.	4.2	45
53	Molecular machinery of auditory and vestibular transduction. Current Opinion in Neurobiology, 1995, 5, 449-455.	4.2	43
54	Myosin 1c Participates in B Cell Cytoskeleton Rearrangements, Is Recruited to the Immunologic Synapse, and Contributes to Antigen Presentation. Journal of Immunology, 2011, 187, 3053-3063.	0.8	43

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55	Na+ influx triggers bleb formation on inner hair cells. American Journal of Physiology - Cell Physiology, 2005, 288, C1332-C1341.	4.6	41
56	Reverse transduction measured in the living cochlea by low-coherence heterodyne interferometry. Nature Communications, 2016, 7, 10282.	12.8	41
57	Transcriptional Dynamics of Hair-Bundle Morphogenesis Revealed with CellTrails. Cell Reports, 2018, 23, 2901-2914.e13.	6.4	40
58	PDZD7-MYO7A complex identified in enriched stereocilia membranes. ELife, 2016, 5, .	6.0	40
59	Chemical-genetic inhibition of a sensitized mutant myosin Vb demonstrates a role in peripheral-pericentriolar membrane traffic. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 1868-1873.	7.1	39
60	Monitoring Intracellular Calcium Ion Dynamics in Hair Cell Populations with Fluo-4 AM. PLoS ONE, 2012, 7, e51874.	2.5	39
61	The proteome of mouse vestibular hair bundles over development. Scientific Data, 2015, 2, 150047.	5.3	38
62	A Short Splice Form of Xin-Actin Binding Repeat Containing 2 (XIRP2) Lacking the Xin Repeats Is Required for Maintenance of Stereocilia Morphology and Hearing Function. Journal of Neuroscience, 2015, 35, 1999-2014.	3.6	38
63	Calmodulin binding to recombinant myosin-1c and myosin-1c IQ peptides. BMC Biochemistry, 2002, 3, 31.	4.4	34
64	Distinct energy metabolism of auditory and vestibular sensory epithelia revealed by quantitative mass spectrometry using MS2 intensity. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, E268-77.	7.1	32
65	Annexin A5 is the Most Abundant Membrane-Associated Protein in Stereocilia but is Dispensable for Hair-Bundle Development and Function. Scientific Reports, 2016, 6, 27221.	3.3	28
66	Loss of <i>Baiap2l2</i> destabilizes the transducing stereocilia of cochlear hair cells and leads to deafness. Journal of Physiology, 2021, 599, 1173-1198.	2.9	28
67	Correlation of Actin Crosslinker and Capper Expression Levels with Stereocilia Growth Phases. Molecular and Cellular Proteomics, 2014, 13, 606-620.	3.8	26
68	Neuroplastin Isoform Np55 Is Expressed in the Stereocilia of Outer Hair Cells and Required for Normal Outer Hair Cell Function. Journal of Neuroscience, 2016, 36, 9201-9216.	3.6	26
69	Digenic inheritance of deafness caused by 8J allele of myosin-VIIA and mutations in other Usher I genes. Human Molecular Genetics, 2012, 21, 2588-2598.	2.9	25
70	Myosin I and adaptation of mechanical transduction by the inner ear. Philosophical Transactions of the Royal Society B: Biological Sciences, 2004, 359, 1945-1951.	4.0	24
71	The Local Forces Acting on the Mechanotransduction Channel in Hair Cell Stereocilia. Biophysical Journal, 2014, 106, 2519-2528.	0.5	24
72	Stereocilia Rootlets: Actin-Based Structures That Are Essential for Structural Stability of the Hair Bundle. International Journal of Molecular Sciences, 2020, 21, 324.	4.1	24

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73	Improved Electrophoresis and Transfer of Picogram Amounts of Protein with Hemoglobin. Analytical Biochemistry, 1997, 246, 239-245.	2.4	21
74	A mechanism for active hearing. Current Opinion in Neurobiology, 2007, 17, 498-503.	4.2	21
75	Myosin-VIIa and transduction channel tension. Nature Neuroscience, 2002, 5, 3-4.	14.8	19
76	ELMOD1 Stimulates ARF6-GTP Hydrolysis to Stabilize Apical Structures in Developing Vestibular Hair Cells. Journal of Neuroscience, 2018, 38, 843-857.	3.6	16
77	Electron cryo-tomography of vestibular hair-cell stereocilia. Journal of Structural Biology, 2019, 206, 149-155.	2.8	16
78	Mass spectrometry quantitation of proteins from small pools of developing auditory and vestibular cells. Scientific Data, 2018, 5, 180128.	5.3	16
79	Decreased insulin binding to mononuclear leucocytes and erythrocytes from dogs after S-nitroso-N-acetypenicillamine administration. BMC Biochemistry, 2002, 3, 1.	4.4	15
80	Hearing aid. Nature, 2003, 424, 28-29.	27.8	15
81	Molecular Composition of Vestibular Hair Bundles. Cold Spring Harbor Perspectives in Medicine, 2019, 9, a033209.	6.2	15
82	Hair-bundle proteomes of avian and mammalian inner-ear utricles. Scientific Data, 2015, 2, 150074.	5.3	14
83	A cryo-tomography-based volumetric model of the actin core of mouse vestibular hair cell stereocilia lacking plastin 1. Journal of Structural Biology, 2020, 210, 107461.	2.8	14
84	Improved Biolistic Transfection of Hair Cells. PLoS ONE, 2012, 7, e46765.	2.5	14
85	Apical phosphatidylserine externalization in auditory hair cells. Molecular Membrane Biology, 2007, 24, 16-27.	2.0	10
86	Bottoms up: transduction channels at tip link bases. Nature Neuroscience, 2009, 12, 529-530.	14.8	8
87	Mechanotransduction: The Elusive Hair Cell Transduction Channel Revealed?. Current Biology, 2013, 23, R887-R890.	3.9	8
88	Who needs tip links? Backwards transduction by hair cells. Journal of General Physiology, 2013, 142, 481-486.	1.9	8
89	Metazoan mechanotransduction mystery finally solved. Nature Neuroscience, 2005, 8, 7-8.	14.8	7
90	Differential localization of unconventional myosin I and nonmuscle myosin II during B cell spreading. Experimental Cell Research, 2006, 312, 3312-3322.	2.6	7

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91	Twist-Off Purification of Hair Bundles. Methods in Molecular Biology, 2009, 493, 241-255.	0.9	7
92	ANKRD24 organizes TRIOBP to reinforce stereocilia insertion points. Journal of Cell Biology, 2022, 221, .	5.2	7
93	Analysis of the Proteome of Hair-Cell Stereocilia by Mass Spectrometry. Methods in Enzymology, 2017, 585, 329-354.	1.0	6
94	TRPV6, TRPM6 and TRPM7 Do Not Contribute to Hair-Cell Mechanotransduction. Frontiers in Cellular Neuroscience, 2018, 12, 41.	3.7	6
95	Ca²⁺ entry through mechanotransduction channels localizes BAIAP2L2 to stereocilia tips. Molecular Biology of the Cell, 2022, 33, mbcE21100491.	2.1	6
96	Silencing the Cochlear Amplifier by Immobilizing Prestin. Neuron, 2008, 58, 299-301.	8.1	5
97	Deaf and dizzy mice with mutated myosin motors. Nature Medicine, 1996, 2, 27-29.	30.7	4
98	Hair bundles: keeping it together. Nature Neuroscience, 2007, 10, 11-12.	14.8	4
99	Unraveling cadherin 23's role in development and mechanotransduction. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 4959-4960.	7.1	4
100	Honing In on TMC as the Hair Cellâ€™s Transduction Channel. Neuron, 2018, 99, 628-629.	8.1	4
101	A Model for Link Pruning to Establish Correctly Polarized and Oriented Tip Links in Hair Bundles. Biophysical Journal, 2017, 113, 1868-1881.	0.5	3
102	Feeling force: mechanical transduction by vertebrates and invertebrates. Chemistry and Biology, 1996, 3, 223-227.	6.0	2
103	Fast adaptation in the mammalian cochlea: a conserved mechanism for cochlear amplification. Nature Neuroscience, 2003, 6, 790-791.	14.8	2
104	Seeing Touch: Moving Closer to the Worm Mechanotransduction Complex. Current Biology, 2003, 13, R967-R969.	3.9	1
105	Probing the Cochlear Amplifier by Immobilizing Molecular Motors of Sensory Hair Cells. Neuron, 2012, 76, 868-870.	8.1	1
106	Chemical-Genetic Inhibition of Sensitized Mutant Unconventional Myosins. Methods in Molecular Biology, 2007, 392, 231-240.	0.9	1
107	Cy3-ATP labeling of unfixed, permeabilized mouse hair cells. Scientific Reports, 2021, 11, 23855.	3.3	1
108	Reply to â€œOn Cochlear Impedances and the Miscomputation of Power Gainâ€•by Shera et al. J. Assoc. Re. Otolaryngol.. JARO - Journal of the Association for Research in Otolaryngology, 2011, 12, 677-680.	1.8	0

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109	Molecular Biology of Hearing and Balance. , 2012, , 916-927.		0