U Benjamin Kaupp

List of Publications by Year
in descending order

74 papers	8,371 citations	61984 43 h-index	79698 73 g-index
78 all docs	78 docs citations	78 times ranked	6479 citing authors

#	Article	IF	Citations
1	Cyclic Nucleotide-Gated Ion Channels. Physiological Reviews, 2002, 82, 769-824.	28.8	1,064
2	The CatSper channel mediates progesterone-induced Ca2+ influx in human sperm. Nature, 2011, 471, 382-386.	27.8	500
3	Olfactory signalling in vertebrates and insects: differences and commonalities. Nature Reviews Neuroscience, 2010, 11, 188-200.	10.2	459
4	Molecular identification of a hyperpolarization-activated channel in sea urchin sperm. Nature, 1998, 393, 583-587.	27.8	438
5	Molecular Diversity of Pacemaker Ion Channels. Annual Review of Physiology, 2001, 63, 235-257.	13.1	332
6	Profoundly different calcium permeation and blockage determine the specific function of distinct cyclic nucleotide-gated channels. Neuron, 1995, 15, 169-179.	8.1	282
7	Mechanisms of Sperm Chemotaxis. Annual Review of Physiology, 2008, 70, 93-117.	13.1	255
8	The 2020 motile active matter roadmap. Journal of Physics Condensed Matter, 2020, 32, 193001.	1.8	242
9	Fast manipulation of cellular cAMP level by light in vivo. Nature Methods, 2007, 4, 39-42.	19.0	237
10	The Native Rat Olfactory Cyclic Nucleotide-Gated Channel Is Composed of Three Distinct Subunits. Journal of Neuroscience, 1999, 19, 5332-5347.	3.6	207
11	The CatSper channel: a polymodal chemosensor in human sperm. EMBO Journal, 2012, 31, 1654-1665.	7.8	202
12	Hydrodynamics of Sperm Cells near Surfaces. Biophysical Journal, 2010, 99, 1018-1026.	0.5	197
13	The signal flow and motor response controling chemotaxis of sea urchin sperm. Nature Cell Biology, 2003, 5, 109-117.	10.3	186
14	Control of ligand specificity in cyclic nucleotide-gated channels from rod photoreceptors and olfactory epithelium.. Proceedings of the National Academy of Sciences of the United States of America, 1991, 88, 9868-9872.	7.1	183
15	Chloride Accumulation in Mammalian Olfactory Sensory Neurons. Journal of Neuroscience, 2004, 24, 7931-7938.	3.6	180
16	Sperm navigation along helical paths in 3D chemoattractant landscapes. Nature Communications, 2015, 6, 7985.	12.8	157
17	A cGMP-signaling pathway in a subset of olfactory sensory neurons. Proceedings of the National Academy of Sciences of the United States of America, 2000, 97, 10595-10600.	7.1	156
18	The cGMP-gated Channel of Bovine Rod Photoreceptors Is Localized Exclusively in the Plasma Membrane. Journal of Biological Chemistry, 1989, 264, 6996-6999.	3.4	154

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19	Highly Efficient and Ultrafast Phototriggers for cAMP and cGMP by Using Long-Wavelength UV/Vis-Activation. Angewandte Chemie - International Edition, 2001, 40, 1045-1048.	13.8	144
20	The cGMP-gated channel of bovine rod photoreceptors is localized exclusively in the plasma membrane. Journal of Biological Chemistry, 1989, 264, 6996-9.	3.4	141
21	Direct action of endocrine disrupting chemicals on human sperm. EMBO Reports, 2014, 15, 758-765.	4.5	137
22	A K+-selective cGMP-gated ion channel controls chemosensation of sperm. Nature Cell Biology, 2006, 8, 1149-1154.	10.3	106
23	The computational sperm cell. Trends in Cell Biology, 2014, 24, 198-207.	7.9	106
24	Higher-Order Architecture of Rhodopsin in Intact Photoreceptors and Its Implication for Phototransduction Kinetics. Structure, 2015, 23, 628-638.	3.3	105
25	Cardiac pacemaker function of HCN4 channels in mice is confined to embryonic development and requires cyclic AMP. EMBO Journal, 2008, 27, 692-703.	7.8	101
26	Calmodulin controls the rod photoreceptor CNG channel through an unconventional binding site in the N-terminus of the beta -subunit. EMBO Journal, 1998, 17, 2273-2284.	7.8	100
27	Controlling fertilization and cAMP signaling in sperm by optogenetics. ELife, 2015, 4, .	6.0	99
28	The Ca2+-activated K+ current of human sperm is mediated by Slo3. ELife, 2014, 3, e01438.	6.0	94
29	The <scp>C</scp> at <scp>S</scp> per channel controls chemosensation in sea urchin sperm. EMBO Journal, 2015, 34, 379-392.	7.8	93
30	The rate of change in Ca2+ concentration controls sperm chemotaxis. Journal of Cell Biology, 2012, 196, 653-663.	5.2	88
31	Cooperative and uncooperative cyclic-nucleotide-gated ion channels. Trends in Biochemical Sciences, 2011, 36, 55-64.	7.5	83
32	[7-(Dialkylamino)coumarin-4-yl]methyl-Caged Compounds as Ultrafast and Effective Long-Wavelength Phototriggers of 8Bromo-Substituted Cyclic Nucleotides. ChemBioChem, 2003, 4, 434-442.	2.6	81
33	A sperm-activating peptide controls a cGMP-signaling pathway in starfish spermâ˜†. Developmental Biology, 2003, 260, 314-324.	2.0	81
34	Human sperm steer with second harmonics of the flagellar beat. Nature Communications, 2017, 8, 1415.	12.8	79
35	A novel biosensor to study cAMP dynamics in cilia and flagella. ELife, 2016, 5, .	6.0	79
36	An Atypical CNG Channel Activated by a Single cGMP Molecule Controls Sperm Chemotaxis. Science Signaling, 2009, 2, ra68.	3.6	66

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37	Signaling in Sperm: More Different than Similar. Trends in Cell Biology, 2017, 27, 101-109.	7.9	66
38	Fluorescence Spectroscopic Quantification of the Release of Cyclic Nucleotides from Photocleavable [Bis(carboxymethoxy)coumarin-4-yl]methyl Esters inside Cells. Angewandte Chemie - International Edition, 2002, 41, 3625-3628.	13.8	65
39	A novel crossâ€species inhibitor to study the function of CatSper Ca²⁺ channels in sperm. British Journal of Pharmacology, 2018, 175, 3144-3161.	5.4	60
40	The solute carrier SLC9C1 is a Na+/H+-exchanger gated by an S4-type voltage-sensor and cyclic-nucleotide binding. Nature Communications, 2018, 9, 2809.	12.8	58
41	Sperm from Sneaker Male Squids Exhibit Chemotactic Swarming to CO2. Current Biology, 2013, 23, 775-781.	3.9	50
42	Subunits act independently in a cyclic nucleotideâ€activated K ⁺ channel. EMBO Reports, 2007, 8, 749-755.	4.5	49
43	Postâ€translational cleavage of Hv1 in human sperm tunes pHâ€and voltageâ€dependent gating. Journal of Physiology, 2017, 595, 1533-1546.	2.9	48
44	Caged Progesterone: A New Tool for Studying Rapid Nongenomic Actions of Progesterone. Journal of the American Chemical Society, 2009, 131, 4027-4030.	13.7	43
45	100 years of sperm chemotaxis. Journal of General Physiology, 2012, 140, 583-586.	1.9	42
46	A K+-selective CNG channel orchestrates Ca2+ signalling in zebrafish sperm. ELife, 2015, 4, .	6.0	42
47	Synergistic activation of CatSper Ca2+ channels in human sperm by oviductal ligands and endocrine disrupting chemicals. Human Reproduction, 2018, 33, 1915-1923.	0.9	42
48	Rotational motion and rheotaxis of human sperm do not require functional CatSper channels and transmembrane Ca ²⁺ signaling. EMBO Journal, 2020, 39, e102363.	7.8	42
49	Structural insights into conformational changes of a cyclic nucleotide-binding domain in solution from Mesorhizobium loti K1 channel. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 6121-6126.	7.1	40
50	Sperm Sensory Signaling. Cold Spring Harbor Perspectives in Biology, 2017, 9, a028225.	5.5	39
51	Temporal sampling, resetting, and adaptation orchestrate gradient sensing in sperm. Journal of Cell Biology, 2012, 198, 1075-1091.	5.2	37
52	Reconstruction of the birth of a male sex chromosome present in Atlantic herring. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 24359-24368.	7.1	36
53	Solution structure of the Mesorhizobium loti K1 channel cyclic nucleotideâ€binding domain in complex with cAMP. EMBO Reports, 2009, 10, 729-735.	4.5	35
54	High density and ligand affinity confer ultrasensitive signal detection by a guanylyl cyclase chemoreceptor. Journal of Cell Biology, 2014, 206, 541-557.	5.2	35

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55	Kinetics of Ligand-Receptor Interaction Reveals an Induced-Fit Mode of Binding in a Cyclic Nucleotide-Activated Protein. Biophysical Journal, 2013, 104, 63-74.	0.5	33
56	Action of steroids and plant triterpenoids on CatSper Ca ²⁺ channels in human sperm. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E344-E346.	7.1	33
57	Spatiotemporal Resolution of Conformational Changes in Biomolecules by Combining Pulsed Electronâ€“Electron Double Resonance Spectroscopy with Microsecond Freeze-Hyperquenching. Journal of the American Chemical Society, 2021, 143, 6981-6989.	13.7	33
58	At the physical limit â€” chemosensation in sperm. Current Opinion in Neurobiology, 2015, 34, 110-116.	4.2	28
59	Revisiting the Role of H+ in Chemotactic Signaling of Sperm. Journal of General Physiology, 2004, 124, 115-124.	1.9	24
60	The steering gaits of sperm. Philosophical Transactions of the Royal Society B: Biological Sciences, 2020, 375, 20190149.	4.0	24
61	Reconstruction of the three-dimensional beat pattern underlying swimming behaviors of sperm. European Physical Journal E, 2021, 44, 87.	1.6	23
62	Absolute proteomic quantification reveals design principles of sperm flagellar chemosensation. EMBO Journal, 2020, 39, e102723.	7.8	22
63	Molecular Mechanism Underlying the Action of Zona-pellucida Glycoproteins on Mouse Sperm. Frontiers in Cell and Developmental Biology, 2020, 8, 572735.	3.7	19
64	Microswimmers â€“ From Single Particle Motion to Collective Behavior. European Physical Journal: Special Topics, 2016, 225, 2061-2064.	2.6	17
65	Kinetic and photonic techniques to study chemotactic signaling in sea urchin sperm. Methods in Cell Biology, 2019, 151, 487-517.	1.1	15
66	The structure of the native CNGA1/CNGB1 CNG channel from bovine retinal rods. Nature Structural and Molecular Biology, 2022, 29, 32-39.	8.2	14
67	A family of hyperpolarization-activated channels selective for protons. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 13783-13791.	7.1	10
68	Structural basis of the partially open central gate in the human CNGA1/CNGB1 channel explained by additional density for calmodulin in cryo-EM map. Journal of Structural Biology, 2022, 214, 107828.	2.8	10
69	Multifocal imaging for precise, label-free tracking of fast biological processes in 3D. Nature Communications, 2021, 12, 4574.	12.8	9
70	A Quantitative Model for cAMP Binding to the Binding Domain of MloK1. Biophysical Journal, 2016, 111, 1668-1678.	0.5	4
71	High density and ligand affinity confer ultrasensitive signal detection by a guanylyl cyclase chemoreceptor. Journal of Cell Biology, 2014, 207, 675-675.	5.2	2
72	Eine schwimmende Sinneszelle. Physik in Unserer Zeit, 2011, 42, 196-200.	0.0	1

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73	Larry Cohenâ€”50 ways to DYE your science. Neurophotonics, 2015, 2, 021004.	3.3	0
74	High density and ligand affinity confer ultrasensitive signal detection by a guanylyl cyclase chemoreceptor. Journal of General Physiology, 2014, 144, 1443OIA35.	1.9	0