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	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
2	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
3	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
4	Multifocal imaging for precise, label-free tracking of fast biological processes in 3D. Nature Communications, 2021, 12, 4574.	12.8	9
5	Reconstruction of the three-dimensional beat pattern underlying swimming behaviors of sperm. European Physical Journal E, 2021, 44, 87.	1.6	23
6	The steering gaits of sperm. Philosophical Transactions of the Royal Society B: Biological Sciences, 2020, 375, 20190149.	4.0	24
7	Molecular Mechanism Underlying the Action of Zona-pellucida Glycoproteins on Mouse Sperm. Frontiers in Cell and Developmental Biology, 2020, 8, 572735.	3.7	19
8	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
9	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
10	The 2020 motile active matter roadmap. Journal of Physics Condensed Matter, 2020, 32, 193001.	1.8	242
11	Absolute proteomic quantification reveals design principles of sperm flagellar chemosensation. EMBO Journal, 2020, 39, e102723.	7.8	22
12	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
13	Kinetic and photonic techniques to study chemotactic signaling in sea urchin sperm. Methods in Cell Biology, 2019, 151, 487-517.	1.1	15
14	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
15	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
16	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
17	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
18	Sperm Sensory Signaling. Cold Spring Harbor Perspectives in Biology, 2017, 9, a028225.	5.5	39

#	Article	IF	Citations
19	Human sperm steer with second harmonics of the flagellar beat. Nature Communications, 2017, 8, 1415.	12.8	79
20	Postâ€translational cleavage of Hv1 in human sperm tunes pHâ€•and voltageâ€dependent gating. Journal of Physiology, 2017, 595, 1533-1546.	2.9	48
21	Signaling in Sperm: More Different than Similar. Trends in Cell Biology, 2017, 27, 101-109.	7.9	66
22	Microswimmers â€“ From Single Particle Motion to Collective Behavior. European Physical Journal: Special Topics, 2016, 225, 2061-2064.	2.6	17
23	A Quantitative Model for cAMP Binding to the Binding Domain of MloK1. Biophysical Journal, 2016, 111, 1668-1678.	0.5	4
24	A novel biosensor to study cAMP dynamics in cilia and flagella. ELife, 2016, 5, .	6.0	79
25	A K+-selective CNG channel orchestrates Ca2+ signalling in zebrafish sperm. ELife, 2015, 4, .	6.0	42
26	At the physical limit â€” chemosensation in sperm. Current Opinion in Neurobiology, 2015, 34, 110-116.	4.2	28
27	Higher-Order Architecture of Rhodopsin in Intact Photoreceptors and Its Implication for Phototransduction Kinetics. Structure, 2015, 23, 628-638.	3.3	105
28	Larry Cohenâ€”50 ways to DYE your science. Neurophotonics, 2015, 2, 021004.	3.3	0
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	Sperm navigation along helical paths in 3D chemoattractant landscapes. Nature Communications, 2015, 6, 7985.	12.8	157
31	Controlling fertilization and cAMP signaling in sperm by optogenetics. ELife, 2015, 4, .	6.0	99
32	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
33	Direct action of endocrine disrupting chemicals on human sperm. EMBO Reports, 2014, 15, 758-765.	4.5	137
34	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
35	The computational sperm cell. Trends in Cell Biology, 2014, 24, 198-207.	7.9	106
36	The Ca2+-activated K+ current of human sperm is mediated by Slo3. ELife, 2014, 3, e01438.	6.0	94

#	Article	IF	Citations
37	High density and ligand affinity confer ultrasensitive signal detection by a guanylyl cyclase chemoreceptor. Journal of General Physiology, 2014, 144, 1443OIA35.	1.9	0
38	Sperm from Sneaker Male Squids Exhibit Chemotactic Swarming to CO2. Current Biology, 2013, 23, 775-781.	3.9	50
39	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
40	Temporal sampling, resetting, and adaptation orchestrate gradient sensing in sperm. Journal of Cell Biology, 2012, 198, 1075-1091.	5.2	37
41	100 years of sperm chemotaxis. Journal of General Physiology, 2012, 140, 583-586.	1.9	42
42	The rate of change in Ca2+ concentration controls sperm chemotaxis. Journal of Cell Biology, 2012, 196, 653-663.	5.2	88
43	The CatSper channel: a polymodal chemosensor in human sperm. EMBO Journal, 2012, 31, 1654-1665.	7.8	202
44	The CatSper channel mediates progesterone-induced Ca2+ influx in human sperm. Nature, 2011, 471, 382-386.	27.8	500
45	Cooperative and uncooperative cyclic-nucleotide-gated ion channels. Trends in Biochemical Sciences, 2011, 36, 55-64.	7.5	83
46	Eine schwimmende Sinneszelle. Physik in Unserer Zeit, 2011, 42, 196-200.	0.0	1
47	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
48	Olfactory signalling in vertebrates and insects: differences and commonalities. Nature Reviews Neuroscience, 2010, 11, 188-200.	10.2	459
49	Hydrodynamics of Sperm Cells near Surfaces. Biophysical Journal, 2010, 99, 1018-1026.	0.5	197
50	An Atypical CNG Channel Activated by a Single cGMP Molecule Controls Sperm Chemotaxis. Science Signaling, 2009, 2, ra68.	3.6	66
51	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
52	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
53	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
54	Mechanisms of Sperm Chemotaxis. Annual Review of Physiology, 2008, 70, 93-117.	13.1	255

#	Article	IF	Citations
55	Fast manipulation of cellular cAMP level by light in vivo. Nature Methods, 2007, 4, 39-42.	19.0	237
56	Subunits act independently in a cyclic nucleotideâ€activated K ⁺ channel. EMBO Reports, 2007, 8, 749-755.	4.5	49
57	A K+-selective cGMP-gated ion channel controls chemosensation of sperm. Nature Cell Biology, 2006, 8, 1149-1154.	10.3	106
58	Revisiting the Role of H+ in Chemotactic Signaling of Sperm. Journal of General Physiology, 2004, 124, 115-124.	1.9	24
59	Chloride Accumulation in Mammalian Olfactory Sensory Neurons. Journal of Neuroscience, 2004, 24, 7931-7938.	3.6	180
60	[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
61	The signal flow and motor response controling chemotaxis of sea urchin sperm. Nature Cell Biology, 2003, 5, 109-117.	10.3	186
62	A sperm-activating peptide controls a cGMP-signaling pathway in starfish spermâ˜†. Developmental Biology, 2003, 260, 314-324.	2.0	81
63	Cyclic Nucleotide-Gated Ion Channels. Physiological Reviews, 2002, 82, 769-824.	28.8	1,064
64	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
65	Molecular Diversity of Pacemaker Ion Channels. Annual Review of Physiology, 2001, 63, 235-257.	13.1	332
66	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
67	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
68	The Native Rat Olfactory Cyclic Nucleotide-Gated Channel Is Composed of Three Distinct Subunits. Journal of Neuroscience, 1999, 19, 5332-5347.	3.6	207
69	Molecular identification of a hyperpolarization-activated channel in sea urchin sperm. Nature, 1998, 393, 583-587.	27.8	438
70	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
71	Profoundly different calcium permeation and blockage determine the specific function of distinct cyclic nucleotide-gated channels. Neuron, 1995, 15, 169-179.	8.1	282
72	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

#	Article	IF	Citations
73	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
74	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