Georg A Nagel

List of Publications by Year
in descending order

68 papers	14,283 citations	101384 36 h-index	106150 65 g-index
71 all docs	71 docs citations	71 times ranked	10958 citing authors

#	Article	IF	Citations
1	Millisecond-timescale, genetically targeted optical control of neural activity. Nature Neuroscience, 2005, 8, 1263-1268.	7.1	4,110
2	Channelrhodopsin-2, a directly light-gated cation-selective membrane channel. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 13940-13945.	3.3	2,348
3	Multimodal fast optical interrogation of neural circuitry. Nature, 2007, 446, 633-639.	13.7	1,602
4	Channelrhodopsin-1: A Light-Gated Proton Channel in Green Algae. Science, 2002, 296, 2395-2398.	6.0	1,013
5	Light Activation of Channelrhodopsin-2 in Excitable Cells of Caenorhabditis elegans Triggers Rapid Behavioral Responses. Current Biology, 2005, 15, 2279-2284.	1.8	869
6	Light-Induced Activation of Distinct Modulatory Neurons Triggers Appetitive or Aversive Learning in Drosophila Larvae. Current Biology, 2006, 16, 1741-1747.	1.8	557
7	Light Modulation of Cellular cAMP by a Small Bacterial Photoactivated Adenylyl Cyclase, bPAC, of the Soil Bacterium Beggiatoa. Journal of Biological Chemistry, 2011, 286, 1181-1188.	1.6	337
8	Fast manipulation of cellular cAMP level by light in vivo. Nature Methods, 2007, 4, 39-42.	9.0	237
9	Spectral Characteristics of the Photocycle of Channelrhodopsin-2 and Its Implication for Channel Function. Journal of Molecular Biology, 2008, 375, 686-694.	2.0	235
10	Structural Guidance of the Photocycle of Channelrhodopsin-2 by an Interhelical Hydrogen Bond. Biochemistry, 2010, 49, 267-278.	1.2	203
11	Channelrhodopsin-2â€“XXL, a powerful optogenetic tool for low-light applications. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 13972-13977.	3.3	182
12	The protein kinase A-regulated cardiac Clâˆ’ channel resembles the cystic fibrosis transmembrane conductance regulator. Nature, 1992, 360, 81-84.	13.7	170
13	Spatially asymmetric reorganization of inhibition establishes a motion-sensitive circuit. Nature, 2011, 469, 407-410.	13.7	165
14	Mechano-dependent signaling by Latrophilin/CIRL quenches cAMP in proprioceptive neurons. ELife, 2017, 6, .	2.8	138
15	Optogenetics: 10 years after ChR2 in neuronsâ€"views from the community. Nature Neuroscience, 2015, 18, 1202-1212.	7.1	122
16	Conformational Changes of Channelrhodopsin-2. Journal of the American Chemical Society, 2009, 131, 7313-7319.	6.6	107
17	Interaction of cations, anions, and weak base quinine with rat renal cation transporter rOCT2 compared with rOCT1. American Journal of Physiology - Renal Physiology, 2001, 281, F454-F468.	1.3	103
18	Optogenetic manipulation of cGMP in cells and animals by the tightly light-regulated guanylyl-cyclase opsin CyclOp. Nature Communications, 2015, 6, 8046.	5.8	95

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19	From channelrhodopsins to optogenetics. EMBO Molecular Medicine, 2013, 5, 173-176.	3.3	84
20	Functional expression of bacteriorhodopsin in oocytes allows direct measurement of voltage dependence of light induced H+ pumping. FEBS Letters, 1995, 377, 263-266.	1.3	82
21	PACÎ±- an optogenetic tool for in vivo manipulation of cellular cAMP levels, neurotransmitter release, and behavior in Caenorhabditis elegans. Journal of Neurochemistry, 2011, 116, 616-625.	2.1	82
22	Mechanism of Electrogenic Cation Transport by the Cloned Organic Cation Transporter 2 from Rat. Journal of Biological Chemistry, 2000, 275, 29413-29420.	1.6	80
23	A Reevaluation of Substrate Specificity of the Rat Cation Transporter rOCT1. Journal of Biological Chemistry, 1997, 272, 31953-31956.	1.6	79
24	â€œVisionâ€•in Single-Celled Algae. Physiology, 2004, 19, 133-137.	1.6	76
25	Different Affinities of Inhibitors to the Outwardly and Inwardly Directed Substrate Binding Site of Organic Cation Transporter 2. Molecular Pharmacology, 2003, 64, 1037-1047.	1.0	64
26	Hypothalamic dopamine neurons motivate mating through persistent cAMP signalling. Nature, 2021, 597, 245-249.	13.7	63
27	A LOV-domain-mediated blue-light-activated adenylate (adenylyl) cyclase from the cyanobacterium <i>Microcoleus chthonoplastes</i> PCC 7420. Biochemical Journal, 2013, 455, 359-365.	1.7	61
28	Nonâ€specific activation of the epithelial sodium channel by the CFTR chloride channel. EMBO Reports, 2001, 2, 249-254.	2.0	59
29	Probing the Sensory Rhodopsin II Binding Domain of its Cognate Transducer by Calorimetry and Electrophysiology. Journal of Molecular Biology, 2003, 330, 1203-1213.	2.0	57
30	The Voltage-Dependent Proton Pumping in Bacteriorhodopsin Is Characterized by Optoelectric Behavior. Biophysical Journal, 2001, 81, 2059-2068.	0.2	56
31	Optogenetic Long-Term Manipulation of Behavior and Animal Development. PLoS ONE, 2011, 6, e18766.	1.1	55
32	Rhodopsin-cyclases for photocontrol of cGMP/cAMP and 2.3â€‰Ã… structure of the adenylyl cyclase domain. Nature Communications, 2018, 9, 2046.	5.8	55
33	Dual Effects of Adp and Adenylylimidodiphosphate on Cftr Channel Kinetics Show Binding to Two Different Nucleotide Binding Sites. Journal of General Physiology, 1999, 114, 55-70.	0.9	54
34	Channelrhodopsin-mediated optogenetics highlights a central role of depolarization-dependent plant proton pumps. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 20920-20925.	3.3	46
35	Rhodopsin optogenetic toolbox v2.0 for light-sensitive excitation and inhibition in Caenorhabditis elegans. PLoS ONE, 2018, 13, e0191802.	1.1	44
36	Cardiac Na+-Ca2+Exchange System in Giant Membrane Patches. Annals of the New York Academy of Sciences, 1991, 639, 126-139.	1.8	42

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37	Synthetic Light-Activated Ion Channels for Optogenetic Activation and Inhibition. Frontiers in Neuroscience, 2018, 12, 643.	1.4	42
38	Microbial rhodopsins in the spotlight. Current Opinion in Neurobiology, 2010, 20, 610-616.	2.0	41
39	Degradation of channelopsin-2 in the absence of retinal and degradation resistance in certain mutants. Biological Chemistry, 2013, 394, 271-280.	1.2	38
40	Structural basis of TRPC4 regulation by calmodulin and pharmacological agents. ELife, 2020, 9, .	2.8	38
41	Two-component cyclase opsins of green algae are ATP-dependent and light-inhibited guanylyl cyclases. BMC Biology, 2018, 16, 144.	1.7	35
42	Optogenetic control of plant growth by a microbial rhodopsin. Nature Plants, 2021, 7, 144-151.	4.7	35
43	Differential function of the two nucleotide binding domains on cystic fibrosis transmembrane conductance regulator. Biochimica Et Biophysica Acta - Biomembranes, 1999, 1461, 263-274.	1.4	29
44	A novel rhodopsin phosphodiesterase from <i>Salpingoeca rosetta</i> shows light-enhanced substrate affinity. Biochemical Journal, 2018, 475, 1121-1128.	1.7	28
45	Optogenetic control of the guard cell membrane potential and stomatal movement by the light-gated anion channel <i>Gt</i> ACR1. Science Advances, 2021, 7, .	4.7	28
46	Protein kinaseâ€independent activation of CFTR by phosphatidylinositol phosphates. EMBO Reports, 2004, 5, 85-90.	2.0	26
47	Mutated Channelrhodopsins with Increased Sodium and Calcium Permeability. Applied Sciences (Switzerland), 2019, 9, 664.	1.3	25
48	Optimized photo-stimulation of halorhodopsin for long-term neuronal inhibition. BMC Biology, 2019, 17, 95.	1.7	25
49	Increases in Intracellular Calcium Triggered by Channelrhodopsin-2 Potentiate the Response of Metabotropic Glutamate Receptor mGluR7. Journal of Biological Chemistry, 2008, 283, 24300-24307.	1.6	22
50	Apparent affinity of CFTR for ATP is increased by continuous kinase activity. FEBS Letters, 2003, 535, 141-146.	1.3	20
51	Negative charged threonine 95 of c-Jun is essential for c-Jun N-terminal kinase-dependent phosphorylation of threonine 91/93 and stress-induced c-Jun biological activity. International Journal of Biochemistry and Cell Biology, 2008, 40, 307-316.	1.2	16
52	Mechanistic insights in light-induced cAMP production by photoactivated adenylyl cyclase alpha (PACÎ±). Biological Chemistry, 2009, 390, 1105-11.	1.2	14
53	PACmn for improved optogenetic control of intracellular cAMP. BMC Biology, 2021, 19, 227.	1.7	13
54	Visual function restoration with a highly sensitive and fast Channelrhodopsin in blind mice. Signal Transduction and Targeted Therapy, 2022, 7, 104.	7.1	10

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55	Extending the Anion Channelrhodopsin-Based Toolbox for Plant Optogenetics. Membranes, 2021, 11, 287.	1.4	9
56	CFTR, investigated with the two-electrode voltage-clamp technique: the importance of knowing the series resistance. Journal of Cystic Fibrosis, 2004, 3, 109-111.	0.3	8
57	An engineered membrane-bound guanylyl cyclase with light-switchable activity. BMC Biology, 2021, 19, 54.	1.7	8
58	Modified Rhodopsins From Aureobasidium pullulans Excel With Very High Proton-Transport Rates. Frontiers in Molecular Biosciences, 2021, 8, 750528.	1.6	8
59	PMRT1, a <i>Plasmodium</i> -Specific Parasite Plasma Membrane Transporter, Is Essential for Asexual and Sexual Blood Stage Development. MBio, 2022, 13, e0062322.	1.8	7
60	Optogenetic tools for manipulation of cyclic nucleotides functionally coupled to cyclic nucleotideâ€gated channels. British Journal of Pharmacology, 2022, 179, 2519-2537.	2.7	6
61	Advances and prospects of rhodopsin-based optogenetics in plant research. Plant Physiology, 2021, 187, 572-589.	2.3	6
62	Characterization and Modification of Light-Sensitive Phosphodiesterases from Choanoflagellates. Biomolecules, 2022, 12, 88.	1.8	4
63	mem-iLID, a fast and economic protein purification method. Bioscience Reports, 2021, 41, .	1.1	3
64	Quantitative Analysis of ATP-Dependent Gating of CFTR. , 2002, 70, 67-98.		2
65	Action potentials in Xenopus oocytes triggered by blue light. Journal of General Physiology, 2020, 152, .	0.9	2
66	Transient Currents of Na+/K+-ATPase in Giant Patches from Guinea Pig Cardiomyocytes Induced by ATP Concentration Jumps or Voltage Pulses. Annals of the New York Academy of Sciences, 1997, 834, 435-438.	1.8	1
67	Characterization and Application of Natural Light-Sensitive Proteins. , 2009, , 47-56.		1
68	Na+,K+-ATPase Pump Currents Activated by an ATP Concentration Jump Comparison of Studies with Purified Membrane fragments and Giant excised Patches. Annals of the New York Academy of Sciences, 1997, 834, 270-279.	1.8	0