Ernst Bamberg

List of Publications by Year
in descending order

48 papers	13,864 citations	101543 36 h-index	214800 47 g-index
48 all docs	48 docs citations	48 times ranked	10427 citing authors

#	Article	IF	Citations
1	True-atomic-resolution insights into the structure and functional role of linear chains and low-barrier hydrogen bonds in proteins. Nature Structural and Molecular Biology, 2022, 29, 440-450.	8.2	21
2	Structure-based insights into evolution of rhodopsins. Communications Biology, 2021, 4, 821.	4.4	14
3	The Voltage Dependent Sidedness of the Reprotonation of the Retinal Schiff Base Determines the Unique Inward Pumping of Xenorhodopsin. Angewandte Chemie - International Edition, 2021, 60, 23010-23017.	13.8	10
4	Die spannungsabhÃngige Richtung der Reprotonierung der Schiff'schen Base bestimmt das EinwÃrtspumpen von Xenorhodopsin. Angewandte Chemie, 2021, 133, 23192.	2.0	0
5	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.	7.1	46
6	Viral rhodopsins 1 areÂan unique family of light-gated cation channels. Nature Communications, 2020, 11, 5707.	12.8	33
7	Molecular mechanism of light-driven sodium pumping. Nature Communications, 2020, 11, 2137.	12.8	67
8	Unique structure and function of viral rhodopsins. Nature Communications, 2019, 10, 4939.	12.8	59
9	Structure and mechanisms of sodium-pumping KR2 rhodopsin. Science Advances, 2019, 5, eaav2671.	10.3	68
10	High frequency neural spiking and auditory signaling by ultrafast red-shifted optogenetics. Nature Communications, 2018, 9, 1750.	12.8	128
11	Ultrafast Protein Response in Channelrhodopsin-2 Studied by Time-Resolved Infrared Spectroscopy. Journal of Physical Chemistry Letters, 2018, 9, 7180-7184.	4.6	12
12	Optogenetic Control of Ca 2+ and Voltage-Dependent Large Conductance (BK) Potassium Channels. Journal of Molecular Biology, 2017, 429, 911-921.	4.2	9
13	Inward H ⁺ pump xenorhodopsin: Mechanism and alternative optogenetic approach. Science Advances, 2017, 3, e1603187.	10.3	93
14	A New Promoter Allows Optogenetic Vision Restoration with Enhanced Sensitivity in Macaque Retina. Molecular Therapy, 2017, 25, 2546-2560.	8.2	131
15	Structural insights into ion conduction by channelrhodopsin 2. Science, 2017, 358, .	12.6	160
16	On-demand optogenetic activation of human stem-cell-derived neurons. Scientific Reports, 2017, 7, 14450.	3.3	23
17	Functional Maturation of Human Stem Cell-Derived Neurons in Long-Term Cultures. PLoS ONE, 2017, 12, e0169506.	2.5	62
18	Biophysical Properties of Optogenetic Tools and Their Application for Vision Restoration Approaches. Frontiers in Systems Neuroscience, 2016, 10, 74.	2.5	41

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19	Structure of the lightâ€driven sodium pump <scp>KR</scp>2 and its implications for optogenetics. FEBS Journal, 2016, 283, 1232-1238.	4.7	41
20	Temporal evolution of helix hydration in a light-gated ion channel correlates with ion conductance. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E5796-804.	7.1	52
21	Light-Induced Helix Movements in Channelrhodopsin-2. Journal of Molecular Biology, 2015, 427, 341-349.	4.2	42
22	Crystal structure of a light-driven sodium pump. Nature Structural and Molecular Biology, 2015, 22, 390-395.	8.2	146
23	Enlightening the photoactive site of channelrhodopsin-2 by DNP-enhanced solid-state NMR spectroscopy. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 9896-9901.	7.1	93
24	Optogenetics: 10 years after ChR2 in neuronsâ€"views from the community. Nature Neuroscience, 2015, 18, 1202-1212.	14.8	122
25	Targeting Channelrhodopsin-2 to ON-bipolar Cells With Vitreally Administered AAV Restores ON and OFF Visual Responses in Blind Mice. Molecular Therapy, 2015, 23, 7-16.	8.2	166
26	Proteorhodopsin. Biochimica Et Biophysica Acta - Bioenergetics, 2014, 1837, 614-625.	1.0	96
27	Optogenetic stimulation of the auditory pathway. Journal of Clinical Investigation, 2014, 124, 1114-1129.	8.2	147
28	Lightâ€Induced Movement of the Transmembrane Helixâ€…B in Channelrhodopsinâ€2. Angewandte Chemie - International Edition, 2013, 52, 9705-9708.	13.8	57
29	Transient protonation changes in channelrhodopsin-2 and their relevance to channel gating. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, E1273-81.	7.1	150
30	Voltage Dependence of Proton Pumping by Bacteriorhodopsin Mutants with Altered Lifetime of the M Intermediate. PLoS ONE, 2013, 8, e73338.	2.5	14
31	Tuning the Primary Reaction of Channelrhodopsin-2 by Imidazole, pH, andÂSite-Specific Mutations. Biophysical Journal, 2012, 102, 2649-2657.	0.5	32
32	Kinetics of proton release and uptake by channelrhodopsinâ€2. FEBS Letters, 2012, 586, 1344-1348.	2.8	27
33	Projection Structure of Channelrhodopsin-2 at 6ÂÅ… Resolution by Electron Crystallography. Journal of Molecular Biology, 2011, 414, 86-95.	4.2	70
34	Ultra light-sensitive and fast neuronal activation with the Ca2+-permeable channelrhodopsin CatCh. Nature Neuroscience, 2011, 14, 513-518.	14.8	405
35	Structural Guidance of the Photocycle of Channelrhodopsin-2 by an Interhelical Hydrogen Bond. Biochemistry, 2010, 49, 267-278.	2.5	203
36	The DC gate in Channelrhodopsin-2: crucial hydrogen bonding interaction between C128 and D156. Photochemical and Photobiological Sciences, 2010, 9, 194-198.	2.9	79

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37	Channelrhodopsin-2 is a leaky proton pump. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 12317-12322.	7.1	194
38	The retinal structure of channelrhodopsinâ€2 assessed by resonance Raman spectroscopy. FEBS Letters, 2009, 583, 3676-3680.	2.8	63
39	Voltage- and pH-Dependent Changes in Vectoriality of Photocurrents Mediated by Wild-type and Mutant Proteorhodopsins upon Expression in Xenopus Oocytes. Journal of Molecular Biology, 2009, 393, 320-341.	4.2	49
40	Spectral Characteristics of the Photocycle of Channelrhodopsin-2 and Its Implication for Channel Function. Journal of Molecular Biology, 2008, 375, 686-694.	4.2	235
41	Multimodal fast optical interrogation of neural circuitry. Nature, 2007, 446, 633-639.	27.8	1,602
42	Millisecond-timescale, genetically targeted optical control of neural activity. Nature Neuroscience, 2005, 8, 1263-1268.	14.8	4,110
43	Light Activation of Channelrhodopsin-2 in Excitable Cells of Caenorhabditis elegans Triggers Rapid Behavioral Responses. Current Biology, 2005, 15, 2279-2284.	3.9	869
44	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.	7.1	2,348
45	Proteorhodopsin is a Light-driven Proton Pump with Variable Vectoriality. Journal of Molecular Biology, 2002, 321, 821-838.	4.2	225
46	Channelrhodopsin-1: A Light-Gated Proton Channel in Green Algae. Science, 2002, 296, 2395-2398.	12.6	1,013
47	General Concept for Ion Translocation by Halobacterial Retinal Proteins:â€‰ The Isomerization/Switch/Transfer (IST) Model. Biochemistry, 1997, 36, 2-7.	2.5	155
48	Functional expression of bacteriorhodopsin in oocytes allows direct measurement of voltage dependence of light induced H⁺ pumping. FEBS Letters, 1995, 377, 263-266.	2.8	82