Keiichi Inoue

List of Publications by Year
in descending order

113 papers	3,829 citations	126708 33 h-index	161609 54 g-index
126 all docs	126 docs citations	126 times ranked	2123 citing authors

#	Article	IF	Citations
1	A light-driven sodium ion pump in marine bacteria. Nature Communications, 2013, 4, 1678.	5.8	360
2	Structural basis for Na+ transport mechanism by a light-driven Na+ pump. Nature, 2015, 521, 48-53.	13.7	224
3	A distinct abundant group of microbial rhodopsins discovered using functional metagenomics. Nature, 2018, 558, 595-599.	13.7	190
4	A natural light-driven inward proton pump. Nature Communications, 2016, 7, 13415.	5.8	124
5	Microbial Rhodopsins: The Last Two Decades. Annual Review of Microbiology, 2021, 75, 427-447.	2.9	98
6	Light-driven ion-translocating rhodopsins in marine bacteria. Trends in Microbiology, 2015, 23, 91-98.	3.5	97
7	Casting light on Asgardarchaeota metabolism in a sunlit microoxic niche. Nature Microbiology, 2019, 4, 1129-1137.	5.9	96
8	Crystal structure of the natural anion-conducting channelrhodopsin GtACR1. Nature, 2018, 561, 343-348.	13.7	93
9	Oligomeric states of microbial rhodopsins determined by high-speed atomic force microscopy and circular dichroic spectroscopy. Scientific Reports, 2018, 8, 8262.	1.6	76
10	Structural basis for channel conduction in the pump-like channelrhodopsin ChRmine. Cell, 2022, 185, 672-689.e23.	13.5	72
11	Crystal structure of heliorhodopsin. Nature, 2019, 574, 132-136.	13.7	71
12	Light-Driven Sodium-Pumping Rhodopsin: A New Concept of Active Transport. Chemical Reviews, 2018, 118, 10646-10658.	23.0	70
13	Structural mechanisms of selectivity and gating in anion channelrhodopsins. Nature, 2018, 561, 349-354.	13.7	67
14	A Blue-shifted Light-driven Proton Pump for Neural Silencing. Journal of Biological Chemistry, 2013, 288, 20624-20632.	1.6	65
15	Schizorhodopsins: A family of rhodopsins from Asgard archaea that function as light-driven inward H ⁺ pumps. Science Advances, 2020, 6, eaaz2441.	4.7	65
16	Molecular and evolutionary aspects of microbial sensory rhodopsins. Biochimica Et Biophysica Acta - Bioenergetics, 2014, 1837, 562-577.	0.5	64
17	Thermal and Spectroscopic Characterization of a Proton Pumping Rhodopsin from an Extreme Thermophile. Journal of Biological Chemistry, 2013, 288, 21581-21592.	1.6	55
18	The photochemistry of sodium ion pump rhodopsin observed by watermarked femto- to submillisecond stimulated Raman spectroscopy. Physical Chemistry Chemical Physics, 2016, 18, 24729-24736.	1.3	54

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19	Red-shifting mutation of light-driven sodium-pump rhodopsin. Nature Communications, 2019, 10, 1993.	5.8	53
20	Converting a Light-Driven Proton Pump into a Light-Gated Proton Channel. Journal of the American Chemical Society, 2015, 137, 3291-3299.	6.6	52
21	FTIR Spectroscopy of a Light-Driven Compatible Sodium Ion-Proton Pumping Rhodopsin at 77 K. Journal of Physical Chemistry B, 2014, 118, 4784-4792.	1.2	51
22	Ultrafast Photoreaction Dynamics of a Light-Driven Sodium-Ion-Pumping Retinal Protein from <i>Krokinobacter eikastus</i> Revealed by Femtosecond Time-Resolved Absorption Spectroscopy. Journal of Physical Chemistry Letters, 2015, 6, 4481-4486.	2.1	51
23	Spectroscopic Study of a Light-Driven Chloride Ion Pump from Marine Bacteria. Journal of Physical Chemistry B, 2014, 118, 11190-11199.	1.2	49
24	Kinetic Analysis of H⁺â€“Na⁺ Selectivity in a Light-Driven Na⁺-Pumping Rhodopsin. Journal of Physical Chemistry Letters, 2015, 6, 5111-5115.	2.1	49
25	Asymmetric Functional Conversion of Eubacterial Light-driven Ion Pumps. Journal of Biological Chemistry, 2016, 291, 9883-9893.	1.6	48
26	X-ray Crystallographic Structure and Oligomerization of Gloeobacter Rhodopsin. Scientific Reports, 2019, 9, 11283.	1.6	46
27	Role of trimerâ€“trimer interaction of bacteriorhodopsin studied by optical spectroscopy and high-speed atomic force microscopy. Journal of Structural Biology, 2013, 184, 2-11.	1.3	45
28	The Role of the NDQ Motif in Sodiumâ€Pumping Rhodopsins. Angewandte Chemie - International Edition, 2015, 54, 11536-11539.	7.2	42
29	Mutant of a Light-Driven Sodium Ion Pump Can Transport Cesium Ions. Journal of Physical Chemistry Letters, 2016, 7, 51-55.	2.1	42
30	Diffusion Coefficient and the Secondary Structure of Poly-l-glutamic Acid in Aqueous Solution. Journal of Physical Chemistry B, 2005, 109, 22623-22628.	1.2	41
31	Time-resolved serial femtosecond crystallography reveals early structural changes in channelrhodopsin. ELife, 2021, 10, .	2.8	41
32	Effects of Chloride Ion Binding on the Photochemical Properties of Salinibacter Sensory Rhodopsin I. Journal of Molecular Biology, 2009, 392, 48-62.	2.0	37
33	Molecular properties of a DTD channelrhodopsin from <i>Guillardia theta</i>. Biophysics and Physicobiology, 2017, 14, 57-66.	0.5	37
34	Time-Resolved Detection of Sensory Rhodopsin II-Transducer Interaction. Biophysical Journal, 2004, 87, 2587-2597.	0.2	36
35	A new group of eubacterial light-driven retinal-binding proton pumps with an unusual cytoplasmic proton donor. Biochimica Et Biophysica Acta - Bioenergetics, 2015, 1847, 1518-1529.	0.5	35
36	Understanding Colour Tuning Rules and Predicting Absorption Wavelengths of Microbial Rhodopsins by Data-Driven Machine-Learning Approach. Scientific Reports, 2018, 8, 15580.	1.6	35

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37	Rhodopsins at a glance. Journal of Cell Science, 2021, 134, .	1.2	34
38	Development of a Non-Scanning Vibrational Sum-Frequency Generation Detected Infrared Super-Resolution Microscope and its Application to Biological Cells. Applied Spectroscopy, 2010, 64, 275-281.	1.2	33
39	Resonance Raman Investigation of the Chromophore Structure of Heliorhodopsins. Journal of Physical Chemistry Letters, 2018, 9, 6431-6436.	2.1	33
40	Tetramer Formation Kinetics in the Signaling State of AppA Monitored by Time-Resolved Diffusion. Biophysical Journal, 2006, 91, 654-661.	0.2	32
41	Mutation Study of Heliorhodopsin 48C12. Biochemistry, 2018, 57, 5041-5049.	1.2	32
42	Laser-Induced Transient Grating Analysis of Dynamics of Interaction between Sensory Rhodopsin II D75N and the HtrII Transducer. Biophysical Journal, 2007, 92, 2028-2040.	0.2	30
43	Characterization of a Signaling Complex Composed of Sensory Rhodopsin I and Its Cognate Transducer Protein from the Eubacterium<i>Salinibacter ruber</i>. Biochemistry, 2009, 48, 10136-10145.	1.2	30
44	Spectroscopic Study of Proton-Transfer Mechanism of Inward Proton-Pump Rhodopsin, <i>Parvularcula oceani</i> Xenorhodopsin. Journal of Physical Chemistry B, 2018, 122, 6453-6461.	1.2	30
45	Heliorhodopsins are absent in diderm (Gramâ€negative) bacteria: Some thoughts and possible implications for activity. Environmental Microbiology Reports, 2019, 11, 419-424.	1.0	29
46	Origin of the Reactive and Nonreactive Excited States in the Primary Reaction of Rhodopsins: pH Dependence of Femtosecond Absorption of Light-Driven Sodium Ion Pump Rhodopsin KR2. Journal of Physical Chemistry B, 2018, 122, 4784-4792.	1.2	28
47	A Chimera Na+-Pump Rhodopsin as an Effective Optogenetic Silencer. PLoS ONE, 2016, 11, e0166820.	1.1	28
48	Transient Dissociation of the Transducer Protein from Anabaena Sensory Rhodopsin Concomitant with Formation of the M State Produced upon Photoactivation. Journal of the American Chemical Society, 2011, 133, 13406-13412.	6.6	27
49	Role of Asn112 in a Light-Driven Sodium Ion-Pumping Rhodopsin. Biochemistry, 2016, 55, 5790-5797.	1.2	27
50	Solid-State Nuclear Magnetic Resonance Structural Study of the Retinal-Binding Pocket in Sodium Ion Pump Rhodopsin. Biochemistry, 2017, 56, 543-550.	1.2	26
51	Crystal structure of schizorhodopsin reveals mechanism of inward proton pumping. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	26
52	Functional characterization of sodium-pumping rhodopsins with different pumping properties. PLoS ONE, 2017, 12, e0179232.	1.1	26
53	Time-resolved FTIR study of light-driven sodium pump rhodopsins. Physical Chemistry Chemical Physics, 2018, 20, 17694-17704.	1.3	25
54	Ultrafast Dynamics of Heliorhodopsins. Journal of Physical Chemistry B, 2019, 123, 2507-2512.	1.2	24

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55	The lightâ€driven sodium ion pump: A new player in rhodopsin research. BioEssays, 2016, 38, 1274-1282.	1.2	23
56	Rhodopsin-bestrophin fusion proteins from unicellular algae form gigantic pentameric ion channels. Nature Structural and Molecular Biology, 2022, 29, 592-603.	3.6	23
57	Diverse heliorhodopsins detected via functional metagenomics in freshwater <i>Actinobacteria</i>, <i>Chloroflexi</i> and <i>Archaea</i>. Environmental Microbiology, 2022, 24, 110-121.	1.8	22
58	FTIR Analysis of a Lightâ€driven Inward Protonâ€pumping Rhodopsin at 77 K. Photochemistry and Photobiology, 2017, 93, 1381-1387.	1.3	20
59	Spectroscopic Studies of a Sensory Rhodopsin I Homologue from the Archaeon <i>Haloarcula vallismortis</i>. Biochemistry, 2010, 49, 1183-1190.	1.2	19
60	Conversion of microbial rhodopsins: insights into functionally essential elements and rational protein engineering. Biophysical Reviews, 2017, 9, 861-876.	1.5	19
61	Unique Hydrogen Bonds in Membrane Protein Monitored by Whole Mid-IR ATR Spectroscopy in Aqueous Solution. Journal of Physical Chemistry B, 2018, 122, 165-170.	1.2	19
62	Infrared imaging of an A549 cultured cell by a vibrational sum-frequency generation detected infrared super-resolution microscope. Optics Express, 2010, 18, 13402.	1.7	16
63	Chimeric Proton-Pumping Rhodopsins Containing the Cytoplasmic Loop of Bovine Rhodopsin. PLoS ONE, 2014, 9, e91323.	1.1	16
64	Diversity, Mechanism, and Optogenetic Application of Light-Driven Ion Pump Rhodopsins. Advances in Experimental Medicine and Biology, 2021, 1293, 89-126.	0.8	16
65	Reaction Dynamics of Halorhodopsin Studied by Time-Resolved Diffusion. Biophysical Journal, 2009, 96, 3724-3734.	0.2	15
66	Chimeric Microbial Rhodopsins Containing the Third Cytoplasmic Loop of Bovine Rhodopsin. Biophysical Journal, 2011, 100, 1874-1882.	0.2	15
67	Absorption Spectra and Photochemical Reactions in a Unique Photoactive Protein, Middle Rhodopsin MR. Journal of Physical Chemistry B, 2012, 116, 5888-5899.	1.2	15
68	Long-distance perturbation on Schiff baseâ€“counterion interactions by His30 and the extracellular Na⁺-binding site in <i>Krokinobacter</i> rhodopsin 2. Physical Chemistry Chemical Physics, 2018, 20, 8450-8455.	1.3	15
69	Effect of Temperature and Hydration Level on Purple Membrane Dynamics Studied Using Broadband Dielectric Spectroscopy from Sub-GHz to THz Regions. Journal of Physical Chemistry B, 2018, 122, 1367-1377.	1.2	15
70	Allosteric Communication with the Retinal Chromophore upon Ion Binding in a Light-Driven Sodium Ion-Pumping Rhodopsin. Biochemistry, 2020, 59, 520-529.	1.2	15
71	Infrared spectroscopic analysis on structural changes around the protonated Schiff base upon retinal isomerization in light-driven sodium pump KR2. Biochimica Et Biophysica Acta - Bioenergetics, 2020, 1861, 148190.	0.5	15
72	Exploration of natural red-shifted rhodopsins using a machine learning-based Bayesian experimental design. Communications Biology, 2021, 4, 362.	2.0	15

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73	Energetics and Role of the Hydrophobic Interaction during Photoreaction of the BLUF Domain of AppA. Journal of Physical Chemistry B, 2008, 112, 1494-1501.	1.2	14
74	The Study and Application of Photoreceptive Membrane Protein, Rhodopsin. Bulletin of the Chemical Society of Japan, 2016, 89, 1416-1424.	2.0	14
75	Heliorhodopsin Evolution Is Driven by Photosensory Promiscuity in Monoderms. MSphere, 2021, 6, e0066121.	1.3	14
76	Spectrally Silent Intermediates during the Photochemical Reactions of Salinibacter Sensory Rhodopsin I. Journal of Physical Chemistry B, 2011, 115, 4500-4508.	1.2	13
77	Low-temperature FTIR spectroscopy provides evidence for protein-bound water molecules in eubacterial light-driven ion pumps. Physical Chemistry Chemical Physics, 2018, 20, 3165-3171.	1.3	13
78	Hydrogen-bonding network at the cytoplasmic region of a light-driven sodium pump rhodopsin KR2. Biochimica Et Biophysica Acta - Bioenergetics, 2018, 1859, 684-691.	0.5	13
79	Parentâ€ofâ€origin effects on carcass traits in Japanese Black cattle. Journal of Animal Breeding and Genetics, 2019, 136, 190-198.	0.8	13
80	Saccharibacteria harness light energy using type-1 rhodopsins that may rely on retinal sourced from microbial hosts. ISME Journal, 2022, 16, 2056-2059.	4.4	13
81	Signal Transmission through the HtrII Transducer Alters the Interaction of Two Î±-Helices in the HAMP Domain. Journal of Molecular Biology, 2008, 376, 963-970.	2.0	12
82	Unique Photochemistry Observed in a New Microbial Rhodopsin. Journal of Physical Chemistry Letters, 2019, 10, 5117-5121.	2.1	11
83	Photoreverse Reaction Dynamics of Octopus Rhodopsin. Biophysical Journal, 2007, 92, 3643-3651.	0.2	10
84	TAT Rhodopsin Is an Ultraviolet-Dependent Environmental pH Sensor. Biochemistry, 2021, 60, 899-907.	1.2	9
85	Thermostable light-driven inward proton pump rhodopsins. Chemical Physics Letters, 2021, 779, 138868.	1.2	9
86	Genomic imprinting variances of beef carcass traits and physiochemical characteristics in Japanese Black cattle. Animal Science Journal, 2021, 92, e13504.	0.6	9
87	Pro219 is an electrostatic color determinant in the light-driven sodium pump KR2. Communications Biology, 2021, 4, 1185.	2.0	9
88	Two-point-separation in a sub-micron nonscanning IR super-resolution microscope based on transient fluorescence detected IR spectroscopy. Optics Express, 2009, 17, 12013.	1.7	8
89	L105K Mutant of Proteorhodopsin. Biochemistry, 2012, 51, 3198-3204.	1.2	8
90	Na+ Transport by a Sodium Ion Pump Rhodopsin is Resistant to Environmental Change: A Comparison of the Photocycles of the Na+ and Li+ Transport Processes. Chemistry Letters, 2015, 44, 294-296.	0.7	8

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91	Engineered Functional Recovery of Microbial Rhodopsin Without Retinalâ€Binding Lysine. Photochemistry and Photobiology, 2019, 95, 1116-1121.	1.3	7
92	Excitonic coupling effect on the circular dichroism spectrum of sodium-pumping rhodopsin KR2. Journal of Chemical Physics, 2020, 153, 045101.	1.2	7
93	Effects of parentâ€ofâ€origin models with different pedigree information on beef carcass traits and fatty acid composition in Japanese Black cattle. Journal of Animal Breeding and Genetics, 2021, 138, 45-55.	0.8	7
94	Structural characterization of proton-pumping rhodopsin lacking a cytoplasmic proton donor residue by X-ray crystallography. Journal of Biological Chemistry, 2022, 298, 101722.	1.6	6
95	Visible-super-resolution infrared microscopy using saturated transient fluorescence detected infrared spectroscopy. Optics Communications, 2010, 283, 509-514.	1.0	5
96	Gate-keeper of ion transportâ€"a highly conserved helix-3 tryptophan in a channelrhodopsin chimera, C1C2/ChRWR. Biophysics and Physicobiology, 2020, 17, 59-70.	0.5	5
97	Chimeric microbial rhodopsins for optical activation of Gs-proteins. Biophysics and Physicobiology, 2017, 14, 183-190.	0.5	4
98	Ion Transport Activity Assay for Microbial Rhodopsin Expressed in Escherichia coli Cells. Bio-protocol, 2021, 11, e4115.	0.2	2
99	Expression analysis of microbial rhodopsin-like genes in Guillardia theta. PLoS ONE, 2020, 15, e0243387.	1.1	2
100	Active Learning for Level Set Estimation Under Input Uncertainty and Its Extensions. Neural Computation, 2020, 32, 2486-2531.	1.3	2
101	Shining light on rhodopsin selectivity: How do proteins decide whether to transport H+ or Clâ€"?. Journal of Biological Chemistry, 2020, 295, 14805-14806.	1.6	2
102	2SH-01 Transient grating study of microbial rhodopsins and a new TG technique(2SH New Experimental) Tj ETQq0 0 0 rgBT /Overlock 10	0.0	0
103	IR Super-Resolution Microspectroscopy and its Application to Single Cells. Current Pharmaceutical Biotechnology, 2013, 14, 159-166.	0.9	0
104	The Study on a Novel Light-driven Sodium Pump and Creation of New Functional Molecules. Molecular Science, 2016, 10, A0086.	0.2	0
105	The Functional Mechanism of Ion Pumping Rhodopsins. Nippon Laser Igakkaishi, 2016, 36, 466-472.	0.0	0
106	Active Learning of Bayesian Linear Models with High-Dimensional Binary Features by Parameter Confidence-Region Estimation. Neural Computation, 2020, 32, 1998-2031.	1.3	0
107	Shape, Pattern, and Dynamics Generated by Collective Motion of Cells and Organisms. Seibutsu Butsuri, 2020, 60, 005-005.	0.0	0
108	Expression analysis of microbial rhodopsin-like genes in Guillardia theta. , 2020, 15, e0243387.		0

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109	Expression analysis of microbial rhodopsin-like genes in Guillardia theta. , 2020, 15, e0243387.		0
110	Expression analysis of microbial rhodopsin-like genes in Guillardia theta. , 2020, 15, e0243387.		0
111	Expression analysis of microbial rhodopsin-like genes in Guillardia theta. , 2020, 15, e0243387.		0
112	Expression analysis of microbial rhodopsin-like genes in Guillardia theta. , 2020, 15, e0243387.		0
113	Expression analysis of microbial rhodopsin-like genes in Guillardia theta. , 2020, 15, e0243387.		0