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	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
2	Structural basis for channel conduction in the pump-like channelrhodopsin ChRmine. Cell, 2022, 185, 672-689.e23.	13.5	72
3	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
4	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
5	Rhodopsin-bestrophin fusion proteins from unicellular algae form gigantic pentameric ion channels. Nature Structural and Molecular Biology, 2022, 29, 592-603.	3.6	23
6	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
7	Ion Transport Activity Assay for Microbial Rhodopsin Expressed in Escherichia coli Cells. Bio-protocol, 2021, 11, e4115.	0.2	2
8	Exploration of natural red-shifted rhodopsins using a machine learning-based Bayesian experimental design. Communications Biology, 2021, 4, 362.	2.0	15
9	Time-resolved serial femtosecond crystallography reveals early structural changes in channelrhodopsin. ELife, 2021, 10, .	2.8	41
10	TAT Rhodopsin Is an Ultraviolet-Dependent Environmental pH Sensor. Biochemistry, 2021, 60, 899-907.	1.2	9
11	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
12	Microbial Rhodopsins: The Last Two Decades. Annual Review of Microbiology, 2021, 75, 427-447.	2.9	98
13	Thermostable light-driven inward proton pump rhodopsins. Chemical Physics Letters, 2021, 779, 138868.	1.2	9
14	Genomic imprinting variances of beef carcass traits and physiochemical characteristics in Japanese Black cattle. Animal Science Journal, 2021, 92, e13504.	0.6	9
15	Diversity, Mechanism, and Optogenetic Application of Light-Driven Ion Pump Rhodopsins. Advances in Experimental Medicine and Biology, 2021, 1293, 89-126.	0.8	16
16	Pro219 is an electrostatic color determinant in the light-driven sodium pump KR2. Communications Biology, 2021, 4, 1185.	2.0	9
17	Rhodopsins at a glance. Journal of Cell Science, 2021, 134, .	1.2	34
18	Heliorhodopsin Evolution Is Driven by Photosensory Promiscuity in Monoderms. MSphere, 2021, 6, e0066121.	1.3	14

#	Article	IF	Citations
19	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
20	Excitonic coupling effect on the circular dichroism spectrum of sodium-pumping rhodopsin KR2. Journal of Chemical Physics, 2020, 153, 045101.	1.2	7
21	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
22	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
23	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
24	Schizorhodopsins: A family of rhodopsins from Asgard archaea that function as light-driven inward H ⁺ pumps. Science Advances, 2020, 6, eaaz2441.	4.7	65
25	Shape, Pattern, and Dynamics Generated by Collective Motion of Cells and Organisms. Seibutsu Butsuri, 2020, 60, 005-005.	0.0	0
26	Expression analysis of microbial rhodopsin-like genes in Guillardia theta. PLoS ONE, 2020, 15, e0243387.	1.1	2
27	Active Learning for Level Set Estimation Under Input Uncertainty and Its Extensions. Neural Computation, 2020, 32, 2486-2531.	1.3	2
28	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
29	Expression analysis of microbial rhodopsin-like genes in Guillardia theta. , 2020, 15, e0243387.		0
30	Expression analysis of microbial rhodopsin-like genes in Guillardia theta. , 2020, 15, e0243387.		0
31	Expression analysis of microbial rhodopsin-like genes in Guillardia theta. , 2020, 15, e0243387.		0
32	Expression analysis of microbial rhodopsin-like genes in Guillardia theta. , 2020, 15, e0243387.		0
33	Expression analysis of microbial rhodopsin-like genes in Guillardia theta. , 2020, 15, e0243387.		0
34	Expression analysis of microbial rhodopsin-like genes in Guillardia theta. , 2020, 15, e0243387.		0
35	Unique Photochemistry Observed in a New Microbial Rhodopsin. Journal of Physical Chemistry Letters, 2019, 10, 5117-5121.	2.1	11
36	X-ray Crystallographic Structure and Oligomerization of Gloeobacter Rhodopsin. Scientific Reports, 2019, 9, 11283.	1.6	46

#	Article	IF	Citations
37	Engineered Functional Recovery of Microbial Rhodopsin Without Retinalâ€Binding Lysine. Photochemistry and Photobiology, 2019, 95, 1116-1121.	1.3	7
38	Red-shifting mutation of light-driven sodium-pump rhodopsin. Nature Communications, 2019, 10, 1993.	5.8	53
39	Casting light on Asgardarchaeota metabolism in a sunlit microoxic niche. Nature Microbiology, 2019, 4, 1129-1137.	5.9	96
40	Ultrafast Dynamics of Heliorhodopsins. Journal of Physical Chemistry B, 2019, 123, 2507-2512.	1.2	24
41	Parentâ€ofâ€origin effects on carcass traits in Japanese Black cattle. Journal of Animal Breeding and Genetics, 2019, 136, 190-198.	0.8	13
42	Crystal structure of heliorhodopsin. Nature, 2019, 574, 132-136.	13.7	71
43	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
44	Light-Driven Sodium-Pumping Rhodopsin: A New Concept of Active Transport. Chemical Reviews, 2018, 118, 10646-10658.	23.0	70
45	Long-distance perturbation on Schiff baseâ€œcounterion 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
46	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
47	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
48	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
49	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
50	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
51	Resonance Raman Investigation of the Chromophore Structure of Heliorhodopsins. Journal of Physical Chemistry Letters, 2018, 9, 6431-6436.	2.1	33
52	Structural mechanisms of selectivity and gating in anion channelrhodopsins. Nature, 2018, 561, 349-354.	13.7	67
53	Crystal structure of the natural anion-conducting channelrhodopsin GtACR1. Nature, 2018, 561, 343-348.	13.7	93
54	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

#	ARTICLE	IF	CITATIONS
55	Oligomeric states of microbial rhodopsins determined by high-speed atomic force microscopy and circular dichroic spectroscopy. Scientific Reports, 2018, 8, 8262.	1.6	76
56	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
57	Mutation Study of Heliorhodopsin 48C12. Biochemistry, 2018, 57, 5041-5049.	1.2	32
58	A distinct abundant group of microbial rhodopsins discovered using functional metagenomics. Nature, 2018, 558, 595-599.	13.7	190
59	Time-resolved FTIR study of light-driven sodium pump rhodopsins. Physical Chemistry Chemical Physics, 2018, 20, 17694-17704.	1.3	25
60	FTIR Analysis of a Lightâ€driven Inward Protonâ€pumping Rhodopsin at 77 K. Photochemistry and Photobiology, 2017, 93, 1381-1387.	1.3	20
61	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
62	Conversion of microbial rhodopsins: insights into functionally essential elements and rational protein engineering. Biophysical Reviews, 2017, 9, 861-876.	1.5	19
63	Chimeric microbial rhodopsins for optical activation of Gs-proteins. Biophysics and Physicobiology, 2017, 14, 183-190.	0.5	4
64	Molecular properties of a DTD channelrhodopsin from <i>Guillardia theta</i>. Biophysics and Physicobiology, 2017, 14, 57-66.	0.5	37
65	Functional characterization of sodium-pumping rhodopsins with different pumping properties. PLoS ONE, 2017, 12, e0179232.	1.1	26
66	Asymmetric Functional Conversion of Eubacterial Light-driven Ion Pumps. Journal of Biological Chemistry, 2016, 291, 9883-9893.	1.6	48
67	Role of Asn112 in a Light-Driven Sodium Ion-Pumping Rhodopsin. Biochemistry, 2016, 55, 5790-5797.	1.2	27
68	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
69	The lightâ€driven sodium ion pump: A new player in rhodopsin research. BioEssays, 2016, 38, 1274-1282.	1.2	23
70	A natural light-driven inward proton pump. Nature Communications, 2016, 7, 13415.	5.8	124
71	The Study and Application of Photoreceptive Membrane Protein, Rhodopsin. Bulletin of the Chemical Society of Japan, 2016, 89, 1416-1424.	2.0	14
72	The Study on a Novel Light-driven Sodium Pump and Creation of New Functional Molecules. Molecular Science, 2016, 10, A0086.	0.2	0

#	Article	IF	Citations
73	The Functional Mechanism of Ion Pumping Rhodopsins. Nippon Laser Igakkaishi, 2016, 36, 466-472.	0.0	0
74	Mutant of a Light-Driven Sodium Ion Pump Can Transport Cesium Ions. Journal of Physical Chemistry Letters, 2016, 7, 51-55.	2.1	42
75	A Chimera Na+-Pump Rhodopsin as an Effective Optogenetic Silencer. PLoS ONE, 2016, 11, e0166820.	1.1	28
76	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
77	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
78	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
79	Structural basis for Na+ transport mechanism by a light-driven Na+ pump. Nature, 2015, 521, 48-53.	13.7	224
80	The Role of the NDQ Motif in Sodiumâ€Pumping Rhodopsins. Angewandte Chemie - International Edition, 2015, 54, 11536-11539.	7.2	42
81	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
82	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
83	Light-driven ion-translocating rhodopsins in marine bacteria. Trends in Microbiology, 2015, 23, 91-98.	3.5	97
84	Chimeric Proton-Pumping Rhodopsins Containing the Cytoplasmic Loop of Bovine Rhodopsin. PLoS ONE, 2014, 9, e91323.	1.1	16
85	Molecular and evolutionary aspects of microbial sensory rhodopsins. Biochimica Et Biophysica Acta - Bioenergetics, 2014, 1837, 562-577.	0.5	64
86	Spectroscopic Study of a Light-Driven Chloride Ion Pump from Marine Bacteria. Journal of Physical Chemistry B, 2014, 118, 11190-11199.	1.2	49
87	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
88	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
89	A Blue-shifted Light-driven Proton Pump for Neural Silencing. Journal of Biological Chemistry, 2013, 288, 20624-20632.	1.6	65
90	A light-driven sodium ion pump in marine bacteria. Nature Communications, 2013, 4, 1678.	5.8	360

#	Article	IF	Citations
91	Thermal and Spectroscopic Characterization of a Proton Pumping Rhodopsin from an Extreme Thermophile. Journal of Biological Chemistry, 2013, 288, 21581-21592.	1.6	55
92	IR Super-Resolution Microspectroscopy and its Application to Single Cells. Current Pharmaceutical Biotechnology, 2013, 14, 159-166.	0.9	0
93	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
94	L105K Mutant of Proteorhodopsin. Biochemistry, 2012, 51, 3198-3204.	1.2	8
95	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
96	Spectrally Silent Intermediates during the Photochemical Reactions of Salinibacter Sensory Rhodopsin I. Journal of Physical Chemistry B, 2011, 115, 4500-4508.	1.2	13
97	Chimeric Microbial Rhodopsins Containing the Third Cytoplasmic Loop of Bovine Rhodopsin. Biophysical Journal, 2011, 100, 1874-1882.	0.2	15
98	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
99	Visible-super-resolution infrared microscopy using saturated transient fluorescence detected infrared spectroscopy. Optics Communications, 2010, 283, 509-514.	1.0	5
100	Spectroscopic Studies of a Sensory Rhodopsin I Homologue from the Archaeon <i>Haloarcula vallismortis</i>. Biochemistry, 2010, 49, 1183-1190.	1.2	19
101	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
102	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
103	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
104	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
105	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
106	Reaction Dynamics of Halorhodopsin Studied by Time-Resolved Diffusion. Biophysical Journal, 2009, 96, 3724-3734.	0.2	15
107	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
108	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

#	Article	IF	Citations
109	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
110	Photoreverse Reaction Dynamics of Octopus Rhodopsin. Biophysical Journal, 2007, 92, 3643-3651.	0.2	10
111	Tetramer Formation Kinetics in the Signaling State of AppA Monitored by Time-Resolved Diffusion. Biophysical Journal, 2006, 91, 654-661.	0.2	32
112	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
113	Time-Resolved Detection of Sensory Rhodopsin II-Transducer Interaction. Biophysical Journal, 2004, 87, 2587-2597.	0.2	36