

Shigeki Kiyonaka

List of Publications by Year in descending order

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Version: 2024-02-01

87
papers

6,192
citations

66315

42
h-index

66879

78
g-index

97
all docs

97
docs citations

97
times ranked

7827
citing authors

#	ARTICLE	IF	CITATIONS
1	Semi-wet peptide/protein array using supramolecular hydrogel. <i>Nature Materials</i> , 2004, 3, 58-64.	13.3	546
2	TRPM2-mediated Ca ²⁺ influx induces chemokine production in monocytes that aggravates inflammatory neutrophil infiltration. <i>Nature Medicine</i> , 2008, 14, 738-747.	15.2	526
3	Selective and direct inhibition of TRPC3 channels underlies biological activities of a pyrazole compound. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009, 106, 5400-5405.	3.3	344
4	First Thermally Responsive Supramolecular Polymer Based on Glycosylated Amino Acid. <i>Journal of the American Chemical Society</i> , 2002, 124, 10954-10955.	6.6	337
5	Suppression of hippocampal TRPM7 protein prevents delayed neuronal death in brain ischemia. <i>Nature Neuroscience</i> , 2009, 12, 1300-1307.	7.1	259
6	TRPA1 underlies a sensing mechanism for O ₂ . <i>Nature Chemical Biology</i> , 2011, 7, 701-711.	3.9	235
7	Molecular characterization of TRPA1 channel activation by cysteine-reactive inflammatory mediators. <i>Channels</i> , 2008, 2, 287-298.	1.5	215
8	RIM1 confers sustained activity and neurotransmitter vesicle anchoring to presynaptic Ca ²⁺ channels. <i>Nature Neuroscience</i> , 2007, 10, 691-701.	7.1	212
9	Genetically encoded fluorescent thermosensors visualize subcellular thermoregulation in living cells. <i>Nature Methods</i> , 2013, 10, 1232-1238.	9.0	207
10	Oligo-Asp Tag/Zn(II) Complex Probe as a New Pair for Labeling and Fluorescence Imaging of Proteins. <i>Journal of the American Chemical Society</i> , 2006, 128, 10452-10459.	6.6	166
11	pH-Responsive Shrinkage/Swelling of a Supramolecular Hydrogel Composed of Two Small Amphiphilic Molecules. <i>Chemistry - A European Journal</i> , 2005, 11, 1130-1136.	1.7	156
12	Inhibition of TRPC6 Channel Activity Contributes to the Antihypertrophic Effects of Natriuretic Peptides-Guanylyl Cyclase-A Signaling in the Heart. <i>Circulation Research</i> , 2010, 106, 1849-1860.	2.0	143
13	Combinatorial Library of Low Molecular-Weight Organo- and Hydrogelators Based on Glycosylated Amino Acid Derivatives by Solid-Phase Synthesis. <i>Chemistry - A European Journal</i> , 2003, 9, 976-983.	1.7	134
14	Zinc-Finger Proteins for Site-Specific Protein Positioning on DNA Origami Structures. <i>Angewandte Chemie - International Edition</i> , 2012, 51, 2421-2424.	7.2	120
15	Ca ²⁺ -dependent induction of TRPM2 currents in hippocampal neurons. <i>Journal of Physiology</i> , 2009, 587, 965-979.	1.3	107
16	Chemical Cell-Surface Receptor Engineering Using Affinity-Guided, Multivalent Organocatalysts. <i>Journal of the American Chemical Society</i> , 2011, 133, 12220-12228.	6.6	102
17	Intracellular thermometry with fluorescent sensors for thermal biology. <i>Pflügers Archiv European Journal of Physiology</i> , 2018, 470, 717-731.	1.3	102
18	TRPV4 channel activity is modulated by direct interaction of the ankyrin domain to PI(4,5)P ₂ . <i>Nature Communications</i> , 2014, 5, 4994.	5.8	97

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19	Genetic and Pharmacologic Inhibition of the Ca ²⁺ Influx Channel TRPC3 Protects Secretory Epithelia From Ca ²⁺ -Dependent Toxicity. <i>Gastroenterology</i> , 2011, 140, 2107-2115.e4.	0.6	94
20	Molecular Characterization of Flubendiamide Sensitivity in the Lepidopterous Ryanodine Receptor Ca ²⁺ Release Channel. <i>Biochemistry</i> , 2009, 48, 10342-10352.	1.2	85
21	The TRPC3 Channel Has a Large Internal Chamber Surrounded by Signal Sensing Antennas. <i>Journal of Molecular Biology</i> , 2007, 367, 373-383.	2.0	82
22	Activation of RasGRP3 by phosphorylation of Thr-133 is required for B cell receptor-mediated Ras activation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2004, 101, 16612-16617.	3.3	80
23	Tetrameric Orai1 Is a Teardrop-shaped Molecule with a Long, Tapered Cytoplasmic Domain. <i>Journal of Biological Chemistry</i> , 2009, 284, 13676-13685.	1.6	77
24	Validating subcellular thermal changes revealed by fluorescent thermosensors. <i>Nature Methods</i> , 2015, 12, 801-802.	9.0	76
25	Chemical labelling for visualizing native AMPA receptors in live neurons. <i>Nature Communications</i> , 2017, 8, 14850.	5.8	75
26	Changes in Temperature Preferences and Energy Homeostasis in Dystroglycan Mutants. <i>Science</i> , 2009, 323, 1740-1743.	6.0	69
27	Ca ²⁺ influx and protein scaffolding via TRPC3 sustain PKC β and ERK activation in B cells. <i>Journal of Cell Science</i> , 2010, 123, 927-938.	1.2	60
28	TRPC3-mediated Ca ²⁺ influx contributes to Rac1-mediated production of reactive oxygen species in MLP-deficient mouse hearts. <i>Biochemical and Biophysical Research Communications</i> , 2011, 409, 108-113.	1.0	60
29	LDAI-Based Chemical Labeling of Intact Membrane Proteins and Its Pulse-Chase Analysis under Live Cell Conditions. <i>Chemistry and Biology</i> , 2014, 21, 1013-1022.	6.2	60
30	Three-dimensional Reconstruction Using Transmission Electron Microscopy Reveals a Swollen, Bell-shaped Structure of Transient Receptor Potential Melastatin Type 2 Cation Channel. <i>Journal of Biological Chemistry</i> , 2007, 282, 36961-36970.	1.6	59
31	Cacnb4 directly couples electrical activity to gene expression, a process defective in juvenile epilepsy. <i>EMBO Journal</i> , 2012, 31, 3730-3744.	3.5	57
32	Physical and functional interaction of the active zone protein CAST/ERC2 and the α -subunit of the voltage-dependent Ca ²⁺ channel. <i>Journal of Biochemistry</i> , 2012, 152, 149-159.	0.9	56
33	A Set of Organelle-Localizable Reactive Molecules for Mitochondrial Chemical Proteomics in Living Cells and Brain Tissues. <i>Journal of the American Chemical Society</i> , 2016, 138, 7592-7602.	6.6	55
34	Discovery of allosteric modulators for GABA _A receptors by ligand-directed chemistry. <i>Nature Chemical Biology</i> , 2016, 12, 822-830.	3.9	53
35	Shank and Zinc Mediate an AMPA Receptor Subunit Switch in Developing Neurons. <i>Frontiers in Molecular Neuroscience</i> , 2018, 11, 405.	1.4	53
36	Structure-activity relations of leucine derivatives reveal critical moieties for cellular uptake and activation of mTORC1-mediated signaling. <i>Amino Acids</i> , 2016, 48, 1045-1058.	1.2	51

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37	A CACNB4 mutation shows that altered Cav2.1 function may be a genetic modifier of severe myoclonic epilepsy in infancy. <i>Neurobiology of Disease</i> , 2008, 32, 349-354.	2.1	47
38	The juvenile myoclonic epilepsy-related protein EFHC1 interacts with the redox-sensitive TRPM2 channel linked to cell death. <i>Cell Calcium</i> , 2012, 51, 179-185.	1.1	47
39	Rab3-interacting Molecule β Isoforms Lacking the Rab3-binding Domain Induce Long Lasting Currents but Block Neurotransmitter Vesicle Anchoring in Voltage-dependent P/Q-type Ca ²⁺ Channels. <i>Journal of Biological Chemistry</i> , 2010, 285, 21750-21767.	1.6	45
40	Supramolecular hydrogels based on bola-amphiphilic glycolipids showing color change in response to glycosidases. <i>Chemical Communications</i> , 2013, 49, 2115-2117.	2.2	45
41	A conditional proteomics approach to identify proteins involved in zinc homeostasis. <i>Nature Methods</i> , 2016, 13, 931-937.	9.0	45
42	Three Distinct Read-Out Modes for Enzyme Activity Can Operate in a Semi-Wet Supramolecular Hydrogel. <i>Chemistry - A European Journal</i> , 2005, 11, 7294-7304.	1.7	43
43	Affinity-Guided Oxime Chemistry for Selective Protein Acylation in Live Tissue Systems. <i>Journal of the American Chemical Society</i> , 2017, 139, 14181-14191.	6.6	43
44	Fluorescent sensors reveal subcellular thermal changes. <i>Current Opinion in Biotechnology</i> , 2015, 31, 57-64.	3.3	35
45	DNA Origami Scaffolds as Templates for Functional Tetrameric Kir3 K ⁺ Channels. <i>Angewandte Chemie - International Edition</i> , 2018, 57, 2586-2591.	7.2	33
46	A Pathogenic C Terminus-truncated Polycystin-2 Mutant Enhances Receptor-activated Ca ²⁺ Entry via Association with TRPC3 and TRPC7. <i>Journal of Biological Chemistry</i> , 2009, 284, 34400-34412.	1.6	32
47	Mutation Associated with an Autosomal Dominant Cone-Rod Dystrophy <i>CORD7</i> Modifies RIM1-Mediated Modulation of Voltage-Dependent Ca ²⁺ Channels. <i>Channels</i> , 2007, 1, 144-147.	1.5	29
48	A single circularly permuted GFP sensor for inositol-1,3,4,5-tetrakisphosphate based on a split PH domain. <i>Bioorganic and Medicinal Chemistry</i> , 2009, 17, 7381-7386.	1.4	26
49	Involvement of Ca ²⁺ Channel Synprint Site in Synaptic Vesicle Endocytosis. <i>Journal of Neuroscience</i> , 2010, 30, 655-660.	1.7	26
50	Molecular determinants for cardiovascular TRPC6 channel regulation by Ca ²⁺ /calmodulin-dependent kinase II. <i>Journal of Physiology</i> , 2013, 591, 2851-2866.	1.3	25
51	Nuclear life of the voltage-gated Cacnb4 subunit and its role in gene transcription regulation. <i>Channels</i> , 2013, 7, 119-125.	1.5	25
52	Transnitrosylation Directs TRPA1 Selectivity in <i>iN</i> -Nitrosamine Activators. <i>Molecular Pharmacology</i> , 2014, 85, 175-185.	1.0	25
53	Ligand-directed two-step labeling to quantify neuronal glutamate receptor trafficking. <i>Nature Communications</i> , 2021, 12, 831.	5.8	24
54	Inhibition of N-type Ca ²⁺ channels ameliorates an imbalance in cardiac autonomic nerve activity and prevents lethal arrhythmias in mice with heart failure. <i>Cardiovascular Research</i> , 2014, 104, 183-193.	1.8	23

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55	Allosteric activation of membrane-bound glutamate receptors using coordination chemistry within living cells. <i>Nature Chemistry</i> , 2016, 8, 958-967.	6.6	23
56	Solid phase lipid synthesis (SPLS) for construction of an artificial glycolipid library. <i>Chemical Communications</i> , 2000, , 1281-1282.	2.2	21
57	pH-Responsive Phase Transition of Supramolecular Hydrogel Consisting of Glycosylated Amino Acetate and Carboxylic Acid Derivative. <i>Supramolecular Chemistry</i> , 2003, 15, 521-528.	1.5	21
58	Construction of a Fluorescent Screening System of Allosteric Modulators for the GABA _A Receptor Using a Turn-On Probe. <i>ACS Central Science</i> , 2019, 5, 1541-1553.	5.3	21
59	TRP channels in oxygen physiology: distinctive functional properties and roles of TRPA1 in O ₂ sensing. <i>Proceedings of the Japan Academy Series B: Physical and Biological Sciences</i> , 2017, 93, 464-482.	1.6	20
60	Facile Preparation of Robust Organic Gels by Cross-link of a Sugar-integrated Gelator by Toluene-2,4-diisocyanate. <i>Chemistry Letters</i> , 1999, 28, 225-226.	0.7	19
61	Solid-phase lipid synthesis (SPLS)-2: incidental discovery of organogelators based on artificial glycolipids. <i>Tetrahedron Letters</i> , 2001, 42, 6141-6145.	0.7	19
62	Screening of Transient Receptor Potential Canonical Channel Activators Identifies Novel Neurotrophic Piperazine Compounds. <i>Molecular Pharmacology</i> , 2016, 89, 348-363.	1.0	18
63	Ligand-Directed Chemistry of AMPA Receptors Confers Live-Cell Fluorescent Biosensors. <i>ACS Chemical Biology</i> , 2018, 13, 1880-1889.	1.6	18
64	An In Vivo Fluorescent Sensor Reveals Intracellular Ins(1,3,4,5)P ₄ Dynamics in Single Cells. <i>Angewandte Chemie - International Edition</i> , 2010, 49, 2150-2153.	7.2	16
65	Live cell off-target identification of lapatinib using ligand-directed tosyl chemistry. <i>Chemical Communications</i> , 2014, 50, 14097-14100.	2.2	15
66	Rab3 interacting molecule 3 mutations associated with autism alter regulation of voltage-dependent Ca ₂₊ channels. <i>Cell Calcium</i> , 2015, 58, 296-306.	1.1	14
67	Compromised maturation of GABAergic inhibition underlies abnormal network activity in the hippocampus of epileptic Ca ₂₊ channel mutant mice, tottering. <i>Pflügers Archiv European Journal of Physiology</i> , 2015, 467, 737-752.	1.3	11
68	Chemogenetics of cell surface receptors: beyond genetic and pharmacological approaches. <i>RSC Chemical Biology</i> , 2022, 3, 269-287.	2.0	10
69	Receptor Signaling Integration by TRP Channelsomes. <i>Advances in Experimental Medicine and Biology</i> , 2011, 704, 373-389.	0.8	9
70	The Synthesis of a Reconstituted C60-Modified Protein. <i>Chemistry Letters</i> , 2000, 29, 46-47.	0.7	8
71	Pd(en) as a Sequence-Selective Molecular Pinch for α -Helical Peptides. <i>Chemistry Letters</i> , 2001, 30, 16-17.	0.7	8
72	Tethering-based chemogenetic approaches for the modulation of protein function in live cells. <i>Chemical Society Reviews</i> , 2021, 50, 7909-7923.	18.7	8

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73	Blocker-resistant presynaptic voltage-dependent Ca ²⁺ channels underlying glutamate release in mice nucleus tractus solitarii. <i>Brain Research</i> , 2006, 1104, 103-113.	1.1	7
74	Chemogenetic Approach Using Ni(II) Complex- ⁺ Agonist Conjugates Allows Selective Activation of Class A G-Protein-Coupled Receptors. <i>ACS Central Science</i> , 2018, 4, 1211-1221.	5.3	7
75	Construction of ligand assay systems by protein-based semisynthetic biosensors. <i>Current Opinion in Chemical Biology</i> , 2019, 50, 10-18.	2.8	7
76	Coordination chemogenetics for activation of GPCR-type glutamate receptors in brain tissue. <i>Nature Communications</i> , 2022, 13, .	5.8	7
77	Transportsomes and channelsomes: Are they functional units for physiological responses?. <i>Channels</i> , 2011, 5, 387-390.	1.5	6
78	Subunit Dissociation of Trpc3 Ion Channel Under High-Salt Condition. <i>Journal of Electron Microscopy</i> , 2007, 56, 111-117.	0.9	5
79	On-cell coordination chemistry: Chemogenetic activation of membrane-bound glutamate receptors in living cells. <i>Methods in Enzymology</i> , 2019, 622, 411-430.	0.4	5
80	Construction of Protein-Based Biosensors Using Ligand-Directed Chemistry for Detecting Analyte Binding. <i>Methods in Enzymology</i> , 2017, 589, 253-280.	0.4	3
81	Orthogonal Activation of Metabotropic Glutamate Receptor Using Coordination Chemogenetics. <i>Frontiers in Chemistry</i> , 2021, 9, 825669.	1.8	2
82	DNA Origami Scaffolds as Templates for Functional Tetrameric Kir3 K ⁺ Channels. <i>Angewandte Chemie</i> , 2018, 130, 2616-2621.	1.6	1
83	Reply to Thinnies: Is There Competition in Trafficking of VDAC-cored VRAC and SOC in NE Differentiation of Cells?. <i>Journal of Biological Chemistry</i> , 2009, 284, 1e4.	1.6	0
84	3P-005 3D structure of tetrameric Orai1 channel; a teardrop-shaped structure with a long, tapered cytoplasmic domain(Protein:Structure,The 47th Annual Meeting of the Biophysical Society of Japan). <i>Seibutsu Butsuri</i> , 2009, 49, S151.	0.0	0
85	Visualization of Intracellular Temperature Distribution Using A Thermoresponsive Fluorescent Protein. <i>Seibutsu Butsuri</i> , 2014, 54, 253-256.	0.0	0
86	Molecular basis for species-selective insecticidal activity of flubendiamide. <i>Journal of Pesticide Sciences</i> , 2011, 36, 102-105.	0.8	0
87	Fluorescent imaging of in vivo H ₂ O ₂ levels reveals contribution of oxidative microenvironment to tumor malignancy. <i>Proceedings for Annual Meeting of the Japanese Pharmacological Society</i> , 2018, WCP2018, PO2-10-36.	0.0	0