

# Shigeki Kiyonaka

## List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

90  
papers

5,269  
citations

38  
h-index

72  
g-index

97  
ext. papers

5,863  
ext. citations

9.9  
avg, IF

5.07  
L-index

#	Paper	IF	Citations
90	Semi-wet peptide/protein array using supramolecular hydrogel. <i>Nature Materials</i> , <b>2004</b> , 3, 58-64	27	509
89	TRPM2-mediated Ca <sup>2+</sup> influx induces chemokine production in monocytes that aggravates inflammatory neutrophil infiltration. <i>Nature Medicine</i> , <b>2008</b> , 14, 738-47	50.5	434
88	First thermally responsive supramolecular polymer based on glycosylated amino acid. <i>Journal of the American Chemical Society</i> , <b>2002</b> , 124, 10954-5	16.4	312
87	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> , <b>2009</b> , 106, 5400-5	11.5	299
86	Suppression of hippocampal TRPM7 protein prevents delayed neuronal death in brain ischemia. <i>Nature Neuroscience</i> , <b>2009</b> , 12, 1300-7	25.5	211
85	TRPA1 underlies a sensing mechanism for O <sub>2</sub> . <i>Nature Chemical Biology</i> , <b>2011</b> , 7, 701-11	11.7	197
84	RIM1 confers sustained activity and neurotransmitter vesicle anchoring to presynaptic Ca <sup>2+</sup> channels. <i>Nature Neuroscience</i> , <b>2007</b> , 10, 691-701	25.5	186
83	Molecular characterization of TRPA1 channel activation by cysteine-reactive inflammatory mediators. <i>Channels</i> , <b>2008</b> , 2, 287-98	3	184
82	Genetically encoded fluorescent thermosensors visualize subcellular thermoregulation in living cells. <i>Nature Methods</i> , <b>2013</b> , 10, 1232-8	21.6	160
81	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> , <b>2006</b> , 128, 10452-9	16.4	153
80	pH-Responsive shrinkage/swelling of a supramolecular hydrogel composed of two small amphiphilic molecules. <i>Chemistry - A European Journal</i> , <b>2005</b> , 11, 1130-6	4.8	144
79	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> , <b>2003</b> , 9, 976-83	4.8	125
78	Inhibition of TRPC6 channel activity contributes to the antihypertrophic effects of natriuretic peptides-guanylyl cyclase-A signaling in the heart. <i>Circulation Research</i> , <b>2010</b> , 106, 1849-60	15.7	112
77	Zinc-finger proteins for site-specific protein positioning on DNA-origami structures. <i>Angewandte Chemie - International Edition</i> , <b>2012</b> , 51, 2421-4	16.4	106
76	Ca <sup>2+</sup> -dependent induction of TRPM2 currents in hippocampal neurons. <i>Journal of Physiology</i> , <b>2009</b> , 587, 965-79	3.9	95
75	Chemical cell-surface receptor engineering using affinity-guided, multivalent organocatalysts. <i>Journal of the American Chemical Society</i> , <b>2011</b> , 133, 12220-8	16.4	91
74	Reply to Thinner: Is There Competition in Trafficking of VDAC-cored VRAC and SOC in NE Differentiation of Cells?. <i>Journal of Biological Chemistry</i> , <b>2009</b> , 284, 1e4	5.4	78

73	Molecular characterization of flubendiamide sensitivity in the lepidopterous ryanodine receptor Ca(2+) release channel. <i>Biochemistry</i> , <b>2009</b> , 48, 10342-52	3.2	78
72	Genetic and pharmacologic inhibition of the Ca <sup>2+</sup> influx channel TRPC3 protects secretory epithelia from Ca <sup>2+</sup> -dependent toxicity. <i>Gastroenterology</i> , <b>2011</b> , 140, 2107-15, 2115.e1-4	13.3	77
71	The TRPC3 channel has a large internal chamber surrounded by signal sensing antennas. <i>Journal of Molecular Biology</i> , <b>2007</b> , 367, 373-83	6.5	77
70	Tetrameric Orai1 is a teardrop-shaped molecule with a long, tapered cytoplasmic domain. <i>Journal of Biological Chemistry</i> , <b>2009</b> , 284, 13676-13685	5.4	71
69	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> , <b>2004</b> , 101, 16612-7	11.5	70
68	Intracellular thermometry with fluorescent sensors for thermal biology. <i>Pflugers Archiv European Journal of Physiology</i> , <b>2018</b> , 470, 717-731	4.6	69
67	TRPV4 channel activity is modulated by direct interaction of the ankyrin domain to PI(4,5)P <sub>2</sub> . <i>Nature Communications</i> , <b>2014</b> , 5, 4994	17.4	69
66	Validating subcellular thermal changes revealed by fluorescent thermosensors. <i>Nature Methods</i> , <b>2015</b> , 12, 801-2	21.6	57
65	Ca <sup>2+</sup> influx and protein scaffolding via TRPC3 sustain PKC $\beta$ and ERK activation in B cells. <i>Journal of Cell Science</i> , <b>2010</b> , 123, 927-38	5.3	56
64	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> , <b>2007</b> , 282, 36961-70	5.4	55
63	TRPC3-mediated Ca <sup>2+</sup> influx contributes to Rac1-mediated production of reactive oxygen species in MLP-deficient mouse hearts. <i>Biochemical and Biophysical Research Communications</i> , <b>2011</b> , 409, 108-113 <sup>3-4</sup>	3.4	53
62	Chemical labelling for visualizing native AMPA receptors in live neurons. <i>Nature Communications</i> , <b>2017</b> , 8, 14850	17.4	50
61	LDAI-based chemical labeling of intact membrane proteins and its pulse-chase analysis under live cell conditions. <i>Chemistry and Biology</i> , <b>2014</b> , 21, 1013-22		49
60	Cacnb4 directly couples electrical activity to gene expression, a process defective in juvenile epilepsy. <i>EMBO Journal</i> , <b>2012</b> , 31, 3730-44	13	48
59	Changes in temperature preferences and energy homeostasis in dystroglycan mutants. <i>Science</i> , <b>2009</b> , 323, 1740-3	33.3	47
58	Physical and functional interaction of the active zone protein CAST/ERC2 and the $\alpha$ -subunit of the voltage-dependent Ca(2+) channel. <i>Journal of Biochemistry</i> , <b>2012</b> , 152, 149-59	3.1	46
57	Supramolecular hydrogels based on bola-amphiphilic glycolipids showing color change in response to glycosidases. <i>Chemical Communications</i> , <b>2013</b> , 49, 2115-7	5.8	42
56	Three distinct read-out modes for enzyme activity can operate in a semi-wet supramolecular hydrogel. <i>Chemistry - A European Journal</i> , <b>2005</b> , 11, 7294-304	4.8	42

55	Rab3-interacting molecule gamma isoforms lacking the Rab3-binding domain induce long lasting currents but block neurotransmitter vesicle anchoring in voltage-dependent P/Q-type Ca <sup>2+</sup> channels. <i>Journal of Biological Chemistry</i> , <b>2010</b> , 285, 21750-67	5.4	40
54	A CACNB4 mutation shows that altered Ca(v)2.1 function may be a genetic modifier of severe myoclonic epilepsy in infancy. <i>Neurobiology of Disease</i> , <b>2008</b> , 32, 349-54	7.5	39
53	Structure-activity relations of leucine derivatives reveal critical moieties for cellular uptake and activation of mTORC1-mediated signaling. <i>Amino Acids</i> , <b>2016</b> , 48, 1045-1058	3.5	38
52	Discovery of allosteric modulators for GABA <sub>A</sub> receptors by ligand-directed chemistry. <i>Nature Chemical Biology</i> , <b>2016</b> , 12, 822-30	11.7	37
51	The juvenile myoclonic epilepsy-related protein EFHC1 interacts with the redox-sensitive TRPM2 channel linked to cell death. <i>Cell Calcium</i> , <b>2012</b> , 51, 179-85	4	35
50	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> , <b>2016</b> , 138, 7592-602	16.4	35
49	Shank and Zinc Mediate an AMPA Receptor Subunit Switch in Developing Neurons. <i>Frontiers in Molecular Neuroscience</i> , <b>2018</b> , 11, 405	6.1	31
48	Fluorescent sensors reveal subcellular thermal changes. <i>Current Opinion in Biotechnology</i> , <b>2015</b> , 31, 57-64	11.4	30
47	Affinity-Guided Oxime Chemistry for Selective Protein Acylation in Live Tissue Systems. <i>Journal of the American Chemical Society</i> , <b>2017</b> , 139, 14181-14191	16.4	30
46	A conditional proteomics approach to identify proteins involved in zinc homeostasis. <i>Nature Methods</i> , <b>2016</b> , 13, 931-937	21.6	28
45	Involvement of Ca <sup>2+</sup> channel synprint site in synaptic vesicle endocytosis. <i>Journal of Neuroscience</i> , <b>2010</b> , 30, 655-60	6.6	25
44	DNA Origami Scaffolds as Templates for Functional Tetrameric Kir3 K Channels. <i>Angewandte Chemie - International Edition</i> , <b>2018</b> , 57, 2586-2591	16.4	24
43	A pathogenic C terminus-truncated polycystin-2 mutant enhances receptor-activated Ca <sup>2+</sup> entry via association with TRPC3 and TRPC7. <i>Journal of Biological Chemistry</i> , <b>2009</b> , 284, 34400-12	5.4	24
42	Mutation associated with an autosomal dominant cone-rod dystrophy CORD7 modifies RIM1-mediated modulation of voltage-dependent Ca <sup>2+</sup> channels. <i>Channels</i> , <b>2007</b> , 1, 144-7	3	24
41	Zinc-Finger Proteins for Site-Specific Protein Positioning on DNA-Origami Structures. <i>Angewandte Chemie</i> , <b>2012</b> , 124, 2471-2474	3.6	22
40	Nuclear life of the voltage-gated Cacnb4 subunit and its role in gene transcription regulation. <i>Channels</i> , <b>2013</b> , 7, 119-25	3	22
39	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> , <b>2009</b> , 17, 7381-6	3.4	22
38	Transnitrosylation directs TRPA1 selectivity in N-nitrosamine activators. <i>Molecular Pharmacology</i> , <b>2014</b> , 85, 175-85	4.3	21

37	Allosteric activation of membrane-bound glutamate receptors using coordination chemistry within living cells. <i>Nature Chemistry</i> , <b>2016</b> , 8, 958-67	17.6	20
36	Inhibition of N-type Ca <sup>2+</sup> channels ameliorates an imbalance in cardiac autonomic nerve activity and prevents lethal arrhythmias in mice with heart failure. <i>Cardiovascular Research</i> , <b>2014</b> , 104, 183-93	9.9	20
35	Molecular determinants for cardiovascular TRPC6 channel regulation by Ca <sup>2+</sup> /calmodulin-dependent kinase II. <i>Journal of Physiology</i> , <b>2013</b> , 591, 2851-66	3.9	18
34	pH-Responsive Phase Transition of Supramolecular Hydrogel Consisting of Glycosylated Amino Acetate and Carboxylic Acid Derivative. <i>Supramolecular Chemistry</i> , <b>2003</b> , 15, 521-528	1.8	18
33	Facile Preparation of Robust Organic Gels by Cross-link of a Sugar-integrated Gelator by Toluene-2,4-diisocyanate. <i>Chemistry Letters</i> , <b>1999</b> , 28, 225-226	1.7	18
32	Solid phase lipid synthesis (SPLS) for construction of an artificial glycolipid library. <i>Chemical Communications</i> , <b>2000</b> , 1281-1282	5.8	17
31	Solid-phase lipid synthesis (SPLS)-2: incidental discovery of organogelators based on artificial glycolipids. <i>Tetrahedron Letters</i> , <b>2001</b> , 42, 6141-6145	2	15
30	TRP channels in oxygen physiology: distinctive functional properties and roles of TRPA1 in O <sub>2</sub> sensing. <i>Proceedings of the Japan Academy Series B: Physical and Biological Sciences</i> , <b>2017</b> , 93, 464-482	4	13
29	Ligand-Directed Chemistry of AMPA Receptors Confers Live-Cell Fluorescent Biosensors. <i>ACS Chemical Biology</i> , <b>2018</b> , 13, 1880-1889	4.9	13
28	Screening of Transient Receptor Potential Canonical Channel Activators Identifies Novel Neurotrophic Piperazine Compounds. <i>Molecular Pharmacology</i> , <b>2016</b> , 89, 348-63	4.3	13
27	Live cell off-target identification of lapatinib using ligand-directed tosyl chemistry. <i>Chemical Communications</i> , <b>2014</b> , 50, 14097-100	5.8	13
26	An in vivo fluorescent sensor reveals intracellular ins(1,3,4,5)P <sub>4</sub> dynamics in single cells. <i>Angewandte Chemie - International Edition</i> , <b>2010</b> , 49, 2150-3	16.4	13
25	Compromised maturation of GABAergic inhibition underlies abnormal network activity in the hippocampus of epileptic Ca <sup>2+</sup> channel mutant mice, tottering. <i>Pflugers Archiv European Journal of Physiology</i> , <b>2015</b> , 467, 737-52	4.6	9
24	Receptor signaling integration by TRP channelsomes. <i>Advances in Experimental Medicine and Biology</i> , <b>2011</b> , 704, 373-89	3.6	8
23	Pd(en) as a Sequence-Selective Molecular Pinch for $\alpha$ -Helical Peptides. <i>Chemistry Letters</i> , <b>2001</b> , 30, 16-17	1.7	8
22	Construction of a Fluorescent Screening System of Allosteric Modulators for the GABA Receptor Using a Turn-On Probe. <i>ACS Central Science</i> , <b>2019</b> , 5, 1541-1553	16.8	7
21	An In Vivo Fluorescent Sensor Reveals Intracellular Ins(1,3,4,5)P <sub>4</sub> Dynamics in Single Cells. <i>Angewandte Chemie</i> , <b>2010</b> , 122, 2196-2199	3.6	7
20	Blocker-resistant presynaptic voltage-dependent Ca <sup>2+</sup> channels underlying glutamate release in mice nucleus tractus solitarii. <i>Brain Research</i> , <b>2006</b> , 1104, 103-13	3.7	7

19	Rab3 interacting molecule 3 mutations associated with autism alter regulation of voltage-dependent Ca <sup>2+</sup> channels. <i>Cell Calcium</i> , <b>2015</b> , 58, 296-306	4	6
18	Transportsomes and channelsomes: are they functional units for physiological responses?. <i>Channels</i> , <b>2011</b> , 5, 387-90	3	6
17	Ligand-directed two-step labeling to quantify neuronal glutamate receptor trafficking. <i>Nature Communications</i> , <b>2021</b> , 12, 831	17.4	6
16	Subunit dissociation of TRPC3 ion channel under high-salt condition. <i>Journal of Electron Microscopy</i> , <b>2007</b> , 56, 111-7		5
15	The Synthesis of a Reconstituted C60-Modified Protein. <i>Chemistry Letters</i> , <b>2000</b> , 29, 46-47	1.7	5
14	Construction of ligand assay systems by protein-based semisynthetic biosensors. <i>Current Opinion in Chemical Biology</i> , <b>2019</b> , 50, 10-18	9.7	4
13	On-cell coordination chemistry: Chemogenetic activation of membrane-bound glutamate receptors in living cells. <i>Methods in Enzymology</i> , <b>2019</b> , 622, 411-430	1.7	4
12	Chemogenetic Approach Using Ni(II) Complex-Agonist Conjugates Allows Selective Activation of Class A G-Protein-Coupled Receptors. <i>ACS Central Science</i> , <b>2018</b> , 4, 1211-1221	16.8	4
11	Tethering-based chemogenetic approaches for the modulation of protein function in live cells. <i>Chemical Society Reviews</i> , <b>2021</b> , 50, 7909-7923	58.5	4
10	Construction of Protein-Based Biosensors Using Ligand-Directed Chemistry for Detecting Analyte Binding. <i>Methods in Enzymology</i> , <b>2017</b> , 589, 253-280	1.7	3
9	Coordination chemogenetics for activation of GPCR-type glutamate receptors in brain tissue		2
8	DNA Origami Scaffolds as Templates for Functional Tetrameric Kir3 K <sup>+</sup> Channels. <i>Angewandte Chemie</i> , <b>2018</b> , 130, 2616-2621	3.6	1
7	Chemogenetics of cell surface receptors: beyond genetic and pharmacological approaches.. <i>RSC Chemical Biology</i> , <b>2022</b> , 3, 269-287	3	1
6	Molecular Technologies in Life Innovation: Novel Molecular Technologies for Labeling and Functional Control of Proteins Under Live Cell Conditions <b>2019</b> , 297-328		
5	Visualization of Intracellular Temperature Distribution Using A Thermoresponsive Fluorescent Protein. <i>Seibutsu Butsuri</i> , <b>2014</b> , 54, 253-256	0	
4	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> , <b>2009</b> , 49, S151	0	
3	Orthogonal Activation of Metabotropic Glutamate Receptor Using Coordination Chemogenetics.. <i>Frontiers in Chemistry</i> , <b>2021</b> , 9, 825669	5	
2	Fluorescent imaging of in vivo H <sub>2</sub> O <sub>2</sub> levels reveals contribution of oxidative microenvironment to tumor malignancy. <i>Proceedings for Annual Meeting of the Japanese Pharmacological Society</i> , <b>2018</b> , WCP2018, PO2-10-36	0	

- 1 Molecular basis for species-selective insecticidal activity of flubendiamide. *Journal of Pesticide Sciences*, **2011**, 36, 102-105 2.7