Hiroo Imai

List of Publications by Year
in descending order

128 papers	4,195 citations	136885 32 h-index	128225 60 g-index
134 all docs	134 docs citations	134 times ranked	3949 citing authors

#	Article	IF	Citations
1	Speciation through sensory drive in cichlid fish. Nature, 2008, 455, 620-626.	13.7	947
2	Movement of Retinal Along the Visual Transduction Path. Science, 2000, 288, 2209-2212.	6.0	226
3	Divergent Selection on Opsins Drives Incipient Speciation in Lake Victoria Cichlids. PLoS Biology, 2006, 4, e433.	2.6	167
4	Parallelism of amino acid changes at the RH1 affecting spectral sensitivity among deep-water cichlids from Lakes Tanganyika and Malawi. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 5448-5453.	3.3	116
5	Dichromatism in macaque monkeys. Nature, 1999, 402, 139-140.	13.7	115
6	The life history of retrocopies illuminates the evolution of new mammalian genes. Genome Research, 2016, 26, 301-314.	2.4	104
7	Two Distinct Determinants of Ligand Specificity in T1R1/T1R3 (the Umami Taste Receptor). Journal of Biological Chemistry, 2013, 288, 36863-36877.	1.6	101
8	Aquatic adaptation and the evolution of smell and taste in whales. Zoological Letters, 2015, 1, 9.	0.7	85
9	Chondroitinase ABC Treatment Enhances Synaptogenesis between Transplant and Host Neurons in Model of Retinal Degeneration. Cell Transplantation, 2007, 16, 493-503.	1.2	83
10	Is Chicken Green-Sensitive Cone Visual Pigment a Rhodopsin-like Pigment? A Comparative Study of the Molecular Properties between Chicken Green and Rhodopsin. Biochemistry, 1994, 33, 9040-9044.	1.2	77
11	First report of foregut microbial community in proboscis monkeys: are diverse forests a reservoir for diverse microbiomes?. Environmental Microbiology Reports, 2018, 10, 655-662.	1.0	74
12	Morphological characteristics and genetic diversity of Burmese longâ€tailed Macaques (<i>Macaca) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5	0.8	73
13	Photochemical and Biochemical Properties of Chicken Blue-Sensitive Cone Visual Pigment. Biochemistry, 1997, 36, 12773-12779.	1.2	71
14	Mitochondrial DNA and two Yâ€chromosome genes of common longâ€tailed macaques (<i>Macaca) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 2017, 79, 1-13.	0.8	64
15	Conserved Proline Residue at Position 189 in Cone Visual Pigments as a Determinant of Molecular Properties Different from Rhodopsinsâ€. Biochemistry, 2002, 41, 15245-15252.	1.2	63
16	Physiological Properties of Rod Photoreceptor Cells in Green-sensitive Cone Pigment Knock-in Mice. Journal of General Physiology, 2007, 130, 21-40.	0.9	63
17	Difference in Molecular Properties between Chicken Green and Rhodopsin as Related to the Functional Difference between Cone and Rod Photoreceptor Cells. Biochemistry, 1995, 34, 10525-10531.	1.2	62
18	Molecular Properties of Rhodopsin and Rod Function. Journal of Biological Chemistry, 2007, 282, 6677-6684.	1.6	62

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19	Presence of Two Rhodopsin Intermediates Responsible for Transducin Activationâ€. Biochemistry, 1997, 36, 14173-14180.	1.2	55
20	Correlation between Nuptial Colors and Visual Sensitivities Tuned by Opsins Leads to Species Richness in Sympatric Lake Victoria Cichlid Fishes. Molecular Biology and Evolution, 2012, 29, 3281-3296.	3.5	45
21	Functional diversity of bitter taste receptor TAS2R16 in primates. Biology Letters, 2012, 8, 652-656.	1.0	44
22	Farnesylation of Retinal Transducin Underlies Its Translocation during Light Adaptation. Neuron, 2005, 47, 529-539.	3.8	43
23	Single-neuron and genetic correlates of autistic behavior in macaque. Science Advances, 2016, 2, e1600558.	4.7	43
24	Chimeric Nature of Pinopsin between Rod and Cone Visual Pigmentsâ€. Biochemistry, 1999, 38, 14738-14745.	1.2	41
25	Evolution of imprinting via lineage-specific insertion of retroviral promoters. Nature Communications, 2019, 10, 5674.	5.8	39
26	Direct observation of the thermal equilibria among lumirhodopsin, metarhodopsin I, and metarhodopsin II in chicken rhodopsin. Biochemistry, 1994, 33, 14351-14358.	1.2	38
27	Novel missense mutations in red/green opsin genes in congenital color-vision deficiencies. Biochemical and Biophysical Research Communications, 2002, 294, 205-209.	1.0	38
28	Photoisomerization Efficiency in UV-Absorbing Visual Pigments:â€‰ Protein-Directed Isomerization of an Unprotonated Retinal Schiff Base. Biochemistry, 2007, 46, 6437-6445.	1.2	37
29	Variations in long- and middle-wavelength-sensitive opsin gene loci in crab-eating monkeys. Vision Research, 2002, 42, 281-292.	0.7	36
30	Diversification of Bitter Taste Receptor Gene Family in Western Chimpanzees. Molecular Biology and Evolution, 2011, 28, 921-931.	3.5	36
31	Molecular properties of rod and cone visual pigments from purified chicken cone pigments to mouse rhodopsin in situ. Photochemical and Photobiological Sciences, 2005, 4, 667.	1.6	34
32	Identification of non-taster Japanese macaques for a specific bitter taste. Primates, 2010, 51, 285-289.	0.7	34
33	Vertebrate Rhodopsin Adaptation to Dim Light via Rapid Meta-II Intermediate Formation. Molecular Biology and Evolution, 2010, 27, 506-519.	3.5	34
34	An FTIR Study of Monkey Greenâ€•and Redâ€Sensitive Visual Pigments. Angewandte Chemie - International Edition, 2010, 49, 891-894.	7.2	33
35	Reverse Evolution in RH1 for Adaptation of Cichlids to Water Depth in Lake Tanganyika. Molecular Biology and Evolution, 2011, 28, 1769-1776.	3.5	33
36	Protein-Bound Water Molecules in Primate Red- and Green-Sensitive Visual Pigments. Biochemistry, 2012, 51, 1126-1133.	1.2	33

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37	Amino Acid Residues Responsible for the Meta-III Decay Rates in Rod and Cone Visual Pigments. Biochemistry, 2005, 44, 2208-2215.	1.2	32
38	Spectral sensitivity of guppy visual pigments reconstituted in vitro to resolve association of opsins with cone cell types. Vision Research, 2016, 127, 67-73.	0.7	32
39	Direct Observation of the Complex Formation of GDP-Bound Transducin with the Rhodopsin Intermediate Having a Visible Absorption Maximum in Rod Outer Segment Membranes. Biochemistry, 2005, 44, 9936-9943.	1.2	31
40	Chloride Effect on Iodopsin Studied by Low-Temperature Visible and Infrared Spectroscopiesâ€. Biochemistry, 2001, 40, 1385-1392.	1.2	29
41	Visual adaptation in Lake Victoria cichlid fishes: depth-related variation of color and scotopic opsins in species from sand/mud bottoms. BMC Evolutionary Biology, 2017, 17, 200.	3.2	28
42	Evolution of the primate glutamate taste sensor from a nucleotide sensor. Current Biology, 2021, 31, 4641-4649.e5.	1.8	28
43	Identification of a protanomalous chimpanzee by molecular genetic and electroretinogram analyses. Vision Research, 2005, 45, 1225-1235.	0.7	26
44	Eco-Geographical Diversification of Bitter Taste Receptor Genes (TAS2Rs) among Subspecies of Chimpanzees (Pan troglodytes). PLoS ONE, 2012, 7, e43277.	1.1	24
45	Effect of Chloride on the Thermal Reverse Reaction of Intermediates of Iodopsin. Biochemistry, 1995, 34, 13170-13175.	1.2	23
46	Identification of a new intermediate state that binds but not activates transducin in the bleaching process of bovine rhodopsin. FEBS Letters, 1998, 425, 126-130.	1.3	23
47	Generation of Knock-in Mice Carrying Third Cones with Spectral Sensitivity Different fromSandLCones. Zoological Science, 2005, 22, 1145-1156.	0.3	23
48	Purification and low temperature spectroscopy of gecko visual pigments green and blue. Biochemistry, 1995, 34, 1096-1106.	1.2	22
49	Spectral Tuning Mechanism of Primate Blue-sensitive Visual Pigment Elucidated by FTIR Spectroscopy. Scientific Reports, 2017, 7, 4904.	1.6	22
50	Analysis of L-cone/M-cone visual pigment gene arrays in Japanese males with protan color-vision deficiency. Vision Research, 2004, 44, 2241-2252.	0.7	21
51	Association of the endothelial protein C receptor (PROCR) rs867186-G allele with protection from severe malaria. Malaria Journal, 2014, 13, 105.	0.8	21
52	Identical Hydrogen-Bonding Strength of the Retinal Schiff Base between Primate Green- and Red-Sensitive Pigments: New Insight into Color Tuning Mechanism. Journal of Physical Chemistry Letters, 2015, 6, 1130-1133.	2.1	20
53	Two-Step Mechanism of Interaction of Rhodopsin Intermediates with the C-Terminal Region of the Transducin Â-Subunit. Journal of Biochemistry, 2003, 134, 259-267.	0.9	19
54	Covalent Bond between Ligand and Receptor Required for Efficient Activation in Rhodopsin. Journal of Biological Chemistry, 2010, 285, 8114-8121.	1.6	18

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55	[20] Analysis of amino acid residues in rhodopsin and cone visual pigments that determine their molecular properties. Methods in Enzymology, 2000, 315, 293-312.	0.4	17
56	Stage-Specific Association of Apolipoprotein A-I and E in Developing Mouse Retina. , 2007, 48, 1815.		17
57	Evolution of the sperm methylome of primates is associated with retrotransposon insertions and genome instability. Human Molecular Genetics, 2017, 26, 3508-3519.	1.4	16
58	Probing for the Threshold Energy for Visual Transduction: Red-Shifted Visual Pigment Analogs from 3-Methoxy-3-Dehydroretinal and Related Compounds. Photochemistry and Photobiology, 1999, 70, 111-115.	1.3	15
59	Assignment of the Vibrational Modes of the Chromophores of Iodopsin and Bathoiodopsin: Low-Temperature Fourier Transform Infrared Spectroscopy of 13C- and 2H-Labeled Iodopsins. Biochemistry, 2006, 45, 1285-1294.	1.2	14
60	E113 Is Required for the Efficient Photoisomerization of the Unprotonated Chromophore in a UV-Absorbing Visual Pigment. Biochemistry, 2008, 47, 10829-10833.	1.2	14
61	The convergent evolution of blue iris pigmentation in primates took distinct molecular paths. American Journal of Physical Anthropology, 2013, 151, 398-407.	2.1	14
62	â€œ<i>In situ</i>â€•observation of the role of chloride ion binding to monkey green sensitive visual pigment by ATR-FTIR spectroscopy. Physical Chemistry Chemical Physics, 2018, 20, 3381-3387.	1.3	14
63	Role of Gln114 in Spectral Tuning of a Long-Wavelength Sensitive Visual Pigment. Biochemistry, 2019, 58, 2944-2952.	1.2	14
64	Key Male Glandular Odorants Attracting Female Ring-Tailed Lemurs. Current Biology, 2020, 30, 2131-2138.e4.	1.8	13
65	Expression Analysis of Taste Signal Transduction Molecules in the Fungiform and Circumvallate Papillae of the Rhesus Macaque, Macaca mulatta. PLoS ONE, 2012, 7, e45426.	1.1	13
66	Effect of Anion Binding on Iodopsin Studied by Low-Temperature Fourier Transform Infrared Spectroscopy. Biochemistry, 1999, 38, 11749-11754.	1.2	12
67	Difference in Molecular Structure of Rod and Cone Visual Pigments Studied by Fourier Transform Infrared Spectroscopyâ€. Biochemistry, 2001, 40, 2879-2886.	1.2	12
68	Sexual Difference in Color Sense in a Lycaenid Butterfly, Narathura japonica. Zoological Science, 2007, 24, 611-613.	0.3	12
69	Co-Opted Megasatellite DNA Drives Evolution of Secondary Night Vision in Azara's Owl Monkey. Genome Biology and Evolution, 2017, 9, 1963-1970.	1.1	12
70	Phylogeographic history of Japanese macaques. Journal of Biogeography, 2021, 48, 1420-1431.	1.4	12
71	Rapid Expansion of Phenylthiocarbamide Non-Tasters among Japanese Macaques. PLoS ONE, 2015, 10, e0132016.	1.1	11
72	Variation in ligand responses of the bitter taste receptors TAS2R1 and TAS2R4 among New World monkeys. BMC Evolutionary Biology, 2016, 16, 208.	3.2	11

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73	Functional characterization of the TAS2R38 bitter taste receptor for phenylthiocarbamide in colobine monkeys. Biology Letters, 2017, 13, 20160834.	1.0	11
74	Expression of Bitter Taste Receptors in the Intestinal Cells of Non-Human Primates. International Journal of Molecular Sciences, 2020, 21, 902.	1.8	11
75	Thermal recovery of iodopsin from its meta I-intermediate. FEBS Letters, 1994, 354, 165-168.	1.3	10
76	A natural point mutation in the bitter taste receptor TAS2R16 causes inverse agonism of arbutin in lemur gustation. Proceedings of the Royal Society B: Biological Sciences, 2019, 286, 20190884.	1.2	10
77	Retinoids and related compounds. Part 26. Synthesis of (11Z)-8,18-propano- and methano-retinals and conformational study of the rhodopsin chromophoreâ€. Journal of the Chemical Society, Perkin Transactions 1, 2001, , 2430-2439.	1.3	9
78	Stereoselective synthesis of 11Z-9-Demethyl-9-benzyl- and 9-phenyl-retinals and their interaction with bovine opsin. Bioorganic and Medicinal Chemistry Letters, 1998, 8, 423-426.	1.0	8
79	[23] Heterogeneity of rhodopsin intermediate state interacting with transducin. Methods in Enzymology, 2000, 315, 347-363.	0.4	8
80	Recovery of rod-mediated a-wave during light-adaptation in mGluR6-deficient mice. Vision Research, 2006, 46, 1655-1664.	0.7	8
81	Evolution and Senses. SpringerBriefs in Biology, 2013, , .	0.5	8
82	Sporadic Premature Aging in a Japanese Monkey: A Primate Model for Progeria. PLoS ONE, 2014, 9, e111867.	1.1	8
83	High maltose sensitivity of sweet taste receptors in the Japanese macaque (Macaca fuscata). Scientific Reports, 2016, 6, 39352.	1.6	8
84	Expression Changes of Structural Protein Genes May Be Related to Adaptive Skin Characteristics Specific to Humans. Genome Biology and Evolution, 2019, 11, 613-628.	1.1	8
85	Interleukin-4 Promotes Tuft Cell Differentiation and Acetylcholine Production in Intestinal Organoids of Non-Human Primate. International Journal of Molecular Sciences, 2021, 22, 7921.	1.8	8
86	Constraints of Opsin Structure on the Ligand-binding Site: Studies with Ring-fused RetinalsÂ¶. Photochemistry and Photobiology, 2002, 76, 606.	1.3	8
87	Expression and localization of an exogenous G protein-coupled receptor fused with the rhodopsin C-terminal sequence in the retinal rod cells of knockin mice. Experimental Eye Research, 2005, 80, 859-869.	1.2	7
88	Expression of taste signal transduction molecules in the caecum of common marmosets. Biology Letters, 2013, 9, 20130409.	1.0	7
89	FTIR Study of S180A Mutant of Primate Red-sensitive Pigment. Chemistry Letters, 2019, 48, 1142-1144.	0.7	7
90	Modeling of early neural development in vitro by direct neurosphere formation culture of chimpanzee induced pluripotent stem cells. Stem Cell Research, 2020, 44, 101749.	0.3	7

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91	Lowered sensitivity of bitter taste receptors to Î²-glucosides in bamboo lemurs: an instance of parallel and adaptive functional decline in TAS2R16?. Proceedings of the Royal Society B: Biological Sciences, 2021, 288, 20210346.	1.2	7
92	Synthesis of 11Z-8,18-Propano- and Methano-Retinals and Their Interaction with Bovine Opsin.. Chemical and Pharmaceutical Bulletin, 1995, 43, 1419-1421.	0.6	6
93	Reprogramming of chimpanzee fibroblasts into a multipotent cancerous but not fully pluripotent state by transducing iPSC factors in 2i/LIF culture. Differentiation, 2020, 112, 67-76.	1.0	6
94	Amino Acid Residues Controlling the Properties and Functions of Rod and Cone Visual Pigments. Novartis Foundation Symposium, 1999, 224, 142-157.	1.2	6
95	Enhancer Function of MicroRNA-3681 Derived from Long Terminal Repeats Represses the Activity of Variable Number Tandem Repeats in the 3' UTR of. Molecules and Cells, 2020, 43, 607-618.	1.0	6
96	Effect of Anion Binding on the Thermal Reverse Reaction of Bathoiodopsin:Â Anion Stabilizes Two Forms of Iodopsinâ€. Biochemistry, 2003, 42, 12700-12707.	1.2	5
97	Amino acid residues of bitter taste receptor TAS2R16 that determine sensitivity in primates to Î²-glycosides. Biophysics and Physicobiology, 2016, 13, 165-171.	0.5	5
98	Activity analysis of LTR12C as an effective regulatory element of the RAE1 gene. Gene, 2017, 634, 22-28.	1.0	5
99	Functional divergence of the bitter receptor TAS2R38 in Sulawesi macaques. Ecology and Evolution, 2019, 9, 10387-10403.	0.8	5
100	Generation of intestinal chemosensory cells from nonhuman primate organoids. Biochemical and Biophysical Research Communications, 2021, 536, 20-25.	1.0	5
101	Functional decline of sweet taste sensitivity of colobine monkeys. Primates, 2018, 59, 523-530.	0.7	4
102	Unique Retinal Binding Pocket of Primate Blue-Sensitive Visual Pigment. Biochemistry, 2020, 59, 2602-2607.	1.2	4
103	Disruption of Hydrogen-Bond Network in Rhodopsin Mutations Cause Night Blindness. Journal of Molecular Biology, 2020, 432, 5378-5389.	2.0	4
104	Evolution of the bitter taste receptor TAS2R38 in colobines. Primates, 2020, 61, 485-494.	0.7	4
105	Light-induced difference FTIR spectroscopy of primate blue-sensitive visual pigment at 163 K. Biophysics and Physicobiology, 2021, 18, 40-49.	0.5	4
106	The enhancer activity of long interspersed nuclear element derived microRNA 625 induced by NF-Î°B. Scientific Reports, 2021, 11, 3139.	1.6	4
107	Constraints of Opsin Structure on the Ligand-binding Site: Studies with Ring-fused RetinalsÂ¶. Photochemistry and Photobiology, 2007, 76, 606-615.	1.3	3
108	Monkeys, Apes, and Humans. SpringerBriefs in Biology, 2013, , .	0.5	3

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109	Novel variable number of tandem repeats of gibbon <i>MAOA</i> gene and its evolutionary significance. Genome, 2014, 57, 427-432.	0.9	3
110	Post-Genome Biology of Primates Focusing on Taste Perception. Primatology Monographs, 2012, , 79-91.	0.8	3
111	Short Communication: Expression Profiles of Endogenous Retroviral Envelopes in<i>Macaca mulatta</i>(Rhesus Monkey). AIDS Research and Human Retroviruses, 2014, 30, 996-1000.	0.5	2
112	Response to Kappeler. Current Biology, 2020, 30, R1360.	1.8	2
113	Expression of TAS2R14 in the intestinal endocrine cells of non-human primates. Genes and Genomics, 2021, 43, 259-267.	0.5	2
114	Functional Diversity and Evolution of Bitter Taste Receptors in Egg-Laying Mammals. Molecular Biology and Evolution, 2022, 39, .	3.5	2
115	Transcriptional activation of a chimeric retrogene PIPSL in a hominoid ancestor. Gene, 2018, 678, 318-323.	1.0	1
116	Response to Drea et al.. Current Biology, 2020, 30, R1357-R1358.	1.8	1
117	Predicted structural differences of four fertilityâ€related Yâ€chromosome proteins in Macaca mulatta , M . fascicularis , and their Indochinese hybrids. Proteins: Structure, Function and Bioinformatics, 2021, 89, 361-370.	1.5	1
118	Functional divergence of the pigmentation gene melanocortin-1 receptor (MC1R) in six endemic Macaca species on Sulawesi Island. Scientific Reports, 2022, 12, 7593.	1.6	1
119	2P-253 Mechanism of the efficient photoisomerization in vertebrate UV-absorbing visual pigments(The) Tj ETQq1 1 0.784314 rgBT /Ove	0.0	0
120	2S5-6 Sensory Responses via G-Protein Coupled Receptors in the Knock-in Mice and Primates(2S5) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	0.0	0
121	From Genes to the Mind: Comparative Genomics and Cognitive Science Elucidating Aspects of the Apes That Make Us Human. SpringerBriefs in Biology, 2013, , 25-52.	0.5	0
122	Functional diversity of primate bitter taste receptors. Hikaku Seiri Seikagaku(Comparative Physiology) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	0.0	0
123	A comprehensive analysis of chimpanzee (Pan Troglodytes)-specific AluYb8 element. Genes and Genomics, 2020, 42, 1207-1213.	0.5	0
124	Polymorphic Variations in Long- and Middle-Wavelength-Sensitive Opsin Gene Loci in Crab-Eating Monkeys. , 2003, , 92-93.		0
125	Physiological Properties of Rod Photoreceptor Cells in Green-sensitive Cone Pigment Knock-in Mice. Journal of Cell Biology, 2007, 178, i3-i3.	2.3	0
126	Molecular Aspects of Evolution and Diversity of Animal Photoreception. SpringerBriefs in Biology, 2013, , 1-22.	0.5	0

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127	Functional Evolution of Sensory Receptors Adapting to the Specific Environment. Seibutsu Butsuri, 2013, 53, 194-197.	0.0	0
128	Bitter Taste Receptors of Primates. SpringerBriefs in Biology, 2013, , 23-34.	0.5	0