Hiroaki Matsunami

List of Publications by Year
in descending order

82	6,215	101384 36	76769 74
papers	citations	h-index	g-index

93	93	93	6676
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Non-neuronal expression of SARS-CoV-2 entry genes in the olfactory system suggests mechanisms underlying COVID-19-associated anosmia. Science Advances, 2020, 6, .	4.7	865
2	Genetic variation in a human odorant receptor alters odour perception. Nature, 2007, 449, 468-472.	13.7	549
3	RTP Family Members Induce Functional Expression of Mammalian Odorant Receptors. Cell, 2004, 119, 679-691.	13.5	528
4	Odor Coding by a Mammalian Receptor Repertoire. Science Signaling, 2009, 2, ra9.	1.6	487
5	The missense of smell: functional variability in the human odorant receptor repertoire. Nature Neuroscience, 2014, 17, 114-120.	7.1	269
6	Evaluating cell-surface expression and measuring activation of mammalian odorant receptors in heterologous cells. Nature Protocols, 2008, 3, 1402-1413.	5.5	178
7	Functional Evolution of Mammalian Odorant Receptors. PLoS Genetics, 2012, 8, e1002821.	1.5	176
8	Single-cell analysis of olfactory neurogenesis and differentiation in adult humans. Nature Neuroscience, 2020, 23, 323-326.	7.1	165
9	Cyclic Regulation of Sensory Perception by a Female Hormone Alters Behavior. Cell, 2015, 161, 1334-1344.	13.5	161
10	Synergism of Accessory Factors in Functional Expression of Mammalian Odorant Receptors. Journal of Biological Chemistry, 2007, 282, 15284-15293.	1.6	160
11	G protein GÎ±o is essential for vomeronasal function and aggressive behavior in mice. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 12898-12903.	3.3	159
12	Genetic Variation in the Odorant Receptor OR2J3 Is Associated with the Ability to Detect the â€œGrassyâ€• Smelling Odor, cis-3-hexen-1-ol. Chemical Senses, 2012, 37, 585-593.	1.1	110
13	Molecular profiling of activated olfactory neurons identifies odorant receptors for odors in vivo. Nature Neuroscience, 2015, 18, 1446-1454.	7.1	106
14	SR1, a Mouse Odorant Receptor with an Unusually Broad Response Profile. Journal of Neuroscience, 2009, 29, 14545-14552.	1.7	105
15	Crucial role of copper in detection of metal-coordinating odorants. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 3492-3497.	3.3	104
16	Human olfactory receptor responses to odorants. Scientific Data, 2015, 2, 150002.	2.4	102
17	Single cell transcriptome analysis of mouse carotid body glomus cells. Journal of Physiology, 2016, 594, 4225-4251.	1.3	90
18	The human olfactory transcriptome. BMC Genomics, 2016, 17, 619.	1.2	87

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19	Variation in olfactory neuron repertoires is genetically controlled and environmentally modulated. ELife, 2017, 6, .	2.8	86
20	Olfactory receptor 2 in vascular macrophages drives atherosclerosis by NLRP3-dependent IL-1 production. Science, 2022, 375, 214-221.	6.0	81
21	An Antimicrobial Peptide and Its Neuronal Receptor Regulate Dendrite Degeneration in Aging and Infection. Neuron, 2018, 97, 125-138.e5.	3.8	79
22	Implausibility of the vibrational theory of olfaction. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E2766-74.	3.3	76
23	Conserved Residues Control Activation of Mammalian G Protein-Coupled Odorant Receptors. Journal of the American Chemical Society, 2015, 137, 8611-8616.	6.6	69
24	Activation State of the M3 Muscarinic Acetylcholine Receptor Modulates Mammalian Odorant Receptor Signaling. Science Signaling, 2011, 4, ra1.	1.6	67
25	Smelling Sulfur: Copper and Silver Regulate the Response of Human Odorant Receptor OR2T11 to Low-Molecular-Weight Thiols. Journal of the American Chemical Society, 2016, 138, 13281-13288.	6.6	60
26	Beta-caryophyllene enhances wound healing through multiple routes. PLoS ONE, 2019, 14, e0216104.	1.1	60
27	Vapor detection and discrimination with a panel of odorant receptors. Nature Communications, 2018, 9, 4556.	5.8	58
28	Molecular mechanism of activation of human musk receptors OR5AN1 and OR1A1 by (R) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 3 Sciences of the United States of America, 2018, 115, E3950-E3958.	3.3	57
29	Calreticulin chaperones regulate functional expression of vomeronasal type 2 pheromone receptors. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 16651-16656.	3.3	56
30	In VivoIdentification of Eugenol-Responsive and Muscone-Responsive Mouse Odorant Receptors. Journal of Neuroscience, 2014, 34, 15669-15678.	1.7	48
31	Responsiveness of G protein-coupled odorant receptors is partially attributed to the activation mechanism. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 14966-14971.	3.3	48
32	Structureâ€"Function Relationships of Olfactory and Taste Receptors. Chemical Senses, 2018, 43, 81-87.	1.1	45
33	The role of Olfr78 in the breathing circuit of mice. Nature, 2018, 561, E33-E40.	13.7	43
34	Taste and pheromone perception in mammals and flies. Genome Biology, 2003, 4, 220.	13.9	42
35	Dynamic functional evolution of an odorant receptor for sex-steroid-derived odors in primates. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 21247-21251.	3.3	42
36	Receptor-transporting Protein 1 Short (RTP1S) Mediates Translocation and Activation of Odorant Receptors by Acting through Multiple Steps. Journal of Biological Chemistry, 2012, 287, 22287-22294.	1.6	42

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37	A Testosterone Metabolite 19-Hydroxyandrostenedione Induces Neuroendocrine Trans-Differentiation of Prostate Cancer Cells via an Ectopic Olfactory Receptor. Frontiers in Oncology, 2018, 8, 162.	1.3	41
38	Olfactory receptor accessory proteins play crucial roles in receptor function and gene choice. ELife, 2017, 6, .	2.8	34
39	Mammalian odorant receptors: functional evolution and variation. Current Opinion in Neurobiology, 2015, 34, 54-60.	2.0	33
40	The role of metals in mammalian olfaction of low molecular weight organosulfur compounds. Natural Product Reports, 2017, 34, 529-557.	5.2	33
41	Modulation of the combinatorial code of odorant receptor response patterns in odorant mixtures. Molecular and Cellular Neurosciences, 2020, 104, 103469.	1.0	33
42	QM/MM Model of the Mouse Olfactory Receptor MOR244-3 Validated by Site-Directed Mutagenesis Experiments. Biophysical Journal, 2014, 107, L5-L8.	0.2	32
43	Modification of the response of olfactory receptors to acetophenone by CYP1a2. Scientific Reports, 2017, 7, 10167.	1.6	32
44	Calreticulin: Roles in Cell-Surface Protein Expression. Membranes, 2014, 4, 630-641.	1.4	28
45	Structural instability and divergence from conserved residues underlie intracellular retention of mammalian odorant receptors. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 2957-2967.	3.3	27
46	Trafficking of Mammalian Chemosensory Receptors by Receptorâ€transporting Proteins. Annals of the New York Academy of Sciences, 2009, 1170, 153-156.	1.8	26
47	Improving the odorant sensitivity of olfactory receptor-expressing yeast with accessory proteins. Analytical Biochemistry, 2015, 471, 1-8.	1.1	26
48	Odorant Receptor 7D4 Activation Dynamics. Angewandte Chemie - International Edition, 2018, 57, 4554-4558.	7.2	26
49	Large-Scale G Protein-Coupled Olfactory Receptorâ€“Ligand Pairing. ACS Central Science, 2022, 8, 379-387.	5.3	23
50	Astringency: A More Stringent Definition. Chemical Senses, 2014, 39, 467-469.	1.1	22
51	A Scalable, Multiplexed Assay for Decoding GPCR-Ligand Interactions with RNA Sequencing. Cell Systems, 2019, 8, 254-260.e6.	2.9	22
52	Semiochemical responsive olfactory sensory neurons are sexually dimorphic and plastic. ELife, 2020, 9, .	2.8	21
53	Aging-related olfactory loss is associated with olfactory stem cell transcriptional alterations in humans. Journal of Clinical Investigation, 2022, 132, .	3.9	20
54	Aldehyde Recognition and Discrimination by Mammalian Odorant Receptors via Functional Group-Specific Hydration Chemistry. ACS Chemical Biology, 2014, 9, 2563-2571.	1.6	19

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55	Reply to Turin et al.: Vibrational theory of olfaction is implausible. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E3155.	3.3	19
56	Axonal Odorant Receptors Mediate Axon Targeting. Cell Reports, 2019, 29, 4334-4348.e7.	2.9	19
57	Muscarinic acetylcholine receptor M3 modulates odorant receptor activity via inhibition of Î²-arrestin-2 recruitment. Nature Communications, 2015, 6, 6448.	5.8	18
58	Mammalian class I odorant receptors exhibit a conserved vestibular-binding pocket. Cellular and Molecular Life Sciences, 2019, 76, 995-1004.	2.4	16
59	The N-terminal region of RTP1S plays important roles in dimer formation and odorant receptor-trafficking. Journal of Biological Chemistry, 2019, 294, 14661-14673.	1.6	15
60	Molecular recognition of ketamine by a subset of olfactory G proteinâ€“coupled receptors. Science Signaling, 2015, 8, ra33.	1.6	14
61	Numerical Models and In Vitro Assays to Study Odorant Receptors. Methods in Molecular Biology, 2018, 1820, 77-93.	0.4	14
62	Comparative Genomic Analysis of the Pheromone Receptor Class 1 Family (V1R) Reveals Extreme Complexity in Mouse Lemurs (Genus, Microcebus) and a Chromosomal Hotspot across Mammals. Genome Biology and Evolution, 2020, 12, 3562-3579.	1.1	12
63	Concentration-Dependent Recruitment of Mammalian Odorant Receptors. ENeuro, 2020, 7, ENEURO.0103-19.2019.	0.9	12
64	Estrogen and sex-dependent loss of the vocal learning system in female zebra finches. Hormones and Behavior, 2021, 129, 104911.	1.0	11
65	Carbon chain shape selectivity by the mouse olfactory receptor OR-I7. Organic and Biomolecular Chemistry, 2018, 16, 2541-2548.	1.5	10
66	Machine Learning Assisted Approach for Finding Novel High Activity Agonists of Human Ectopic Olfactory Receptors. International Journal of Molecular Sciences, 2021, 22, 11546.	1.8	10
67	Live-cell Measurement of Odorant Receptor Activation Using a Real-time cAMP Assay. Journal of Visualized Experiments, 2017, , .	0.2	9
68	Odorant Receptor 7D4 Activation Dynamics. Angewandte Chemie, 2018, 130, 4644-4648.	1.6	8
69	Lessons from single-cell transcriptome analysis of oxygen-sensing cells. Cell and Tissue Research, 2018, 372, 403-415.	1.5	8
70	Maternally inherited peptides as strain-specific chemosignals. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 30738-30743.	3.3	8
71	Functional Expression of Mammalian Odorant Receptors. Chemical Senses, 2005, 30, i95-i96.	1.1	7
72	19-hydroxy Steroids in the Aromatase Reaction: Review on Expression and Potential Functions. Journal of the Endocrine Society, 2021, 5, bvab050.	0.1	6

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73	Hot Spot Mutagenesis Improves the Functional Expression of Unique Mammalian Odorant Receptors. International Journal of Molecular Sciences, 2022, 23, 277.	1.8	6
74	Unfolding the Mystery of Olfactory Receptor Gene Expression. Developmental Cell, 2013, 27, 128-129.	3.1	5
75	High-Throughput Odorant Receptor Deorphanization Via Phospho-S6 Ribosomal Protein Immunoprecipitation and mRNA Profiling. Methods in Molecular Biology, 2018, 1820, 95-112.	0.4	5
76	Generation and Characterization of a Cell Type-Specific, Inducible Cre-Driver Line to Study Olfactory Processing. Journal of Neuroscience, 2021, 41, 6449-6467.	1.7	4
77	Sequence coevolution and structure stabilization modulate olfactory receptor expression. Biophysical Journal, 2022, 121, 830-840.	0.2	4
78	Split luciferase complementation assay for the analysis of G proteinâ€coupled receptor ligand response in Saccharomyces cerevisiae. Biotechnology and Bioengineering, 2017, 114, 1354-1361.	1.7	3
79	Real-time In Vitro Monitoring of Odorant Receptor Activation by an Odorant in the Vapor Phase. Journal of Visualized Experiments, 2019, , .	0.2	3
80	Taste perception: how to make a gourmet mouse. Current Biology, 2004, 14, R118-20.	1.8	2
81	Interactions among key residues regulate mammalian odorant receptor trafficking. FASEB Journal, 2022, 36, .	0.2	1
82	Abstract 2655: The GPCR OR13A1 is essential for lymphoma cells. Cancer Research, 2022, 82, 2655-2655.	0.4	1