Frank Zufall

List of Publications by Year
in descending order

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115 papers	9,916 citations	31902 53 h-index	35952 97 g-index
121 all docs	121 docs citations	121 times ranked	5804 citing authors

#	Article	IF	Citations
1	Ultrasensitive pheromone detection by mammalian vomeronasal neurons. Nature, 2000, 405, 792-796.	13.7	557
2	MHC Class I Peptides as Chemosensory Signals in the Vomeronasal Organ. Science, 2004, 306, 1033-1037.	6.0	546
3	Altered sexual and social behaviors in trp2 mutant mice. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 6376-6381.	3.3	516
4	Pheromonal communication in vertebrates. Nature, 2006, 444, 308-315.	13.7	414
5	Deficient pheromone responses in mice lacking a cluster of vomeronasal receptor genes. Nature, 2002, 419, 70-74.	13.7	338
6	A Contextual Model for Axonal Sorting into Glomeruli in the Mouse Olfactory System. Cell, 2004, 117, 817-831.	13.5	298
7	A Diacylglycerol-Gated Cation Channel in Vomeronasal Neuron Dendrites Is Impaired in TRPC2 Mutant Mice. Neuron, 2003, 40, 551-561.	3.8	295
8	Essential Role of the Main Olfactory System in Social Recognition of Major Histocompatibility Complex Peptide Ligands. Journal of Neuroscience, 2006, 26, 1961-1970.	1.7	275
9	Loss-of-function mutations in sodium channel Nav1.7 cause anosmia. Nature, 2011, 472, 186-190.	13.7	267
10	Subsystem Organization of the Mammalian Sense of Smell. Annual Review of Physiology, 2009, 71, 115-140.	5.6	263
11	The Cellular and Molecular Basis of Odor Adaptation. Chemical Senses, 2000, 25, 473-481.	1.1	260
12	Retinal ganglion cells express a cGMP-gated cation conductance activatable by nitric oxide donors. Neuron, 1994, 12, 155-165.	3.8	237
13	Contribution of the receptor guanylyl cyclase GC-D to chemosensory function in the olfactory epithelium. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 14507-14512.	3.3	199
14	Cyclic Nucleotide-Gated Ion Channels and Sensory Transduction in Olfactory Receptor Neurons. Annual Review of Biophysics and Biomolecular Structure, 1994, 23, 577-607.	18.3	187
15	MHC peptides and the sensory evaluation of genotype. Trends in Neurosciences, 2006, 29, 100-107.	4.2	178
16	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
17	Single odor-sensitive channels in olfactory receptor neurons are also gated by cyclic nucleotides. Journal of Neuroscience, 1991, 11, 3565-3572.	1.7	152
18	An Olfactory Subsystem that Detects Carbon Disulfide and Mediates Food-Related Social Learning. Current Biology, 2010, 20, 1438-1444.	1.8	151

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19	Calcium Entry through Cyclic Nucleotide-Gated Channels in Individual Cilia of Olfactory Receptor Cells: Spatiotemporal Dynamics. Journal of Neuroscience, 1997, 17, 4136-4148.	1.7	146
20	Imaging Odor-Induced Calcium Transients in Single Olfactory Cilia: Specificity of Activation and Role in Transduction. Journal of Neuroscience, 1998, 18, 5630-5639.	1.7	144
21	Innate Predator Odor Aversion Driven by Parallel Olfactory Subsystems that Converge in the Ventromedial Hypothalamus. Current Biology, 2015, 25, 1340-1346.	1.8	138
22	From genes to social communication: molecular sensing by the vomeronasal organ. Trends in Neurosciences, 2012, 35, 597-606.	4.2	136
23	Central Role of the CNGA4 Channel Subunit in Ca2+-Calmodulin-Dependent Odor Adaptation. Science, 2001, 294, 2172-2175.	6.0	124
24	Social motivation is reduced in vasopressin 1b receptor null mice despite normal performance in an olfactory discrimination task. Hormones and Behavior, 2004, 46, 638-645.	1.0	123
25	Signaling in the Chemosensory Systems. Cellular and Molecular Life Sciences, 2006, 63, 1476-1484.	2.4	120
26	Structural requirements for the activation of vomeronasal sensory neurons by MHC peptides. Nature Neuroscience, 2009, 12, 1551-1558.	7.1	120
27	Divalent cations block the cyclic nucleotide-gated channel of olfactory receptor neurons. Journal of Neurophysiology, 1993, 69, 1758-1768.	0.9	111
28	Rat hippocampal neurons express genes for both rod retinal and olfactory cyclic nucleotide-gated channels: novel targets for cAMP/cGMP function.. Proceedings of the National Academy of Sciences of the United States of America, 1996, 93, 10440-10445.	3.3	110
29	Cyclic nucleotide gated channels as regulators of CNS development and plasticity. Current Opinion in Neurobiology, 1997, 7, 404-412.	2.0	108
30	Pheromonal recognition memory induced by TRPC2-independent vomeronasal sensing. European Journal of Neuroscience, 2006, 23, 3385-3390.	1.2	107
31	Inhibition of the olfactory cyclic nucleotide gated ion channel by intracellular calcium. Proceedings of the Royal Society B: Biological Sciences, 1991, 246, 225-230.	1.2	102
32	Dual activation of a sex pheromone-dependent ion channel from insect olfactory dendrites by protein kinase C activators and cyclic GMP.. Proceedings of the National Academy of Sciences of the United States of America, 1991, 88, 8520-8524.	3.3	99
33	Identification of a Long-Lasting Form of Odor Adaptation that Depends on the Carbon Monoxide/cGMP SecondMessenger System. Journal of Neuroscience, 1997, 17, 2703-2712.	1.7	97
34	A calcium-permeable cGMP-activated cation conductance in hippocampal neurons. NeuroReport, 1995, 6, 1761-1765.	0.6	88
35	Recognition of Bacterial Signal Peptides by Mammalian Formyl Peptide Receptors. Journal of Biological Chemistry, 2015, 290, 7369-7387.	1.6	85
36	Mammalian pheromone sensing. Current Opinion in Neurobiology, 2007, 17, 483-489.	2.0	84

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37	Impaired Odor Adaptation in Olfactory Receptor Neurons after Inhibition of Ca2+/Calmodulin Kinase II. Journal of Neuroscience, 1999, 19, RC19-RC19.	1.7	82
38	Mouse urinary peptides provide a molecular basis for genotype discrimination by nasal sensory neurons. Nature Communications, 2013, 4, 1616.	5.8	81
39	A Family of Nonclassical Class I MHC Genes Contributes to Ultrasensitive Chemodetection by Mouse Vomeronasal Sensory Neurons. Journal of Neuroscience, 2014, 34, 5121-5133.	1.7	79
40	Regulation of cyclic nucleotide-gated channels and membrane excitability in olfactory receptor cells by carbon monoxide. Journal of Neurophysiology, 1995, 74, 1498-1508.	0.9	75
41	Amplification of Odor-Induced Ca²⁺ Transients by Store-Operated Ca²⁺ Release and Its Role in Olfactory Signal Transduction. Journal of Neurophysiology, 2000, 83, 501-512.	0.9	75
42	Spectral and polarized light sensitivity of photoreceptors in the compound eye of the cricket (Gryllus) Tj ETQq0 0 0 rgBT /Overlock 10 Tf Physiology, 1989, 164, 597-608.	0.7	70
43	Neurobiology of TRPC2: from gene to behavior. Pflugers Archiv European Journal of Physiology, 2005, 451, 61-71.	1.3	70
44	Newborn Interneurons in the Accessory Olfactory Bulb Promote Mate Recognition in Female Mice. Frontiers in Neuroscience, 2011, 5, 113.	1.4	65
45	A calcium optimum for cytotoxic T lymphocyte and natural killer cell cytotoxicity. Journal of Physiology, 2018, 596, 2681-2698.	1.3	64
46	Ionic currents of cultured olfactory receptor neurons from antennae of male Manduca sexta. Journal of Neuroscience, 1991, 11, 956-965.	1.7	63
47	Blocking Adenylyl Cyclase Inhibits Olfactory Generator Currents Induced by â€œIP3-Odorsâ€• Journal of Neurophysiology, 2000, 84, 575-580.	0.9	63
48	Pheromone detection by mammalian vomeronasal neurons. Microscopy Research and Technique, 2002, 58, 251.	1.2	63
49	Importance of the CNGA4 channel gene for odor discrimination and adaptation in behaving mice. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 4299-4304.	3.3	63
50	Chemosensory Cell-Derived Acetylcholine Drives Tracheal Mucociliary Clearance in Response to Virulence-Associated Formyl Peptides. Immunity, 2020, 52, 683-699.e11.	6.6	63
51	Ca²⁺â€“Calmodulin Feedback Mediates Sensory Adaptation and Inhibits Pheromone-Sensitive Ion Channels in the Vomeronasal Organ. Journal of Neuroscience, 2009, 29, 2125-2135.	1.7	60
52	Block of cyclic nucleotide-gated channels in salamander olfactory receptor neurons by the guanylyl cyclase inhibitor LY83583. Journal of Neurophysiology, 1995, 74, 2759-2762.	0.9	58
53	Receptor guanylyl cyclases in mammalian olfactory function. Molecular and Cellular Biochemistry, 2010, 334, 191-197.	1.4	56
54	A wide range of pheromone-stimulated sexual and reproductive behaviors in female mice depend on G protein Gî±o. BMC Biology, 2014, 12, 31.	1.7	56

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55	Ca2+ Extrusion by NCX Is Compromised in Olfactory Sensory Neurons of OMPâ^'/â^' Mice. PLoS ONE, 2009, 4, e4260.	1.1	55
56	A simple, economic, timeâ€resolved killing assay. European Journal of Immunology, 2014, 44, 1870-1872.	1.6	55
57	Olfactory receptor neurons from antennae of developing male Manduca sexta respond to components of the species-specific sex pheromone in vitro. Journal of Neuroscience, 1992, 12, 2523-2531.	1.7	54
58	Grueneberg Ganglion Neurons Are Finely Tuned Cold Sensors. Journal of Neuroscience, 2010, 30, 7563-7568.	1.7	54
59	Mapping protein interactions of sodium channel Na _V 1.7 using epitopeâ€tagged geneâ€targeted mice. EMBO Journal, 2018, 37, 427-445.	3.5	54
60	Formyl Peptide Receptors from Immune and Vomeronasal System Exhibit Distinct Agonist Properties. Journal of Biological Chemistry, 2012, 287, 33644-33655.	1.6	51
61	Central role of G protein GÎ±i2 and GÎ±i2 ⁺ vomeronasal neurons in balancing territorial and infant-directed aggression of male mice. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 5135-5143.	3.3	51
62	Widespread expression of olfactory cyclic nucleotide-gated channel genes in rat brain: Implications for neuronal signalling. , 1999, 32, 1-12.		50
63	PhoDAGs Enable Optical Control of Diacylglycerol-Sensitive Transient Receptor Potential Channels. Cell Chemical Biology, 2018, 25, 215-223.e3.	2.5	47
64	A Sensor for Low Environmental Oxygen in the Mouse Main Olfactory Epithelium. Neuron, 2016, 92, 1196-1203.	3.8	45
65	The Receptor Guanylyl Cyclase Type D (GC-D) Ligand Uroguanylin Promotes the Acquisition of Food Preferences in Mice. Chemical Senses, 2013, 38, 391-397.	1.1	43
66	Pregnancy and estrogen enhance neural progenitor-cell proliferation in the vomeronasal sensory epithelium. BMC Biology, 2015, 13, 104.	1.7	42
67	A central mechanism of analgesia in mice and humans lacking the sodium channel NaV1.7. Neuron, 2021, 109, 1497-1512.e6.	3.8	42
68	Patch-Clamp Analysis of Gene-Targeted Vomeronasal Neurons Expressing a Defined V1r or V2r Receptor: Ionic Mechanisms Underlying Persistent Firing. Journal of Neurophysiology, 2007, 98, 2357-2369.	0.9	38
69	Strain-specific Loss of Formyl Peptide Receptor 3 in the Murine Vomeronasal and Immune Systems. Journal of Biological Chemistry, 2016, 291, 9762-9775.	1.6	38
70	Acetylcholine activates a chloride channel as well as glutamate and GABA. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 1988, 163, 609-620.	0.7	37
71	Modulation by cyclic GMP of the odour sensitivity of vertebrate olfactory receptor cells. Proceedings of the Royal Society B: Biological Sciences, 1996, 263, 803-811.	1.2	36
72	A Binary Genetic Approach to Characterize TRPM5 Cells in Mice. Chemical Senses, 2015, 40, 413-425.	1.1	34

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73	Mammalian-Specific OR37 Receptors Are Differentially Activated by Distinct Odorous Fatty Aldehydes. Chemical Senses, 2012, 37, 479-493.	1.1	33
74	The sensing of bacteria: emerging principles for the detection of signal sequences by formyl peptide receptors. Biomolecular Concepts, 2016, 7, 205-214.	1.0	30
75	Bacterial MgrB peptide activates chemoreceptor Fpr3 in mouse accessory olfactory system and drives avoidance behaviour. Nature Communications, 2019, 10, 4889.	5.8	30
76	Role of Cyclic GMP in Olfactory Transduction and Adaptationa. Annals of the New York Academy of Sciences, 1998, 855, 199-204.	1.8	26
77	Glutamate-activated channels in adult rat ventral spinal cord cells. Journal of Neurophysiology, 1991, 66, 369-378.	0.9	23
78	Patch-clamp recordings of spiking and nonspiking interneurons from rabbit olfactory bulb slices: Membrane properties and ionic currents. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 1992, 170, 145-52.	0.7	22
79	Link Between Pain and Olfaction in an Inherited Sodium Channelopathy. Archives of Neurology, 2012, 69, 1119-23.	4.9	22
80	Trpc5 deficiency causes hypoprolactinemia and altered function of oscillatory dopamine neurons in the arcuate nucleus. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 15236-15243.	3.3	22
81	The cyclic nucleotide gated channel of olfactory receptor neurons. Seminars in Cell Biology, 1994, 5, 39-46.	3.5	21
82	Similarities between the effects of lindane (Î³-HCH) and picrotoxin on ligand-gated chloride channels in crayfish muscle membrane. Brain Research, 1989, 503, 342-345.	1.1	20
83	Desensitization and resensitization rates of glutamate-activated channels may regulate motoneuron excitability. Journal of Neurophysiology, 1991, 66, 1166-1175.	0.9	19
84	Cyclic GMP evoked calcium transients in olfactory receptor cell growth cones. NeuroReport, 2000, 11, 677-681.	0.6	19
85	Patch-clamp recordings of spiking and nonspiking interneurons from rabbit olfactory bulb slices: GABA- and other transmitter receptors. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 1992, 170, 153-9.	0.7	18
86	Trpm5 expression in the olfactory epithelium. Molecular and Cellular Neurosciences, 2017, 80, 75-88.	1.0	17
87	Type 3 inositol 1,4,5-trisphosphate receptor is dispensable for sensory activation of the mammalian vomeronasal organ. Scientific Reports, 2017, 7, 10260.	1.6	17
88	The structure of Orco and its impact on our understanding of olfaction. Journal of General Physiology, 2018, 150, 1602-1605.	0.9	16
89	Hypothalamic gonadotropin-releasing hormone (GnRH) receptor neurons fire in synchrony with the female reproductive cycle. Journal of Neurophysiology, 2015, 114, 1008-1021.	0.9	14
90	Sensory Detection by the Vomeronasal Organ Modulates Experience-Dependent Social Behaviors in Female Mice. Frontiers in Cellular Neuroscience, 2021, 15, 638800.	1.8	14

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91	Danger perception and stress response through an olfactory sensor for the bacterial metabolite hydrogen sulfide. Neuron, 2021, 109, 2469-2484.e7.	3.8	14
92	Functional Analysis of the Guanylyl Cyclase Type D Signaling System in the Olfactory Epithelium. Annals of the New York Academy of Sciences, 2009, 1170, 173-176.	1.8	13
93	Ca2+-activated Clâ˜ currents in the murine vomeronasal organ enhance neuronal spiking but are dispensable for maleâ€“male aggression. Journal of Biological Chemistry, 2018, 293, 10392-10403.	1.6	13
94	GÎ±i2+ vomeronasal neurons govern the initial outcome of an acute social competition. Scientific Reports, 2020, 10, 894.	1.6	13
95	TRPs in Olfaction. Handbook of Experimental Pharmacology, 2014, 223, 917-933.	0.9	13
96	Functional Overexpression of Vomeronasal Receptors Using a Herpes Simplex Virus Type 1 (HSV-1)-Derived Amplicon. PLoS ONE, 2016, 11, e0156092.	1.1	11
97	Cyclic regulation of Trpm4 expression in female vomeronasal neurons driven by ovarian sex hormones. Molecular and Cellular Neurosciences, 2020, 105, 103495.	1.0	11
98	Visualizing Odor Detection in Olfactory Cilia by Calcium Imaginga. Annals of the New York Academy of Sciences, 1998, 855, 205-207.	1.8	10
99	Altered synaptic transmission at olfactory and vomeronasal nerve terminals in mice lacking Nâ€type calcium channel Cav2.2. European Journal of Neuroscience, 2014, 40, 3422-3435.	1.2	9
100	Cyclic Nucleotide-Gated Channels, Nitric Oxide, and Neural Function. Neuroscientist, 1996, 2, 24-32.	2.6	8
101	Organization and Plasticity of Sodium Channel Expression in the Mouse Olfactory and Vomeronasal Epithelia. Frontiers in Neuroanatomy, 2017, 11, 28.	0.9	7
102	BTDAzo: A Photoswitchable TRPC5 Channel Activator**. Angewandte Chemie - International Edition, 2022, 61, .	7.2	7
103	P/Q Type Calcium Channel Cav2.1 Defines a Unique Subset of Glomeruli in the Mouse Olfactory Bulb. Frontiers in Cellular Neuroscience, 2018, 12, 295.	1.8	6
104	A diacylglycerol photoswitching protocol for studying TRPC channel functions in mammalian cells and tissue slices. STAR Protocols, 2021, 2, 100527.	0.5	6
105	Connexins and Olfactory Synchronicity: Toward the Olfactory Code. Neuron, 2005, 46, 693-694.	3.8	4
106	Accessory Olfactory System. , 2008, , 783-814.		3
107	On the scent of mitochondrial calcium. Nature Neuroscience, 2012, 15, 653-654.	7.1	3
108	The Electrovomeronasogram: Field Potential Recordings in the Mouse Vomeronasal Organ. Methods in Molecular Biology, 2013, 1068, 221-236.	0.4	3

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109	Virus-Mediated Overexpression of Vomeronasal Receptors and Functional Assessment by Live-Cell Calcium Imaging. Methods in Molecular Biology, 2018, 1820, 43-56.	0.4	2
110	Membrane Currents and Mechanisms of Olfactory Transduction. Novartis Foundation Symposium, 1993, 179, 115-130.	1.2	2
111	Transduction Channels in the Vomeronasal Organ. , 2005, , 135-152.		1
112	Cyclic AMP-Gated Cation Channels of Olfactory Receptor Neurons. , 1993, 66, 135-145.		1
113	Pheromonkommunikation bei MÃusen: Vom Gen zum Verhalten. E-Neuroforum, 2008, 14, 159-165.	0.2	0
114	Receptor guanylyl cyclases in mammalian olfaction: from genes to function. BMC Pharmacology, 2009, 9, .	0.4	0
115	Formyl peptide receptors from the innate immune system and the vomeronasal organ recognize pathogen derived peptides. Journal of Neuroimmunology, 2014, 275, 91-92.	1.1	0