Stephen D Roper

List of Publications by Year
in descending order

124 papers	10,028 citations	34076 52 h-index	34964 98 g-index
185 all docs	185 docs citations	185 times ranked	4681 citing authors

#	Article	IF	Citations
1	The cell biology of taste. Journal of Cell Biology, 2010, 190, 285-296.	2.3	689
2	A metabotropic glutamate receptor variant functions as a taste receptor. Nature Neuroscience, 2000, 3, 113-119.	7.1	548
3	The role of pannexin 1 hemichannels in ATP release and cell-cell communication in mouse taste buds. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 6436-6441.	3.3	492
4	Taste buds: cells, signals and synapses. Nature Reviews Neuroscience, 2017, 18, 485-497.	4.9	371
5	ATP release through connexin hemichannels and gap junction transfer of second messengers propagate Ca ²⁺ signals across the inner ear. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 18770-18775.	3.3	297
6	Separate Populations of Receptor Cells and Presynaptic Cells in Mouse Taste Buds. Journal of Neuroscience, 2006, 26, 3971-3980.	1.7	274
7	Alpha cells secrete acetylcholine as a non-neuronal paracrine signal priming beta cell function in humans. Nature Medicine, 2011, 17, 888-892.	15.2	258
8	Signal transduction and information processing in mammalian taste buds. Pflugers Archiv European Journal of Physiology, 2007, 454, 759-776.	1.3	251
9	The Taste of Monosodium Glutamate: Membrane Receptors in Taste Buds. Journal of Neuroscience, 1996, 16, 3817-3826.	1.7	248
10	Breadth of Tuning and Taste Coding in Mammalian Taste Buds. Journal of Neuroscience, 2007, 27, 10840-10848.	1.7	230
11	The Cell Biology of Vertebrate Taste Receptors. Annual Review of Neuroscience, 1989, 12, 329-353.	5.0	193
12	Taste Receptor Cells That Discriminate Between Bitter Stimuli. Science, 2001, 291, 1557-1560.	6.0	192
13	Presynaptic (Type III) cells in mouse taste buds sense sour (acid) taste. Journal of Physiology, 2008, 586, 2903-2912.	1.3	188
14	An Optimized Method for In Situ Hybridization with Signal Amplification That Allows the Detection of Rare mRNAs. Journal of Histochemistry and Cytochemistry, 1999, 47, 431-445.	1.3	181
15	Ultrastructure of mouse vallate taste buds. I. Taste cells and their associated synapses. Journal of Comparative Neurology, 1985, 235, 48-60.	0.9	178
16	Proton currents through amiloride-sensitive Na channels in hamster taste cells. Role in acid transduction.. Journal of General Physiology, 1992, 100, 803-824.	0.9	166
17	Ultrastructure of mouse vallate taste buds: II. Cell types and cell lineage. Journal of Comparative Neurology, 1986, 253, 242-252.	0.9	162
18	Mouse Taste Buds Use Serotonin as a Neurotransmitter. Journal of Neuroscience, 2005, 25, 843-847.	1.7	161

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19	Taste receptors for umami: the case for multiple receptors. American Journal of Clinical Nutrition, 2009, 90, 738S-742S.	2.2	157
20	Taste buds as peripheral chemosensory processors. Seminars in Cell and Developmental Biology, 2013, 24, 71-79.	2.3	157
21	Proton currents through amiloride-sensitive Na+ channels in isolated hamster taste cells: Enhancement by vasopressin and cAMP. Neuron, 1993, 10, 931-942.	3.8	151
22	Autocrine and Paracrine Roles for ATP and Serotonin in Mouse Taste Buds. Journal of Neuroscience, 2009, 29, 13909-13918.	1.7	137
23	Membrane properties of isolated mudpuppy taste cells.. Journal of General Physiology, 1988, 91, 351-371.	0.9	130
24	Umami Responses in Mouse Taste Cells Indicate More than One Receptor. Journal of Neuroscience, 2006, 26, 2227-2234.	1.7	130
25	Individual mouse taste cells respond to multiple chemical stimuli. Journal of Physiology, 2002, 544, 501-509.	1.3	119
26	Regenerative impulses in taste cells. Science, 1983, 220, 1311-1312.	6.0	118
27	Ultrastructure of mouse vallate taste buds: III. Patterns of synaptic connectivity. Journal of Comparative Neurology, 1988, 270, 1-10.	0.9	118
28	Sour Taste Stimuli Evoke Ca 2+ and pH Responses in Mouse Taste Cells. Journal of Physiology, 2003, 547, 475-483.	1.3	117
29	TRPs in Taste and Chemesthesis. Handbook of Experimental Pharmacology, 2014, 223, 827-871.	0.9	107
30	Localization of serotonin in taste buds: A comparative study in four vertebrates. Journal of Comparative Neurology, 1995, 353, 364-370.	0.9	104
31	The microphysiology of peripheral taste organs. Journal of Neuroscience, 1992, 12, 1127-1134.	1.7	102
32	Cellâ€toâ€cell communication in intact taste buds through ATP signalling from pannexin 1 gap junction hemichannels. Journal of Physiology, 2009, 587, 5899-5906.	1.3	102
33	Acid-Sensitive Two-Pore Domain Potassium (K2P) Channels in Mouse Taste Buds. Journal of Neurophysiology, 2004, 92, 1928-1936.	0.9	101
34	Role of the G-Protein Subunit Î±-Gustducin in Taste Cell Responses to Bitter Stimuli. Journal of Neuroscience, 2003, 23, 9947-9952.	1.7	93
35	Breadth of tuning in taste afferent neurons varies with stimulus strength. Nature Communications, 2015, 6, 8171.	5.8	88
36	<i>In Situ</i>Ca²⁺Imaging Reveals Neurotransmitter Receptors for Glutamate in Taste Receptor Cells. Journal of Neuroscience, 2000, 20, 7978-7985.	1.7	86

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37	Intracellular Ca²⁺ and TRPM5â€mediated membrane depolarization produce ATP secretion from taste receptor cells. Journal of Physiology, 2010, 588, 2343-2350.	1.3	83
38	Molecular and Physiological Evidence for Glutamate (Umami) Taste Transduction via a G Protein-Coupled Receptora. Annals of the New York Academy of Sciences, 1998, 855, 398-406.	1.8	80
39	PLCÎ²2-Independent Behavioral Avoidance of Prototypical Bitter-Tasting Ligands. Chemical Senses, 2005, 30, 593-600.	1.1	75
40	Adenosine Enhances Sweet Taste through A2B Receptors in the Taste Bud. Journal of Neuroscience, 2012, 32, 322-330.	1.7	73
41	Responses to Glutamate in Rat Taste Cells. Journal of Neurophysiology, 1997, 77, 3048-3059.	0.9	72
42	Acid-Sensing Ion Channel-2 Is Not Necessary for Sour Taste in Mice. Journal of Neuroscience, 2004, 24, 4088-4091.	1.7	72
43	Norepinephrine Is Coreleased with Serotonin in Mouse Taste Buds. Journal of Neuroscience, 2008, 28, 13088-13093.	1.7	69
44	Ultrastructure of taste cells and synapses in the mudpuppyNecturus maculosus. Journal of Comparative Neurology, 1988, 277, 268-280.	0.9	66
45	Neuromodulation of Transduction and Signal Processing in the End Organs of Taste. Chemical Senses, 1996, 21, 353-365.	1.1	66
46	Passive and active membrane properties of mudpuppy taste receptor cells.. Journal of Physiology, 1987, 383, 601-614.	1.3	65
47	The Role of the Anion in Salt (NaCl) Detection by Mouse Taste Buds. Journal of Neuroscience, 2019, 39, 6224-6232.	1.7	64
48	The taste of table salt. Pflugers Archiv European Journal of Physiology, 2015, 467, 457-463.	1.3	62
49	Transcriptomes and neurotransmitter profiles of classes of gustatory and somatosensory neurons in the geniculate ganglion. Nature Communications, 2017, 8, 760.	5.8	61
50	GABA, Its Receptors, and GABAergic Inhibition in Mouse Taste Buds. Journal of Neuroscience, 2011, 31, 5782-5791.	1.7	59
51	Recognizing Taste: Coding Patterns Along the Neural Axis in Mammals. Chemical Senses, 2019, 44, 237-247.	1.1	58
52	Analysis of Mauthner cell responses to iontophoretically delivered pulses of GABA, glycine and Lâ€glutamate. Journal of Physiology, 1973, 232, 113-128.	1.3	57
53	Amiloride does not block taste transduction in the mudpuppy, Necturus maculosus. Chemical Senses, 1985, 10, 341-352.	1.1	57
54	Evidence for a role of voltage-sensitive apical K+ channels in sour and salt taste transduction. Chemical Senses, 1988, 13, 115-121.	1.1	55

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55	The membrane effects, and sensitivity to strychnine, of neural inhibition of the Mauthner cell, and its inhibition by glycine and GABA. Journal of Physiology, 1973, 232, 87-111.	1.3	53
56	The Taste of Monosodium Glutamate (MSG), L-Aspartic Acid, and N-Methyl-D-aspartate (NMDA) in Rats: Are NMDA Receptors Involved in MSG Taste?. Chemical Senses, 1999, 24, 449-457.	1.1	53
57	Knocking Out P2X Receptors Reduces Transmitter Secretion in Taste Buds. Journal of Neuroscience, 2011, 31, 13654-13661.	1.7	52
58	Merkel-like basal cells inNecturus taste buds contain serotonin. Journal of Comparative Neurology, 1993, 335, 606-613.	0.9	49
59	An electrophysiological study of chemical and electrical synapses on neurones in the parasympathetic cardiac ganglion of the mudpuppy, Necturus maculosus: evidence for intrinsic ganglionic innervation.. Journal of Physiology, 1976, 254, 427-454.	1.3	48
60	Faithful Expression of GFP from the PLCÎ²2 Promoter in a Functional Class of Taste Receptor Cells. Chemical Senses, 2006, 31, 213-219.	1.1	48
61	Dye-coupling in taste buds in the mudpuppy, Necturus maculosus. Journal of Neuroscience, 1987, 7, 3561-3565.	1.7	47
62	Serotonin Modulates Voltage-Dependent Calcium Current in<i>Necturus</i>Taste Cells. Journal of Neurophysiology, 1997, 77, 2515-2524.	0.9	47
63	Oxytocin Signaling in Mouse Taste Buds. PLoS ONE, 2010, 5, e11980.	1.1	47
64	Bidirectional synaptic transmission in Necturus taste buds. Journal of Neuroscience, 1994, 14, 3791-3804.	1.7	46
65	Acid Stimulation (Sour Taste) Elicits GABA and Serotonin Release from Mouse Taste Cells. PLoS ONE, 2011, 6, e25471.	1.1	45
66	Discrimination between the Tastes of Sucrose and Monosodium Glutamate in Rats. Chemical Senses, 2002, 27, 375-382.	1.1	43
67	Distribution of ion channels on taste cells and its relationship to chemosensory transduction. Journal of Membrane Biology, 1989, 109, 29-39.	1.0	42
68	Immunocytochemistry of gamma-aminobutyric acid, glutamate, serotonin, and histamine inNecturus taste buds. Journal of Comparative Neurology, 1991, 307, 675-682.	0.9	42
69	Uptake and release of neurotransmitter candidates, [3H]serotonin, [3H]glutamate, and [3H]?-aminobutyric acid, in taste buds of the mudpuppy,Necturus maculosus. Journal of Comparative Neurology, 1998, 392, 199-208.	0.9	41
70	Taste Preference Synergy Between Glutamate Receptor Agonists and Inosine Monophosphate in Rats. Chemical Senses, 2000, 25, 507-515.	1.1	40
71	Mediation of responses to calcium in taste cells by modulation of a potassium conductance. Science, 1991, 252, 126-128.	6.0	39
72	Ultrastructure of apical specializations of taste cells in the mudpuppy,Necturus maculosus. Journal of Comparative Neurology, 1987, 261, 604-615.	0.9	38

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73	Identification of electrophysiologically distinct cell subpopulations in Necturus taste buds.. Journal of General Physiology, 1993, 102, 143-170.	0.9	38
74	Acetylcholine is released from taste cells, enhancing taste signalling. Journal of Physiology, 2012, 590, 3009-3017.	1.3	38
75	Ca(2+)-dependent Cl- conductance in taste cells from Necturus. Journal of Neurophysiology, 1994, 72, 475-478.	0.9	36
76	Interaction between the second messengers cAMP and Ca²⁺ in mouse presynaptic taste cells. Journal of Physiology, 2009, 587, 1657-1668.	1.3	36
77	Glutamate-induced cobalt uptake reveals non-NMDA receptors in rat taste cells. , 2000, 417, 315-324.		35
78	Oral thermosensing by murine trigeminal neurons: modulation by capsaicin, menthol and mustard oil. Journal of Physiology, 2019, 597, 2045-2061.	1.3	33
79	A permeability barrier surrounds taste buds in lingual epithelia. American Journal of Physiology - Cell Physiology, 2015, 308, C21-C32.	2.1	32
80	Imaging Cyclic AMP Changes in Pancreatic Islets of Transgenic Reporter Mice. PLoS ONE, 2008, 3, e2127.	1.1	31
81	Immunocytochemical survey of putative neurotransmitters in taste buds fromNecturus maculosus. Journal of Comparative Neurology, 1992, 324, 509-521.	0.9	30
82	Sprouting of synapses after partial denervation of frog cardiac ganglion. Nature, 1976, 259, 317-319.	13.7	29
83	Glutamate May Be an Efferent Transmitter That Elicits Inhibition in Mouse Taste Buds. PLoS ONE, 2012, 7, e30662.	1.1	28
84	Estimation of the junctional resistance between electrically coupled receptor cells in Necturus taste buds.. Journal of General Physiology, 1995, 106, 705-725.	0.9	27
85	On the two subdivisions and intrinsic synaptic connexions in the submandibular ganglion of the rat.. Journal of Physiology, 1984, 346, 301-320.	1.3	26
86	Generation of the taste cell potential. Chemical Senses, 1987, 12, 217-234.	1.1	25
87	Isolation of single taste cells from lingual epithelium. Chemical Senses, 1988, 13, 355-366.	1.1	24
88	Glutamate Taste: Discrimination between the Tastes of Glutamate Agonists and Monosodium Glutamate in Rats. Chemical Senses, 2004, 29, 291-299.	1.1	24
89	Parallel processing in mammalian taste buds?. Physiology and Behavior, 2009, 97, 604-608.	1.0	23
90	Real-time detection of acetylcholine release from the human endocrine pancreas. Nature Protocols, 2012, 7, 1015-1023.	5.5	23

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91	Development of voltage-dependent currents in taste receptor cells. , 1996, 365, 278-288.		22
92	Reduction of electrical coupling between Necturus taste receptor cells, a possible role in acid taste. Neuroscience Letters, 1994, 176, 212-216.	1.0	20
93	Responses of the Rat Chorda Tympani Nerve to Glutamate-Sucrose Mixtures. Chemical Senses, 2004, 29, 473-482.	1.1	20
94	Ca2+-dependent chloride conductance inNecturus taste cells. Journal of Membrane Biology, 1991, 124, 85-93.	1.0	17
95	Rat Gustatory Neurons in the Geniculate Ganglion Express Glutamate Receptor Subunits. Chemical Senses, 2004, 29, 463-471.	1.1	17
96	Mouse Taste Buds Release Serotonin in Response to Taste Stimuli. Chemical Senses, 2005, 30, i39-i40.	1.1	17
97	Somatic motor axons can innervate autonomic neurones in the frog heart. Journal of Physiology, 1982, 326, 173-188.	1.3	14
98	Calcium Currents in Isolated Taste Receptor Cells of the Mudpuppy. Annals of the New York Academy of Sciences, 1989, 560, 112-115.	1.8	13
99	Leptin's Effect on Taste Bud Calcium Responses and Transmitter Secretion. Chemical Senses, 2015, 40, 217-222.	1.1	13
100	â€œTripartite Synapsesâ€•in Taste Buds: A Role for Type I Glial-like Taste Cells. Journal of Neuroscience, 2021, 41, 9860-9871.	1.7	13
101	Electron microscopic immunocytochemistry of glutamate-containing nerve fibers in the taste bud of mudpuppy (Necturus maculosus). Microscopy Research and Technique, 1993, 26, 225-230.	1.2	12
102	Disorganised and â€˜excessiveâ€™ reinnervation of frog cardiac ganglia. Nature, 1978, 274, 286-288.	13.7	11
103	Processing Umami and Other Tastes in Mammalian Taste Buds. Annals of the New York Academy of Sciences, 2009, 1170, 60-65.	1.8	11
104	Chemical and electrical synaptic interactions among taste bud cells. Current Opinion in Physiology, 2021, 20, 118-125.	0.9	10
105	Accuracy of regeneration of vagal parasympathetic axons. Journal of Comparative Neurology, 1983, 221, 145-153.	0.9	8
106	Glutamate-induced cobalt uptake reveals non-NMDA receptors in developing rat taste buds. NeuroReport, 2001, 12, 1715-1718.	0.6	8
107	Multiple Pathways for Signaling Glutamate Taste in Rodents. Chemical Senses, 2005, 30, i29-i30.	1.1	7
108	Chemotransduction in necturus taste buds, a model for taste processing. Neuroscience Research Supplement: the Official Journal of the Japan Neuroscience Society, 1990, 12, S73-S83.	0.0	5

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109	Microphysiology of Taste Buds. , 2020, , 187-210.		5
110	Encoding Taste: From Receptors to Perception. Handbook of Experimental Pharmacology, 2021, , 53-90.	0.9	5
111	The cell biology of taste. Journal of Cell Biology, 2010, 191, 429-429.	2.3	4
112	Gustatory and Olfactory Sensory Transduction. , 2012, , 681-697.		3
113	Taste: Mammalian Taste Bud Physiology â˜†. , 2017, , .		3
114	Editorial overview: Taste: from peripheral receptors to perception. Current Opinion in Physiology, 2021, 21, 44-47.	0.9	3
115	Mouse Trigeminal Neurons Respond to Kokumi Substances. , 2019, , 171-187.		3
116	Monosodium glutamate (MSG) and taste-mGluR4, a candidate for an umami taste receptor. Forum of Nutrition, 2003, 56, 87-9.	3.7	3
117	Voltage-Dependent Ionic Currents in Dissociated Mudpuppy Taste Cells. Annals of the New York Academy of Sciences, 1987, 510, 413-416.	1.8	2
118	Introduction to signal processing in peripheral sensory organs. Seminars in Cell and Developmental Biology, 2013, 24, 1-2.	2.3	2
119	Sensory endâ€organs: signal processing in the periphery: a symposium presented at the 2013 Annual Meeting of the Society for Neuroscience, San Diego, CA, USA. Journal of Physiology, 2014, 592, 3383-3385.	1.3	2
120	Taste Cells in the Mudpuppy, Necturus maculosus, Are Electrically Coupled. Annals of the New York Academy of Sciences, 1987, 510, 723-724.	1.8	1
121	Individual mouse taste cells respond to multiple chemical stimuli. Journal of Physiology, 2002, 544, 501-509.	1.3	1
122	Infrared Sensory Organs. , 2012, , 699-704.		0
123	Gustatory and Olfactory Sensory Transduction. , 2001, , 815-831.		0
124	Controlling what we eat: How circulating peptide hormones influence taste and appetite. Biochemist, 2011, 33, 14-17.	0.2	0