Daniel K Mulkey

List of Publications by Year
in descending order

78 papers	3,530 citations	172207 29 h-index	138251 58 g-index
100 all docs	100 docs citations	100 times ranked	2384 citing authors

#	Article	IF	Citations
1	Respiratory control by ventral surface chemoreceptor neurons in rats. Nature Neuroscience, 2004, 7, 1360-1369.	7.1	486
2	Expression of Phox2b by Brainstem Neurons Involved in Chemosensory Integration in the Adult Rat. Journal of Neuroscience, 2006, 26, 10305-10314.	1.7	311
3	TASK Channels Determine pH Sensitivity in Select Respiratory Neurons But Do Not Contribute to Central Respiratory Chemosensitivity. Journal of Neuroscience, 2007, 27, 14049-14058.	1.7	167
4	Regulation of Ventral Surface Chemoreceptors by the Central Respiratory Pattern Generator. Journal of Neuroscience, 2005, 25, 8938-8947.	1.7	159
5	Oxygen measurements in brain stem slices exposed to normobaric hyperoxia and hyperbaric oxygen. Journal of Applied Physiology, 2001, 90, 1887-1899.	1.2	140
6	Hyperoxia, reactive oxygen species, and hyperventilation: oxygen sensitivity of brain stem neurons. Journal of Applied Physiology, 2004, 96, 784-791.	1.2	137
7	Serotonergic Neurons Activate Chemosensitive Retrotrapezoid Nucleus Neurons by a pH-Independent Mechanism. Journal of Neuroscience, 2007, 27, 14128-14138.	1.7	127
8	Astrocytes in the Retrotrapezoid Nucleus Sense H⁺ by Inhibition of a Kir4.1â€“Kir5.1-Like Current and May Contribute to Chemoreception by a Purinergic Mechanism. Journal of Neurophysiology, 2010, 104, 3042-3052.	0.9	119
9	Re: Retrotrapezoid nucleus: a litmus test for the identification of central chemoreceptors. Experimental Physiology, 2005, 90, 253-257.	0.9	102
10	Continuous intracellular recording from mammalian neurons exposed to hyperbaric helium, oxygen, or air. Journal of Applied Physiology, 2000, 89, 807-822.	1.2	101
11	Neuronal sensitivity to hyperoxia, hypercapnia, and inert gases at hyperbaric pressures. Journal of Applied Physiology, 2003, 95, 883-909.	1.2	93
12	Retrotrapezoid nucleus and parafacial respiratory group. Respiratory Physiology and Neurobiology, 2010, 173, 244-255.	0.7	85
13	Regulation of ventral surface CO₂/H⁺â€sensitive neurons by purinergic signalling. Journal of Physiology, 2012, 590, 2137-2150.	1.3	82
14	Purinergic P2 Receptors Modulate Excitability But Do Not Mediate pH Sensitivity of RTN Respiratory Chemoreceptors. Journal of Neuroscience, 2006, 26, 7230-7233.	1.7	71
15	Anesthetic Activation of Central Respiratory Chemoreceptor Neurons Involves Inhibition of a THIK-1-Like Background K+ Current. Journal of Neuroscience, 2010, 30, 9324-9334.	1.7	67
16	Hyperbaric oxygen and chemical oxidants stimulate CO₂/H⁺-sensitive neurons in rat brain stem slices. Journal of Applied Physiology, 2003, 95, 910-921.	1.2	65
17	Oxidative stress decreases pHi and Na+/H+ exchange and increases excitability of solitary complex neurons from rat brain slices. American Journal of Physiology - Cell Physiology, 2004, 286, C940-C951.	2.1	64
18	Increased uncoupling protein (UCP) activity in Drosophila insulin-producing neurons attenuates insulin signaling and extends lifespan. Aging, 2009, 1, 699-713.	1.4	57

#	Article	IF	Citations
19	Glucose increases activity and Ca2+ in insulin-producing cells of adult Drosophila. NeuroReport, 2010, 21, 1116-1120.	0.6	55
20	Epilepsy-Associated KCNQ2 Channels Regulate Multiple Intrinsic Properties of Layer 2/3 Pyramidal Neurons. Journal of Neuroscience, 2017, 37, 576-586.	1.7	51
21	Disordered breathing in a mouse model of Dravet syndrome. ELife, 2019, 8, .	2.8	50
22	Leptin into the ventrolateral medulla facilitates chemorespiratory response in leptinâ€deficient (ob/ob) mice. Acta Physiologica, 2014, 211, 240-248.	1.8	48
23	AMPâ€activated protein kinase inhibits TREK channels. Journal of Physiology, 2009, 587, 5819-5830.	1.3	47
24	Astrocyte chemoreceptors: mechanisms of H⁺sensing by astrocytes in the retrotrapezoid nucleus and their possible contribution to respiratory drive. Experimental Physiology, 2011, 96, 400-406.	0.9	45
25	HCN channels contribute to serotonergic modulation of ventral surface chemosensitive neurons and respiratory activity. Journal of Neurophysiology, 2015, 113, 1195-1205.	0.9	43
26	Purinergic regulation of vascular tone in the retrotrapezoid nucleus is specialized to support the drive to breathe. ELife, 2017, 6, .	2.8	42
27	Purinergic signalling contributes to chemoreception in the retrotrapezoid nucleus but not the nucleus of the solitary tract or medullary raphe. Journal of Physiology, 2014, 592, 1309-1323.	1.3	41
28	KCNQ Channels Determine Serotonergic Modulation of Ventral Surface Chemoreceptors and Respiratory Drive. Journal of Neuroscience, 2012, 32, 16943-16952.	1.7	36
29	The Retrotrapezoid Nucleus and Central Chemoreception. Advances in Experimental Medicine and Biology, 2008, 605, 327-332.	0.8	32
30	Connexin26 hemichannels with a mutation that causes KID syndrome in humans lack sensitivity to CO2. ELife, 2014, 3, e04249.	2.8	30
31	MeCP2 deficiency results in robust Rett-like behavioural and motor deficits in male and female rats. Human Molecular Genetics, 2016, 25, 3303-3320.	1.4	30
32	Characterization of the chemosensitive response of individual solitary complex neurons from adult rats. American Journal of Physiology - Regulatory Integrative and Comparative Physiology, 2009, 296, R763-R773.	0.9	29
33	Pressure (â‰4 ATA) increases membrane conductance and firing rate in the rat solitary complex. Journal of Applied Physiology, 2003, 95, 922-930.	1.2	28
34	P2Y1 Receptors Expressed by C1 Neurons Determine Peripheral Chemoreceptor Modulation of Breathing, Sympathetic Activity, and Blood Pressure. Hypertension, 2013, 62, 263-273.	1.3	28
35	External pH modulates EAG superfamily K+ channels through EAG-specific acidic residues in the voltage sensor. Journal of General Physiology, 2013, 141, 721-735.	0.9	27
36	Î±₁- and Î±₂-adrenergic receptors in the retrotrapezoid nucleus differentially regulate breathing in anesthetized adult rats. Journal of Neurophysiology, 2016, 116, 1036-1048.	0.9	26

#	Article	IF	Citations
37	Fluorocitrate-mediated depolarization of astrocytes in the retrotrapezoid nucleus stimulates breathing. Journal of Neurophysiology, 2017, 118, 1690-1697.	0.9	26
38	MeCP2 Deficiency Leads to Loss of Glial Kir4.1. ENeuro, 2018, 5, ENEURO.0194-17.2018.	0.9	26
39	Facilitation of breathing by leptin effects in the central nervous system. Journal of Physiology, 2016, 594, 1617-1625.	1.3	24
40	Purinergic receptor blockade in the retrotrapezoid nucleus attenuates the respiratory chemoreflexes in awake rats. Acta Physiologica, 2016, 217, 80-93.	1.8	23
41	Vascular control of the CO2/H+-dependent drive to breathe. ELife, 2020, 9, .	2.8	23
42	Nitric oxide activates hypoglossal motoneurons by cGMP-dependent inhibition of TASK channels and cGMP-independent activation of HCN channels. Journal of Neurophysiology, 2012, 107, 1489-1499.	0.9	22
43	In vitro characterization of noradrenergic modulation of chemosensitive neurons in the retrotrapezoid nucleus. Journal of Neurophysiology, 2016, 116, 1024-1035.	0.9	21
44	Cholinergic neurons in the pedunculopontine tegmental nucleus modulate breathing in rats by direct projections to the retrotrapezoid nucleus. Journal of Physiology, 2019, 597, 1919-1934.	1.3	21
45	Cholinergic control of ventral surface chemoreceptors involves Gq/inositol 1,4,5â€trisphosphateâ€mediated inhibition of KCNQ channels. Journal of Physiology, 2016, 594, 407-419.	1.3	20
46	Volatile Anesthetics Activate a Leak Sodium Conductance in Retrotrapezoid Nucleus Neurons to Maintain Breathing during Anesthesia in Mice. Anesthesiology, 2020, 133, 824-838.	1.3	18
47	Current ideas on central chemoreception by neurons and glial cells in the retrotrapezoid nucleus. Journal of Applied Physiology, 2010, 108, 1433-1439.	1.2	17
48	K ir 5. 1â€dependent CO 2 /H + â€sensitive currents contribute to astrocyte heterogeneity across brain regions. Glia, 2021, 69, 310-325.	2.5	15
49	Inhibition of the hypercapnic ventilatory response by adenosine in the retrotrapezoid nucleus in awake rats. Neuropharmacology, 2018, 138, 47-56.	2.0	14
50	The retrotrapezoid nucleus and the neuromodulation of breathing. Journal of Neurophysiology, 2021, 125, 699-719.	0.9	14
51	Disordered breathing in a Pitt-Hopkins syndrome model involves Phox2b-expressing parafacial neurons and aberrant Nav1.8 expression. Nature Communications, 2021, 12, 5962.	5.8	14
52	Bicarbonate directly modulates activity of chemosensitive neurons in the retrotrapezoid nucleus. Journal of Physiology, 2018, 596, 4033-4042.	1.3	13
53	Independent purinergic mechanisms of central and peripheral chemoreception in the rostral ventrolateral medulla. Journal of Physiology, 2015, 593, 1067-1074.	1.3	12
54	Adenosine Signaling through A1 Receptors Inhibits Chemosensitive Neurons in the Retrotrapezoid Nucleus. ENeuro, 2018, 5, ENEURO.0404-18.2018.	0.9	11

#	Article	IF	Citations
55	Re: Homing in on the specific phenotype(s) of central respiratory chemoreceptors. Experimental Physiology, 2005, 90, 266-268.	0.9	10
56	Molecular underpinnings of ventral surface chemoreceptor function: focus on KCNQ channels. Journal of Physiology, 2015, 593, 1075-1081.	1.3	9
57	Putative Roles of Astrocytes in General Anesthesia. Current Neuropharmacology, 2022, 20, 5-15.	1.4	9
58	Somatostatin-expressing parafacial neurons are CO2/H+ sensitive and regulate baseline breathing. ELife, 2021, 10, .	2.8	9
59	HCN as a Mediator of Urinary Homeostasis: Age-Associated Changes in Expression and Function in Adrenergic Detrusor Relaxation. Journals of Gerontology - Series A Biological Sciences and Medical Sciences, 2019, 74, 325-329.	1.7	8
60	Isoflurane inhibits a Kir4.1/5.1-like conductance in neonatal rat brainstem astrocytes and recombinant Kir4.1/5.1 channels in a heterologous expression system. Journal of Neurophysiology, 2020, 124, 740-749.	0.9	6
61	5â€HT7 receptors expressed in the mouse parafacial region are not required for respiratory chemosensitivity. Journal of Physiology, 2022, 600, 2789-2811.	1.3	5
62	Epilepsy-Associated KCNQ2 Channels Regulate Multiple Intrinsic Properties of Layer 2/3 Pyramidal Neurons. Journal of Neuroscience, 2017, 37, 576-586.	1.7	3
63	Effects of leptin in the retrotrapezoid nucleus (RTN) on CO2â€sensitivity and respiration.. FASEB Journal, 2013, 27, 1137.12.	0.2	2
64	The Retrotrapezoid Nucleus and Central Chemoreception. Tzu Chi Medical Journal, 2008, 20, 239-242.	0.4	1
65	New advances in the neural control of breathing. Journal of Physiology, 2015, 593, 1065-1066.	1.3	1
66	Re: Homing in on the specific phenotype(s) of central respiratory chemoreceptors. Experimental Physiology, 2005, 90, 266-268.	0.9	0
67	Histamine Activates Chemosensitive Neurons in the Retrotrapezoid Nucleus. FASEB Journal, 2021, 35, .	0.2	0
68	P2Y1â€receptors are expressed by C1 cells and regulate peripheral chemoreceptor modulation of breathing and blood pressure. FASEB Journal, 2013, 27, 1118.4.	0.2	0
69	Purinergic signaling in the retrotrapezoid nucleus (RTN) contributes to central and peripheral chemoreflexes by divergent mechansims. FASEB Journal, 2013, 27, 1137.15.	0.2	0
70	HCN channels contribute to serotonergic modulation of chemoreceptors in the retrotrapezoid nucleus. FASEB Journal, 2013, 27, 1214.11.	0.2	0
71	KCNQ channels regulate activity of chemosensitive neurons in the retrotrapezoid nucleus. FASEB Journal, 2013, 27, 1214.10.	0.2	0
72	Role of purinergic neurotransmission in different brainstem CO2â€chemoreceptor regions. FASEB Journal, 2013, 27, 1137.13.	0.2	0

#	Article	IF	Citations
73	Chemosensitive neurons in the retrotrapezoid nucleus (RTN) express SK channels with low Ca2+ affinity. FASEB Journal, 2013, 27, 1137.11.	0.2	0
74	Chemosensory control by purinergic signaling within the retrotrapezoid nucleus (RTN) in conscious rats. FASEB Journal, 2013, 27, 1137.14.	0.2	0
75	Astrocyte Kir4.1 Channels Contribute to Central Respiratory Drive. FASEB Journal, 2015, 29, 860.12.	0.2	0
76	Astrocyteâ€specific deletion of Kir4.1 increases normoxic ventilation after acclimatization to chronic sustained hypoxia.. FASEB Journal, 2018, 32, 625.14.	0.2	0
77	5â€HT7 receptors expressed in the mouse parafacial region are not required for respiratory chemosensitivity. FASEB Journal, 2022, 36, .	0.2	0
78	Histamine/H1 receptor signaling in the parafacial region increases activity of chemosensitive neurons and respiratory activity in rats.. Journal of Neurophysiology, 0, , .	0.9	0