Klaus Ballanyi

List of Publications by Year
in descending order

75 papers	3,925 citations	101543 36 h-index	123424 61 g-index
77 all docs	77 docs citations	77 times ranked	3750 citing authors

#	Article	IF	Citations
1	Autocrine Neuromodulation and Network Activity Patterns in the Locus Coeruleus of Newborn Rat Slices. Brain Sciences, 2022, 12, 437.	2.3	2
2	NMDA Enhances and Glutamate Attenuates Synchrony of Spontaneous Phase-Locked Locus Coeruleus Network Rhythm in Newborn Rat Brain Slices. Brain Sciences, 2022, 12, 651.	2.3	2
3	Expiratory abdominal muscle nerve is active at flexor phase, while inspiratory phrenic nerve is not active during locomotion evoked by 5-HT and NMDA in the neonatal rat. Neuroscience Research, 2021, 174, 9-9.	1.9	1
4	Endoplasmic reticulum stress in the dorsal root ganglia regulates largeâ€conductance potassium channels and contributes to pain in a model of multiple sclerosis. FASEB Journal, 2020, 34, 12577-12598.	0.5	20
5	Mapping the Dynamic Recruitment of Spinal Neurons during Fictive Locomotion. Journal of Neuroscience, 2020, 40, 9692-9700.	3.6	13
6	The ER chaperone calnexin controls mitochondrial positioning and respiration. Science Signaling, 2020, 13, .	3.6	32
7	A Bioluminescent Ca²⁺ Indicator Based on a Topological Variant of GCaMP6s. ChemBioChem, 2019, 20, 516-520.	2.6	45
8	TARP mediation of accelerated and more regular locus coeruleus network bursting in neonatal rat brain slices. Neuropharmacology, 2019, 148, 169-177.	4.1	7
9	Using an upright preparation to identify and characterize locomotor related neurons across the transverse plane of the neonatal mouse spinal cord. Journal of Neuroscience Methods, 2019, 323, 90-97.	2.5	3
10	Receptor dependence of BDNF actions in superficial dorsal horn: relation to central sensitization and actions of macrophage colony stimulating factor 1. Journal of Neurophysiology, 2019, 121, 2308-2322.	1.8	19
11	Voluntary wheel running reveals sex-specific nociceptive factors in murine experimental autoimmune encephalomyelitis. Pain, 2019, 160, 870-881.	4.2	19
12	Genetically encoded fluorescent indicators for imaging intracellular potassium ion concentration. Communications Biology, 2019, 2, 18.	4.4	110
13	Suction electrode recording in locus coeruleus of newborn rat brain slices reveals network bursting comprising summated non-synchronous spiking. Neuroscience Letters, 2018, 671, 103-107.	2.1	9
14	Genetically Encoded Glutamate Indicators with Altered Color and Topology. ACS Chemical Biology, 2018, 13, 1832-1837.	3.4	67
15	Characterization of Superficial Dorsal Horn Neurons from â€œTamamakiâ€•Mice and Stability of their GAD67-EGFP Phenotype in Defined-Medium Organotypic Culture. Neuroscience, 2018, 372, 126-140.	2.3	8
16	Characterization of the Nile Grass Rat as a Unique Model for Type 2 Diabetic Polyneuropathy. Journal of Neuropathology and Experimental Neurology, 2018, 77, 469-478.	1.7	10
17	Release of ATP by preâ€BÃ¶tzinger complex astrocytes contributes to the hypoxic ventilatory response via a Ca²⁺â€dependent P2Y₁ receptor mechanism. Journal of Physiology, 2018, 596, 3245-3269.	2.9	82
18	WT1-Expressing Interneurons Regulate Leftâ€“Right Alternation during Mammalian Locomotor Activity. Journal of Neuroscience, 2018, 38, 5666-5676.	3.6	45

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19	A genetically encoded Ca2+ indicator based on circularly permutated sea anemone red fluorescent protein eqFP578. BMC Biology, 2018, 16, 9.	3.8	83
20	Acute anti-allodynic action of gabapentin in dorsal horn and primary somatosensory cortex: Correlation of behavioural and physiological data. Neuropharmacology, 2017, 113, 576-590.	4.1	19
21	TMX1 determines cancer cell metabolism as a thiol-based modulator of ERâ€“mitochondria Ca2+ flux. Journal of Cell Biology, 2016, 214, 433-444.	5.2	113
22	A Bright and Fast Red Fluorescent Protein Voltage Indicator That Reports Neuronal Activity in Organotypic Brain Slices. Journal of Neuroscience, 2016, 36, 2458-2472.	3.6	137
23	Progressive postnatal decline in leptin sensitivity of arcuate hypothalamic neurons in theMagel2-null mouse model of Praderâ€“Willi syndrome. Human Molecular Genetics, 2015, 24, 4276-4283.	2.9	37
24	Suppression of network activity in dorsal horn by gabapentin permeation of TRPV1 channels: Implications for drug access to cytoplasmic targets. Neuroscience Letters, 2015, 584, 397-402.	2.1	13
25	Analysis of the long-term actions of gabapentin and pregabalin in dorsal root ganglia and substantia gelatinosa. Journal of Neurophysiology, 2014, 112, 2398-2412.	1.8	34
26	Identification of the pre-BÃ¶tzinger complex inspiratory center in calibrated â€œsandwichâ€•slices from newborn mice with fluorescent Dbx1 interneurons. Physiological Reports, 2014, 2, e12111.	1.7	54
27	A long Stokes shift red fluorescent Ca2+ indicator protein for two-photon and ratiometric imaging. Nature Communications, 2014, 5, 5262.	12.8	75
28	Amyloid Î² (AÎ²) Peptide Directly Activates Amylin-3 Receptor Subtype by Triggering Multiple Intracellular Signaling Pathways. Journal of Biological Chemistry, 2012, 287, 18820-18830.	3.4	80
29	Signaling pathways underlying the P2Y 1 receptorâ€mediated excitation of the preBÃ¶tzinger Complex (preBÃ¶tC) inspiratory rhythm generating network in vitro. FASEB Journal, 2012, 26, 1088.7.	0.5	0
30	Persistence of inspiratory rhythm in calibrated newborn rat preâ€BÃ¶tzinger complex slices upon blockade of storeâ€mediated calcium signaling. FASEB Journal, 2012, 26, 895.2.	0.5	0
31	K+ and Ca2+ dependence of inspiratory-related rhythm in novel â€œcalibratedâ€•mouse brainstem slices. Respiratory Physiology and Neurobiology, 2011, 175, 37-48.	1.6	56
32	Proteinase-activated receptor-1 mediates dorsal root ganglion neuronal degeneration in HIV/AIDS. Brain, 2011, 134, 3209-3221.	7.6	26
33	Methylxanthineâ€evoked seizureâ€like perturbation of isolated newborn rat hippocampal and cortical networks. FASEB Journal, 2011, 25, lb522.	0.5	0
34	Methylxanthine reversal of opioid-evoked inspiratory depression via phosphodiesterase-4 blockade. Respiratory Physiology and Neurobiology, 2010, 172, 94-105.	1.6	22
35	HIVâ€1 viral protein R causes peripheral nervous system injury associated with in vivo neuropathic pain. FASEB Journal, 2010, 24, 4343-4353.	0.5	59
36	Glia Contribute to the Purinergic Modulation of Inspiratory Rhythm-Generating Networks. Journal of Neuroscience, 2010, 30, 3947-3958.	3.6	92

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37	Control of Breathing by â€œNerve Glueâ€• Science Signaling, 2010, 3, pe41.	3.6	13
38	Indirect Opioid Actions on Inspiratory pre-BÃ¶tzinger Complex Neurons in Newborn Rat Brainstem Slices. Advances in Experimental Medicine and Biology, 2010, 669, 75-79.	1.6	12
39	Multiphoton calcium imaging of methylxanthineâ€reversal of opioid depression of inspiratoryâ€related preâ€BÃ¶tzinger complex rhythm in newborn rat brainstem slices. FASEB Journal, 2010, 24, 614.5.	0.5	0
40	Disturbed inspiratory rhythm in rat brainstem slices by seizureâ€like bursting due to theophyllineâ€evoked GABA A receptor block. FASEB Journal, 2010, 24, .	0.5	0
41	Fluorescence imaging of active respiratory networks. Respiratory Physiology and Neurobiology, 2009, 168, 26-38.	1.6	23
42	Structureâ€“function analysis of rhythmogenic inspiratory pre-BÃ¶tzinger complex networks in â€œcalibratedâ€•newborn rat brainstem slices. Respiratory Physiology and Neurobiology, 2009, 168, 158-178.	1.6	39
43	Brainâ€derived neurotrophic factor drives the changes in excitatory synaptic transmission in the rat superficial dorsal horn that follow sciatic nerve injury. Journal of Physiology, 2009, 587, 1013-1032.	2.9	104
44	Silencing by raised extracellular Ca2+ of pre-BÃ¶tzinger complex neurons in newborn rat brainstem slices without change of membrane potential or input resistance. Neuroscience Letters, 2009, 456, 25-29.	2.1	20
45	Glial contribution to the modulation of preBÃ¶tzinger Complex rhythm generating networks by ATP. FASEB Journal, 2009, 23, .	0.5	0
46	Generation of Eupnea and Sighs by a Spatiochemically Organized Inspiratory Network. Journal of Neuroscience, 2008, 28, 2447-2458.	3.6	107
47	Neuron typeâ€specific effects of brainâ€derived neurotrophic factor in rat superficial dorsal horn and their relevance to â€˜central sensitizationâ€™. Journal of Physiology, 2007, 584, 543-563.	2.9	65
48	Dependence on extracellular Ca²⁺/K⁺ antagonism of inspiratory centre rhythms in slices and en bloc preparations of newborn rat brainstem. Journal of Physiology, 2007, 584, 489-508.	2.9	41
49	Anoxic persistence of lumbar respiratory bursts and block of lumbar locomotion in newborn rat brainstemâ€“spinal cords. Journal of Physiology, 2007, 585, 507-524.	2.9	23
50	Reversal by phosphodiesterase-4 blockers of in vitro apnea in the isolated brainstem-spinal cord preparation from newborn rats. Neuroscience Letters, 2006, 401, 194-198.	2.1	21
51	Preparing for the first breath: prenatal maturation of respiratory neural control. Journal of Physiology, 2006, 570, 437-444.	2.9	85
52	High Sensitivity to Neuromodulator-Activated Signaling Pathways at Physiological [K+] of Confocally Imaged Respiratory Center Neurons in On-Line-Calibrated Newborn Rat Brainstem Slices. Journal of Neuroscience, 2006, 26, 11870-11880.	3.6	140
53	Optical assessment of motoneuron function in a â€œtwenty-four-hourâ€•acute spinal cord slice model from fetal rats. Journal of Neuroscience Methods, 2005, 141, 309-320.	2.5	11
54	Protective role of neuronal KATP channels in brain hypoxia. Journal of Experimental Biology, 2004, 207, 3201-3212.	1.7	125

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55	Intracellular pH and KATP channel activity in dorsal vagal neurons of juvenile rats in situ during metabolic disturbances. Brain Research, 2004, 1017, 137-145.	2.2	14
56	Neuromodulation of the Perinatal Respiratory Network. Current Neuropharmacology, 2004, 2, 221-243.	2.9	58
57	Contribution of Ca 2+ â€dependent conductances to membrane potential fluctuations of medullary respiratory neurons of newborn rats in vitro. Journal of Physiology, 2003, 552, 727-741.	2.9	48
58	Dynamic Recording of Cell Death in the In Vitro Dorsal Vagal Nucleus of Rats in Response to Metabolic Arrest. Journal of Neurophysiology, 2003, 89, 551-561.	1.8	19
59	Disruption of KCC2 Reveals an Essential Role of K-Cl Cotransport Already in Early Synaptic Inhibition. Neuron, 2001, 30, 515-524.	8.1	530
60	Contribution of Ca2+-Permeable AMPA/KA Receptors to Glutamate-Induced Ca2+ Rise in Embryonic Lumbar Motoneurons In Situ. Journal of Neurophysiology, 2000, 83, 50-59.	1.8	25
61	Ischemia But Not Anoxia Evokes Vesicular and Ca2+-Independent Glutamate Release In the Dorsal Vagal Complex In Vitro. Journal of Neurophysiology, 2000, 83, 2905-2915.	1.8	33
62	Role of Bicarbonate and Chloride in GABA- and Glycine-Induced Depolarization and [Ca2+]iRise in Fetal Rat MotoneuronsIn Situ. Journal of Neuroscience, 2000, 20, 7905-7913.	3.6	44
63	Neuronâ€“Glia Signaling via Î±₁Adrenoceptor-Mediated Ca²⁺Release in Bergmann Glial CellsIn Situ. Journal of Neuroscience, 1999, 19, 8401-8408.	3.6	112
64	Intracellular Ca2+during metabolic activation of KATPchannels in spontaneously active dorsal vagal neurons in medullary slices. European Journal of Neuroscience, 1998, 10, 2574-2585.	2.6	26
65	Synaptic inhibition in the isolated respiratory network of neonatal rats. European Journal of Neuroscience, 1998, 10, 3823-3839.	2.6	135
66	Kir2.4: A Novel K+Inward Rectifier Channel Associated with Motoneurons of Cranial Nerve Nuclei. Journal of Neuroscience, 1998, 18, 4096-4105.	3.6	102
67	GABA- and Glycine-Mediated Fall of Intracellular pH in Rat Medullary Neurons In Situ. Journal of Neurophysiology, 1997, 77, 1844-1852.	1.8	32
68	Acidosis of hippocampal neurones mediated by a plasmalemmal Ca2+/H+ pump. NeuroReport, 1996, 7, 2000-2004.	1.2	82
69	Anoxic disturbance of the isolated respiratory network of neonatal rats. Experimental Brain Research, 1995, 103, 9-19.	1.5	46
70	Spontaneous activation of KATP current in rat dorsal vagal neurones. NeuroReport, 1994, 5, 1285-1288.	1.2	23
71	Anoxia induced functional inactivation of neonatal respiratory neurones in vitro. NeuroReport, 1994, 6, 165-168.	1.2	43
72	Developmental changes in the hypoxia tolerance of the in vitro respiratory network of rats. Neuroscience Letters, 1992, 148, 141-144.	2.1	51

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73	Mechanisms of respiratory rhythm generation. Current Opinion in Neurobiology, 1992, 2, 788-793.	4.2	181
74	Whole-cell patch-clamp recordings from respiratory neurons in neonatal rat brainstem in vitro. Neuroscience Letters, 1992, 134, 153-156.	2.1	71
75	Changes in intracellular ion activities induced by adrenaline in human and rat skeletal muscle. Pflugers Archiv European Journal of Physiology, 1988, 411, 283-288.	2.8	26