Heiko J Luhmann

List of Publications by Year
in descending order

231 papers	14,124 citations	17440 63 h-index	27406 106 g-index
238 all docs	238 docs citations	238 times ranked	12874 citing authors

#	Article	IF	Citations
1	Postnatal maturation of the GABAergic system in rat neocortex. Journal of Neurophysiology, 1991, 65, 247-263.	1.8	531
2	Cl^{â”'} uptake promoting depolarizing GABA actions in immature rat neocortical neurones is mediated by NKCC1. Journal of Physiology, 2004, 557, 829-841.	2.9	476
3	Early patterns of electrical activity in the developing cerebral cortex of humans and rodents. Trends in Neurosciences, 2006, 29, 414-418.	8.6	417
4	Burst generating and regular spiking layer 5 pyramidal neurons of rat neocortex have different morphological features. Journal of Comparative Neurology, 1990, 296, 598-613.	1.6	414
5	The Subplate and Early Cortical Circuits. Annual Review of Neuroscience, 2010, 33, 23-48.	10.7	409
6	Cellular mechanisms of ILâ€17â€induced bloodâ€brain barrier disruption. FASEB Journal, 2010, 24, 1023-1034.	0.5	389
7	Barrel cortex function. Progress in Neurobiology, 2013, 103, 3-27.	5.7	304
8	Rapid developmental switch in the mechanisms driving early cortical columnar networks. Nature, 2006, 439, 79-83.	27.8	296
9	Pharmacological induction of use-dependent receptive field modifications in the visual cortex. Science, 1988, 242, 74-77.	12.6	260
10	Three Patterns of Oscillatory Activity Differentially Synchronize Developing Neocortical Networks In Vivo. Journal of Neuroscience, 2009, 29, 9011-9025.	3.6	251
11	Multifaceted effects of oligodendroglial exosomes on neurons: impact on neuronal firing rate, signal transduction and gene regulation. Philosophical Transactions of the Royal Society B: Biological Sciences, 2014, 369, 20130510.	4.0	232
12	Layer-Specific Intracolumnar and Transcolumnar Functional Connectivity of Layer V Pyramidal Cells in Rat Barrel Cortex. Journal of Neuroscience, 2001, 21, 3580-3592.	3.6	211
13	Spontaneous Neuronal Activity in Developing Neocortical Networks: From Single Cells to Large-Scale Interactions. Frontiers in Neural Circuits, 2016, 10, 40.	2.8	201
14	Functional Diversity of Layer IV Spiny Neurons in Rat Somatosensory Cortex: Quantitative Morphology of Electrophysiologically Characterized and Biocytin Labeled Cells. Cerebral Cortex, 2004, 14, 690-701.	2.9	186
15	Transient cortical circuits match spontaneous and sensory-driven activity during development. Science, 2020, 370, .	12.6	168
16	Cell Type-Specific Circuits of Cortical Layer IV Spiny Neurons. Journal of Neuroscience, 2003, 23, 2961-2970.	3.6	164
17	Thalamic Network Oscillations Synchronize Ontogenetic Columns in the Newborn Rat Barrel Cortex. Cerebral Cortex, 2013, 23, 1299-1316.	2.9	157
18	Inhibition of collagen IV deposition promotes regeneration of injured CNS axons. European Journal of Neuroscience, 1999, 11, 632-646.	2.6	153

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19	Kinetic Properties of Cl^{â”'}Uptake Mediated by Na⁺-Dependent K⁺-2Cl^{â”'}Cotransport in Immature Rat Neocortical Neurons. Journal of Neuroscience, 2007, 27, 8616-8627.	3.6	150
20	Functional Synaptic Projections onto Subplate Neurons in Neonatal Rat Somatosensory Cortex. Journal of Neuroscience, 2002, 22, 7165-7176.	3.6	149
21	An Alternative Pathway of Imiquimod-Induced Psoriasis-Like Skin Inflammation in the Absence of Interleukin-17 Receptor A Signaling. Journal of Investigative Dermatology, 2013, 133, 441-451.	0.7	143
22	Refuting the challenges of the developmental shift of polarity of GABA actions: GABA more exciting than ever!. Frontiers in Cellular Neuroscience, 2012, 6, 35.	3.7	139
23	Morphology, Electrophysiology and Functional Input Connectivity of Pyramidal Neurons Characterizes a Genuine Layer Va in the Primary Somatosensory Cortex. Cerebral Cortex, 2006, 16, 223-236.	2.9	133
24	Differential Downregulation of GABA_AReceptor Subunits in Widespread Brain Regions in the Freeze-Lesion Model of Focal Cortical Malformations. Journal of Neuroscience, 2000, 20, 5045-5053.	3.6	132
25	Transient expression of polysynaptic NMDA receptor-mediated activity during neocortical development. Neuroscience Letters, 1990, 111, 109-115.	2.1	124
26	Impairment of intracortical GABAergic inhibition in a rat model of absence epilepsy. Epilepsy Research, 1995, 22, 43-51.	1.6	124
27	Control of NMDA receptor-mediated activity by GABAergic mechanisms in mature and developing rat neocortex. Developmental Brain Research, 1990, 54, 287-290.	1.7	122
28	Development of horizontal intrinsic connections in cat striate cortex. Experimental Brain Research, 1986, 63, 443-8.	1.5	121
29	Control of cortical neuronal migration by glutamate and GABA. Frontiers in Cellular Neuroscience, 2015, 9, 4.	3.7	119
30	GABA-A Receptors Regulate Neocortical Neuronal Migration In Vitro and In Vivo. Cerebral Cortex, 2006, 17, 138-148.	2.9	118
31	Activity-Dependent Regulation of Neuronal Apoptosis in Neonatal Mouse Cerebral Cortex. Cerebral Cortex, 2008, 18, 1335-1349.	2.9	117
32	Electrical activity patterns and the functional maturation of the neocortex. European Journal of Neuroscience, 2011, 34, 1677-1686.	2.6	116
33	Characterization of neuronal migration disorders in neocortical structures: I. Expression of epileptiform activity in an animal model. Epilepsy Research, 1996, 26, 67-74.	1.6	114
34	Neuronal Activity Patterns in the Developing Barrel Cortex. Neuroscience, 2018, 368, 256-267.	2.3	114
35	Horizontal Interactions in Cat Striate Cortex: I. Anatomical Substrate and Postnatal Development. European Journal of Neuroscience, 1990, 2, 344-357.	2.6	106
36	Mechanisms of C-Reactive Protein-Induced Bloodâ€"Brain Barrier Disruption. Stroke, 2009, 40, 1458-1466.	2.0	106

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37	Long-term changes of ionotropic glutamate and GABA receptors after unilateral permanent focal cerebral ischemia in the mouse brain. Neuroscience, 1998, 85, 29-43.	2.3	100
38	Oxidative stress upregulates the NMDA receptor on cerebrovascular endothelium. Free Radical Biology and Medicine, 2009, 47, 1212-1220.	2.9	100
39	Ischemia and lesion induced imbalances in cortical function. Progress in Neurobiology, 1996, 48, 131-166.	5.7	94
40	Lesion-induced transient suppression of inhibitory function in rat neocortex in vitro. Neuroscience, 1994, 60, 891-906.	2.3	91
41	Electrical activity controls area-specific expression of neuronal apoptosis in the mouse developing cerebral cortex. ELife, 2017, 6, .	6.0	91
42	Cellular physiology of the neonatal rat cerebral cortex: Intrinsic membrane properties, sodium and calcium currents. Journal of Neuroscience Research, 2000, 62, 574-584.	2.9	90
43	Subplate cells: amplifiers of neuronal activity in the developing cerebral cortex. Frontiers in Neuroanatomy, 2009, 3, 19.	1.7	90
44	Characterization of Neuronal Migration Disorders in Neocortical Structures. II. Intracellular In Vitro Recordings. Journal of Neurophysiology, 1998, 80, 92-102.	1.8	89
45	The Functional Role of the Second NPXY Motif of the LRP1 Î²-Chain in Tissue-type Plasminogen Activator-mediated Activation of N-Methyl-D-aspartate Receptors. Journal of Biological Chemistry, 2008, 283, 12004-12013.	3.4	89
46	Neuronal precursor-specific activity of a human doublecortin regulatory sequence. Journal of Neurochemistry, 2005, 92, 264-282.	3.9	87
47	Cellular Mechanisms of Subplate-Driven and Cholinergic Input-Dependent Network Activity in the Neonatal Rat Somatosensory Cortex. Cerebral Cortex, 2009, 19, 89-105.	2.9	86
48	Impairment of Neocortical Long-Term Potentiation in Mice Deficient of Endothelial Nitric Oxide Synthase. Journal of Neurophysiology, 1999, 81, 494-497.	1.8	85
49	Volatile Anesthetics Influence Blood-Brain Barrier Integrity by Modulation of Tight Junction Protein Expression in Traumatic Brain Injury. PLoS ONE, 2012, 7, e50752.	2.5	84
50	Sensory-Evoked and Spontaneous Gamma and Spindle Bursts in Neonatal Rat Motor Cortex. Journal of Neuroscience, 2014, 34, 10870-10883.	3.6	84
51	Model-specific effects of bumetanide on epileptiform activity in the in-vitro intact hippocampus of the newborn mouse. Neuropharmacology, 2007, 53, 524-533.	4.1	82
52	Laminar and Columnar Structure of Sensory-Evoked Multineuronal Spike Sequences in Adult Rat Barrel Cortex In Vivo. Cerebral Cortex, 2015, 25, 2001-2021.	2.9	82
53	Characterization of neuronal migration disorders in neocortical structures: quantitative receptor autoradiography of ionotropic glutamate, GABAAand GABABreceptors. European Journal of Neuroscience, 1998, 10, 3095-3106.	2.6	81
54	Traumatic brain injury results in rapid pericyte loss followed by reactive pericytosis in the cerebral cortex. Scientific Reports, 2015, 5, 13497.	3.3	81

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55	Ischaemiaâ€induced Longâ€term Hyperexcitability in Rat Neocortex. European Journal of Neuroscience, 1995, 7, 180-191.	2.6	76
56	Early GABAergic circuitry in the cerebral cortex. Current Opinion in Neurobiology, 2014, 26, 72-78.	4.2	76
57	Selfâ€organization of repetitive spike patterns in developing neuronal networks in vitro. European Journal of Neuroscience, 2010, 32, 1289-1299.	2.6	75
58	Caspase-3 Contributes to ZO-1 and Cl-5 Tight-Junction Disruption in Rapid Anoxic Neurovascular Unit Damage. PLoS ONE, 2011, 6, e16760.	2.5	75
59	Moderate Hypoxia Followed by Reoxygenation Results in Blood-Brain Barrier Breakdown via Oxidative Stress-Dependent Tight-Junction Protein Disruption. PLoS ONE, 2013, 8, e82823.	2.5	72
60	Inhibition of the myosin light chain kinase prevents hypoxia-induced blood-brain barrier disruption. Journal of Neurochemistry, 2007, 102, 501-507.	3.9	70
61	Neonatal NMDA Receptor Blockade Disturbs Neuronal Migration in Rat Somatosensory Cortex In Vivo. Cerebral Cortex, 2004, 15, 349-358.	2.9	69
62	Characterization of neuronal migration disorders in neocortical structures: extracellular in vitro recordings. European Journal of Neuroscience, 1998, 10, 3085-3094.	2.6	68
63	Pro-Inflammatory Effects of Interleukin-17A on Vascular Smooth Muscle Cells Involve NAD(P)H-Oxidase Derived Reactive Oxygen Species. Journal of Vascular Research, 2011, 48, 52-58.	1.4	68
64	A critical role for VEGF and VEGFR2 in NMDA receptor synaptic function and fear-related behavior. Molecular Psychiatry, 2016, 21, 1768-1780.	7.9	68
65	Long-term cellular dysfunction after focal cerebral ischemia: in vitro analyses. Neuroscience, 1998, 85, 15-27.	2.3	67
66	Repetitive spreading depression causes selective suppression of GABAergic function. NeuroReport, 1996, 7, 2733-2736.	1.2	66
67	Fine-tuning DNA/albumin polyelectrolyte interactions to produce the efficient transfection agent cBSA-147. Biomaterials, 2010, 31, 8789-8801.	11.4	63
68	Modulation of Neocortical Development by Early Neuronal Activity: Physiology and Pathophysiology. Frontiers in Cellular Neuroscience, 2017, 11, 379.	3.7	63
69	Depolarizing glycine responses in Cajal-Retzius cells of neonatal rat cerebral cortex. Neuroscience, 2002, 112, 299-307.	2.3	62
70	Control of Programmed Cell Death by Distinct Electrical Activity Patterns. Cerebral Cortex, 2011, 21, 1192-1202.	2.9	62
71	Layer-Specific Refinement of Sensory Coding in Developing Mouse Barrel Cortex. Cerebral Cortex, 2017, 27, 4835-4850.	2.9	62
72	Generation and propagation of 4-AP-induced epileptiform activity in neonatal intact limbic structures in vitro. European Journal of Neuroscience, 2000, 12, 2757-2768.	2.6	61

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73	Novel Fluorescent Coreâ€“Shell Nanocontainers for Cell Membrane Transport. Biomacromolecules, 2008, 9, 1381-1389.	5.4	61
74	Cajalâ€“Retzius cells: Update on structural and functional properties of these mystic neurons that bridged the 20th century. Neuroscience, 2014, 275, 33-46.	2.3	60
75	The Superior Function of the Subplate in Early Neocortical Development. Frontiers in Neuroanatomy, 2018, 12, 97.	1.7	60
76	LPS-Induced Microglial Secretion of TNFÎ± Increases Activity-Dependent Neuronal Apoptosis in the Neonatal Cerebral Cortex. Cerebral Cortex, 2013, 23, 1742-1755.	2.9	59
77	Characterization of a Hyperpolarization-Activated Inward Current in Cajal-Retzius Cells in Rat Neonatal Neocortex. Journal of Neurophysiology, 2000, 84, 1681-1691.	1.8	57
78	Water maze performance, exploratory activity, inhibitory avoidance and hippocampal plasticity in aged superior and inferior learners. European Journal of Neuroscience, 2002, 16, 2175-2185.	2.6	57
79	Role of tonic GABAergic currents during pre- and early postnatal rodent development. Frontiers in Neural Circuits, 2013, 7, 139.	2.8	57
80	Spontaneous GABAergic postsynaptic currents in Cajal-Retzius cells in neonatal rat cerebral cortex. European Journal of Neuroscience, 2001, 13, 1387-1390.	2.6	56
81	Layer-specific expression of Clâ^' transporters and differential [Clâ^']i in newborn rat cortex. NeuroReport, 2002, 13, 2433-2437.	1.2	56
82	Hypoosmolar conditions reduce extracellular volume fraction and enhance epileptiform activity in the CA3 region of the immature rat hippocampus. Journal of Neuroscience Research, 2006, 84, 119-129.	2.9	56
83	Neocortical Layer 6B as a Remnant of the Subplate - A Morphological Comparison. Cerebral Cortex, 2017, 27, bhv279.	2.9	56
84	Spatioâ€temporal dynamics of oscillatory network activity in the neonatal mouse cerebral cortex. European Journal of Neuroscience, 2007, 26, 1995-2004.	2.6	54
85	Inhibition of myosin light chain kinase reduces brain edema formation after traumatic brain injury. Journal of Neurochemistry, 2010, 112, 1015-1025.	3.9	52
86	Optical recording of spreading depression in rat neocortical slices. Brain Research, 2001, 898, 288-296.	2.2	51
87	Heterogeneous Nuclear Ribonucleoprotein (hnRNP) F Is a Novel Component of Oligodendroglial RNA Transport Granules Contributing to Regulation of Myelin Basic Protein (MBP) Synthesis. Journal of Biological Chemistry, 2012, 287, 1742-1754.	3.4	51
88	Spindle Bursts in Neonatal Rat Cerebral Cortex. Neural Plasticity, 2016, 2016, 1-11.	2.2	49
89	Homeostatic interplay between electrical activity and neuronal apoptosis in the developing neocortex. Neuroscience, 2017, 358, 190-200.	2.3	49
90	Horizontal Interactions in Cat Striate Cortex: II. A Current Source-Density Analysis. European Journal of Neuroscience, 1990, 2, 358-368.	2.6	48

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91	Influence of hypoxia on excitation and GABAergic inhibition in mature and developing rat neocortex. Experimental Brain Research, 1993, 97, 209-24.	1.5	48
92	Comparison of spike parameters from optically identified GABAergic and glutamatergic neurons in sparse cortical cultures. Frontiers in Cellular Neuroscience, 2014, 8, 460.	3.7	48
93	Models of cortical malformationâ€"Chemical and physical. Journal of Neuroscience Methods, 2016, 260, 62-72.	2.5	47
94	A Simple and Novel Method to Monitor Breathing and Heart Rate in Awake and Urethane-Anesthetized Newborn Rodents. PLoS ONE, 2013, 8, e62628.	2.5	46
95	Effects of ionotropic glutamate receptor blockade and 5-HT1A receptor activation on spreading depression in rat neocortical slices. NeuroReport, 1999, 10, 2651-2656.	1.2	45
96	Fluvastatin prevents glutamate-induced blood-brain-barrier disruption in vitro. Life Sciences, 2008, 82, 1281-1287.	4.3	45
97	NKCC1-Mediated GABAergic Signaling Promotes Postnatal Cell Death in Neocortical Cajalâ€"Retzius Cells. Cerebral Cortex, 2017, 27, bhw004.	2.9	45
98	MK801 blocks hypoxic bloodâ€"brain-barrier disruption and leukocyte adhesion. Neuroscience Letters, 2009, 449, 168-172.	2.1	44
99	Brain Delivery of Multifunctional Dendrimer Protein Bioconjugates. Advanced Science, 2018, 5, 1700897.	11.2	44
100	Role of NMDA receptors and voltage-activated calcium channels in an in vitro model of cerebral ischemia. Brain Research, 1993, 612, 278-288.	2.2	43
101	Local circuits targeting parvalbumin-containing interneurons in layer IV of rat barrel cortex. Brain Structure and Function, 2009, 214, 1-13.	2.3	43
102	In vivo imaging of dopamine receptors in a model of temporal lobe epilepsy. Epilepsia, 2010, 51, 415-422.	5.1	43
103	Long-Term Potentiation in the Neonatal Rat Barrel Cortex In Vivo. Journal of Neuroscience, 2012, 32, 9511-9516.	3.6	43
104	Laminar characteristics of functional connectivity in rat barrel cortex revealed by stimulation with caged-glutamate. Neuroscience Research, 2000, 37, 49-58.	1.9	42
105	GABAC receptors are functionally expressed in the intermediate zone and regulate radial migration in the embryonic mouse neocortex. Neuroscience, 2010, 167, 124-134.	2.3	41
106	Changes in the expression of cation-Clâ^' cotransporters, NKCC1 and KCC2, during cortical malformation induced by neonatal freeze-lesion. Neuroscience Research, 2007, 59, 288-295.	1.9	40
107	Impaired calcium homeostasis in aged hippocampal neurons. Neuroscience Letters, 2009, 451, 119-123.	2.1	40
108	Molecular cause and functional impact of altered synaptic lipid signaling due to a prgâ€1 gene <scp>SNP</scp>. EMBO Molecular Medicine, 2016, 8, 25-38.	6.9	40

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109	Distribution of glutamate receptor subunits in experimentally induced cortical malformations. Neuroscience, 2003, 117, 991-1002.	2.3	38
110	A novel miniature telemetric system for recording EEG activity in freely moving rats. Journal of Neuroscience Methods, 2008, 168, 119-126.	2.5	38
111	Effect of depolarizing GABA_A-mediated membrane responses on excitability of Cajal-Retzius cells in the immature rat neocortex. Journal of Neurophysiology, 2011, 106, 2034-2044.	1.8	38
112	Cellular physiology of the neonatal rat cerebral cortex. Brain Research Bulletin, 2003, 60, 345-353.	3.0	37
113	Carbachol-induced Network Oscillations in the Intact Cerebral Cortex of the Newborn Rat. Cerebral Cortex, 2003, 13, 409-421.	2.9	37
114	Optogenetic Modulation of a Minor Fraction of Parvalbumin-Positive Interneurons Specifically Affects Spatiotemporal Dynamics of Spontaneous and Sensory-Evoked Activity in Mouse Somatosensory Cortex in Vivo. Cerebral Cortex, 2017, 27, 5784-5803.	2.9	37
115	Morphology, Electrophysiology and Pathophysiology of Supragranular Neurons in Rat Primary Somatosensory Cortex. European Journal of Neuroscience, 1997, 9, 163-176.	2.6	36
116	Intracellular ion signaling influences myelin basic protein synthesis in oligodendrocyte precursor cells. Cell Calcium, 2016, 60, 322-330.	2.4	36
117	Unraveling In Vivo Brain Transport of Proteinâ€Coated Fluorescent Nanodiamonds. Small, 2019, 15, e1902992.	10.0	35
118	Glycine Receptors Mediate Excitation of Subplate Neurons in Neonatal Rat Cerebral Cortex. Journal of Neurophysiology, 2008, 100, 698-707.	1.8	34
119	Homogenous glycine receptor expression in cortical plate neurons and cajal-retzius cells of neonatal rat cerebral cortex. Neuroscience, 2004, 123, 715-724.	2.3	33
120	Cannabinoid receptor-interacting protein Crip1a modulates CB1 receptor signaling in mouse hippocampus. Brain Structure and Function, 2016, 221, 2061-2074.	2.3	33
121	Synaptic phospholipids as a new target for cortical hyperexcitability and E/I balance in psychiatric disorders. Molecular Psychiatry, 2018, 23, 1699-1710.	7.9	33
122	Involvement of GABABreceptors in convulsant-induced epileptiform activity in rat neocortexin vitro. European Journal of Neuroscience, 1998, 10, 3417-3427.	2.6	32
123	Characterization of Neuronal Migration Disorders in Neocortical Structures: Loss or Preservation of Inhibitory Interneurons?. Epilepsia, 2000, 41, 781-787.	5.1	32
124	Innervation of interneurons immunoreactive for VIP by intrinsically bursting pyramidal cells and fast-spiking interneurons in infragranular layers of juvenile rat neocortex. European Journal of Neuroscience, 2002, 16, 11-20.	2.6	32
125	Pathway-specificity in N-methyl-d-aspartate receptor-mediated synaptic inputs onto subplate neurons. Neuroscience, 2008, 153, 1092-1102.	2.3	32
126	Electrophysiological and morphological properties of Cajalâ€“Retzius cells with different ontogenetic origins. Neuroscience, 2010, 167, 724-734.	2.3	32

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127	Myelin Basic Protein synthesis is regulated by small nonâ€coding RNA 715. EMBO Reports, 2012, 13, 827-834.	4.5	31
128	Functional Nicotinic Acetylcholine Receptors on Subplate Neurons in Neonatal Rat Somatosensory Cortex. Journal of Neurophysiology, 2004, 92, 189-198.	1.8	30
129	Spontaneous Epileptic Manifestations in a DCX Knockdown Model of Human Double Cortex. Cerebral Cortex, 2010, 20, 2694-2701.	2.9	30
130	Activation of glycine receptors modulates spontaneous epileptiform activity in the immature rat hippocampus. Journal of Physiology, 2014, 592, 2153-2168.	2.9	30
131	Propagation of spontaneous slow-wave activity across columns and layers of the adult rat barrel cortex in vivo. Brain Structure and Function, 2016, 221, 4429-4449.	2.3	30
132	Behavioural parameters in aged rats are related to LTP and gene expression of ChAT and NMDAâ€NR2 subunits in the striatum. European Journal of Neuroscience, 2004, 19, 1373-1383.	2.6	29
133	Developmental Switch in Neurovascular Coupling in the Immature Rodent Barrel Cortex. PLoS ONE, 2013, 8, e80749.	2.5	29
134	A Polyphenylene Dendrimer Drug Transporter with Precisely Positioned Amphiphilic Surface Patches. Advanced Healthcare Materials, 2015, 4, 377-384.	7.6	28
135	Development of the whisker-to-barrel cortex system. Current Opinion in Neurobiology, 2018, 53, 29-34.	4.2	27
136	A Neurovascular Bloodâ€“Brain Barrier In Vitro Model. Methods in Molecular Biology, 2014, 1135, 403-413.	0.9	27
137	Oxygen and glucose deprivation induces major dysfunction in the somatosensory cortex of the newborn rat. European Journal of Neuroscience, 2005, 22, 2295-2305.	2.6	26
138	Activity-dependent scaling of GABAergic excitation by dynamic Clâ^' changes in Cajalâ€“Retzius cells. Pflugers Archiv European Journal of Physiology, 2011, 461, 557-565.	2.8	26
139	MOBP levels are regulated by Fyn kinase and affect the morphological differentiation of oligodendrocytes. Journal of Cell Science, 2016, 129, 930-42.	2.0	26
140	Hypoxia-Induced Dysfunction in Developing Rat Neocortex. Journal of Neurophysiology, 1997, 78, 1212-1221.	1.8	25
141	Pattern and Pharmacology of Propagating Epileptiform Activity in Mouse Cerebral Cortex. Experimental Neurology, 1998, 153, 113-122.	4.1	25
142	Fluvastatin stabilizes the bloodâ€“brain barrier in vitro by nitric oxide-dependent dephosphorylation of myosin light chains. Neuropharmacology, 2006, 51, 907-913.	4.1	25
143	Studying the Neurovascular Unit: An Improved Bloodâ€“Brain Barrier Model. Journal of Cerebral Blood Flow and Metabolism, 2009, 29, 1879-1884.	4.3	25
144	Spikeâ€wave discharges in absence epilepsy: segregation of electrographic components reveals distinct pathways of seizure activity. Journal of Physiology, 2020, 598, 2397-2414.	2.9	25

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145	Early developmental alterations of low-Mg2+-induced epileptiform activity in the intact corticohippocampal formation of the newborn mouse in vitro. Brain Research, 2006, 1077, 170-177.	2.2	24
146	CRP-induced levels of oxidative stress are higher in brain than aortic endothelial cells. Cytokine, 2010, 50, 117-120.	3.2	24
147	BDNF-induced nitric oxide signals in cultured rat hippocampal neurons: time course, mechanism of generation, and effect on neurotrophin secretion. Frontiers in Cellular Neuroscience, 2014, 8, 323.	3.7	24
148	Plasticity-Related Gene 1 Affects Mouse Barrel Cortex Function via Strengthening of Glutamatergic Thalamocortical Transmission. Cerebral Cortex, 2016, 26, 3260-3272.	2.9	24
149	Autism Related Neuroligin-4 Knockout Impairs Intracortical Processing but not Sensory Inputs in Mouse Barrel Cortex. Cerebral Cortex, 2018, 28, 2873-2886.	2.9	24
150	A Novel In Vitro Model to Study Pericytes in the Neurovascular Unit of the Developing Cortex. PLoS ONE, 2013, 8, e81637.	2.5	23
151	High Stimulus-Related Information in Barrel Cortex Inhibitory Interneurons. PLoS Computational Biology, 2015, 11, e1004121.	3.2	23
152	CoCoDat: a database system for organizing and selecting quantitative data on single neurons and neuronal microcircuitry. Journal of Neuroscience Methods, 2005, 141, 291-308.	2.5	21
153	Glycine receptors influence radial migration in the embryonic mouse neocortex. NeuroReport, 2011, 22, 509-513.	1.2	21
154	Altered morphological and electrophysiological properties of Cajal-Retzius cells in cerebral cortex of embryonic Presenilin-1 knockout mice. European Journal of Neuroscience, 2004, 20, 2749-2756.	2.6	20
155	Phasic GABA_Aâ€receptor activation is required to suppress epileptiform activity in the CA3 region of the immature rat hippocampus. Epilepsia, 2012, 53, 888-896.	5.1	19
156	Giant Depolarizing Potentials Trigger Transient Changes in the Intracellular Cl- Concentration in CA3 Pyramidal Neurons of the Immature Mouse Hippocampus. Frontiers in Cellular Neuroscience, 2018, 12, 420.	3.7	19
157	Review of imaging network activities in developing rodent cerebral cortex in vivo. Neurophotonics, 2016, 4, 031202.	3.3	18
158	Impaired Synaptic Plasticity in the Surround of Perinatally Aquired Dysplasia in Rat Cerebral Cortex. Cerebral Cortex, 2004, 14, 1081-1087.	2.9	17
159	Functional Magnetic Resonance Imaging and Somatosensory Evoked Potentials in Rats with a Neonatally Induced Freeze Lesion of the Somatosensory Cortex. Journal of Cerebral Blood Flow and Metabolism, 2004, 24, 1409-1418.	4.3	17
160	Optical release of caged glutamate for stimulation of neurons in the in vitro slice preparation. Journal of Biomedical Optics, 2005, 10, 011003.	2.6	17
161	Contralateral increase in thigmotactic scanning following unilateral barrel-cortex lesion in mice. Behavioural Brain Research, 2005, 157, 39-43.	2.2	17
162	Activation of metabotropic glutamate receptors induces propagating network oscillations in the intact cerebral cortex of the newborn mouse. Neuropharmacology, 2006, 51, 848-857.	4.1	17

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163	Activityâ€dependent survival of developing neocortical neurons depends on PI3K signalling. Journal of Neurochemistry, 2012, 120, 495-501.	3.9	17
164	Activity-dependent endogenous taurine release facilitates excitatory neurotransmission in the neocortical marginal zone of neonatal rats. Frontiers in Cellular Neuroscience, 2014, 8, 33.	3.7	17
165	Taurine activates GABAergic networks in the neocortex of immature mice. Frontiers in Cellular Neuroscience, 2014, 8, 26.	3.7	16
166	Glutamatergic system controls synchronization of spontaneous neuronal activity in the murine neonatal entorhinal cortex. Pflugers Archiv European Journal of Physiology, 2015, 467, 1565-1575.	2.8	16
167	Interactions between Membrane Resistance, GABA-A Receptor Properties, Bicarbonate Dynamics and Clâ»-Transport Shape Activity-Dependent Changes of Intracellular Clâ» Concentration. International Journal of Molecular Sciences, 2019, 20, 1416.	4.1	16
168	Resonance properties of different neuronal populations in the immature mouse neocortex. European Journal of Neuroscience, 2012, 36, 2753-2762.	2.6	15
169	Comment on â€œLocal impermeant anions establish the neuronal chloride concentrationâ€. Science, 2014, 345, 1130-1130.	12.6	15
170	Precise Somatotopic Thalamocortical Axon Guidance Depends on LPA-Mediated PRG-2/Radixin Signaling. Neuron, 2016, 92, 126-142.	8.1	15
171	Effects of Mutations in TSC Genes on Neurodevelopment and Synaptic Transmission. International Journal of Molecular Sciences, 2021, 22, 7273.	4.1	15
172	Intrinsic activation of GABA_A receptors suppresses epileptiform activity in the cerebral cortex of immature mice. Epilepsia, 2010, 51, 1483-1492.	5.1	14
173	Oligodendroglial p130Cas Is a Target of Fyn Kinase Involved in Process Formation, Cell Migration and Survival. PLoS ONE, 2014, 9, e89423.	2.5	14
174	Î±2 isoform of Na+,K+-ATPase via Na+,Ca2+ exchanger modulates myelin basic protein synthesis in oligodendrocyte lineage cells in vitro. Cell Calcium, 2018, 73, 1-10.	2.4	14
175	Cellular Morphology and Physiology of the Perinatal Rat Cerebral Cortex. Developmental Neuroscience, 1999, 21, 298-309.	2.0	13
176	Coincident glutamatergic depolarizations enhance GABAA receptor-dependent Cl- influx in mature and suppress Cl- efflux in immature neurons. PLoS Computational Biology, 2021, 17, e1008573.	3.2	13
177	Optogenetically Controlled Activity Pattern Determines Survival Rate of Developing Neocortical Neurons. International Journal of Molecular Sciences, 2021, 22, 6575.	4.1	13
178	Early brain activity: Translations between bedside and laboratory. Progress in Neurobiology, 2022, 213, 102268.	5.7	13
179	Dextromethorphan attenuates hypoxia-induced neuronal dysfunction in rat neocortical slices. Neuroscience Letters, 1994, 178, 171-174.	2.1	12
180	Metabolic and electrophysiological alterations in an animal model of neocortical neuronal migration disorder. NeuroReport, 2001, 12, 2001-2006.	1.2	12

#	Article	IF	Citations
181	A new technique for real-time analysis of caspase-3 dependent neuronal cell death. Journal of Neuroscience Methods, 2007, 161, 234-243.	2.5	12
182	Intact In Vitro Preparations of the Neonatal Rodent Cortex: Analysis of Cellular Properties and Network Activity. Neuromethods, 2012, , 301-314.	0.3	12
183	Stimulus-induced gamma activity in the electrocorticogram of freely moving rats: The neuronal signature of novelty detection. Behavioural Brain Research, 2009, 199, 350-354.	2.2	11
184	Malformations of Cortical Development and Neocortical Focus. International Review of Neurobiology, 2014, 114, 35-61.	2.0	11
185	Methylxanthine-evoked perturbation of spontaneous and evoked activities in isolated newborn rat hippocampal networks. Neuroscience, 2015, 301, 106-120.	2.3	11
186	GABA transporters control GABAergic neurotransmission in the mouse subplate. Neuroscience, 2015, 304, 217-227.	2.3	11
187	Synaptic Phospholipid Signaling Modulates Axon Outgrowth via Glutamate-dependent Ca2+-mediated Molecular Pathways. Cerebral Cortex, 2017, 27, 131-145.	2.9	11
188	Taurine potentiates the anticonvulsive effect of the <scp>GABA_A</scp> agonist muscimol and pentobarbital in the immature mouse hippocampus. Epilepsia, 2019, 60, 464-474.	5.1	11
189	Gadd45Î± modulates aversive learning through postâ€transcriptional regulation of memoryâ€related <scp>mRNA</scp> s. EMBO Reports, 2019, 20, .	4.5	11
190	Presynaptic GABAB receptorâ€“mediated network excitation in the medial prefrontal cortex of Tsc2+/-â€‰mice. Pflugers Archiv European Journal of Physiology, 2021, 473, 1261-1271.	2.8	11
191	Cortical GABAergic neurons: stretching it remarks, main conclusions and discussion. Frontiers in Neuroanatomy, 2010, 4, 7.	1.7	11
192	The expression mechanism of the residual LTP in the CA1 region of BDNF k.o. mice is insensitive to NO synthase inhibition. Brain Research, 2011, 1391, 14-23.	2.2	10
193	Resonance properties of GABAergic interneurons in immature GAD67-GFP mouse neocortex. Brain Research, 2014, 1548, 1-11.	2.2	10
194	Temporal refinement of sensoryâ€evoked activity across layers in developing mouse barrel cortex. European Journal of Neuroscience, 2019, 50, 2955-2969.	2.6	10
195	Oligodendroglial Argonaute protein Ago2 associates with molecules of the Mbp mRNA localization machinery and is a downstream target of Fyn kinase. Frontiers in Cellular Neuroscience, 2015, 9, 328.	3.7	9
196	Mild systemic inflammation and moderate hypoxia transiently alter neuronal excitability in mouse somatosensory cortex. Neurobiology of Disease, 2016, 88, 29-43.	4.4	9
197	Rapid nucleus-scale reorganization of chromatin in neurons enables transcriptional adaptation for memory consolidation. PLoS ONE, 2021, 16, e0244038.	2.5	9
198	SncRNA715 Inhibits Schwann Cell Myelin Basic Protein Synthesis. PLoS ONE, 2015, 10, e0136900.	2.5	8

#	Article	IF	Citations
199	Haploinsufficiency of Tsc2 Leads to Hyperexcitability of Medial Prefrontal Cortex via Weakening of Tonic GABAB Receptor-mediated Inhibition. Cerebral Cortex, 2020, 30, 6313-6324.	2.9	8
200	TRESK channel contributes to depolarization-induced shunting inhibition and modulates epileptic seizures. Cell Reports, 2021, 36, 109404.	6.4	8
201	Monitoring brain activity in preterms: mathematics helps to predict clinical outcome: Figure 1. Brain, 2015, 138, 2114-2116.	7.6	7
202	Dopaminergic modulation of lowâ€Mg²⁺â€induced epileptiform activity in the intact hippocampus of the newborn mouse in vitro. Journal of Neuroscience Research, 2012, 90, 2020-2033.	2.9	6
203	Coincident Activation of Glutamate Receptors Enhances GABAA Receptor-Induced Ionic Plasticity of the Intracellular Clâ^'-Concentration in Dissociated Neuronal Cultures. Frontiers in Cellular Neuroscience, 2019, 13, 497.	3.7	6
204	Can we understand human brain development from experimental studies in rodents?. Pediatrics International, 2020, 62, 1139-1144.	0.5	6
205	Development of Cortical Excitation and Inhibition. , 1995, , 230-246.		6
206	Modelling the spatial and temporal constrains of the GABAergic influence on neuronal excitability. PLoS Computational Biology, 2021, 17, e1009199.	3.2	6
207	Neurophysiology of the Developing Cerebral Cortex: What We Have Learned and What We Need to Know. Frontiers in Cellular Neuroscience, 2021, 15, 814012.	3.7	6
208	Cajalâ€“Retzius and Subplate Cells. , 2013, , 843-856.		5
209	Inhibition of different GABA transporter systems is required to attenuate epileptiform activity in the CA3 region of the immature rat hippocampus. Epilepsy Research, 2014, 108, 182-189.	1.6	5
210	NKCC-1 mediated Clâ^' uptake in immature CA3 pyramidal neurons is sufficient to compensate phasic GABAergic inputs. Scientific Reports, 2020, 10, 18399.	3.3	5
211	Functional and directed connectivity of the cortico-limbic network in mice in vivo. Brain Structure and Function, 2021, 226, 685-700.	2.3	5
212	Clustering and control for adaptation uncovers time-warped spike time patterns in cortical networks in vivo. Scientific Reports, 2021, 11, 15066.	3.3	5
213	Combining Optogenetics with MEA, Depth-Resolved LFPs and Assessing the Scope of Optogenetic Network Modulation. Neuromethods, 2018, , 133-152.	0.3	5
214	The Cortical Freeze Lesion Model. , 2006, , 295-303.		4
215	Long-range intralaminar noise correlations in the barrel cortex. Journal of Neurophysiology, 2015, 113, 3410-3420.	1.8	4
216	Cell type specific impact of cannabinoid receptor signaling in somatosensory barrel map formation in mice. Journal of Comparative Neurology, 2020, 528, 7-17.	1.6	4

#	Article	IF	Citations
217	Ryanodine receptor- and sodium-calcium exchanger-mediated spontaneous calcium activity in immature oligodendrocytes in cultures. Neuroscience Letters, 2020, 732, 134913.	2.1	4
218	Pathology-selective antiepileptic effects in the focal freeze-lesion rat model of malformation of cortical development. Experimental Neurology, 2021, 343, 113776.	4.1	4
219	Barrel Cortex Function Special Issue Editorial. Neuroscience, 2018, 368, 1-2.	2.3	4
220	Layer- and cell-type-specific differences in neural activity in mouse barrel cortex during a whisker detection task. Cerebral Cortex, 2023, 33, 1361-1382.	2.9	4
221	Identification of a Developmental Switch in Information Transfer between Whisker S1 and S2 Cortex in Mice. Journal of Neuroscience, 2022, 42, 4435-4448.	3.6	4
222	Allopregnanolone augments epileptiform activity of an in-vitro mouse hippocampal preparation in the first postnatal week. Epilepsy Research, 2019, 157, 106196.	1.6	3
223	Polymer Complexes in Biological Applications. Advances in Polymer Science, 2013, , 211-235.	0.8	1
224	Cajalâ€“Retzius and subplate cells: transient cortical neurons and circuits with long-term impact. , 2020, , 485-505.		1
225	A comment on â€œThe growth of cognition: Free energy minimization and the embryogenesis of cortical computationâ€• Physics of Life Reviews, 2021, 36, 71-73.	2.8	1
226	Translational Model of Cortical Premotor-Motor Networks. Cerebral Cortex, 2022, 32, 2621-2634.	2.9	1
227	OUP accepted manuscript. Cerebral Cortex, 2022, , .	2.9	1
228	Guiding the modeller: organizing and selecting experimental data for single cell models using the CoCoDat database. Neurocomputing, 2003, 52-54, 239-245.	5.9	0
229	Rapid developmental switch in the mechanisms driving early cortical columnar networks. E-Neuroforum, 2006, 12, 203-206.	0.1	0
230	Allostatic regulation of neuronal excitability by transient ischemia. Journal of Cerebral Blood Flow and Metabolism, 2011, 31, 1821-1822.	4.3	0
231	Response: Ã¢â‚¬Å“Commentary: Comparison of spike parameters from optically identified GABAergic and glutamatergic neurons in sparse cortical culturesÂ¢â‚¬Â• Frontiers in Cellular Neuroscience, 2015, 9, 224.	3.7	0