# Chris J Mcbain

List of Publications by Year
in descending order



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|---|---|---|---|
| 117 papers | 17,455 citations | 19657 61 h-index | 20961 115 g-index |
| 128 all docs | 128 docs citations | 128 times ranked | 16510 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Glutamate Receptor Ion Channels: Structure, Regulation, and Function. Pharmacological Reviews, 2010, 62, 405-496. | 16.0 | 2,973 |
| 2 | The Role of the GluR2 Subunit in AMPA Receptor Function and Synaptic Plasticity. Neuron, 2007, 54, 859-871. | 8.1 | 940 |
| 3 | N-methyl-D-aspartic acid receptor structure and function. Physiological Reviews, 1994, 74, 723-760. | 28.8 | 896 |
| 4 | New insights into the classification and nomenclature of cortical GABAergic interneurons. Nature Reviews Neuroscience, 2013, 14, 202-216. | 10.2 | 707 |
| 5 | Kv3 channels: voltage-gated K+ channels designed for high-frequency repetitive firing. Trends in Neurosciences, 2001, 24, 517-526. | 8.6 | 691 |
| 6 | Hippocampal GABAergic Inhibitory Interneurons. Physiological Reviews, 2017, 97, 1619-1747. | 28.8 | 601 |
| 7 | Interneurons unbound. Nature Reviews Neuroscience, 2001, 2, 11-23. | 10.2 | 585 |
| 8 | Graded reduction of Pafah1b1 (Lis1) activity results in neuronal migration defects and early embryonic lethality. Nature Genetics, 1998, 19, 333-339. | 21.4 | 554 |
| 9 | The hyperpolarizationâ€activated current (Ih) and its contribution to pacemaker activity in rat CA1 hippocampal stratum oriensâ€alveus interneurones.. Journal of Physiology, 1996, 497, 119-130. | 2.9 | 422 |
| 10 | Differential regulation at functionally divergent release sites along a common axon. Current Opinion in Neurobiology, 2007, 17, 366-373. | 4.2 | 305 |
| 11 | Activation of metabotropic glutamate receptors differentially affects two classes of hippocampal interneurons and potentiates excitatory synaptic transmission. Journal of Neuroscience, 1994, 14, 4433-4445. | 3.6 | 281 |
| 12 | A Blueprint for the Spatiotemporal Origins of Mouse Hippocampal Interneuron Diversity. Journal of Neuroscience, 2011, 31, 10948-10970. | 3.6 | 267 |
| 13 | Regional variation of extracellular space in the hippocampus. Science, 1990, 249, 674-677. | 12.6 | 258 |
| 14 | Narp regulates homeostatic scaling of excitatory synapses on parvalbumin-expressing interneurons. Nature Neuroscience, 2010, 13, 1090-1097. | 14.8 | 243 |
| 15 | Differential Mechanisms of Transmission at Three Types of Mossy Fiber Synapse. Journal of Neuroscience, 2000, 20, 8279-8289. | 3.6 | 238 |
| 16 | Structure, Function, and Pharmacology of Glutamate Receptor Ion Channels. Pharmacological Reviews, 2021, 73, 1469-1658. | 16.0 | 237 |
| 17 | Afferent-specific innervation of two distinct AMPA receptor subtypes on single hippocampal interneurons. Nature Neuroscience, 1998, 1, 572-578. | 14.8 | 227 |
| 18 | Developmental expression and functional characterization of the potassium-channel subunit Kv3.1b in parvalbumin-containing interneurons of the rat hippocampus. Journal of Neuroscience, 1996, 16, 506-518. | 3.6 | 217 |

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|---|---|---|---|
| 19 | Distinct Roles for the Kainate Receptor Subunits GluR5 and GluR6 in Kainate-Induced Hippocampal Gamma Oscillations. Journal of Neuroscience, 2004, 24, 9658-9668. | 3.6 | 215 |
| 20 | Target-Specific Expression of Presynaptic Mossy Fiber Plasticity. Science, 1998, 279, 1368-1371. | 12.6 | 207 |
| 21 | Selective Expression of ErbB4 in Interneurons, But Not Pyramidal Cells, of the Rodent Hippocampus. Journal of Neuroscience, 2009, 29, 12255-12264. | 3.6 | 200 |
| 22 | Frequencyâ€dependent regulation of rat hippocampal somatoâ€dendritic excitability by the K + channel subunit Kv2.1. Journal of Physiology, 2000, 522, 19-31. | 2.9 | 193 |
| 23 | Heterogeneity of synaptic glutamate receptors on CA3 stratum radiatum interneurones of rat hippocampus.. Journal of Physiology, 1993, 462, 373-392. | 2.9 | 192 |
| 24 | Interneuron Diversity series: Containing the detonation â€" feedforward inhibition in the CA3 hippocampus. Trends in Neurosciences, 2003, 26, 631-640. | 8.6 | 187 |
| 25 | Somatodendritic Kv7/KCNQ/M Channels Control Interspike Interval in Hippocampal Interneurons. Journal of Neuroscience, 2006, 26, 12325-12338. | 3.6 | 175 |
| 26 | Potassium conductances underlying repolarization and afterâ€hyperpolarization in rat CA1 hippocampal interneurones.. Journal of Physiology, 1995, 488, 661-672. | 2.9 | 171 |
| 27 | Passive propagation of LTD to stratum oriens-alveus inhibitory neurons modulates the temporoammonic input to the hippocampal CA1 region. Neuron, 1995, 15, 137-145. | 8.1 | 167 |
| 28 | mGluR7 Is a Metaplastic Switch Controlling Bidirectional Plasticity of Feedforward Inhibition. Neuron, 2005, 46, 89-102. | 8.1 | 166 |
| 29 | Pentraxins Coordinate Excitatory Synapse Maturation and Circuit Integration of Parvalbumin Interneurons. Neuron, 2015, 85, 1257-1272. | 8.1 | 154 |
| 30 | Common Origins of Hippocampal Ivy and Nitric Oxide Synthase Expressing Neurogliaform Cells. Journal of Neuroscience, 2010, 30, 2165-2176. | 3.6 | 153 |
| 31 | NPTX2 and cognitive dysfunction in Alzheimerâ€™s Disease. ELife, 2017, 6, . | 6.0 | 146 |
| 32 | Asynchronous Transmitter Release from Cholecystokinin-Containing Inhibitory Interneurons Is Widespread and Target-Cell Independent. Journal of Neuroscience, 2009, 29, 11112-11122. | 3.6 | 138 |
| 33 | Distinct NMDA Receptors Provide Differential Modes of Transmission at Mossy Fiber-Interneuron Synapses. Neuron, 2002, 33, 921-933. | 8.1 | 137 |
| 34 | Viral manipulation of functionally distinct interneurons in mice, non-human primates and humans. Nature Neuroscience, 2020, 23, 1629-1636. | 14.8 | 133 |
| 35 | Hippocampal Abnormalities and Enhanced Excitability in a Murine Model of Human Lissencephaly. Journal of Neuroscience, 2000, 20, 2439-2450. | 3.6 | 132 |
| 36 | Long-Term Potentiation in Distinct Subtypes of Hippocampal Nonpyramidal Neurons. Journal of Neuroscience, 1996, 16, 5334-5343. | 3.6 | 126 |

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|---|---|---|---|
| 37 | Structural requirements for activation of the glycine coagonist site of N-methyl-D-aspartate receptors expressed in Xenopus oocytes. Molecular Pharmacology, 1989, 36, 556-65. | 2.3 | 125 |
| 38 | GABAergic Input onto CA3 Hippocampal Interneurons Remains Shunting throughout Development. Journal of Neuroscience, 2006, 26, 11720-11725. | 3.6 | 123 |
| 39 | Neurogliaform cells in cortical circuits. Nature Reviews Neuroscience, 2015, 16, 458-468. | 10.2 | 119 |
| 40 | Quantal transmission at mossy fibre targets in the CA3 region of the rat hippocampus. Journal of Physiology, 2004, 554, 175-193. | 2.9 | 109 |
| 41 | Optimizing Nervous System-Specific Gene Targeting with Cre Driver Lines: Prevalence of Germline Recombination and Influencing Factors. Neuron, 2020, 106, 37-65.e5. | 8.1 | 109 |
| 42 | H2 histamine receptor-phosphorylation of Kv3.2 modulates interneuron fast spiking. Nature Neuroscience, 2000, 3, 791-798. | 14.8 | 105 |
| 43 | Compartmentalized Ca2+ Channel Regulation at Divergent Mossy-Fiber Release Sites Underlies Target Cell-Dependent Plasticity. Neuron, 2006, 52, 497-510. | 8.1 | 105 |
| 44 | GABA B receptor modulation of excitatory and inhibitory synaptic transmission onto rat CA3 hippocampal interneurons. Journal of Physiology, 2003, 546, 439-453. | 2.9 | 104 |
| 45 | Dual origins of functionally distinct O-LM interneurons revealed by differential 5-HT3AR expression. Nature Neuroscience, 2013, 16, 1598-1607. | 14.8 | 104 |
| 46 | Cell type-specific dependence of muscarinic signalling in mouse hippocampal stratum oriens interneurones. Journal of Physiology, 2006, 570, 595-610. | 2.9 | 103 |
| 47 | Glutamatergic synapses onto hippocampal interneurons: precision timing without lasting plasticity. Trends in Neurosciences, 1999, 22, 228-235. | 8.6 | 100 |
| 48 | Developmental origin dictates interneuron AMPA and NMDA receptor subunit composition and plasticity. Nature Neuroscience, 2013, 16, 1032-1041. | 14.8 | 92 |
| 49 | Developmental Expression of Ca<sup>2+</sup>-Permeable AMPA Receptors Underlies Depolarization-Induced Long-Term Depression at Mossy Fiberâ€"CA3 Pyramid Synapses. Journal of Neuroscience, 2007, 27, 11651-11662. | 3.6 | 91 |
| 50 | M3 Muscarinic Acetylcholine Receptor Expression Confers Differential Cholinergic Modulation to Neurochemically Distinct Hippocampal Basket Cell Subtypes. Journal of Neuroscience, 2010, 30, 6011-6024. | 3.6 | 91 |
| 51 | GluN2D-Containing N-methyl-d-Aspartate Receptors Mediate Synaptic Transmission in Hippocampal Interneurons and Regulate Interneuron Activity. Molecular Pharmacology, 2016, 90, 689-702. | 2.3 | 84 |
| 52 | Two Loci of Expression for Long-Term Depression at Hippocampal Mossy Fiber-Interneuron Synapses. Journal of Neuroscience, 2004, 24, 2112-2121. | 3.6 | 80 |
| 53 | Neto1 Is an Auxiliary Subunit of Native Synaptic Kainate Receptors. Journal of Neuroscience, 2011, 31, 10009-10018. | 3.6 | 78 |
| 54 | Targetâ€specific expression of preâ€•and postsynaptic mechanisms. Journal of Physiology, 2000, 525, 41-51. | 2.9 | 77 |

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|---|---|---|---|
| 55 | Diverse roles for ionotropic glutamate receptors on inhibitory interneurons in developing and adult brain. Journal of Physiology, 2016, 594, 5471-5490. | 2.9 | 77 |
| 56 | Muscarinic receptor activation tunes mouse stratum oriens interneurones to amplify spike reliability. Journal of Physiology, 2006, 571, 555-562. | 2.9 | 71 |
| 57 | Chapter 13 Differential mechanisms of transmission and plasticity at mossy fiber synapses. Progress in Brain Research, 2008, 169, 225-240. | 1.4 | 69 |
| 58 | Shisa7 is a GABA <sub>A</sub> receptor auxiliary subunit controlling benzodiazepine actions. Science, 2019, 366, 246-250. | 12.6 | 65 |
| 59 | Voltageâ€gated potassium currents in stratum oriensâ€alveus inhibitory neurones of the rat CA1 hippocampus.. Journal of Physiology, 1995, 488, 647-660. | 2.9 | 64 |
| 60 | Presynaptic plasticity: targeted control of inhibitory networks. Current Opinion in Neurobiology, 2009, 19, 254-262. | 4.2 | 64 |
| 61 | Molecular Dissection of Neuroligin 2 and Slitrk3 Reveals an Essential Framework for GABAergic Synapse Development. Neuron, 2017, 96, 808-826.e8. | 8.1 | 64 |
| 62 | Developmental expression of potassium-channel subunit Kv3.2 within subpopulations of mouse hippocampal inhibitory interneurons. Hippocampus, 2002, 12, 137-148. | 1.9 | 63 |
| 63 | State-Dependent cAMP Sensitivity of Presynaptic Function Underlies Metaplasticity in a Hippocampal Feedforward Inhibitory Circuit. Neuron, 2008, 60, 980-987. | 8.1 | 63 |
| 64 | Neurogliaform cells dynamically regulate somatosensory integration via synapse-specific modulation. Nature Neuroscience, 2013, 16, 13-15. | 14.8 | 60 |
| 65 | Persistent inhibitory circuit defects and disrupted social behaviour following in utero exogenous cannabinoid exposure. Molecular Psychiatry, 2017, 22, 56-67. | 7.9 | 59 |
| 66 | Control of CA3 Output by Feedforward Inhibition Despite Developmental Changes in the Excitationâ€“Inhibition Balance. Journal of Neuroscience, 2010, 30, 15628-15637. | 3.6 | 58 |
| 67 | Snap-25 is polarized to axons and abundant along the axolemma: an immunogold study of intact neurons. Journal of Neurocytology, 2000, 29, 67-77. | 1.5 | 57 |
| 68 | Neto Auxiliary Protein Interactions Regulate Kainate and NMDA Receptor Subunit Localization at Mossy Fiberâ€“CA3 Pyramidal Cell Synapses. Journal of Neuroscience, 2014, 34, 622-628. | 3.6 | 55 |
| 69 | Distinct roles of GABA<sub>B1a</sub>â€•and GABA<sub>B1b</sub>â€containing GABA<sub>B</sub> receptors in spontaneous and evoked termination of persistent cortical activity. Journal of Physiology, 2013, 591, 835-843. | 2.9 | 52 |
| 70 | The emerging role of GABAB receptors as regulators of network dynamics: fast actions from a â€˜slowâ€™ receptor?. Current Opinion in Neurobiology, 2014, 26, 15-21. | 4.2 | 52 |
| 71 | Hippocampal inhibitory neuron activity in the elevated potassium model of epilepsy. Journal of Neurophysiology, 1994, 72, 2853-2863. | 1.8 | 51 |
| 72 | Depolarization-Induced Long-Term Depression at Hippocampal Mossy Fiber-CA3 Pyramidal Neuron Synapses. Journal of Neuroscience, 2003, 23, 9786-9795. | 3.6 | 51 |

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| 73 | Targetâ€cellâ€dependent plasticity within the mossy fibreâ€“CA3 circuit reveals compartmentalized regulation of presynaptic function at divergent release sites. Journal of Physiology, 2008, 586, 1495-1502. | 2.9 | 51 |
| 74 | Cholinergic modulation amplifies the intrinsic oscillatory properties of CA1 hippocampal cholecystokininâ€positive interneurons. Journal of Physiology, 2011, 589, 609-627. | 2.9 | 51 |
| 75 | Neocortical Projection Neurons Instruct Inhibitory Interneuron Circuit Development in a Lineage-Dependent Manner. Neuron, 2019, 102, 960-975.e6. | 8.1 | 51 |
| 76 | Fast Gamma Oscillations Are Generated Intrinsically in CA1 without the Involvement of Fast-Spiking Basket Cells. Journal of Neuroscience, 2015, 35, 3616-3624. | 3.6 | 50 |
| 77 | Afferent specific role of NMDA receptors for the circuit integration of hippocampal neurogliaform cells. Nature Communications, 2017, 8, 152. | 12.8 | 45 |
| 78 | Behavioral state-dependent modulation of distinct interneuron subtypes and consequences for circuit function. Current Opinion in Neurobiology, 2014, 29, 118-125. | 4.2 | 44 |
| 79 | CNQX increases spontaneous inhibitory input to CA3 pyramidal neurones in neonatal rat hippocampal slices. Brain Research, 1992, 592, 255-260. | 2.2 | 42 |
| 80 | Neto Auxiliary Subunits Regulate Interneuron Somatodendritic and Presynaptic Kainate Receptors to Control Network Inhibition. Cell Reports, 2017, 20, 2156-2168. | 6.4 | 41 |
| 81 | Presynaptic Kainate Receptor Activation Preserves Asynchronous GABA Release Despite the Reduction in Synchronous Release from Hippocampal Cholecystokinin Interneurons. Journal of Neuroscience, 2010, 30, 11202-11209. | 3.6 | 39 |
| 82 | TASK-Like Conductances Are Present within Hippocampal CA1 Stratum Oriens Interneuron Subpopulations. Journal of Neuroscience, 2006, 26, 7362-7367. | 3.6 | 37 |
| 83 | 5â€Hydroxytryptamine<sub>1A</sub> receptorâ€activation hyperpolarizes pyramidal cells and suppresses hippocampal gamma oscillations via Kir3 channel activation. Journal of Physiology, 2014, 592, 4187-4199. | 2.9 | 37 |
| 84 | Interneurons Differentially Contribute to Spontaneous Network Activity in the Developing Hippocampus Dependent on Their Embryonic Lineage. Journal of Neuroscience, 2016, 36, 2646-2662. | 3.6 | 37 |
| 85 | Hippocampal inhibitory neuron activity in the elevated potassium model of epilepsy. Journal of Neurophysiology, 1995, 73, 2853-2863. | 1.8 | 36 |
| 86 | Activation of Kinetically Distinct Synaptic Conductances on Inhibitory Interneurons by Electrotonically Overlapping Afferents. Neuron, 2002, 35, 161-171. | 8.1 | 35 |
| 87 | Activity-dependent tuning of intrinsic excitability in mouse and human neurogliaform cells. ELife, 2020, 9, . | 6.0 | 29 |
| 88 | Life-long epigenetic programming of cortical architecture by maternal â€˜Westernâ€™ diet during pregnancy. Molecular Psychiatry, 2020, 25, 22-36. | 7.9 | 28 |
| 89 | Paradoxical network excitation by glutamate release from VGluT3+ GABAergic interneurons. ELife, 2020, 9, . | 6.0 | 25 |
| 90 | Dopamine suppresses persistent network activity via D<sub>1</sub>â€like dopamine receptors in rat medial entorhinal cortex. European Journal of Neuroscience, 2013, 37, 1242-1247. | 2.6 | 21 |

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| 91 | Two temporally overlapping "delayed-rectifiers" determine the voltage-dependent potassium current phenotype in cultured hippocampal interneurons. Journal of Neurophysiology, 1996, 76, 1477-1490. | 1.8 | 20 |
| 92 | Synaptic plasticity in hippocampal interneurons? A commentary. Canadian Journal of Physiology and Pharmacology, 1997, 75, 488-494. | 1.4 | 20 |
| 93 | Functional Differentiation of Cholecystokinin-Containing Interneurons Destined for the Cerebral Cortex. Cerebral Cortex, 2017, 27, bhw094. | 2.9 | 19 |
| 94 | A biomarker-authenticated model of schizophrenia implicating NPTX2 loss of function. Science Advances, 2021, 7, eabf6935. | 10.3 | 17 |
| 95 | Emergence of non-canonical parvalbumin-containing interneurons in hippocampus of a murine model of type I lissencephaly. ELife, 2020, 9, . | 6.0 | 13 |
| 96 | An update on cholinergic regulation of cholecystokininâ€expressing basket cells. Journal of Physiology, 2012, 590, 695-702. | 2.9 | 10 |
| 97 | Navigating the circuitry of the brain's GPS system: Future challenges for neurophysiologists. Hippocampus, 2015, 25, 736-743. | 1.9 | 10 |
| 98 | The Role of AMPARs in the Maturation and Integration of Caudal Ganglionic Eminence-Derived Interneurons into Developing Hippocampal Microcircuits. Scientific Reports, 2019, 9, 5435. | 3.3 | 9 |
| 99 | NMDARs Drive the Expression of Neuropsychiatric Disorder Risk Genes Within GABAergic Interneuron Subtypes in the Juvenile Brain. Frontiers in Molecular Neuroscience, 2021, 14, 712609. | 2.9 | 9 |
| 100 | Synaptic plasticity in hippocampal interneurons? A commentary. Canadian Journal of Physiology and Pharmacology, 1997, 75, 488-94. | 1.4 | 9 |
| 101 | Loss of habenular Prkar2a reduces hedonic eating and increases exercise motivation. JCI Insight, 2020, 5, . | 5.0 | 8 |
| 102 | AMPA receptor deletion in developing MGE-derived hippocampal interneurons causes a redistribution of excitatory synapses and attenuates postnatal network oscillatory activity. Scientific Reports, 2020, 10, 1333. | 3.3 | 7 |
| 103 | A versatile viral toolkit for functional discovery in the nervous system. Cell Reports Methods, 2022, , 100225. | 2.9 | 6 |
| 104 | The Hyperpolarization-Activated Cation Current I h : The Missing Link Connecting Cannabinoids to Cognition. Neuron, 2016, 89, 889-891. | 8.1 | 5 |
| 105 | Intrinsic electrophysiological properties predict variability in morphology and connectivity among striatal Parvalbumin-expressing Pthlh-cells. Scientific Reports, 2020, 10, 15680. | 3.3 | 5 |
| 106 | Translatome Analyses Using Conditional Ribosomal Tagging in GABAergic Interneurons and Other Sparse Cell Types. Current Protocols in Neuroscience, 2020, 92, e93. | 2.6 | 5 |
| 107 | Resilient Hippocampal Gamma Rhythmogenesis and Parvalbumin-Expressing Interneuron Function Before and After Plaque Burden in 5xFAD Alzheimerâ€™s Disease Model. Frontiers in Synaptic Neuroscience, 2022, 14, . | 2.5 | 5 |
| 108 | New directions in synaptic and network plasticity â€“ a move away from NMDA receptor mediated plasticity. Journal of Physiology, 2008, 586, 1473-1474. | 2.9 | 4 |

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| 109 | Aberrant sorting of hippocampal complex pyramidal cells in type I lissencephaly alters topological innervation. ELife, 2020, 9, . | 6.0 | 4 |
| 110 | GABAergic Signaling in Health and Disease. Neuropharmacology, 2015, 88, 1. | 4.1 | 2 |
| 111 | Timing isnâ€™t everything: opposing roles for perisomatic inhibition. Neuron, 2021, 109, 911-913. | 8.1 | 2 |
| 112 | Decoding the Neuronal Tower of Babel. Science, 2012, 338, 482-483. | 12.6 | 1 |
| 113 | Transient compartmentalization of interneuron dendrites. Journal of Physiology, 2003, 551, 1-1. | 2.9 | 1 |
| 114 | The GluN2A Subunit of the NMDA Receptor Modulates the Rate of Functional Maturation in Parvalbuminâ€positive Interneurons. FASEB Journal, 2022, 36, . | 0.5 | 1 |
| 115 | Cortical inhibitory neuron basket cells: from circuit function to disruption. Journal of Physiology, 2012, 590, 667-667. | 2.9 | 0 |
| 116 | Exploring the Interneuron Canopy Atop the â€˜Impenetrable Jungleâ€™. Trends in Neurosciences, 2019, 42, 237-239. | 8.6 | 0 |
| 117 | Vesicle Pools of Memory at Mossy Fiber Synapses. Neuron, 2020, 107, 395-396. | 8.1 | 0 |