Robert M Brownstone

List of Publications by Year
in descending order

77 papers	5,731 citations	81900 39 h-index	79698 73 g-index
90 all docs	90 docs citations	90 times ranked	3877 citing authors

#	Article	IF	Citations
1	A Cluster of Cholinergic Premotor Interneurons Modulates Mouse Locomotor Activity. Neuron, 2009, 64, 645-662.	8.1	378
2	Human immunodeficiency virus type 1 tat activates non?N-methyl-D-aspartate excitatory amino acid receptors and causes neurotoxicity. Annals of Neurology, 1995, 37, 373-380.	5.3	286
3	Spinal cholinergic interneurons regulate the excitability of motoneurons during locomotion. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 2448-2453.	7.1	264
4	Transmission in a locomotor-related group Ib pathway from hindlimb extensor muscles in the cat. Experimental Brain Research, 1994, 98, 213-28.	1.5	258
5	Mechanical entrainment of fictive locomotion in the decerebrate cat. Journal of Neurophysiology, 1994, 71, 2074-2086.	1.8	228
6	Conditional Rhythmicity of Ventral Spinal Interneurons Defined by Expression of the Hb9 Homeodomain Protein. Journal of Neuroscience, 2005, 25, 5710-5719.	3.6	225
7	Hyperexcitable dendrites in motoneurons and their neuromodulatory control during motor behavior. Trends in Neurosciences, 2003, 26, 688-695.	8.6	210
8	Functional Properties of Motoneurons Derived from Mouse Embryonic Stem Cells. Journal of Neuroscience, 2004, 24, 7848-7858.	3.6	200
9	Dendritic L-type calcium currents in mouse spinal motoneurons: implications for bistability. European Journal of Neuroscience, 2000, 12, 1635-1646.	2.6	196
10	An in vitro functionally mature mouse spinal cord preparation for the study of spinal motor networks. Brain Research, 1999, 816, 493-499.	2.2	181
11	Mechanisms underlying the early phase of spike frequency adaptation in mouse spinal motoneurones. Journal of Physiology, 2005, 566, 519-532.	2.9	158
12	On the regulation of repetitive firing in lumbar motoneurones during fictive locomotion in the cat. Experimental Brain Research, 1992, 90, 441-55.	1.5	142
13	Strategies for delineating spinal locomotor rhythm-generating networks and the possible role of Hb9 interneurones in rhythmogenesis. Brain Research Reviews, 2008, 57, 64-76.	9.0	133
14	Reducing Hardware-Related Complications of Deep Brain Stimulation. Canadian Journal of Neurological Sciences, 2005, 32, 194-200.	0.5	129
15	Mechanism for Activation of Locomotor Centers in the Spinal Cord by Stimulation of the Mesencephalic Locomotor Region. Journal of Neurophysiology, 2003, 90, 1464-1478.	1.8	122
16	Circuits for Grasping: Spinal dI3 Interneurons Mediate Cutaneous Control of Motor Behavior. Neuron, 2013, 78, 191-204.	8.1	121
17	Target Populations for First-In-Human Embryonic Stem Cell Research in Spinal Cord Injury. Cell Stem Cell, 2011, 8, 468-475.	11.1	118
18	Heterogeneity of V2â€derived interneurons in the adult mouse spinal cord. European Journal of Neuroscience, 2007, 26, 3003-3015.	2.6	107

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19	Characterization of calcium currents in functionally mature mouse spinal motoneurons. European Journal of Neuroscience, 2000, 12, 1624-1634.	2.6	105
20	Voltage-dependent excitation of motoneurones from spinal locomotor centres in the cat. Experimental Brain Research, 1994, 102, 34-44.	1.5	103
21	Mechanisms of spinal cord stimulation for the treatment of pain: Still in the dark after 50 years. European Journal of Pain, 2019, 23, 652-659.	2.8	100
22	Development of L-type calcium channels and a nifedipine-sensitive motor activity in the postnatal mouse spinal cord. European Journal of Neuroscience, 1999, 11, 3481-3487.	2.6	96
23	Motoneurons Derived from Embryonic Stem Cells Express Transcription Factors and Develop Phenotypes Characteristic of Medial Motor Column Neurons. Journal of Neuroscience, 2006, 26, 3256-3268.	3.6	96
24	Lhx3-Chx10 Reticulospinal Neurons in Locomotor Circuits. Journal of Neuroscience, 2013, 33, 14681-14692.	3.6	94
25	Transplanted Mouse Embryonic Stem-Cell-Derived Motoneurons Form Functional Motor Units and Reduce Muscle Atrophy. Journal of Neuroscience, 2008, 28, 12409-12418.	3.6	93
26	Postnatal development of cholinergic synapses on mouse spinal motoneurons. Journal of Comparative Neurology, 2004, 474, 13-23.	1.6	88
27	How Do We Approach the Locomotor Network in the Mammalian Spinal Cord?a. Annals of the New York Academy of Sciences, 1998, 860, 70-82.	3.8	84
28	Beginning at the end: Repetitive firing properties in the final common pathway. Progress in Neurobiology, 2006, 78, 156-172.	5.7	83
29	Reticulospinal Systems for Tuning Motor Commands. Frontiers in Neural Circuits, 2018, 12, 30.	2.8	83
30	The effects of caffeine on ischemic neuronal injury as determined by magnetic resonance imaging and histopathology. Neuroscience, 1991, 42, 171-182.	2.3	78
31	Sub-populations of Spinal V3 Interneurons Form Focal Modules of Layered Pre-motor Microcircuits. Cell Reports, 2018, 25, 146-156.e3.	6.4	72
32	Spinal interneurons providing input to the final common path during locomotion. Progress in Brain Research, 2010, 187, 81-95.	1.4	71
33	Intracranial Presentation of Systemic Hodgkin's Disease. Leukemia and Lymphoma, 2004, 45, 1667-1671.	1.3	70
34	Heterogeneous Electrotonic Coupling and Synchronization of Rhythmic Bursting Activity in Mouse Hb9 Interneurons. Journal of Neurophysiology, 2007, 98, 2370-2381.	1.8	69
35	Dlk1 Promotes a Fast Motor Neuron Biophysical Signature Required for Peak Force Execution. Science, 2014, 343, 1264-1266.	12.6	64
36	An in vitro spinal cord slice preparation for recording from lumbar motoneurons of the adult mouse. Journal of Neurophysiology, 2012, 107, 728-741.	1.8	60

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37	Sustained relief of dystonia following cessation of deep brain stimulation. Movement Disorders, 2007, 22, 1958-1962.	3.9	59
38	Genetically Defined Inhibitory Neurons in the Mouse Spinal Cord Dorsal Horn: A Possible Source of Rhythmic Inhibition of Motoneurons during Fictive Locomotion. Journal of Neuroscience, 2010, 30, 1137-1148.	3.6	52
39	Two-Photon Calcium Imaging of Network Activity in XFP-Expressing Neurons in the Mouse. Journal of Neurophysiology, 2007, 97, 3118-3125.	1.8	49
40	A central mechanism of analgesia in mice and humans lacking the sodium channel NaV1.7. Neuron, 2021, 109, 1497-1512.e6.	8.1	42
41	Spinal microcircuits comprising dI3 interneurons are necessary for motor functional recovery following spinal cord transection. ELife, 2016, 5, .	6.0	42
42	Control of functional systems in the brainstem and spinal cord. Current Opinion in Neurobiology, 1992, 2, 794-801.	4.2	39
43	Functional motor neurons differentiating from mouse multipotent spinal cord precursor cells in culture and after transplantation into transected sciatic nerve. Journal of Neurosurgery, 2003, 98, 1094-1103.	1.6	37
44	Staircase Currents in Motoneurons: Insight into the Spatial Arrangement of Calcium Channels in the Dendritic Tree. Journal of Neuroscience, 2009, 29, 5343-5353.	3.6	36
45	Electrophysiological and Pharmacological Properties of Locomotor Activity-Related Neurons in cfos-EGFP Mice. Journal of Neurophysiology, 2009, 102, 3365-3383.	1.8	35
46	Spinal circuits for motor learning. Current Opinion in Neurobiology, 2015, 33, 166-173.	4.2	33
47	Escape from homeostasis: spinal microcircuits and progression of amyotrophic lateral sclerosis. Journal of Neurophysiology, 2018, 119, 1782-1794.	1.8	30
48	Motor Cortex Stimulation for Neuropathic Pain: A Randomized Cross-over Trial. Canadian Journal of Neurological Sciences, 2015, 42, 401-409.	0.5	28
49	Single Photon Emission Computed Tomography Using 99mTc-HM-PAO in the Routine Evaluation of Alzheimer's Disease. Canadian Journal of Neurological Sciences, 1991, 18, 59-62.	0.5	27
50	Reversal of the late phase of spike frequency adaptation in cat spinal motoneurons during fictive locomotion. Journal of Neurophysiology, 2011, 105, 1045-1050.	1.8	27
51	Proximal and distal spinal neurons innervating multiple synergist and antagonist motor pools. ELife, 2021, 10, .	6.0	25
52	Spinal motoneuron firing properties mature from rostral to caudal during postnatal development of the mouse. Journal of Physiology, 2020, 598, 5467-5485.	2.9	20
53	Low-threshold calcium currents contribute to locomotor-like activity in neonatal mice. Journal of Neurophysiology, 2012, 107, 103-113.	1.8	19
54	A multitarget basal ganglia dopaminergic and GABAergic transplantation strategy enhances behavioural recovery in parkinsonian rats. Brain, 2008, 131, 2106-2126.	7.6	15

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55	Functional characterization of cardiac progenitor cells and their derivatives in the embryonic heart postâ€chamber formation. Developmental Dynamics, 2009, 238, 2787-2799.	1.8	14
56	The beginning of intracellular recording in spinal neurons: Facts, reflections, and speculations. Brain Research, 2011, 1409, 62-92.	2.2	13
57	Cutaneous afferent regulation of motor function. Acta Neurobiologiae Experimentalis, 2014, 74, 158-71.	0.7	12
58	Whither motoneurons?. Brain Research, 2011, 1409, 93-103.	2.2	11
59	Elimination of glutamatergic transmission from Hb9 interneurons does not impact treadmill locomotion. Scientific Reports, 2021, 11, 16008.	3.3	10
60	Intrinsic brainstem circuits comprised of Chx10-expressing neurons contribute to reticulospinal output in mice. Journal of Neurophysiology, 2021, 126, 1978-1990.	1.8	9
61	Sensory-evoked perturbations of locomotor activity by sparse sensory input: a computational study. Journal of Neurophysiology, 2015, 113, 2824-2839.	1.8	8
62	Multistable properties of human subthalamic nucleus neurons in Parkinsonâ€™s disease. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 24326-24333.	7.1	8
63	Reducing Intrathecal Baclofen Related Infections: Service Evaluation and Best Practice Guidelines. Neuromodulation, 2020, 23, 991-995.	0.8	8
64	Key Steps in the Evolution of Mammalian Movement: A Prolegomenal Essay. Neuroscience, 2020, 450, 135-141.	2.3	8
65	Paths of discovery in motoneuron neurobiology. Brain Research, 2011, 1409, 1-2.	2.2	7
66	Tumor prevention facilitates delayed transplant of stem cellâ€derived motoneurons. Annals of Clinical and Translational Neurology, 2016, 3, 637-649.	3.7	5
67	Microcircuit formation following transplantation of mouse embryonic stem cell-derived neurons in peripheral nerve. Journal of Neurophysiology, 2017, 117, 1683-1689.	1.8	5
68	Hb9 Interneurons: Reply to Ziskind-Conhaim and Hinckley. Journal of Neurophysiology, 2008, 99, 1047-1049.	1.8	4
69	Matchmaking: SK channels, Câ€boutons and motor units. Journal of Physiology, 2013, 591, 747-748.	2.9	4
70	Simulation techniques for localising and identifying the kinetics of calcium channels in dendritic neurones. Neurocomputing, 2000, 32-33, 173-180.	5.9	3
71	Rapid pH and PO2changes in the tissue recording chamber during stoppage of a gas-equilibrated perfusate: effects on calcium currents in ventral horn neurons. European Journal of Neuroscience, 2006, 24, 1353-1358.	2.6	3
72	Unraveling a Locomotor Network, Many Neurons at a Time. Neuron, 2015, 86, 9-11.	8.1	3

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73	Case Studies in Neuroscience: Evidence of motor thalamus reorganization following bilateral forearm amputations. Journal of Neurophysiology, 2018, 120, 1776-1780.	1.8	3
74	Câ€bouton components on rat extensor digitorum longus motoneurons are resistant to chronic functional overload. Journal of Anatomy, 2022, 241, 1157-1168.	1.5	3
75	Take Your PIC: Motoneuronal Persistent Inward Currents May Be Somatic as Well as Dendritic. Focus on â€œFacilitation of Somatic Calcium Channels Can Evoke Prolonged Tail Currents in Rat Hypoglossal Motoneuronsâ€• Journal of Neurophysiology, 2007, 98, 579-580.	1.8	2
76	Heterozygous <i>Dcc</i> Mutant Mice Have a Subtle Locomotor Phenotype. ENeuro, 2022, 9, ENEURO.0216-18.2021.	1.9	2
77	A Canadian Winter Indirectly Inactivates a Deep Brain Stimulation System. Canadian Journal of Neurological Sciences, 2017, 44, 332-333.	0.5	1