

Michael V Sofroniew

List of Publications by Year in descending order

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98
papers

32,796
citations

16411

64
h-index

38300

95
g-index

108
all docs

108
docs citations

108
times ranked

29558
citing authors

#	ARTICLE	IF	CITATIONS
1	Astrocytes: biology and pathology. <i>Acta Neuropathologica</i> , 2010, 119, 7-35.	3.9	3,978
2	Molecular dissection of reactive astrogliosis and glial scar formation. <i>Trends in Neurosciences</i> , 2009, 32, 638-647.	4.2	2,095
3	Astrocyte scar formation aids central nervous system axon regeneration. <i>Nature</i> , 2016, 532, 195-200.	13.7	1,390
4	Reactive Astrocytes Protect Tissue and Preserve Function after Spinal Cord Injury. <i>Journal of Neuroscience</i> , 2004, 24, 2143-2155.	1.7	1,347
5	Nerve Growth Factor Signaling, Neuroprotection, and Neural Repair. <i>Annual Review of Neuroscience</i> , 2001, 24, 1217-1281.	5.0	1,146
6	Reactive astrocyte nomenclature, definitions, and future directions. <i>Nature Neuroscience</i> , 2021, 24, 312-325.	7.1	1,098
7	Reactive Gliosis and the Multicellular Response to CNS Damage and Disease. <i>Neuron</i> , 2014, 81, 229-248.	3.8	1,097
8	Leukocyte Infiltration, Neuronal Degeneration, and Neurite Outgrowth after Ablation of Scar-Forming, Reactive Astrocytes in Adult Transgenic Mice. <i>Neuron</i> , 1999, 23, 297-308.	3.8	957
9	Ablation of hippocampal neurogenesis impairs contextual fear conditioning and synaptic plasticity in the dentate gyrus. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006, 103, 17501-17506.	3.3	915
10	Diversity of astrocyte functions and phenotypes in neural circuits. <i>Nature Neuroscience</i> , 2015, 18, 942-952.	7.1	892
11	Astrocyte barriers to neurotoxic inflammation. <i>Nature Reviews Neuroscience</i> , 2015, 16, 249-263.	4.9	880
12	GFAP-expressing progenitors are the principal source of constitutive neurogenesis in adult mouse forebrain. <i>Nature Neuroscience</i> , 2004, 7, 1233-1241.	7.1	860
13	STAT3 is a Critical Regulator of Astrogliosis and Scar Formation after Spinal Cord Injury. <i>Journal of Neuroscience</i> , 2008, 28, 7231-7243.	1.7	770
14	Recovery of supraspinal control of stepping via indirect propriospinal relay connections after spinal cord injury. <i>Nature Medicine</i> , 2008, 14, 69-74.	15.2	690
15	Reactive Astrocytes in Neural Repair and Protection. <i>Neuroscientist</i> , 2005, 11, 400-407.	2.6	644
16	Glial Scar Borders Are Formed by Newly Proliferated, Elongated Astrocytes That Interact to Corral Inflammatory and Fibrotic Cells via STAT3-Dependent Mechanisms after Spinal Cord Injury. <i>Journal of Neuroscience</i> , 2013, 33, 12870-12886.	1.7	630
17	Transformation of nonfunctional spinal circuits into functional states after the loss of brain input. <i>Nature Neuroscience</i> , 2009, 12, 1333-1342.	7.1	620
18	Astrocytes: a central element in neurological diseases. <i>Acta Neuropathologica</i> , 2016, 131, 323-345.	3.9	597

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19	Astrocyte roles in traumatic brain injury. <i>Experimental Neurology</i> , 2016, 275, 305-315.	2.0	562
20	Astrocyte-derived VEGF-A drives blood-brain barrier disruption in CNS inflammatory disease. <i>Journal of Clinical Investigation</i> , 2012, 122, 2454-2468.	3.9	533
21	Fulminant Jejuno-Ileitis following Ablation of Enteric Glia in Adult Transgenic Mice. <i>Cell</i> , 1998, 93, 189-201.	13.5	530
22	Essential protective roles of reactive astrocytes in traumatic brain injury. <i>Brain</i> , 2006, 129, 2761-2772.	3.7	511
23	Astrocyte Kir4.1 ion channel deficits contribute to neuronal dysfunction in Huntington's disease model mice. <i>Nature Neuroscience</i> , 2014, 17, 694-703.	7.1	486
24	Astrogliosis. <i>Cold Spring Harbor Perspectives in Biology</i> , 2015, 7, a020420.	2.3	485
25	Reactive Astrocytes Form Scar-Like Perivascular Barriers to Leukocytes during Adaptive Immune Inflammation of the CNS. <i>Journal of Neuroscience</i> , 2009, 29, 11511-11522.	1.7	385
26	Cell biology of spinal cord injury and repair. <i>Journal of Clinical Investigation</i> , 2017, 127, 3259-3270.	3.9	381
27	Heterogeneity of reactive astrocytes. <i>Neuroscience Letters</i> , 2014, 565, 23-29.	1.0	363
28	Enteric Glia Regulate Intestinal Barrier Function and Inflammation Via Release of S-Nitrosoglutathione. <i>Gastroenterology</i> , 2007, 132, 1344-1358.	0.6	349
29	Astrocyte Reactivity: Subtypes, States, and Functions in CNS Innate Immunity. <i>Trends in Immunology</i> , 2020, 41, 758-770.	2.9	344
30	Required growth facilitators propel axon regeneration across complete spinal cord injury. <i>Nature</i> , 2018, 561, 396-400.	13.7	341
31	The Predominant Neural Stem Cell Isolated from Postnatal and Adult Forebrain But Not Early Embryonic Forebrain Expresses GFAP. <i>Journal of Neuroscience</i> , 2003, 23, 2824-2832.	1.7	331
32	Spinal cord repair: advances in biology and technology. <i>Nature Medicine</i> , 2019, 25, 898-908.	15.2	323
33	Imaging calcium microdomains within entire astrocyte territories and endfeet with GCaMPs expressed using adeno-associated viruses. <i>Journal of General Physiology</i> , 2013, 141, 633-647.	0.9	312
34	Reactive Astrocytes As Therapeutic Targets for CNS Disorders. <i>Neurotherapeutics</i> , 2010, 7, 494-506.	2.1	291
35	Multiple Roles for Astrocytes as Effectors of Cytokines and Inflammatory Mediators. <i>Neuroscientist</i> , 2014, 20, 160-172.	2.6	264
36	<i>Pten</i> Deletion in Adult Neural Stem/Progenitor Cells Enhances Constitutive Neurogenesis. <i>Journal of Neuroscience</i> , 2009, 29, 1874-1886.	1.7	245

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37	Two Forms of Astrocyte Calcium Excitability Have Distinct Effects on NMDA Receptor-Mediated Slow Inward Currents in Pyramidal Neurons. <i>Journal of Neuroscience</i> , 2008, 28, 6659-6663.	1.7	231
38	Dissecting spinal cord regeneration. <i>Nature</i> , 2018, 557, 343-350.	13.7	224
39	Paradoxical influence of hippocampal neurogenesis on working memory. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007, 104, 4642-4646.	3.3	218
40	Neurological Diseases as Primary Gliopathies: A Reassessment of Neurocentrism. <i>ASN Neuro</i> , 2012, 4, AN20120010.	1.5	217
41	A genetically targeted optical sensor to monitor calcium signals in astrocyte processes. <i>Nature Neuroscience</i> , 2010, 13, 759-766.	7.1	214
42	The ablation of glial fibrillary acidic protein-positive cells from the adult central nervous system results in the loss of forebrain neural stem cells but not retinal stem cells. <i>European Journal of Neuroscience</i> , 2003, 18, 76-84.	1.2	206
43	Neuroprotection mediated through estrogen receptor- α in astrocytes. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011, 108, 8867-8872.	3.3	199
44	Cell-specific and region-specific transcriptomics in the multiple sclerosis model: Focus on astrocytes. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, E302-E309.	3.3	196
45	Inflammatory Mediators Alter the Astrocyte Transcriptome and Calcium Signaling Elicited by Multiple G-Protein-Coupled Receptors. <i>Journal of Neuroscience</i> , 2012, 32, 14489-14510.	1.7	178
46	Astrocytic tight junctions control inflammatory CNS lesion pathogenesis. <i>Journal of Clinical Investigation</i> , 2017, 127, 3136-3151.	3.9	169
47	Deletion of Astroglial Dicer Causes Non-Cell-Autonomous Neuronal Dysfunction and Degeneration. <i>Journal of Neuroscience</i> , 2011, 31, 8306-8319.	1.7	154
48	Estrogen Mediates Neuroprotection and Anti-Inflammatory Effects during EAE through ER α Signaling on Astrocytes But Not through ER α Signaling on Astrocytes or Neurons. <i>Journal of Neuroscience</i> , 2013, 33, 10924-10933.	1.7	154
49	Disruption of Astrocyte STAT3 Signaling Decreases Mitochondrial Function and Increases Oxidative Stress In Vitro. <i>PLoS ONE</i> , 2010, 5, e9532.	1.1	138
50	Maternal embryonic leucine zipper kinase (MELK) regulates multipotent neural progenitor proliferation. <i>Journal of Cell Biology</i> , 2005, 170, 413-427.	2.3	136
51	Astrocyte CCL2 sustains immune cell infiltration in chronic experimental autoimmune encephalomyelitis. <i>Journal of Neuroimmunology</i> , 2014, 274, 53-61.	1.1	131
52	Glia in the pathogenesis of neurodegenerative diseases. <i>Biochemical Society Transactions</i> , 2014, 42, 1291-1301.	1.6	130
53	Biocompatibility of amphiphilic diblock copolypeptide hydrogels in the central nervous system. <i>Biomaterials</i> , 2009, 30, 2881-2898.	5.7	128
54	Hippocampal neurotrophin and trk receptor mRNA levels are altered by local administration of nicotine, carbachol and pilocarpine. <i>Molecular Brain Research</i> , 1999, 67, 124-136.	2.5	116

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55	Early Activation of STAT3 Regulates Reactive Astrogliosis Induced by Diverse Forms of Neurotoxicity. PLoS ONE, 2014, 9, e102003.	1.1	114
56	Transcriptome analyses reveal molecular mechanisms underlying functional recovery after spinal cord injury. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 13360-13365.	3.3	113
57	Starring roles for astroglia in barrier pathologies of gut and brain. Laboratory Investigation, 2007, 87, 731-736.	1.7	111
58	Phenotypic and functional heterogeneity of GFAP-expressing cells in vitro: Differential expression of LeX/CD15 by GFAP-expressing multipotent neural stem cells and non-neurogenic astrocytes. Glia, 2006, 53, 277-293.	2.5	109
59	Ependymal cell contribution to scar formation after spinal cord injury is minimal, local and dependent on direct ependymal injury. Scientific Reports, 2017, 7, 41122.	1.6	108
60	Memantine Enhances Recovery From Stroke. Stroke, 2014, 45, 2093-2100.	1.0	106
61	PTEN dosage is essential for neurofibroma development and malignant transformation. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 19479-19484.	3.3	102
62	Sustained local delivery of bioactive nerve growth factor in the central nervous system via tunable diblock copolypeptide hydrogel depots. Biomaterials, 2012, 33, 9105-9116.	5.7	85
63	STAT3-Mediated astrogliosis protects myelin development in neonatal brain injury. Annals of Neurology, 2012, 72, 750-765.	2.8	81
64	Selective ablation of proliferating astrocytes does not affect disease outcome in either acute or chronic models of motor neuron degeneration. Experimental Neurology, 2008, 211, 423-432.	2.0	77
65	Conformation-Directed Formation of Self-Healing Diblock Copolypeptide Hydrogels via Polyion Complexation. Journal of the American Chemical Society, 2017, 139, 15114-15121.	6.6	72
66	Divergent transcriptional regulation of astrocyte reactivity across disorders. Nature, 2022, 606, 557-564.	13.7	69
67	Design and Synthesis of Nonionic Copolypeptide Hydrogels with Reversible Thermoresponsive and Tunable Physical Properties. Biomacromolecules, 2015, 16, 1331-1340.	2.6	61
68	Biological aspects of axonal damage in glaucoma: A brief review. Experimental Eye Research, 2017, 157, 5-12.	1.2	61
69	The astrocyte transcriptome in EAE optic neuritis shows complement activation and reveals a sex difference in astrocytic C3 expression. Scientific Reports, 2019, 9, 10010.	1.6	55
70	Molecular and functional properties of cortical astrocytes during peripherally induced neuroinflammation. Cell Reports, 2021, 36, 109508.	2.9	54
71	Targeting Expression of hsp70i to Discrete Neuronal Populations Using the Lmo-1 Promoter: Assessment of the Neuroprotective Effects of hsp70i In vivo and In vitro. Journal of Cerebral Blood Flow and Metabolism, 2001, 21, 972-981.	2.4	53
72	Traumatically injured astrocytes release a proteomic signature modulated by <sc>STAT</sc>-dependent cell survival. Glia, 2016, 64, 668-694.	2.5	50

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73	P2X4 Receptor Reporter Mice: Sparse Brain Expression and Feeding-Related Presynaptic Facilitation in the Arcuate Nucleus. <i>Journal of Neuroscience</i> , 2016, 36, 8902-8920.	1.7	47
74	Tunable diblock copolypeptide hydrogel depots for local delivery of hydrophobic molecules in healthy and injured central nervous system. <i>Biomaterials</i> , 2014, 35, 1989-2000.	5.7	45
75	Juvenile neurogenesis makes essential contributions to adult brain structure and plays a sex-dependent role in fear memories. <i>Frontiers in Behavioral Neuroscience</i> , 2012, 6, 3.	1.0	42
76	Astrocytes usurp neurons as a disease focus. <i>Nature Neuroscience</i> , 2019, 22, 512-513.	7.1	40
77	Foreign body responses in mouse central nervous system mimic natural wound responses and alter biomaterial functions. <i>Nature Communications</i> , 2020, 11, 6203.	5.8	38
78	Adenomatous Polyposis Coli Is Essential for Both Neuronal Differentiation and Maintenance of Adult Neural Stem Cells in Subventricular Zone and Hippocampus. <i>Stem Cells</i> , 2010, 28, 2053-2064.	1.4	36
79	Thermoresponsive Copolypeptide Hydrogel Vehicles for Central Nervous System Cell Delivery. <i>ACS Biomaterials Science and Engineering</i> , 2015, 1, 705-717.	2.6	35
80	Astrocyte plasticity in mice ensures continued endfoot coverage of cerebral blood vessels following injury and declines with age. <i>Nature Communications</i> , 2022, 13, 1794.	5.8	29
81	NMDA potentiates NGF-induced sprouting of septal cholinergic fibres. <i>NeuroReport</i> , 1994, 5, 413-416.	0.6	24
82	Imaging Intracellular Ca ²⁺ Signals in Striatal Astrocytes from Adult Mice Using Genetically-encoded Calcium Indicators. <i>Journal of Visualized Experiments</i> , 2014, , e51972.	0.2	24
83	Seducing astrocytes to the dark side. <i>Cell Research</i> , 2017, 27, 726-727.	5.7	24
84	Traumatic brain injury reveals novel cell lineage relationships within the subventricular zone. <i>Stem Cell Research</i> , 2014, 13, 48-60.	0.3	18
85	Engineering spinal cord repair. <i>Current Opinion in Biotechnology</i> , 2021, 72, 48-53.	3.3	18
86	Transgenic Techniques for Cell Ablation or Molecular Deletion to Investigate Functions of Astrocytes and Other GFAP-Expressing Cell Types. <i>Methods in Molecular Biology</i> , 2012, 814, 531-544.	0.4	17
87	Glia get excited. <i>Nature Neuroscience</i> , 2008, 11, 379-380.	7.1	14
88	Meeting Proceedings for SCI 2020: Launching a Decade of Disruption in Spinal Cord Injury Research. <i>Journal of Neurotrauma</i> , 2021, 38, 1251-1266.	1.7	14
89	Loss-of-function manipulations to identify roles of diverse glia and stromal cells during CNS scar formation. <i>Cell and Tissue Research</i> , 2022, 387, 337-350.	1.5	12
90	Assessing the Role of STAT3 in DC Differentiation and Autologous DC Immunotherapy in Mouse Models of GBM. <i>PLoS ONE</i> , 2014, 9, e96318.	1.1	12

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91	Inflammation drives fibrotic scars in the CNS. <i>Nature Neuroscience</i> , 2021, 24, 157-159.	7.1	8
92	Stem-Cell-Derived Astrocytes Divulge Secrets of Mutant GFAP. <i>Cell Stem Cell</i> , 2018, 23, 630-631.	5.2	7
93	CHAPTER 19. Smart Materials for Central Nervous System Cell Delivery and Tissue Engineering. <i>RSC Smart Materials</i> , 0, , 529-557.	0.1	7
94	On the possibility of positive-feedback in trophic interactions between afferent and target neurons. <i>Seminars in Neuroscience</i> , 1993, 5, 309-312.	2.3	6
95	Injectable diblock copolypeptide hydrogel provides platform to deliver effective concentrations of paclitaxel to an intracranial xenograft model of glioblastoma. <i>PLoS ONE</i> , 2020, 15, e0219632.	1.1	6
96	Neuronal Responses to Axotomy. , 1999, , 3-1.		6
97	HepaCAM shapes astrocyte territories, stabilizes gap-junction coupling, and influences neuronal excitability. <i>Neuron</i> , 2021, 109, 2365-2367.	3.8	1
98	Neuromyelitis optica. <i>Neurology</i> , 2011, 76, 1202-1203.	1.5	0