

Michael V Sofroniew

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

96
papers

24,809
citations

62
h-index

108
g-index

108
ext. papers

29,414
ext. citations

13.1
avg, IF

7.78
L-index

#	Paper	IF	Citations
96	Astrocytes: biology and pathology. <i>Acta Neuropathologica</i> , 2010 , 119, 7-35	14.3	3017
95	Molecular dissection of reactive astrogliosis and glial scar formation. <i>Trends in Neurosciences</i> , 2009 , 32, 638-47	13.3	1739
94	Reactive astrocytes protect tissue and preserve function after spinal cord injury. <i>Journal of Neuroscience</i> , 2004 , 24, 2143-55	6.6	1156
93	Nerve growth factor signaling, neuroprotection, and neural repair. <i>Annual Review of Neuroscience</i> , 2001 , 24, 1217-81	17	1008
92	Astrocyte scar formation aids central nervous system axon regeneration. <i>Nature</i> , 2016 , 532, 195-200	50.4	964
91	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	13.9	822
90	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, 17501-6	11.5	811
89	Reactive gliosis and the multicellular response to CNS damage and disease. <i>Neuron</i> , 2014 , 81, 229-48	13.9	799
88	GFAP-expressing progenitors are the principal source of constitutive neurogenesis in adult mouse forebrain. <i>Nature Neuroscience</i> , 2004 , 7, 1233-41	25.5	747
87	Astrocyte barriers to neurotoxic inflammation. <i>Nature Reviews Neuroscience</i> , 2015 , 16, 249-63	13.5	651
86	STAT3 is a critical regulator of astrogliosis and scar formation after spinal cord injury. <i>Journal of Neuroscience</i> , 2008 , 28, 7231-43	6.6	644
85	Diversity of astrocyte functions and phenotypes in neural circuits. <i>Nature Neuroscience</i> , 2015 , 18, 942-52	25.5	592
84	Reactive astrocytes in neural repair and protection. <i>Neuroscientist</i> , 2005 , 11, 400-7	7.6	553
83	Recovery of supraspinal control of stepping via indirect propriospinal relay connections after spinal cord injury. <i>Nature Medicine</i> , 2008 , 14, 69-74	50.5	542
82	Transformation of nonfunctional spinal circuits into functional states after the loss of brain input. <i>Nature Neuroscience</i> , 2009 , 12, 1333-42	25.5	508
81	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, 12870-86	6.6	457
80	Fulminant jejuno-ileitis following ablation of enteric glia in adult transgenic mice. <i>Cell</i> , 1998 , 93, 189-201	56.2	453

79	Essential protective roles of reactive astrocytes in traumatic brain injury. <i>Brain</i> , 2006 , 129, 2761-72	11.2	443
78	Astrocytes: a central element in neurological diseases. <i>Acta Neuropathologica</i> , 2016 , 131, 323-45	14.3	436
77	Astrocyte-derived VEGF-A drives blood-brain barrier disruption in CNS inflammatory disease. <i>Journal of Clinical Investigation</i> , 2012 , 122, 2454-68	15.9	411
76	Astrocyte roles in traumatic brain injury. <i>Experimental Neurology</i> , 2016 , 275 Pt 3, 305-315	5.7	379
75	Astrocyte Kir4.1 ion channel deficits contribute to neuronal dysfunction in Huntington's disease model mice. <i>Nature Neuroscience</i> , 2014 , 17, 694-703	25.5	356
74	Astrogliosis. <i>Cold Spring Harbor Perspectives in Biology</i> , 2014 , 7, a020420	10.2	317
73	Reactive astrocytes form scar-like perivascular barriers to leukocytes during adaptive immune inflammation of the CNS. <i>Journal of Neuroscience</i> , 2009 , 29, 11511-22	6.6	316
72	Reactive astrocyte nomenclature, definitions, and future directions. <i>Nature Neuroscience</i> , 2021 , 24, 312-325	29.8	
71	Heterogeneity of reactive astrocytes. <i>Neuroscience Letters</i> , 2014 , 565, 23-9	3.3	287
70	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, 2824-32	6.6	285
69	Enteric glia regulate intestinal barrier function and inflammation via release of S-nitrosoglutathione. <i>Gastroenterology</i> , 2007 , 132, 1344-58	13.3	281
68	Reactive astrocytes as therapeutic targets for CNS disorders. <i>Neurotherapeutics</i> , 2010 , 7, 494-506	6.4	254
67	Imaging calcium microdomains within entire astrocyte territories and endfeet with GCaMPs expressed using adeno-associated viruses. <i>Journal of General Physiology</i> , 2013 , 141, 633-47	3.4	229
66	Multiple roles for astrocytes as effectors of cytokines and inflammatory mediators. <i>Neuroscientist</i> , 2014 , 20, 160-72	7.6	214
65	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, 6659-63	6.6	208
64	Cell biology of spinal cord injury and repair. <i>Journal of Clinical Investigation</i> , 2017 , 127, 3259-3270	15.9	202
63	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, 4642-6	11.5	200
62	Pten deletion in adult neural stem/progenitor cells enhances constitutive neurogenesis. <i>Journal of Neuroscience</i> , 2009 , 29, 1874-86	6.6	191

61	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	3.5	191
60	Neurological diseases as primary gliopathies: a reassessment of neurocentrism. <i>ASN Neuro</i> , 2012 , 4,	5.3	190
59	Required growth facilitators propel axon regeneration across complete spinal cord injury. <i>Nature</i> , 2018 , 561, 396-400	50.4	184
58	A genetically targeted optical sensor to monitor calcium signals in astrocyte processes. <i>Nature Neuroscience</i> , 2010 , 13, 759-66	25.5	175
57	Neuroprotection mediated through estrogen receptor-alpha in astrocytes. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011 , 108, 8867-72	11.5	170
56	Spinal cord repair: advances in biology and technology. <i>Nature Medicine</i> , 2019 , 25, 898-908	50.5	161
55	Inflammatory mediators alter the astrocyte transcriptome and calcium signaling elicited by multiple G-protein-coupled receptors. <i>Journal of Neuroscience</i> , 2012 , 32, 14489-510	6.6	144
54	Deletion of astroglial Dicer causes non-cell-autonomous neuronal dysfunction and degeneration. <i>Journal of Neuroscience</i> , 2011 , 31, 8306-19	6.6	135
53	Estrogen mediates neuroprotection and anti-inflammatory effects during EAE through ER α signaling on astrocytes but not through ER β signaling on astrocytes or neurons. <i>Journal of Neuroscience</i> , 2013 , 33, 10924-33	6.6	133
52	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	11.5	123
51	Maternal embryonic leucine zipper kinase (MELK) regulates multipotent neural progenitor proliferation. <i>Journal of Cell Biology</i> , 2005 , 170, 413-27	7.3	122
50	Disruption of astrocyte STAT3 signaling decreases mitochondrial function and increases oxidative stress in vitro. <i>PLoS ONE</i> , 2010 , 5, e9532	3.7	121
49	Biocompatibility of amphiphilic diblock copolypeptide hydrogels in the central nervous system. <i>Biomaterials</i> , 2009 , 30, 2881-98	15.6	119
48	Dissecting spinal cord regeneration. <i>Nature</i> , 2018 , 557, 343-350	50.4	119
47	Glia in the pathogenesis of neurodegenerative diseases. <i>Biochemical Society Transactions</i> , 2014 , 42, 1291-301	15.3	113
46	Astrocytic tight junctions control inflammatory CNS lesion pathogenesis. <i>Journal of Clinical Investigation</i> , 2017 , 127, 3136-3151	15.9	111
45	Astrocyte Reactivity: Subtypes, States, and Functions in CNS Innate Immunity. <i>Trends in Immunology</i> , 2020 , 41, 758-770	14.4	110
44	Hippocampal neurotrophin and trk receptor mRNA levels are altered by local administration of nicotine, carbachol and pilocarpine. <i>Molecular Brain Research</i> , 1999 , 67, 124-36		107

43	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. <i>Glia</i> , 2006 , 53, 277-93	9	102
42	Early activation of STAT3 regulates reactive astrogliosis induced by diverse forms of neurotoxicity. <i>PLoS ONE</i> , 2014 , 9, e102003	3.7	95
41	Starring roles for astroglia in barrier pathologies of gut and brain. <i>Laboratory Investigation</i> , 2007 , 87, 731-6	5.9	95
40	Astrocyte CCL2 sustains immune cell infiltration in chronic experimental autoimmune encephalomyelitis. <i>Journal of Neuroimmunology</i> , 2014 , 274, 53-61	3.5	93
39	PTEN dosage is essential for neurofibroma development and malignant transformation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009 , 106, 19479-84	11.5	89
38	Memantine enhances recovery from stroke. <i>Stroke</i> , 2014 , 45, 2093-2100	6.7	88
37	Sustained local delivery of bioactive nerve growth factor in the central nervous system via tunable diblock copolypeptide hydrogel depots. <i>Biomaterials</i> , 2012 , 33, 9105-16	15.6	74
36	Transcriptome analyses reveal molecular mechanisms underlying functional recovery after spinal cord injury. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015 , 112, 13360-5	11.5	72
35	STAT3-mediated astrogliosis protects myelin development in neonatal brain injury. <i>Annals of Neurology</i> , 2012 , 72, 750-65	9.4	63
34	Selective ablation of proliferating astrocytes does not affect disease outcome in either acute or chronic models of motor neuron degeneration. <i>Experimental Neurology</i> , 2008 , 211, 423-32	5.7	60
33	Ependymal cell contribution to scar formation after spinal cord injury is minimal, local and dependent on direct ependymal injury. <i>Scientific Reports</i> , 2017 , 7, 41122	4.9	59
32	Design and synthesis of nonionic copolypeptide hydrogels with reversible thermoresponsive and tunable physical properties. <i>Biomacromolecules</i> , 2015 , 16, 1331-40	6.9	54
31	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. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2001 , 21, 972-81	7.3	51
30	Conformation-Directed Formation of Self-Healing Diblock Copolypeptide Hydrogels via Polyion Complexation. <i>Journal of the American Chemical Society</i> , 2017 , 139, 15114-15121	16.4	46
29	Biological aspects of axonal damage in glaucoma: A brief review. <i>Experimental Eye Research</i> , 2017 , 157, 5-12	3.7	42
28	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	15.6	38
27	Traumatically injured astrocytes release a proteomic signature modulated by STAT3-dependent cell survival. <i>Glia</i> , 2016 , 64, 668-94	9	36
26	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	3.5	33

25	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	5.8	33
24	P2X4 Receptor Reporter Mice: Sparse Brain Expression and Feeding-Related Presynaptic Facilitation in the Arcuate Nucleus. <i>Journal of Neuroscience</i> , 2016 , 36, 8902-20	6.6	31
23	The astrocyte transcriptome in EAE optic neuritis shows complement activation and reveals a sex difference in astrocytic C3 expression. <i>Scientific Reports</i> , 2019 , 9, 10010	4.9	30
22	Thermoresponsive Copolyptide Hydrogel Vehicles for Central Nervous System Cell Delivery. <i>ACS Biomaterials Science and Engineering</i> , 2015 , 1, 705-717	5.5	29
21	Astrocytes usurp neurons as a disease focus. <i>Nature Neuroscience</i> , 2019 , 22, 512-513	25.5	26
20	NMDA potentiates NGF-induced sprouting of septal cholinergic fibres. <i>NeuroReport</i> , 1994 , 5, 413-6	1.7	22
19	Seducing astrocytes to the dark side. <i>Cell Research</i> , 2017 , 27, 726-727	24.7	19
18	Imaging intracellular Ca ²⁺ signals in striatal astrocytes from adult mice using genetically-encoded calcium indicators. <i>Journal of Visualized Experiments</i> , 2014 , e51972	1.6	18
17	Foreign body responses in mouse central nervous system mimic natural wound responses and alter biomaterial functions. <i>Nature Communications</i> , 2020 , 11, 6203	17.4	17
16	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, 531-44	1.4	16
15	Traumatic brain injury reveals novel cell lineage relationships within the subventricular zone. <i>Stem Cell Research</i> , 2014 , 13, 48-60	1.6	14
14	Assessing the role of STAT3 in DC differentiation and autologous DC immunotherapy in mouse models of GBM. <i>PLoS ONE</i> , 2014 , 9, e96318	3.7	8
13	Molecular and functional properties of cortical astrocytes during peripherally induced neuroinflammation. <i>Cell Reports</i> , 2021 , 36, 109508	10.6	7
12	On the possibility of positive-feedback in trophic interactions between afferent and target neurons. <i>Seminars in Neuroscience</i> , 1993 , 5, 309-312		6
11	CHAPTER 19:Smart Materials for Central Nervous System Cell Delivery and Tissue Engineering. <i>RSC Smart Materials</i> ,529-557	0.6	6
10	Neuronal Responses to Axotomy 1999 , 3-1		4
9	Meeting Proceedings for SCI 2020: Launching a Decade of Disruption in Spinal Cord Injury Research. <i>Journal of Neurotrauma</i> , 2021 , 38, 1251-1266	5.4	4
8	Inflammation drives fibrotic scars in the CNS. <i>Nature Neuroscience</i> , 2021 , 24, 157-159	25.5	4

7	Stem-Cell-Derived Astrocytes Divulge Secrets of Mutant GFAP. <i>Cell Stem Cell</i> , 2018 , 23, 630-631	18	4
6	Engineering spinal cord repair. <i>Current Opinion in Biotechnology</i> , 2021 , 72, 48-53	11.4	2
5	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	3.7	2
4	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	17.4	2
3	Review article for CTR special issue edited by C. Schachtrup Title of Special Issue: "Modulating scar formation for improving brain repair" Loss-of-function manipulations to identify roles of diverse glia and stromal cells during CNS scar formation. <i>Cell and Tissue Research</i> , 2021 , 1	4.2	1
2	HepaCAM shapes astrocyte territories, stabilizes gap-junction coupling, and influences neuronal excitability. <i>Neuron</i> , 2021 , 109, 2365-2367	13.9	1
1	Neuromyelitis optica: circulating autoantibodies provoke astrocyte-mediated neural dysfunction. <i>Neurology</i> , 2011 , 76, 1202-3	6.5	