David Attwell

List of Publications by Year
in descending order

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131 papers	29,806 citations	10986 71 h-index	12946 131 g-index
170 all docs	170 docs citations	170 times ranked	26190 citing authors

#	Article	IF	Citations
1	The Effect of Hyperoxemia on Neurological Outcomes of Adult Patients: A Systematic Review and Meta-Analysis. Neurocritical Care, 2022, 36, 1027-1043.	2.4	10
2	Pericyte-mediated constriction of renal capillaries evokes no-reflow and kidney injury following ischaemia. ELife, 2022, 11, .	6.0	9
3	The Ca2+-gated channel TMEM16A amplifies capillary pericyte contraction and reduces cerebral blood flow after ischemia. Journal of Clinical Investigation, 2022, 132, .	8.2	46
4	The non-adrenergic imidazoline-1 receptor protein nischarin is a key regulator of astrocyte glutamate uptake. IScience, 2022, 25, 104127.	4.1	3
5	Immuneâ€“vascular mural cell interactions: consequences for immune cell trafficking, cerebral blood flow, and the bloodâ€“brain barrier. Neurophotonics, 2022, 9, 031914.	3.3	12
6	Neuronal energy use and brain evolution. Current Biology, 2022, 32, R650-R655.	3.9	7
7	Hyperoxia evokes pericyte-mediated capillary constriction. Journal of Cerebral Blood Flow and Metabolism, 2022, 42, 2032-2047.	4.3	10
8	Diverse mechanisms regulating brain energy supply at the capillary level. Current Opinion in Neurobiology, 2021, 69, 41-50.	4.2	13
9	Optimising the energetic cost of the glutamatergic synapse. Neuropharmacology, 2021, 197, 108727.	4.1	7
10	Monitoring phagocytic uptake of amyloid Î² into glial cell lysosomes in real time. Chemical Science, 2021, 12, 10901-10918.	7.4	19
11	Synapse development is regulated by microglial THIK-1 K ⁺ channels. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	14
12	Astrocyte Ca ²⁺ -evoked ATP release regulates myelinated axon excitability and conduction speed. Science, 2021, 374, eabh2858.	12.6	50
13	P2Y₁₃ receptors regulate microglial morphology, surveillance, and resting levels of interleukin 1Î² release. Glia, 2020, 68, 328-344.	4.9	44
14	Cerebral blood flow decrease as an early pathological mechanism in Alzheimer's disease. Acta Neuropathologica, 2020, 140, 793-810.	7.7	154
15	The emerging spectrum of COVID-19 neurology: clinical, radiological and laboratory findings. Brain, 2020, 143, 3104-3120.	7.6	880
16	Brainâ€™s immune cells put the brakes on neurons. Nature, 2020, 586, 366-367.	27.8	13
17	OUP accepted manuscript. Brain, 2020, 143, e101.	7.6	12
18	Analysis of Signaling Mechanisms Regulating Microglial Process Movement. Methods in Molecular Biology, 2019, 2034, 191-205.	0.9	5

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19	Energy-efficient information transfer at thalamocortical synapses. PLoS Computational Biology, 2019, 15, e1007226.	3.2	22
20	Ion Channels and Receptors as Determinants of Microglial Function. Trends in Neurosciences, 2019, 42, 278-292.	8.6	69
21	Amyloid Î² oligomers constrict human capillaries in Alzheimerâ€™s disease via signaling to pericytes. Science, 2019, 365, .	12.6	436
22	The role of pericytes in brain disorders: from the periphery to the brain. Journal of Neurochemistry, 2019, 150, 648-665.	3.9	26
23	Glutaric Acid Affects Pericyte Contractility and Migration: Possible Implications for GA-I Pathogenesis. Molecular Neurobiology, 2019, 56, 7694-7707.	4.0	12
24	Effects of the ecto-ATPase apyrase on microglial ramification and surveillance reflect cell depolarization, not ATP depletion. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E1608-E1617.	7.1	46
25	Microglial Ramification, Surveillance, and Interleukin-1Î² Release Are Regulated by the Two-Pore Domain K+ Channel THIK-1. Neuron, 2018, 97, 299-312.e6.	8.1	323
26	Regulation of developing myelin sheath elongation by oligodendrocyte calcium transients in vivo. Nature Neuroscience, 2018, 21, 24-28.	14.8	138
27	G proteinâ€coupled receptor 37â€like 1 modulates astrocyte glutamate transporters and neuronal NMDA receptors and is neuroprotective in ischemia. Glia, 2018, 66, 47-61.	4.9	41
28	Targeting pericytes for therapeutic approaches to neurological disorders. Acta Neuropathologica, 2018, 136, 507-523.	7.7	165
29	Non-signalling energy use in the developing rat brain. Journal of Cerebral Blood Flow and Metabolism, 2017, 37, 951-966.	4.3	37
30	Amines, Astrocytes, and Arousal. Neuron, 2017, 94, 228-231.	8.1	28
31	Control of brain energy supply by astrocytes. Current Opinion in Neurobiology, 2017, 47, 80-85.	4.2	97
32	Endogenous GABA controls oligodendrocyte lineage cell number, myelination, and CNS internode length. Glia, 2017, 65, 309-321.	4.9	83
33	Node of Ranvier length as a potential regulator of myelinated axon conduction speed. ELife, 2017, 6, .	6.0	226
34	Capillary pericytes mediate coronary no-reflow after myocardial ischaemia. ELife, 2017, 6, .	6.0	106
35	Signalling through AMPA receptors on oligodendrocyte precursors promotes myelination by enhancing oligodendrocyte survival. ELife, 2017, 6, .	6.0	111
36	NMDA Receptors: Power Switches for Oligodendrocytes. Neuron, 2016, 91, 3-5.	8.1	30

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37	Astrocytes mediate neurovascular signaling to capillary pericytes but not to arterioles. Nature Neuroscience, 2016, 19, 1619-1627.	14.8	435
38	Astrocyte calcium signaling: the third wave. Nature Neuroscience, 2016, 19, 182-189.	14.8	718
39	Proton-gated Ca2+-permeable TRP channels damage myelin in conditions mimicking ischaemia. Nature, 2016, 529, 523-527.	27.8	142
40	What is a pericyte?. Journal of Cerebral Blood Flow and Metabolism, 2016, 36, 451-455.	4.3	481
41	Energy-Efficient Information Transfer by Visual Pathway Synapses. Current Biology, 2015, 25, 3151-3160.	3.9	60
42	Coupling cellular metabolism to neuronal signalling. Journal of Physiology, 2015, 593, 3413-3415.	2.9	2
43	Nonâ€signalling energy use in the brain. Journal of Physiology, 2015, 593, 3417-3429.	2.9	170
44	Receptors, Ion Channels, and Signaling Mechanisms Underlying Microglial Dynamics. Journal of Biological Chemistry, 2015, 290, 12443-12450.	3.4	77
45	Tuning of Ranvier node and internode properties in myelinated axons to adjust action potential timing. Nature Communications, 2015, 6, 8073.	12.8	228
46	Capillary pericytes regulate cerebral blood flow in health and disease. Nature, 2014, 508, 55-60.	27.8	1,466
47	The node of Ranvier in CNS pathology. Acta Neuropathologica, 2014, 128, 161-175.	7.7	134
48	Imaging pericytes and capillary diameter in brain slices and isolated retinae. Nature Protocols, 2014, 9, 323-336.	12.0	98
49	A role for pericytes in coronary no-reflow. Nature Reviews Cardiology, 2014, 11, 427-432.	13.7	81
50	Oligodendrocyte Dynamics in the Healthy Adult CNS: Evidence for Myelin Remodeling. Neuron, 2013, 77, 873-885.	8.1	721
51	Neuregulin and BDNF Induce a Switch to NMDA Receptor-Dependent Myelination by Oligodendrocytes. PLoS Biology, 2013, 11, e1001743.	5.6	264
52	Oxidative Phosphorylation, Not Glycolysis, Powers Presynaptic and Postsynaptic Mechanisms Underlying Brain Information Processing. Journal of Neuroscience, 2012, 32, 8940-8951.	3.6	353
53	Updated Energy Budgets for Neural Computation in the Neocortex and Cerebellum. Journal of Cerebral Blood Flow and Metabolism, 2012, 32, 1222-1232.	4.3	542
54	An astrocyte TRP switch for inhibition. Nature Neuroscience, 2012, 15, 3-4.	14.8	16

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55	Synaptic Energy Use and Supply. Neuron, 2012, 75, 762-777.	8.1	1,209
56	The Energetics of CNS White Matter. Journal of Neuroscience, 2012, 32, 356-371.	3.6	387
57	Morphological and electrical properties of oligodendrocytes in the white matter of the corpus callosum and cerebellum. Journal of Physiology, 2011, 589, 559-573.	2.9	80
58	The physiology of developmental changes in BOLD functional imaging signals. Developmental Cognitive Neuroscience, 2011, 1, 199-216.	4.0	132
59	Dorsally and Ventrally Derived Oligodendrocytes Have Similar Electrical Properties but Myelinate Preferred Tracts. Journal of Neuroscience, 2011, 31, 6809-6819.	3.6	151
60	Do astrocytes really exocytose neurotransmitters?. Nature Reviews Neuroscience, 2010, 11, 227-238.	10.2	577
61	The Energy Use Associated with Neural Computation in the Cerebellum. Journal of Cerebral Blood Flow and Metabolism, 2010, 30, 403-414.	4.3	107
62	Glial and neuronal control of brain blood flow. Nature, 2010, 468, 232-243.	27.8	2,003
63	The receptor subunits generating NMDA receptor mediated currents in oligodendrocytes. Journal of Physiology, 2010, 588, 3403-3414.	2.9	60
64	Pericyte-mediated regulation of capillary diameter: a component of neurovascular coupling in health and disease. Frontiers in Neuroenergetics, 2010, 2, .	5.3	404
65	Why do oligodendrocyte lineage cells express glutamate receptors?. F1000 Biology Reports, 2010, 2, 57.	4.0	28
66	The effect of N-acetyl-aspartyl-glutamate and N-acetyl-aspartate on white matter oligodendrocytes. Brain, 2009, 132, 1496-1508.	7.6	43
67	Testing NMDA receptor block as a therapeutic strategy for reducing ischaemic damage to CNS white matter. Glia, 2008, 56, 233-240.	4.9	76
68	Brain power. Nature, 2008, 456, 715-716.	27.8	4
69	Assessing the physiological concentration and targets of nitric oxide in brain tissue. Journal of Physiology, 2008, 586, 3597-3615.	2.9	40
70	Spiking and nonspiking classes of oligodendrocyte precursor glia in CNS white matter. Nature Neuroscience, 2008, 11, 450-456.	14.8	303
71	Charge compensation for NADPH oxidase activity in microglia in rat brain slices does not involve a proton current. European Journal of Neuroscience, 2008, 28, 1146-1156.	2.6	25
72	The cortical energy needed for conscious perception. NeuroImage, 2008, 40, 1460-1468.	4.2	24

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73	Short- and long-term depression of rat cerebellar parallel fibre synaptic transmission mediated by synaptic crosstalk. Journal of Physiology, 2007, 578, 545-550.	2.9	43
74	Combining patch-clamping of cells in brain slices with immunocytochemical labeling to define cell type and developmental stage. Nature Protocols, 2006, 1, 1977-1986.	12.0	50
75	Bidirectional control of CNS capillary diameter by pericytes. Nature, 2006, 443, 700-704.	27.8	953
76	The ionic stoichiometry of the GLAST glutamate transporter in salamander retinal glia. Journal of Physiology, 2006, 577, 591-599.	2.9	83
77	Neuroenergetics and the kinetic design of excitatory synapses. Nature Reviews Neuroscience, 2005, 6, 841-849.	10.2	156
78	Endocannabinoid signaling depends on the spatial pattern of synapse activation. Nature Neuroscience, 2005, 8, 776-781.	14.8	103
79	Tonic release of glutamate by a DIDS-sensitive mechanism in rat hippocampal slices. Journal of Physiology, 2005, 564, 397-410.	2.9	143
80	NMDA receptors are expressed in oligodendrocytes and activated in ischaemia. Nature, 2005, 438, 1162-1166.	27.8	666
81	Tonic excitation and inhibition of neurons: ambient transmitter sources and computational consequences. Progress in Biophysics and Molecular Biology, 2005, 87, 3-16.	2.9	141
82	Neural Energy Consumption and the Representation of Mental Events. , 2005, , 111-124.		7
83	A Preferential Role for Glycolysis in Preventing the Anoxic Depolarization of Rat Hippocampal Area CA1 Pyramidal Cells. Journal of Neuroscience, 2005, 25, 848-859.	3.6	95
84	The electrical response of cerebellar Purkinje neurons to simulated ischaemia. Brain, 2005, 128, 2408-2420.	7.6	44
85	Release of l-aspartate by reversal of glutamate transporters. Neuropharmacology, 2005, 49, 843-849.	4.1	30
86	Sequential Release of GABA by Exocytosis and Reversed Uptake Leads to Neuronal Swelling in Simulated Ischemia of Hippocampal Slices. Journal of Neuroscience, 2004, 24, 3837-3849.	3.6	109
87	Feeding the brain. Nature, 2004, 431, 137-138.	27.8	47
88	Reversal or reduction of glutamate and GABA transport in CNS pathology and therapy. Pflugers Archiv European Journal of Physiology, 2004, 449, 132-142.	2.8	75
89	Role of glial amino acid transporters in synaptic transmission and brain energetics. Glia, 2004, 47, 217-225.	4.9	119
90	The Role of Glial Glutamate Transporters in Maintaining the Independent Operation of Juvenile Mouse Cerebellar Parallel Fibre Synapses. Journal of Physiology, 2003, 552, 89-107.	2.9	72

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91	Multiple modes of GABAergic inhibition of rat cerebellar granule cells. Journal of Physiology, 2003, 548, 97-110.	2.9	221
92	The Amino Terminus of the Glial Glutamate Transporter GLT-1 Interacts with the LIM Protein Ajuba. Molecular and Cellular Neurosciences, 2002, 19, 152-164.	2.2	49
93	Tonic and Spillover Inhibition of Granule Cells Control Information Flow through Cerebellar Cortex. Neuron, 2002, 33, 625-633.	8.1	333
94	The neural basis of functional brain imaging signals. Trends in Neurosciences, 2002, 25, 621-625.	8.6	793
95	Knocking out the glial glutamate transporter GLTâ€1 reduces glutamate uptake but does not affect hippocampal glutamate dynamics in early simulated ischaemia. European Journal of Neuroscience, 2002, 15, 308-314.	2.6	50
96	Modulation of ASIC channels in rat cerebellar purkinje neurons by ischaemiaâ€related signals. Journal of Physiology, 2002, 543, 521-529.	2.9	147
97	Control of intracellular chloride concentration and GABA response polarity in rat retinal ON bipolar cells. Journal of Physiology, 2002, 545, 183-198.	2.9	64
98	Effect of Acute Exposure to Ammonia on Glutamate Transport in Glial Cells Isolated From the Salamander Retina. Journal of Neurophysiology, 2001, 86, 836-844.	1.8	17
99	Glutamate Does Not Play a Major Role in Controlling Bone Growth. Journal of Bone and Mineral Research, 2001, 16, 742-749.	2.8	42
100	The Curious Incident of the [Silent] Dog in the Night-Time. Journal of Bone and Mineral Research, 2001, 16, 1731-1732.	2.8	2
101	A chemokineâ€"glutamate connection. Nature Neuroscience, 2001, 4, 676-678.	14.8	28
102	An Energy Budget for Signaling in the Grey Matter of the Brain. Journal of Cerebral Blood Flow and Metabolism, 2001, 21, 1133-1145.	4.3	2,708
103	Brain Uptake of Glutamate: Food for Thought. Journal of Nutrition, 2000, 130, 1023S-1025S.	2.9	51
104	Glutamate release in severe brain ischaemia is mainly by reversed uptake. Nature, 2000, 403, 316-321.	27.8	991
105	GABA_CReceptor Sensitivity Is Modulated by Interaction with MAP1B. Journal of Neuroscience, 2000, 20, 8643-8650.	3.6	140
106	Fast Removal of Synaptic Glutamate by Postsynaptic Transporters. Neuron, 2000, 28, 547-558.	8.1	165
107	C-terminal interactions modulate the affinity of GLAST glutamate transporters in salamander retinal glial cells. Journal of Physiology, 1999, 520, 393-397.	2.9	33
108	Modulation of extracellular glutamate concentration in rat brain slices by cystine-glutamate exchange. Journal of Physiology, 1999, 514, 783-793.	2.9	123

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109	Modulation by zinc of the glutamate transporters in glial cells and cones isolated from the tiger salamander retina. Journal of Physiology, 1998, 506, 363-376.	2.9	83
110	Inducible expression of the GLT-1 glutamate transporter in a CHO cell line selected for low endogenous glutamate uptake. FEBS Letters, 1998, 422, 339-342.	2.8	21
111	Chapter 4 Physiological and pathological operation of glutamate transporters. Progress in Brain Research, 1998, 116, 45-57.	1.4	51
112	Stoichiometry of the Glial Glutamate Transporter GLT-1 Expressed Inducibly in a Chinese Hamster Ovary Cell Line Selected for Low Endogenous Na⁺-Dependent Glutamate Uptake. Journal of Neuroscience, 1998, 18, 9620-9628.	3.6	427
113	Anion Conductance Behavior of the Glutamate Uptake Carrier in Salamander Retinal Glial Cells. Journal of Neuroscience, 1996, 16, 6722-6731.	3.6	111
114	Non-synaptic Release of ATP by Electrical Stimulation in Slices of Rat Hippocampus, Cerebellum and Habenula. European Journal of Neuroscience, 1996, 8, 1510-1515.	2.6	52
115	Modulation of non-vesicular glutamate release by pH. Nature, 1996, 379, 171-174.	27.8	147
116	Glia and neurons in dialogue. Nature, 1994, 369, 707-708.	27.8	60
117	Triggering and execution of neuronal death in brain ischaemia: two phases of glutamate release by different mechanisms. Trends in Neurosciences, 1994, 17, 359-365.	8.6	590
118	Glutamate uptake from the synaptic cleft does not shape the decay of the non-NMDA component of the synaptic current. Neuron, 1993, 11, 541-549.	8.1	167
119	Nonvesicular release of neurotransmitter. Neuron, 1993, 11, 401-407.	8.1	873
120	Potentiation of NMDA receptor currents by arachidonic acid. Nature, 1992, 355, 722-725.	27.8	435
121	The glial cell glutamate uptake carrier countertransports pH-changing anions. Nature, 1992, 360, 471-474.	27.8	372
122	Non-vesicular release of glutamate from glial cells by reversed electrogenic glutamate uptake. Nature, 1990, 348, 443-446.	27.8	695
123	Arachidonic acid induces a prolonged inhibition of glutamate uptake into glial cells. Nature, 1989, 342, 918-920.	27.8	383
124	A presynaptic action of glutamate at the cone output synapse. Nature, 1988, 332, 451-453.	27.8	106
125	Electrogenic glutamate uptake in glial cells is activated by intracellular potassium. Nature, 1988, 335, 433-435.	27.8	329
126	Electrogenic glutamate uptake is a major current carrier in the membrane of axolotl retinal glial cells. Nature, 1987, 327, 707-709.	27.8	398

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127	Signal clipping by the rod output synapse. Nature, 1987, 328, 522-524.	27.8	125
128	THE SHARPEY-SCHAFER LECTURE ION CHANNELS AND SIGNAL PROCESSING IN THE OUTER RETINA. Quarterly Journal of Experimental Physiology (Cambridge, England), 1986, 71, 496-536.	1.0	46
129	Endfeet of retinal glial cells have higher densities of ion channels that mediate K+ buffering. Nature, 1986, 324, 466-468.	27.8	190
130	Vision: Phototransduction changes focus. Nature, 1985, 317, 14-15.	27.8	8
131	The properties of single cones isolated from the tiger salamander retina. Journal of Physiology, 1982, 328, 259-283.	2.9	106