Roger A Nicoll

List of Publications by Year
in descending order

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118
papers

28,039
citations

11908

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22488

117
g-index

125
all docs

125
docs citations

125
times ranked

20453
citing authors

#	Article	IF	Citations
1	MAGUKs are essential, but redundant, in long-term potentiation. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	8
2	AMPA receptor trafficking and LTP: Carboxy-termini, amino-termini and TARPs. Neuropharmacology, 2021, 197, 108710.	2.0	41
3	LGI1â€“ADAM22â€“MAGUK configures transsynaptic nanoalignment for synaptic transmission and epilepsy prevention. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	49
4	Synaptic memory requires CaMKII. ELife, 2021, 10, .	2.8	33
5	Long-term potentiation is independent of the C-tail of the GluA1 AMPA receptor subunit. ELife, 2020, 9, .	2.8	25
6	Phase Separation-Mediated TARP/MAGUK Complex Condensation and AMPA Receptor Synaptic Transmission. Neuron, 2019, 104, 529-543.e6.	3.8	100
7	SynGO: An Evidence-Based, Expert-Curated Knowledge Base for the Synapse. Neuron, 2019, 103, 217-234.e4.	3.8	518
8	The STEP ₆₁ interactome reveals subunit-specific AMPA receptor binding and synaptic regulation. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 8028-8037.	3.3	17
9	Mechanisms underlying the synaptic trafficking of the glutamate delta receptor GluD1. Molecular Psychiatry, 2019, 24, 1451-1460.	4.1	11
10	Isoform-specific cleavage of neuroligin-3 reduces synapse strength. Molecular Psychiatry, 2019, 24, 145-160.	4.1	24
11	Somatostatin and parvalbumin inhibitory synapses onto hippocampal pyramidal neurons are regulated by distinct mechanisms. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 589-594.	3.3	59
12	The GABAA Receptor Î² Subunit Is Required for Inhibitory Transmission. Neuron, 2018, 98, 718-725.e3.	3.8	40
13	LTP requires postsynaptic PDZ-domain interactions with glutamate receptor/auxiliary protein complexes. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 3948-3953.	3.3	54
14	Signal peptide represses GluK1 surface and synaptic trafficking through binding to amino-terminal domain. Nature Communications, 2018, 9, 4879.	5.8	15
15	Postsynaptic Î´1 glutamate receptor assembles and maintains hippocampal synapses via Cbln2 and neurexin. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E5373-E5381.	3.3	46
16	The CaMKII/NMDA receptor complex controls hippocampal synaptic transmission by kinase-dependent and independent mechanisms. Nature Communications, 2018, 9, 2069.	5.8	110
17	A Brief History of Long-Term Potentiation. Neuron, 2017, 93, 281-290.	3.8	602
18	Amino-terminal domains of kainate receptors determine the differential dependence on Neto auxiliary subunits for trafficking. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 1159-1164.	3.3	22

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19	MAGUKs: multifaceted synaptic organizers. Current Opinion in Neurobiology, 2017, 43, 94-101.	2.0	121
20	Membraneâ€associated guanylate kinase dynamics reveal regional and developmental specificity of synapse stability. Journal of Physiology, 2017, 595, 1699-1709.	1.3	10
21	Synaptic homeostasis requires the membrane-proximal carboxy tail of GluA2. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 13266-13271.	3.3	26
22	Subunit-specific role for the amino-terminal domain of AMPA receptors in synaptic targeting. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 7136-7141.	3.3	66
23	A slow excitatory postsynaptic current mediated by a novel metabotropic glutamate receptor in CA1 pyramidal neurons. Neuropharmacology, 2017, 115, 4-9.	2.0	5
24	Dissecting the Role of Synaptic Proteins with CRISPR. Research and Perspectives in Neurosciences, 2017, , 51-62.	0.4	0
25	PSD-95 stabilizes NMDA receptors by inducing the degradation of STEP ₆₁. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E4736-44.	3.3	83
26	Kalirin and Trio proteins serve critical roles in excitatory synaptic transmission and LTP. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 2264-2269.	3.3	86
27	Long-Term Potentiation: From CaMKII to AMPA Receptor Trafficking. Annual Review of Physiology, 2016, 78, 351-365.	5.6	362
28	Distinct roles for extracellular and intracellular domains in neuroligin function at inhibitory synapses. ELife, 2016, 5, .	2.8	41
29	PSD-95 family MAGUKs are essential for anchoring AMPA and NMDA receptor complexes at the postsynaptic density. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E6983-92.	3.3	215
30	Autism-associated mutation inhibits protein kinase C-mediated neuroligin-4X enhancement of excitatory synapses. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 2551-2556.	3.3	56
31	Relative contribution of TARPs Î³-2 and Î³-7 to cerebellar excitatory synaptic transmission and motor behavior. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E371-9.	3.3	20
32	Synaptic Consolidation Normalizes AMPAR Quantal Size following MAGUK Loss. Neuron, 2015, 87, 534-548.	3.8	71
33	The cellular and molecular landscape of neuroligins. Trends in Neurosciences, 2015, 38, 496-505.	4.2	141
34	Is Aspartate an Excitatory Neurotransmitter?. Journal of Neuroscience, 2015, 35, 10168-10171.	1.7	56
35	The LGI1â€“ADAM22 protein complex directs synapse maturation through regulation of PSD-95 function. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E4129-37.	3.3	80
36	Neto auxiliary proteins control both the trafficking and biophysical properties of the kainate receptor GluK1. ELife, 2015, 4, .	2.8	26

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37	LTD expression is independent of glutamate receptor subtype. Frontiers in Synaptic Neuroscience, 2014, 6, 15.	1.3	28
38	A Cortical Circuit for Gain Control by Behavioral State. Cell, 2014, 156, 1139-1152.	13.5	827
39	CaMKII phosphorylation of neuroligin-1 regulates excitatory synapses. Nature Neuroscience, 2014, 17, 56-64.	7.1	83
40	Expression mechanisms underlying long-term potentiation: a postsynaptic view, 10 years on. Philosophical Transactions of the Royal Society B: Biological Sciences, 2014, 369, 20130136.	1.8	95
41	Efficient, Complete Deletion of Synaptic Proteins using CRISPR. Neuron, 2014, 83, 1051-1057.	3.8	104
42	Distance-Dependent Scaling of AMPARs Is Cell-Autonomous and GluA2 Dependent. Journal of Neuroscience, 2013, 33, 13312-13319.	1.7	24
43	AMPARs and Synaptic Plasticity: The Last 25 Years. Neuron, 2013, 80, 704-717.	3.8	797
44	LTP requires a reserve pool of glutamate receptors independent of subunit type. Nature, 2013, 493, 495-500.	13.7	275
45	Diversity in NMDA Receptor Composition. Neuroscientist, 2013, 19, 62-75.	2.6	340
46	Long-term potentiation: Peeling the onion. Neuropharmacology, 2013, 74, 18-22.	2.0	112
47	The Cell-Autonomous Role of Excitatory Synaptic Transmission in the Regulation of Neuronal Structure and Function. Neuron, 2013, 78, 433-439.	3.8	75
48	Dimerization of postsynaptic neuroligin drives synaptic assembly via transsynaptic clustering of neurexin. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 19432-19437.	3.3	57
49	A Subtype-Specific Function for the Extracellular Domain of Neuroligin 1 in Hippocampal LTP. Neuron, 2012, 76, 309-316.	3.8	92
50	Functional dependence of neuroligin on a new non-PDZ intracellular domain. Nature Neuroscience, 2011, 14, 718-726.	7.1	95
51	The Expanding Social Network of Ionotropic Glutamate Receptors: TARPs and Other Transmembrane Auxiliary Subunits. Neuron, 2011, 70, 178-199.	3.8	373
52	Distinct Modes of AMPA Receptor Suppression at Developing Synapses by GluN2A and GluN2B: Single-Cell NMDA Receptor Subunit Deletion InÂVivo. Neuron, 2011, 71, 1085-1101.	3.8	241
53	Genetic analysis of neuronal ionotropic glutamate receptor subunits. Journal of Physiology, 2011, 589, 4095-4101.	1.3	31
54	Disruption of LGI1â€"linked synaptic complex causes abnormal synaptic transmission and epilepsy. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 3799-3804.	3.3	287

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55	The role of SAP97 in synaptic glutamate receptor dynamics. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 3805-3810.	3.3	100
56	Single-Cell Optogenetic Excitation Drives Homeostatic Synaptic Depression. Neuron, 2010, 68, 512-528.	3.8	209
57	TARP modulation of synaptic AMPA receptor trafficking and gating depends on multiple intracellular domains. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 11348-11351.	3.3	44
58	Subunit Composition of Synaptic AMPA Receptors Revealed by a Single-Cell Genetic Approach. Neuron, 2009, 62, 254-268.	3.8	558
59	The Stoichiometry of AMPA Receptors and TARPs Varies by Neuronal Cell Type. Neuron, 2009, 62, 633-640.	3.8	123
60	Critical role for TARPs in early development despite broad functional redundancy. Neuropharmacology, 2009, 56, 22-29.	2.0	32
61	Silent synapses and the emergence of a postsynaptic mechanism for LTP. Nature Reviews Neuroscience, 2008, 9, 813-825.	4.9	519
62	NMDA receptors inhibit synapse unsilencing during brain development. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 5597-5602.	3.3	136
63	TARP Redundancy Is Critical for Maintaining AMPA Receptor Function. Journal of Neuroscience, 2008, 28, 8740-8746.	1.7	64
64	Conservation of Glutamate Receptor 2-Containing AMPA Receptors during Long-Term Potentiation. Journal of Neuroscience, 2007, 27, 4598-4602.	1.7	182
65	Stargazin interacts functionally with the AMPA receptor glutamate-binding module. Neuropharmacology, 2007, 52, 87-91.	2.0	61
66	Synaptic trafficking of glutamate receptors by MAGUK scaffolding proteins. Trends in Cell Biology, 2007, 17, 343-352.	3.6	237
67	Renal cysts and fibrosis caused by epithelial cell polarity defects in mice lacking mammalian Linâ€7c (MALSâ€3). FASEB Journal, 2007, 21, A544.	0.2	0
68	Epilepsy-Related Ligand/Receptor Complex LGI1 and ADAM22 Regulate Synaptic Transmission. Science, 2006, 313, 1792-1795.	6.0	352
69	Auxiliary Subunits Assist AMPA-Type Glutamate Receptors. Science, 2006, 311, 1253-1256.	6.0	340
70	Synapse-Specific and Developmentally Regulated Targeting of AMPA Receptors by a Family of MAGUK Scaffolding Proteins. Neuron, 2006, 52, 307-320.	3.8	346
71	Synaptic plasticity at hippocampal mossy fibre synapses. Nature Reviews Neuroscience, 2005, 6, 863-876.	4.9	824
72	TARP Î³-8 controls hippocampal AMPA receptor number, distribution and synaptic plasticity. Nature Neuroscience, 2005, 8, 1525-1533.	7.1	240

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73	Stargazin modulates AMPA receptor gating and trafficking by distinct domains. Nature, 2005, 435, 1052-1058.	13.7	447
74	Bidirectional Synaptic Plasticity Regulated by Phosphorylation of Stargazin-like TARPs. Neuron, 2005, 45, 269-277.	3.8	311
75	Photoinactivation of Native AMPA Receptors Reveals Their Real-Time Trafficking. Neuron, 2005, 48, 977-985.	3.8	208
76	Vesicular Glutamate Transporters 1 and 2 Target to Functionally Distinct Synaptic Release Sites. Science, 2004, 304, 1815-1819.	6.0	419
77	My close encounter with GABAB receptors. Biochemical Pharmacology, 2004, 68, 1667-1674.	2.0	66
78	Functional studies and distribution define a family of transmembrane AMPA receptor regulatory proteins. Journal of Cell Biology, 2003, 161, 805-816.	2.3	486
79	AMPA Receptor Trafficking at Excitatory Synapses. Neuron, 2003, 40, 361-379.	3.8	1,014
80	Expression mechanisms underlying long-term potentiation: a postsynaptic view. Philosophical Transactions of the Royal Society B: Biological Sciences, 2003, 358, 721-726.	1.8	164
81	Postsynaptic Density-95 Mimics and Occludes Hippocampal Long-Term Potentiation and Enhances Long-Term Depression. Journal of Neuroscience, 2003, 23, 5503-5506.	1.7	292
82	Direct interactions between PSD-95 and stargazin control synaptic AMPA receptor number. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 13902-13907.	3.3	656
83	Synaptic Strength Regulated by Palmitate Cycling on PSD-95. Cell, 2002, 108, 849-863.	13.5	526
84	Phosphorylation of the Postsynaptic Density-95 (PSD-95)/Discs Large/Zona Occludens-1 Binding Site of Stargazin Regulates Binding to PSD-95 and Synaptic Targeting of AMPA Receptors. Journal of Neuroscience, 2002, 22, 5791-5796.	1.7	142
85	Endogenous cannabinoids mediate retrograde signalling at hippocampal synapses. Nature, 2001, 410, 588-592.	13.7	1,413
86	Presynaptic Kainate Receptor Mediation of Frequency Facilitation at Hippocampal Mossy Fiber Synapses. Science, 2001, 291, 1972-1976.	6.0	245
87	AMPA receptors jump the synaptic cleft. Nature Neuroscience, 2000, 3, 527-529.	7.1	4
88	Stargazin regulates synaptic targeting of AMPA receptors by two distinct mechanisms. Nature, 2000, 408, 936-943.	13.7	975
89	Effects of reduced vesicular filling on synaptic transmission in rat hippocampal neurones. Journal of Physiology, 2000, 525, 195-206.	1.3	191
90	Synaptic Activation of Presynaptic Kainate Receptors on Hippocampal Mossy Fiber Synapses. Neuron, 2000, 27, 327-338.	3.8	195

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91	Lack of AMPA Receptor Desensitization During Basal Synaptic Transmission in the Hippocampal Slice. Journal of Neurophysiology, 1999, 81, 3096-3099.	0.9	45
92	Rapid, Activation-Induced Redistribution of Ionotropic Glutamate Receptors in Cultured Hippocampal Neurons. Journal of Neuroscience, 1999, 19, 1263-1272.	1.7	195
93	Long-term depression with a flash. Nature Neuroscience, 1998, 1, 89-90.	7.1	7
94	Is bigger better?. Nature, 1998, 396, 414-415.	13.7	6
95	Monitoring Glutamate Release during LTP with Glial Transporter Currents. Neuron, 1998, 21, 435-441.	3.8	124
96	Postsynaptic Membrane Fusion and Long-Term Potentiation. Science, 1998, 279, 399-403.	6.0	416
97	Development of Excitatory Circuitry in the Hippocampus. Journal of Neurophysiology, 1998, 79, 2013-2024.	0.9	238
98	Two Distinct Forms of Long-Term Depression Coexist in CA1 Hippocampal Pyramidal Cells. Neuron, 1997, 18, 969-982.	3.8	490
99	Synaptic Refractory Period Provides a Measure of Probability of Release in the Hippocampus. Neuron, 1997, 19, 1309-1318.	3.8	57
100	Never fear, LTP is hear. Nature, 1997, 390, 552-553.	13.7	32
101	Use-dependent increases in glutamate concentration activate presynaptic metabotropic glutamate receptors. Nature, 1997, 385, 630-634.	13.7	436
102	Kainate receptors mediate a slow postsynaptic current in hippocampal CA3 neurons. Nature, 1997, 388, 182-186.	13.7	504
103	Long-distance long-term depression. Nature, 1997, 388, 427-428.	13.7	9
104	Role of intercellular interactions in heterosynaptic long-term depression. Nature, 1996, 380, 446-450.	13.7	112
105	Presynaptic changes during mossy fibre LTP revealed by NMDA receptor-mediated synaptic responses. Nature, 1995, 376, 256-259.	13.7	172
106	Contrasting properties of two forms of long-term potentiation in the hippocampus. Nature, 1995, 377, 115-118.	13.7	831
107	Independent mechanisms for long-term depression of AMPA and NMDA responses. Neuron, 1995, 15, 417-426.	3.8	125
108	Evidence for silent synapses: Implications for the expression of LTP. Neuron, 1995, 15, 427-434.	3.8	1,147

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109	Cajal's rational psychology. Nature, 1994, 368, 808-809.	13.7	13
110	Postsynaptic contribution to long-term potentiation revealed by the analysis of miniature synaptic currents. Nature, 1992, 355, 50-55.	13.7	361
111	Long-term potentiation is associated with increases in quantal content and quantal amplitude. Nature, 1992, 357, 240-244.	13.7	281
112	An essential role for postsynaptic calmodulin and protein kinase activity in long-term potentiation. Nature, 1989, 340, 554-557.	13.7	1,079
113	NMDA application potentiates synaptic transmission in the hippocampus. Nature, 1988, 334, 250-252.	13.7	462
114	A persistent postsynaptic modification mediates long-term potentiation in the hippocampus. Neuron, 1988, 1, 911-917.	3.8	472
115	Potentiation of synaptic transmission in the hippocampus by phorbol esters. Nature, 1986, 321, 175-177.	13.7	668
116	Phorbol esters block a voltage-sensitive chloride current in hippocampal pyramidal cells. Nature, 1986, 321, 695-697.	13.7	224
117	Excitatory action of TRH on spinal motoneurones. Nature, 1977, 265, 242-243.	13.7	174
118	THE ENDORPHINS, NOVEL PEPTIDES OF BRAIN AND HYPOPHYSIAL ORIGIN, WITH OPIATE-LIKE ACTIVITY: BIOCHEMICAL AND BIOLOGIC STUDIES. Annals of the New York Academy of Sciences, 1977, 297, 131-157.	1.8	56