Menahem Segal

List of Publications by Year in descending order

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138	10,897	59 h-index	101
papers	citations		g-index
141	141	141	9744
all docs	docs citations	times ranked	citing authors

#	Article	IF	CITATIONS
1	ATP Released from Astrocytes Mediates Glial Calcium Waves. Journal of Neuroscience, 1999, 19, 520-528.	3.6	730
2	Estradiol Increases Dendritic Spine Density by Reducing GABA Neurotransmission in Hippocampal Neurons. Journal of Neuroscience, 1998, 18, 2550-2559.	3.6	439
3	Dendritic spines and long-term plasticity. Nature Reviews Neuroscience, 2005, 6, 277-284.	10.2	425
4	Dendritic Spines: The Locus of Structural and Functional Plasticity. Physiological Reviews, 2014, 94, 141-188.	28.8	399
5	Regulation of Dendritic Spine Density in Cultured Rat Hippocampal Neurons by Steroid Hormones. Journal of Neuroscience, 1996, 16, 4059-4068.	3.6	372
6	Neurotrophins Induce Formation of Functional Excitatory and Inhibitory Synapses between Cultured Hippocampal Neurons. Journal of Neuroscience, 1998, 18, 7256-7271.	3.6	327
7	Morphological analysis of dendritic spine development in primary cultures of hippocampal neurons. Journal of Neuroscience, 1995, 15, 1-11.	3.6	315
8	Morphological plasticity of dendritic spines in central neurons is mediated by activation of cAMP response element binding protein. Proceedings of the National Academy of Sciences of the United States of America, 1997, 94, 1482-1487.	7.1	303
9	Independent regulation of calcium revealed by imaging dendritic spines. Nature, 1991, 354, 76-80.	27.8	253
10	Brain-derived neurotrophic factor mediates estradiol-induced dendritic spine formation in hippocampal neurons. Proceedings of the National Academy of Sciences of the United States of America, 1998, 95, 11412-11417.	7.1	221
11	Striking Variations in Corticosteroid Modulation of Long-Term Potentiation along the Septotemporal Axis of the Hippocampus. Journal of Neuroscience, 2007, 27, 5757-5765.	3.6	210
12	Stress In Utero: Prenatal Programming of Brain Plasticity and Cognition. Biological Psychiatry, 2015, 78, 315-326.	1.3	188
13	Hydrogen Peroxide Modulation of Synaptic Plasticity. Journal of Neuroscience, 2003, 23, 269-276.	3.6	173
14	Dendritic spine formation and pruning: common cellular mechanisms?. Trends in Neurosciences, 2000, 23, 53-57.	8.6	169
15	Release of calcium from stores alters the morphology of dendritic spines in cultured hippocampal neurons. Proceedings of the National Academy of Sciences of the United States of America, 1999, 96, 12068-12072.	7.1	167
16	Synaptopodin Regulates Plasticity of Dendritic Spines in Hippocampal Neurons. Journal of Neuroscience, 2009, 29, 1017-1033.	3.6	162
17	Reversible impairment of longâ€term potentiation in transgenic Cu/Znâ€SOD mice. European Journal of Neuroscience, 1998, 10, 538-544.	2.6	159
18	A novel cholinergic induction of long-term potentiation in rat hippocampus. Journal of Neurophysiology, 1994, 72, 2034-2040.	1.8	150

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19	Dendritic spines, synaptic plasticity and neuronal survival: activity shapes dendritic spines to enhance neuronal viability. European Journal of Neuroscience, 2010, 31, 2178-2184.	2.6	135
20	FMRP Involvement in Formation of Synapses among Cultured Hippocampal Neurons. Cerebral Cortex, 2000, 10, 1045-1052.	2.9	132
21	Stressâ€induced dynamic routing of hippocampal connectivity: A hypothesis. Hippocampus, 2010, 20, 1332-1338.	1.9	130
22	Hydrogen Peroxide As a Diffusible Signal Molecule in Synaptic Plasticity. Molecular Neurobiology, 2004, 29, 167-178.	4.0	118
23	Protein kinase C and ERK involvement in dendritic spine plasticity in cultured rodent hippocampal neurons. European Journal of Neuroscience, 2003, 17, 2529-2539.	2.6	117
24	Dendritic spines: Morphological building blocks of memory. Neurobiology of Learning and Memory, 2017, 138, 3-9.	1.9	115
25	Confocal microscopic imaging of [Ca2+]i in cultured rat hippocampal neurons following exposure to Nâ€methylâ€Dâ€aspartate Journal of Physiology, 1992, 448, 655-676.	2.9	114
26	Morphological plasticity in dendritic spines of cultured hippocampal neurons. Neuroscience, 1996, 71, 1005-1011.	2.3	114
27	Dendritic Spine Density and LTP Induction in Cultured Hippocampal Slices. Journal of Neurophysiology, 1997, 77, 1614-1623.	1.8	114
28	Differential Modulation of Long-Term Depression by Acute Stress in the Rat Dorsal and Ventral Hippocampus. Journal of Neuroscience, 2009, 29, 8633-8638.	3.6	114
29	Differential Corticosteroid Modulation of Inhibitory Synaptic Currents in the Dorsal and Ventral Hippocampus. Journal of Neuroscience, 2009, 29, 2857-2866.	3.6	109
30	Neural differentiation of fragile X human embryonic stem cells reveals abnormal patterns of development despite successful neurogenesis. Developmental Biology, 2013, 374, 32-45.	2.0	103
31	Dendritic spines shaped by synaptic activity. Current Opinion in Neurobiology, 2000, 10, 582-586.	4.2	100
32	Regulation of Dendritic Spine Motility in Cultured Hippocampal Neurons. Journal of Neuroscience, 2001, 21, 6115-6124.	3.6	96
33	Hippocampal Synaptic Plasticity in Mice Overexpressing an Embryonic Subunit of the NMDA Receptor. Journal of Neuroscience, 1998, 18, 4177-4188.	3.6	95
34	Contrasting Roles of Corticosteroid Receptors in Hippocampal Plasticity. Journal of Neuroscience, 2006, 26, 9130-9134.	3.6	94
35	Functional Plasticity Triggers Formation and Pruning of Dendritic Spines in Cultured Hippocampal Networks. Journal of Neuroscience, 2001, 21, 186-193.	3.6	93
36	Selective loss of dopaminergic nigro-striatal neurons in brains of Atm-deficient mice. Proceedings of the National Academy of Sciences of the United States of America, 1998, 95, 12653-12656.	7.1	91

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37	Paradoxical Actions of Hydrogen Peroxide on Long-Term Potentiation in Transgenic Superoxide Dismutase-1 Mice. Journal of Neuroscience, 2003, 23, 10359-10367.	3.6	90
38	Activation of PKC induces rapid morphological plasticity in dendrites of hippocampal neurons via Rac and Rho-dependent mechanisms. European Journal of Neuroscience, 2004, 19, 3151-3164.	2.6	90
39	Formation of dendritic spines in cultured striatal neurons depends on excitatory afferent activity. European Journal of Neuroscience, 2003, 17, 2573-2585.	2.6	88
40	Unique regulation of long term potentiation in the rat ventral hippocampus. Hippocampus, 2007, 17, 10-25.	1.9	88
41	Neuronal Density Determines Network Connectivity and Spontaneous Activity in Cultured Hippocampus. Journal of Neurophysiology, 2010, 104, 1052-1060.	1.8	88
42	Fast confocal imaging of calcium released from stores in dendritic spines. European Journal of Neuroscience, 1998, 10, 2076-2084.	2.6	86
43	Serotonin attenuates a slow inhibitory postsynaptic potential in rat hippocampal neurons. Neuroscience, 1990, 36, 631-641.	2.3	85
44	Determinants of spontaneous activity in networks of cultured hippocampus. Brain Research, 2008, 1235, 21-30.	2.2	82
45	Geometry of Dendritic Spines Affects Calcium Dynamics in Hippocampal Neurons: Theory and Experiments. Journal of Neurophysiology, 1999, 82, 450-462.	1.8	81
46	Environmental Enrichment Restores Memory Functioning in Mice with Impaired IL-1 Signaling via Reinstatement of Long-Term Potentiation and Spine Size Enlargement. Journal of Neuroscience, 2009, 29, 3395-3403.	3.6	81
47	Synaptopodin Regulates Spine Plasticity: Mediation by Calcium Stores. Journal of Neuroscience, 2014, 34, 11641-11651.	3.6	81
48	Dendritic spines for neuroprotection: a hypothesis. Trends in Neurosciences, 1995, 18, 468-471.	8.6	79
49	Estradiol Induces Formation of Dendritic Spines in Hippocampal Neurons: Functional Correlates. Hormones and Behavior, 2001, 40, 156-159.	2.1	74
50	Signal Propagation Along Unidimensional Neuronal Networks. Journal of Neurophysiology, 2005, 94, 3406-3416.	1.8	74
51	Spike-Associated Fast Contraction of Dendritic Spines in Cultured Hippocampal Neurons. Neuron, 2001, 30, 751-758.	8.1	72
52	The Spine Apparatus, Synaptopodin, and Dendritic Spine Plasticity. Neuroscientist, 2010, 16, 125-131.	3.5	71
53	Hypertension induced by hypothalamic transplantation from genetically hypertensive to normotensive rats. Journal of Neuroscience, 1991, 11, 401-411.	3.6	69
54	Dynamic regulation of spine-dendrite coupling in cultured hippocampal neurons. European Journal of Neuroscience, 2004, 20, 2649-2663.	2.6	66

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55	Persistent Changes in Ability to Express Long-Term Potentiation/Depression in the Rat Hippocampus After Juvenile/Adult Stress. Biological Psychiatry, 2011, 69, 748-753.	1.3	65
56	Endoplasmic reticulum calcium stores in dendritic spines. Frontiers in Neuroanatomy, 2014, 8, 64.	1.7	65
57	Rapid plasticity of dendritic spine: hints to possible functions?. Progress in Neurobiology, 2001, 63, 61-70.	5.7	64
58	Progesterone Prevents Estradiol-Induced Dendritic Spine Formation in Cultured Hippocampal Neurons. Neuroendocrinology, 2000, 72, 133-143.	2.5	63
59	Functional Deficiencies in Fragile X Neurons Derived from Human Embryonic Stem Cells. Journal of Neuroscience, 2015, 35, 15295-15306.	3.6	63
60	Morphological alterations in dendritic spines of rat hippocampal neurons exposed to N-methyl-d-aspartate. Neuroscience Letters, 1995, 193, 73-76.	2.1	61
61	The role of the storeâ€operated calcium entry channel Orai1 in cultured rat hippocampal synapse formation and plasticity. Journal of Physiology, 2017, 595, 125-140.	2.9	60
62	Late degeneration of nigro-striatal neurons in ATMâ^'/â^' mice. Neuroscience, 2003, 121, 83-98.	2.3	58
63	Presynaptic cholinergic inhibition in hippocampal cultures. Synapse, 1989, 4, 305-312.	1.2	57
64	Imaging of calcium variations in living dendritic spines of cultured rat hippocampal neurons Journal of Physiology, 1995, 486, 283-295.	2.9	56
65	CREB Activation Mediates Plasticity in Cultured Hippocampal Neurons. Neural Plasticity, 1998, 6, 1-7.	2.2	54
66	Steroid modulation of hippocampal plasticity: switching between cognitive and emotional memories. Frontiers in Cellular Neuroscience, 2012, 6, 12.	3.7	54
67	Bidirectional regulation of dendritic spine dimensions by glutamate receptors. NeuroReport, 1999, 10, 2875-2877.	1.2	52
68	Network bursts in hippocampal microcultures are terminated by exhaustion of vesicle pools. Journal of Neurophysiology, 2011, 106, 2314-2321.	1.8	52
69	Upregulation of GABA Neurotransmission Suppresses Hippocampal Excitability and Prevents Long-Term Potentiation in Transgenic Superoxide Dismutase-Overexpressing Mice. Journal of Neuroscience, 1999, 19, 10977-10984.	3.6	50
70	Miniature Synaptic Currents Become Neurotoxic to Chronically Silenced Neurons. Cerebral Cortex, 2007, 17, 1292-1306.	2.9	50
71	Calcium dynamics in dendritic spines, modeling and experiments. Cell Calcium, 2005, 37, 467-475.	2.4	48
72	Selective facilitation of LTP in the ventral hippocampus by calcium stores. Hippocampus, 2012, 22, 1635-1644.	1.9	48

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73	Synaptopodin regulates release of calcium from stores in dendritic spines of cultured hippocampal neurons. Journal of Physiology, 2011, 589, 5987-5995.	2.9	46
74	Neurobiological consequences of juvenile stress: A GABAergic perspective on risk and resilience. Neuroscience and Biobehavioral Reviews, 2017, 74, 21-43.	6.1	46
75	Morphological constraints on calcium dependent glutamate receptor trafficking into individual dendritic spine. Cell Calcium, 2007, 42, 41-57.	2.4	45
76	Corticosteroid Regulation of Synaptic Plasticity in the Hippocampus. Scientific World Journal, The, 2010, 10, 462-469.	2.1	45
77	Juvenile stress alters LTP in ventral hippocampal slices: Involvement of noradrenergic mechanisms. Behavioural Brain Research, 2015, 278, 559-562.	2.2	42
78	Lasting Differential Effects on Plasticity Induced by Prenatal Stress in Dorsal and Ventral Hippocampus. Neural Plasticity, 2016, 2016, 1-10.	2.2	40
79	Spatially confined diffusion of calcium in dendrites of hippocampal neurons revealed by flash photolysis of caged calcium. Cell Calcium, 2006, 40, 441-449.	2.4	37
80	Prenatal Stress Affects Network Properties of Rat Hippocampal Neurons. Biological Psychiatry, 2013, 73, 1095-1102.	1.3	36
81	Experience-induced transgenerational (re-)programming of neuronal structure and functions: Impact of stress prior and during pregnancy. Neuroscience and Biobehavioral Reviews, 2020, 117, 281-296.	6.1	36
82	Loss of forebrain MTCH2 decreases mitochondria motility and calcium handling and impairs hippocampal-dependent cognitive functions. Scientific Reports, 2017, 7, 44401.	3.3	35
83	Rapid WAVE dynamics in dendritic spines of cultured hippocampal neurons is mediated by actin polymerization. Journal of Neurochemistry, 2005, 95, 1401-1410.	3.9	34
84	Roles of Calcium Stores and Store-Operated Channels in Plasticity of Dendritic Spines. Neuroscientist, 2016, 22, 477-485.	3.5	34
85	Neuronal circuits overcome imbalance in excitation and inhibition by adjusting connection numbers. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	34
86	Cellular basis of a rapid effect of mineralocorticosteroid receptors activation on LTP in ventral hippocampal slices. Hippocampus, 2012, 22, 267-275.	1.9	31
87	Zeta Inhibitory Peptide, a Candidate Inhibitor of Protein Kinase MÂ, Is Excitotoxic to Cultured Hippocampal Neurons. Journal of Neuroscience, 2015, 35, 12404-12411.	3.6	31
88	Physiological effects of selective 5-HT1a and 5-HT1b ligands in rat hippocampus: comparison to 5-HT. Brain Research, 1989, 502, 67-74.	2.2	30
89	Prenatal stress alters noradrenergic modulation of LTP in hippocampal slices. Journal of Neurophysiology, 2013, 110, 279-285.	1.8	30
90	Fast imaging of [Ca]i reveals presence of voltage-gated calcium channels in dendritic spines of cultured hippocampal neurons. Journal of Neurophysiology, 1995, 74, 484-488.	1.8	29

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91	Survival and synaptogenesis of hippocampal neurons without NMDA receptor function in culture. European Journal of Neuroscience, 1998, 10, 2192-2198.	2.6	29
92	Simultaneous NMDA-Dependent Long-Term Potentiation of EPSCs and Long-Term Depression of IPSCs in Cultured Rat Hippocampal Neurons. Journal of Neuroscience, 2006, 26, 1199-1210.	3.6	27
93	Dendritic spines: elementary structural units of neuronal plasticity. Progress in Brain Research, 2002, 138, 53-59.	1.4	26
94	Lack of correlation between synaptopodin expression and the ability to induce LTP in the rat dorsal and ventral hippocampus. Hippocampus, 2008, 18, 1-4.	1.9	26
95	Overexpression of PKMζ Alters Morphology and Function of Dendritic Spines in Cultured Cortical Neurons. Cerebral Cortex, 2012, 22, 2519-2528.	2.9	26
96	Chapter 9 Changing views of Cajal's neuron: the case of the dendritic spine. Progress in Brain Research, 2002, 136, 101-107.	1.4	25
97	Aged SOD Overexpressing Mice Exhibit Enhanced Spatial Memory While Lacking Hippocampal Neurogenesis. Antioxidants and Redox Signaling, 2007, 9, 181-189.	5.4	25
98	The Interactome of Palmitoyl-Protein Thioesterase 1 (PPT1) Affects Neuronal Morphology and Function. Frontiers in Cellular Neuroscience, 2019, 13, 92.	3.7	25
99	Lasting effects of glutamate on nuclear calcium concentration in cultured rat hippocampal neurons: regulation by calcium stores Journal of Physiology, 1996, 496, 39-48.	2.9	24
100	Confocal microscopic imaging of fast UV-laser photolysis of caged compounds. Journal of Neuroscience Methods, 2004, 133, 153-159.	2.5	22
101	BDNF and NTâ€3 increase excitatory input connectivity in rat hippocampal cultures. European Journal of Neuroscience, 2009, 30, 998-1010.	2.6	22
102	Calcium stores regulate excitability in cultured rat hippocampal neurons. Journal of Neurophysiology, 2018, 120, 2694-2705.	1.8	21
103	Ischemic <scp>LTP</scp> : <scp>NMDA</scp> â€dependency and dorso/ventral distribution within the hippocampus. Hippocampus, 2015, 25, 1465-1471.	1.9	20
104	Calcium-Containing Organelles Display Unique Reactivity to Chemical Stimulation in Cultured Hippocampal Neurons. Journal of Neuroscience, 1997, 17, 1670-1682.	3.6	19
105	Is fragile X mental retardation protein involved in activity-induced plasticity of dendritic spines?. Brain Research, 2003, 972, 9-15.	2.2	19
106	Stress and corticosteroid modulation of seizures and synaptic inhibition in the hippocampus. Experimental Neurology, 2012, 234, 200-207.	4.1	19
107	ORAI1-dependent synaptic plasticity in rat hippocampal neurons. Neurobiology of Learning and Memory, 2017, 140, 1-10.	1.9	18
108	Control of Neuronal Plasticity by Reactive Oxygen Species. Antioxidants and Redox Signaling, 2007, 9, 165-167.	5.4	17

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109	Degeneration of cultured cortical neurons following prolonged inactivation: molecular mechanisms. Journal of Neurochemistry, 2009, 110, 1203-1213.	3.9	17
110	Electron microscopic 3Dâ€reconstruction of dendritic spines in cultured hippocampal neurons undergoing synaptic plasticity. Developmental Neurobiology, 2008, 68, 870-876.	3.0	16
111	Presenilin 1 Regulates [Ca ²⁺]i and Mitochondria/ER Interaction in Cultured Rat Hippocampal Neurons. Oxidative Medicine and Cellular Longevity, 2019, 2019, 1-14.	4.0	16
112	Synaptopodin Deficiency Ameliorates Symptoms in the 3xTg Mouse Model of Alzheimer's Disease. Journal of Neuroscience, 2019, 39, 3983-3992.	3.6	16
113	Stress Impairs Synaptic Plasticity in Triple-Transgenic Alzheimer's Disease Mice: Rescue by Ryanodine. Neurodegenerative Diseases, 2014, 13, 135-138.	1.4	15
114	Ryanodine-mediated conversion of STP to LTP is lacking in synaptopodin-deficient mice. Brain Structure and Function, 2016, 221, 2393-2397.	2.3	15
115	Cannabidiol Regulates Long Term Potentiation Following Status Epilepticus: Mediation by Calcium Stores and Serotonin. Frontiers in Molecular Neuroscience, 2018, 11, 32.	2.9	15
116	Calcium Sensors STIM1 and STIM2 Regulate Different Calcium Functions in Cultured Hippocampal Neurons. Frontiers in Synaptic Neuroscience, 2020, 12, 573714.	2.5	13
117	Age-dependent glutamate induction of synaptic plasticity in cultured hippocampal neurons. Learning and Memory, 2006, 13, 719-727.	1.3	12
118	Activity-dependent survival of neurons in culture: a model of slow neurodegeneration. Journal of Neural Transmission, 2009, 116, 1363-1369.	2.8	10
119	Chronic exposure to alcohol alters network activity and morphology of cultured hippocampal neurons. NeuroToxicology, 2015, 47, 62-71.	3.0	9
120	Impaired Functional Connectivity Underlies Fragile X Syndrome. International Journal of Molecular Sciences, 2022, 23, 2048.	4.1	7
121	Complex effects of aqueous extract of Melampyrum pratense and of its flavonoids on activity of primary cultured hippocampal neurons. Journal of Ethnopharmacology, 2015, 163, 220-228.	4.1	6
122	Learning Deficits in Adult Mitochondria Carrier Homolog 2 Forebrain Knockout Mouse. Neuroscience, 2018, 394, 156-163.	2.3	5
123	False Opposing Fear Memories Are Produced as a Function of the Hippocampal Sector Where Glucocorticoid Receptors Are Activated. Frontiers in Behavioral Neuroscience, 2020, 14, 144.	2.0	5
124	Allostatic gene regulation of inhibitory synaptic factors in the rat ventral hippocampus in a juvenile/adult stress model of psychopathology. European Journal of Neuroscience, 2022, 55, 2142-2153.	2.6	5
125	Increased excitability of hippocampal neurons in mature synaptopodin-knockout mice. Brain Structure and Function, 2021, 226, 2459-2466.	2.3	5
126	Mechanisms Driving the Emergence of Neuronal Hyperexcitability in Fragile X Syndrome. International Journal of Molecular Sciences, 2022, 23, 6315.	4.1	5

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127	Activity Deprivation Induces Neuronal Cell Death: Mediation by Tissue-Type Plasminogen Activator. PLoS ONE, 2011, 6, e25919.	2.5	4
128	Active cortical innervation protects striatal neurons from slow degeneration in culture. Journal of Neural Transmission, 2011, 118, 445-451.	2.8	4
129	Ethanol Affects Network Activity in Cultured Rat Hippocampus: Mediation by Potassium Channels. PLoS ONE, 2013, 8, e75988.	2.5	4
130	Orail regulates calcium entry into dendritic spines. Channels, 2017, 11, 99-100.	2.8	3
131	The flavonoid acetylpectolinarin counteracts the effects of low ethanol on spontaneous network activity in hippocampal cultures. Journal of Ethnopharmacology, 2019, 229, 22-28.	4.1	3
132	So, why do they dance, after all?. Journal of Physiology, 2004, 558, 367-367.	2.9	1
133	Dendritic Spine Plasticity and Memory Formation. , 2017, , 199-215.		1
134	Stress, Corticosterone, and Hippocampal Plasticity., 2019, , 93-104.		1
135	Aged SOD Overexpressing Mice Exhibit Enhanced Spatial Memory While Lacking Hippocampal Neurogenesis. Antioxidants and Redox Signaling, 2006, .	5.4	1
136	Hydrogen Peroxide Regulates Metaplasticity in the Hippocampus. , 2005, , 49-64.		0
137	Control of Neuronal Plasticity by Reactive Oxygen Species. Antioxidants and Redox Signaling, 2006, .	5.4	0
138	Stress Modulation of Synaptic Plasticity in the Hippocampus. , 2014, , 137-150.		0