

Volkmar LeÄmann

List of Publications by Year in descending order

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114
papers

8,210
citations

53751

45
h-index

49868

87
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121
all docs

121
docs citations

121
times ranked

9474
citing authors

#	ARTICLE	IF	CITATIONS
1	Huntingtin Controls Neurotrophic Support and Survival of Neurons by Enhancing BDNF Vesicular Transport along Microtubules. <i>Cell</i> , 2004, 118, 127-138.	13.5	1,004
2	Neurotrophin secretion: current facts and future prospects. <i>Progress in Neurobiology</i> , 2003, 69, 341-374.	2.8	572
3	Synaptic secretion of BDNF after high-frequency stimulation of glutamatergic synapses. <i>EMBO Journal</i> , 2001, 20, 5887-5897.	3.5	446
4	BDNF, and NT-4/5 enhance glutamatergic synaptic transmission in cultured hippocampal neurones. <i>NeuroReport</i> , 1994, 6, 21-25.	0.6	383
5	Mechanisms, locations, and kinetics of synaptic BDNF secretion: An update. <i>Neuroscience Research</i> , 2009, 65, 11-22.	1.0	288
6	BDNF signaling in the formation, maturation and plasticity of glutamatergic and GABAergic synapses. <i>Experimental Brain Research</i> , 2009, 199, 203-234.	0.7	257
7	Relationships of peripheral IGF-1, VEGF and BDNF levels to exercise-related changes in memory, hippocampal perfusion and volumes in older adults. <i>NeuroImage</i> , 2016, 131, 142-154.	2.1	236
8	Pre- and postsynaptic twists in BDNF secretion and action in synaptic plasticity. <i>Neuropharmacology</i> , 2014, 76, 610-627.	2.0	207
9	Postsynaptic Secretion of BDNF and NT-3 from Hippocampal Neurons Depends on Calcium-Dependent Calmodulin Kinase II Signaling and Proceeds via Delayed Fusion Pore Opening. <i>Journal of Neuroscience</i> , 2007, 27, 10350-10364.	1.7	181
10	Neurotrophin-Dependent Modulation of Glutamatergic Synaptic Transmission in the Mammalian CNS. <i>General Pharmacology</i> , 1998, 31, 667-674.	0.7	170
11	Dance training is superior to repetitive physical exercise in inducing brain plasticity in the elderly. <i>PLoS ONE</i> , 2018, 13, e0196636.	1.1	158
12	Modulation of unitary glutamatergic synapses by neurotrophin-4/5 or brain-derived neurotrophic factor in hippocampal microcultures: presynaptic enhancement depends on pre-established paired-pulse facilitation. <i>Neuroscience</i> , 1998, 86, 399-413.	1.1	153
13	Activity-Dependent Dendritic Release of BDNF and Biological Consequences. <i>Molecular Neurobiology</i> , 2009, 39, 37-49.	1.9	152
14	BDNF-GFP containing secretory granules are localized in the vicinity of synaptic junctions of cultured cortical neurons. <i>Journal of Cell Science</i> , 1998, 111, 1483-1493.	1.2	152
15	A common thread for pain and memory synapses? Brain-derived neurotrophic factor and trkB receptors. <i>Trends in Pharmacological Sciences</i> , 2003, 24, 116-121.	4.0	141
16	Differential Vesicular Targeting and Time Course of Synaptic Secretion of the Mammalian Neurotrophins. <i>Journal of Neuroscience</i> , 2005, 25, 7601-7614.	1.7	131
17	Evolution of Neuroplasticity in Response to Physical Activity in Old Age: The Case for Dancing. <i>Frontiers in Aging Neuroscience</i> , 2017, 9, 56.	1.7	118
18	Activity-Dependent Regulation of Neuronal Apoptosis in Neonatal Mouse Cerebral Cortex. <i>Cerebral Cortex</i> , 2008, 18, 1335-1349.	1.6	117

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19	Backpropagating Action Potentials Trigger Dendritic Release of BDNF during Spontaneous Network Activity. <i>Journal of Neuroscience</i> , 2008, 28, 7013-7023.	1.7	116
20	Essential cooperation of N-cadherin and neuroligin-1 in the transsynaptic control of vesicle accumulation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, 11116-11121.	3.3	115
21	N-Cadherin Transsynaptically Regulates Short-Term Plasticity at Glutamatergic Synapses in Embryonic Stem Cell-Derived Neurons. <i>Journal of Neuroscience</i> , 2006, 26, 6968-6978.	1.7	106
22	Mechanisms of C-Reactive Protein-Induced Blood-Brain Barrier Disruption. <i>Stroke</i> , 2009, 40, 1458-1466.	1.0	106
23	Fast, convenient, and effective method to transiently transfect primary hippocampal neurons. , 1999, 58, 831-835.		101
24	Dorsal tegmental dopamine neurons gate associative learning of fear. <i>Nature Neuroscience</i> , 2018, 21, 952-962.	7.1	96
25	Theta Burst Firing Recruits BDNF Release and Signaling in Postsynaptic CA1 Neurons in Spike-Timing-Dependent LTP. <i>Neuron</i> , 2015, 86, 1041-1054.	3.8	93
26	The physiology of regulated BDNF release. <i>Cell and Tissue Research</i> , 2020, 382, 15-45.	1.5	91
27	The Functional Role of the Second NPXY Motif of the LRP1 β -Chain in Tissue-type Plasminogen Activator-mediated Activation of N-Methyl-D-aspartate Receptors. <i>Journal of Biological Chemistry</i> , 2008, 283, 12004-12013.	1.6	89
28	Cellular Mechanisms of Subplate-Driven and Cholinergic Input-Dependent Network Activity in the Neonatal Rat Somatosensory Cortex. <i>Cerebral Cortex</i> , 2009, 19, 89-105.	1.6	86
29	Lactate and BDNF: Key Mediators of Exercise Induced Neuroplasticity?. <i>Journal of Clinical Medicine</i> , 2020, 9, 1136.	1.0	84
30	Cytotoxic CD8 ⁺ T Cell-Neuron Interactions: Perforin-Dependent Electrical Silencing Precedes But Is Not Causally Linked to Neuronal Cell Death. <i>Journal of Neuroscience</i> , 2009, 29, 15397-15409.	1.7	78
31	Postsynaptic BDNF signalling regulates long-term potentiation at thalamo-amygdala afferents. <i>Journal of Physiology</i> , 2012, 590, 193-208.	1.3	78
32	BDNF-GFP containing secretory granules are localized in the vicinity of synaptic junctions of cultured cortical neurons. <i>Journal of Cell Science</i> , 1998, 111 (Pt 11), 1483-93.	1.2	78
33	A Protein Interaction Node at the Neurotransmitter Release Site: Domains of Aczonin/Piccolo, Bassoon, CAST, and Rim Converge on the N-Terminal Domain of Munc13-1. <i>Journal of Neuroscience</i> , 2009, 29, 12584-12596.	1.7	77
34	The Adenomatous Polyposis Coli-protein (APC) interacts with the protein tyrosine phosphatase PTP-BL via an alternatively spliced PDZ domain. <i>Oncogene</i> , 2000, 19, 3894-3901.	2.6	75
35	Inhibition of the myosin light chain kinase prevents hypoxia-induced blood-brain barrier disruption. <i>Journal of Neurochemistry</i> , 2007, 102, 501-507.	2.1	70
36	Impaired fear extinction learning in adult heterozygous BDNF knock-out mice. <i>Neurobiology of Learning and Memory</i> , 2013, 103, 34-38.	1.0	69

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37	Truncated TrkB receptor-induced outgrowth of dendritic filopodia involves the p75 neurotrophin receptor. <i>Journal of Cell Science</i> , 2004, 117, 5803-5814.	1.2	67
38	Imaging of evoked dense-core-vesicle exocytosis in hippocampal neurons reveals long latencies and kiss-and-run fusion events. <i>Journal of Cell Science</i> , 2009, 122, 75-82.	1.2	66
39	Impaired GABAergic inhibition in the visual cortex of brain-derived neurotrophic factor heterozygous knockout mice. <i>Journal of Physiology</i> , 2008, 586, 1885-1901.	1.3	65
40	Chronic BDNF deficiency leads to an age-dependent impairment in spatial learning. <i>Neurobiology of Learning and Memory</i> , 2015, 120, 52-60.	1.0	63
41	Dopaminergic innervation and modulation of hippocampal networks. <i>Cell and Tissue Research</i> , 2018, 373, 711-727.	1.5	63
42	Reduced presynaptic efficiency of excitatory synaptic transmission impairs LTP in the visual cortex of BDNF-heterozygous mice. <i>European Journal of Neuroscience</i> , 2006, 24, 3519-3531.	1.2	58
43	HIPP neurons in the dentate gyrus mediate the cholinergic modulation of background context memory salience. <i>Nature Communications</i> , 2017, 8, 189.	5.8	54
44	Acute and chronic interference with BDNF/TrkB-signaling impair LTP selectively at mossy fiber synapses in the CA3 region of mouse hippocampus. <i>Neuropharmacology</i> , 2013, 71, 247-254.	2.0	50
45	Presynaptic Plasticity in an Immature Neocortical Network Requires NMDA Receptor Activation and BDNF Release. <i>Journal of Neurophysiology</i> , 2006, 96, 3512-3516.	0.9	49
46	Effect of intermittent normobaric hypoxia on aerobic capacity and cognitive function in older people. <i>Journal of Science and Medicine in Sport</i> , 2016, 19, 941-945.	0.6	46
47	Fluvastatin prevents glutamate-induced blood-brain-barrier disruption in vitro. <i>Life Sciences</i> , 2008, 82, 1281-1287.	2.0	45
48	Age-dependent deficits in fear learning in heterozygous BDNF knock-out mice. <i>Learning and Memory</i> , 2012, 19, 561-570.	0.5	45
49	Oxidative stress in drug-naïve first episode patients with schizophrenia and major depression: effects of disease acuity and potential confounders. <i>European Archives of Psychiatry and Clinical Neuroscience</i> , 2018, 268, 129-143.	1.8	45
50	Brain-Derived Neurotrophic Factor Signaling in the HVC Is Required for Testosterone-Induced Song of Female Canaries. <i>Journal of Neuroscience</i> , 2009, 29, 15511-15519.	1.7	44
51	Cytosolic, but not matrix, calcium is essential for adjustment of mitochondrial pyruvate supply. <i>Journal of Biological Chemistry</i> , 2020, 295, 4383-4397.	1.6	43
52	Developmental maturation of synaptic vesicle cycling as a distinctive feature of central glutamatergic synapses. <i>Neuroscience</i> , 2003, 117, 7-18.	1.1	41
53	Dopamine Modulates Spike Timing-Dependent Plasticity and Action Potential Properties in CA1 Pyramidal Neurons of Acute Rat Hippocampal Slices. <i>Frontiers in Synaptic Neuroscience</i> , 2011, 3, 6.	1.3	39
54	Semaphorin4F interacts with the synapse-associated protein SAP90/PSD-95. <i>Journal of Neurochemistry</i> , 2001, 78, 482-489.	2.1	38

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55	Dopamine regulates intrinsic excitability thereby gating successful induction of spike timing-dependent plasticity in CA1 of the hippocampus. <i>Frontiers in Neuroscience</i> , 2013, 7, 25.	1.4	38
56	Coexistence of Multiple Types of Synaptic Plasticity in Individual Hippocampal CA1 Pyramidal Neurons. <i>Frontiers in Synaptic Neuroscience</i> , 2017, 9, 7.	1.3	37
57	Ketamine-induced changes in plasma brain-derived neurotrophic factor (BDNF) levels are associated with the resting-state functional connectivity of the prefrontal cortex. <i>World Journal of Biological Psychiatry</i> , 2020, 21, 696-710.	1.3	34
58	NT-3 regulates BDNF-induced modulation of synaptic transmission in cultured hippocampal neurons. <i>NeuroReport</i> , 2001, 12, 2635-2639.	0.6	33
59	Impact of an additional chronic BDNF reduction on learning performance in an Alzheimer mouse model. <i>Frontiers in Behavioral Neuroscience</i> , 2015, 9, 58.	1.0	32
60	A population of serumdeprivation-induced bone marrow stem cells (SD-BMSC) expresses marker typical for embryonic and neural stem cells. <i>Experimental Cell Research</i> , 2009, 315, 50-66.	1.2	30
61	BDNF: a regulator of learning and memory processes with clinical potential. <i>E-Neuroforum</i> , 2014, 5, 1-11.	0.2	27
62	Two kinetically distinct 5-hydroxytryptamine-activated Cl ⁻ conductances at Retzius P-cell synapses of the medicinal leech. <i>Journal of Neuroscience</i> , 1995, 15, 1496-1505.	1.7	26
63	Amyloid-Beta Induced Changes in Vesicular Transport of BDNF in Hippocampal Neurons. <i>Neural Plasticity</i> , 2016, 2016, 1-15.	1.0	26
64	Fluvastatin stabilizes the blood-brain barrier in vitro by nitric oxide-dependent dephosphorylation of myosin light chains. <i>Neuropharmacology</i> , 2006, 51, 907-913.	2.0	25
65	BDNF-induced nitric oxide signals in cultured rat hippocampal neurons: time course, mechanism of generation, and effect on neurotrophin secretion. <i>Frontiers in Cellular Neuroscience</i> , 2014, 8, 323.	1.8	24
66	Memory enhancement by ferulic acid ester across species. <i>Science Advances</i> , 2018, 4, eaat6994.	4.7	23
67	Development of serotonin-induced ion currents in identified embryonic Retzius cells from the medicinal leech (<i>Hirudo medicinalis</i>). <i>Journal of Neuroscience</i> , 1991, 11, 800-809.	1.7	22
68	Prominent Postsynaptic and Dendritic Exocytosis of Endogenous BDNF Vesicles in BDNF-GFP Knock-in Mice. <i>Molecular Neurobiology</i> , 2019, 56, 6833-6855.	1.9	22
69	Cyclic AMP endogenously enhances synaptic strength of developing glutamatergic synapses in serum-free microcultures of rat hippocampal neurons. <i>Brain Research</i> , 1997, 763, 111-122.	1.1	21
70	Evans blue reduces macroscopic desensitization of non-NMDA receptor mediated currents and prolongs excitatory postsynaptic currents in cultured rat thalamic neurons. <i>Neuroscience Letters</i> , 1992, 146, 13-16.	1.0	20
71	Overexpression of BDNF and Full-Length TrkB Receptor Ameliorate Striatal Neural Survival in Huntington's Disease. <i>Neurodegenerative Diseases</i> , 2015, 15, 207-218.	0.8	20
72	BDNF-dependent consolidation of fear memories in the perirhinal cortex. <i>Frontiers in Behavioral Neuroscience</i> , 2013, 7, 205.	1.0	19

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73	Anti-Inflammatory Treatment with FTY720 Starting after Onset of Symptoms Reverses Synaptic Deficits in an AD Mouse Model. <i>International Journal of Molecular Sciences</i> , 2020, 21, 8957.	1.8	19
74	Stably BDNF-GFP expressing embryonic stem cells exhibit a BDNF release-dependent enhancement of neuronal differentiation. <i>Journal of Cell Science</i> , 2013, 126, 5062-73.	1.2	18
75	The Relation Between Long-Term Synaptic Plasticity at Glutamatergic Synapses in the Amygdala and Fear Learning in Adult Heterozygous BDNF-Knockout Mice. <i>Cerebral Cortex</i> , 2018, 28, 1195-1208.	1.6	18
76	CAPS1 effects on intragranular pH and regulation of BDNF release from secretory granules in hippocampal neurons. <i>Journal of Cell Science</i> , 2016, 129, 1378-90.	1.2	17
77	Reduced number of functional glutamatergic synapses in hippocampal neurons overexpressing full-length TrkB receptors. <i>Journal of Neuroscience Research</i> , 2001, 66, 327-336.	1.3	16
78	Differential modulation of AMPA receptor mediated currents by Evans Blue in postnatal rat hippocampal neurones. <i>British Journal of Pharmacology</i> , 1997, 121, 237-247.	2.7	13
79	Impaired transmission at corticothalamic excitatory inputs and intrathalamic GABAergic synapses in the ventrobasal thalamus of heterozygous BDNF knockout mice. <i>Neuroscience</i> , 2012, 222, 215-227.	1.1	13
80	Presynaptic Regulation of Tonic Inhibition by Neuromodulatory Transmitters in the Basal Amygdala. <i>Molecular Neurobiology</i> , 2018, 55, 8509-8521.	1.9	13
81	Alterations in glycosylation and lectin pattern during phorbol ester-induced differentiation of U937 cells. <i>Cancer Research</i> , 1990, 50, 323-7.	0.4	13
82	Neurotrophin signalling in amygdala-dependent cued fear learning. <i>Cell and Tissue Research</i> , 2020, 382, 161-172.	1.5	12
83	Golgi-Cox impregnation combined with fluorescence staining of amyloid plaques reveals local spine loss in an Alzheimer mouse model. <i>Journal of Neuroscience Methods</i> , 2020, 341, 108797.	1.3	12
84	Daily Intermittent Normobaric Hypoxia Over 2 Weeks Reduces BDNF Plasma Levels in Young Adults â€“ A Randomized Controlled Feasibility Study. <i>Frontiers in Physiology</i> , 2018, 9, 1337.	1.3	11
85	Mitoferrin-1 is required for brain energy metabolism and hippocampus-dependent memory. <i>Neuroscience Letters</i> , 2019, 713, 134521.	1.0	11
86	Comparison of the effects of open vs. closed skill exercise on the acute and chronic BDNF, IGF-1 and IL-6 response in older healthy adults. <i>BMC Neuroscience</i> , 2021, 22, 71.	0.8	11
87	The expression mechanism of the residual LTP in the CA1 region of BDNF k.o. mice is insensitive to NO synthase inhibition. <i>Brain Research</i> , 2011, 1391, 14-23.	1.1	10
88	Impairment of Spike-Timing-Dependent Plasticity at Schaffer Collateral-CA1 Synapses in Adult APP/PS1 Mice Depends on Proximity of A β Plaques. <i>International Journal of Molecular Sciences</i> , 2021, 22, 1378.	1.8	10
89	BDNF haploinsufficiency induces behavioral endophenotypes of schizophrenia in male mice that are rescued by enriched environment. <i>Translational Psychiatry</i> , 2021, 11, 233.	2.4	10
90	A kinetic model for Brain-Derived Neurotrophic Factor mediated spike timing-dependent LTP. <i>PLoS Computational Biology</i> , 2019, 15, e1006975.	1.5	9

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91	Calcium-Permeable AMPA Receptors Mediate Timing-Dependent LTP Elicited by Low Repeat Coincident Pre- and Postsynaptic Activity at Schaffer Collateral-CA1 Synapses. <i>Cerebral Cortex</i> , 2022, 32, 1682-1703.	1.6	9
92	Fast desensitization of glutamate activated AMPA/kainate receptors in rat thalamic neurones. <i>NeuroReport</i> , 1994, 5, 2253-2256.	0.6	8
93	Back-propagating action potential. <i>Communicative and Integrative Biology</i> , 2008, 1, 153-155.	0.6	8
94	Impact of Chronic BDNF Depletion on GABAergic Synaptic Transmission in the Lateral Amygdala. <i>International Journal of Molecular Sciences</i> , 2019, 20, 4310.	1.8	8
95	Long-term depression at hippocampal mossy fiber-CA3 synapses involves BDNF but is not mediated by p75NTR signaling. <i>Scientific Reports</i> , 2021, 11, 8535.	1.6	8
96	Protein expression patterns of identified neurons and of sprouting cells from the leech central nervous system. <i>Journal of Neurobiology</i> , 2000, 44, 320-332.	3.7	7
97	ProBDNF Dependence of LTD and Fear Extinction Learning in the Amygdala of Adult Mice. <i>Cerebral Cortex</i> , 2022, 32, 1350-1364.	1.6	7
98	Periprosthetic hypoxia as consequence of TRPM7 mediated cobalt influx in osteoblasts. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , 2019, 107, 1806-1813.	1.6	6
99	Enhancement of postsynaptic serotonin-activated Cl ⁻ currents by depolarization-induced Ca ²⁺ entry into leech neurons. <i>Neuroscience</i> , 1995, 67, 525-529.	1.1	5
100	Generation of functional cardiomyocytes from rat embryonic and induced pluripotent stem cells using feeder-free expansion and differentiation in suspension culture. <i>PLoS ONE</i> , 2018, 13, e0192652.	1.1	5
101	BDNF: a regulator of learning and memory processes with clinical potential. <i>E-Neuroforum</i> , 2014, 20, 1-11.	0.2	4
102	Structural and functional brain alterations in patients with myasthenia gravis. <i>Brain Communications</i> , 2022, 4, fca018.	1.5	4
103	Single-cell juxtacellular transfection and recording technique. <i>Pflügers Archiv European Journal of Physiology</i> , 2013, 465, 1637-1649.	1.3	3
104	BDNF: Ein Regulator von Lern- und Gedächtnisprozessen mit klinischem Potenzial. <i>E-Neuroforum</i> , 2014, 20, 166-177.	0.2	3
105	Membrane electrical properties of mouse hippocampal CA1 pyramidal neurons during strong inputs. <i>Biophysical Journal</i> , 2022, 121, 644-657.	0.2	3
106	Recording Activity-Dependent Release of BDNF from Hippocampal Neurons. <i>NeuroMethods</i> , 2018, , 119-129.	0.2	2
107	Editorial for the special issue neurotrophic factors. <i>Cell and Tissue Research</i> , 2020, 382, 1-4.	1.5	1
108	88 SYNAPTIC SECRETION AND LOCAL ACTIONS OF NEUROTROPHINS. <i>European Journal of Pain</i> , 2007, 11, S36-S36.	1.4	0

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109	Visualizing synaptic exocytosis of secretory granules containing GFP-tagged neurotrophins. Neuroscience Research, 2009, 65, S32.	1.0	0
110	Die Analyse synaptischer Plastizität auf Einzelzellebene mit Hilfe der STDP. Neuroforum, 2018, 24, 213-221.	0.2	0
111	Analyzing synaptic plasticity at the single cell level with STDP. Neuroforum, 2018, 24, A143-A150.	0.2	0
112	Reply to Rutter et al.: The roles of cytosolic and intramitochondrial Ca ²⁺ and the mitochondrial Ca ²⁺ -uniporter (MCU) in the stimulation of mammalian oxidative phosphorylation. Journal of Biological Chemistry, 2020, 295, 10507.	1.6	0
113	Embryonic stem cells stably expressing BDNF-GFP exhibit a BDNF-release-dependent enhancement of neuronal differentiation. Development (Cambridge), 2013, 140, e2308-e2308.	1.2	0
114	Investigations of adult neuroplasticity as an effect of long-term physical activity in old age. , 0, , 25-31.		0