

Rolf Heumann

List of Publications by Year in descending order

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112
papers

7,882
citations

76326

40
h-index

49909

87
g-index

115
all docs

115
docs citations

115
times ranked

6152
citing authors

#	ARTICLE	IF	CITATIONS
1	Interleukin-1 regulates synthesis of nerve growth factor in non-neuronal cells of rat sciatic nerve. <i>Nature</i> , 1987, 330, 658-659.	27.8	997
2	Timing and site of nerve growth factor synthesis in developing skin in relation to innervation and expression of the receptor. <i>Nature</i> , 1987, 326, 353-358.	27.8	580
3	The physiological function of nerve growth factor in the central nervous system: Comparison with the periphery. <i>Reviews of Physiology, Biochemistry and Pharmacology</i> , 1987, 109, 145-178.	1.6	478
4	BDNF, and NT-4/5 enhance glutamatergic synaptic transmission in cultured hippocampal neurones. <i>NeuroReport</i> , 1994, 6, 21-25.	1.2	383
5	Regulation of Nerve Growth Factor (NGF) Synthesis in the Rat Central Nervous System: Comparison between the Effects of Interleukin-1 and Various Growth Factors in Astrocyte Cultures and <i>in vivo</i> . <i>European Journal of Neuroscience</i> , 1990, 2, 69-76.	2.6	370
6	Macrophage dependence of peripheral sensory nerve regeneration: Possible involvement of nerve growth factor. <i>Neuron</i> , 1991, 6, 359-370.	8.1	295
7	EphrinB Phosphorylation and Reverse Signaling. <i>Molecular Cell</i> , 2002, 9, 725-737.	9.7	274
8	Effective transfection of cells with multi-shell calcium phosphate-DNA nanoparticles. <i>Biomaterials</i> , 2006, 27, 3147-3153.	11.4	265
9	Oxygen causes cell death in the developing brain. <i>Neurobiology of Disease</i> , 2004, 17, 273-282.	4.4	211
10	ras p21 protein promotes survival and fiber outgrowth of cultured embryonic neurons. <i>Neuron</i> , 1989, 2, 1087-1096.	8.1	197
11	Sensory Impairments and Delayed Regeneration of Sensory Axons in Interleukin-6-Deficient Mice. <i>Journal of Neuroscience</i> , 1999, 19, 4305-4313.	3.6	174
12	Cholinergic denervation of the rat hippocampus by fimbrial transection leads to a transient accumulation of nerve growth factor (NGF) without change in mRNANGF content. <i>Neuroscience Letters</i> , 1986, 66, 175-180.	2.1	168
13	Developmental changes of nerve growth factor and its mRNA in the rat hippocampus: Comparison with choline acetyltransferase. <i>Developmental Biology</i> , 1987, 120, 322-328.	2.0	159
14	Mechanisms leading to disseminated apoptosis following NMDA receptor blockade in the developing rat brain. <i>Neurobiology of Disease</i> , 2004, 16, 440-453.	4.4	149
15	Neurotrophin signalling. <i>Current Opinion in Neurobiology</i> , 1994, 4, 668-679.	4.2	148
16	A second messenger required for nerve growth factor biological activity?. <i>Nature</i> , 1981, 292, 838-340.	27.8	137
17	Erythropoietin protects the developing brain against N-methyl-d-aspartate receptor antagonist neurotoxicity. <i>Neurobiology of Disease</i> , 2004, 15, 177-187.	4.4	135
18	Transgenic Activation of Ras in Neurons Promotes Hypertrophy and Protects from Lesion-Induced Degeneration. <i>Journal of Cell Biology</i> , 2000, 151, 1537-1548.	5.2	125

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19	Functionalisation of calcium phosphate nanoparticles by oligonucleotides and their application for gene silencing. <i>Journal of Materials Chemistry</i> , 2007, 17, 721-727.	6.7	108
20	The use of size-defined DNA-functionalized calcium phosphate nanoparticles to minimise intracellular calcium disturbance during transfection. <i>Biomaterials</i> , 2009, 30, 6794-6802.	11.4	101
21	Synthesis, characterisation and bioimaging of a fluorescent rhenium-containing PNA bioconjugate. <i>Dalton Transactions</i> , 2012, 41, 2304-2313.	3.3	83
22	The synthesis of nerve growth factor (NGF) in developing skin is independent of innervation. <i>Developmental Biology</i> , 1988, 128, 240-244.	2.0	80
23	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.	5.9	75
24	Relationship between NGF-mediated volume increase and "priming effect" in fast and slow reacting clones of PC12 pheochromocytoma cells. <i>Experimental Cell Research</i> , 1983, 145, 179-190.	2.6	69
25	Fingolimod protects against neonatal white matter damage and long-term cognitive deficits caused by hyperoxia. <i>Brain, Behavior, and Immunity</i> , 2016, 52, 106-119.	4.1	69
26	Dyskinesia in Parkinson's disease: mechanisms and current non-pharmacological interventions. <i>Journal of Neurochemistry</i> , 2014, 130, 472-489.	3.9	66
27	Regrowing the Adult Brain: NF- κ B Controls Functional Circuit Formation and Tissue Homeostasis in the Dentate Gyrus. <i>PLoS ONE</i> , 2012, 7, e30838.	2.5	64
28	Neuronal activation of Ras regulates synaptic connectivity. <i>European Journal of Neuroscience</i> , 2004, 19, 2953-2966.	2.6	63
29	Nerve growth factor: Cellular localization and regulation of synthesis. <i>Cellular and Molecular Neurobiology</i> , 1988, 8, 35-40.	3.3	61
30	Human R1441C LRRK2 regulates the synaptic vesicle proteome and phosphoproteome in a <i>Drosophila</i> model of Parkinson's disease. <i>Human Molecular Genetics</i> , 2016, 25, ddw352.	2.9	61
31	Exercise can rescue recognition memory impairment in a model with reduced adult hippocampal neurogenesis. <i>Frontiers in Behavioral Neuroscience</i> , 2009, 3, 34.	2.0	60
32	Glucocorticoid Hormones Negatively Regulate Nerve Growth Factor Expression In Vivo and in Cultured Rat Fibroblasts. <i>European Journal of Neuroscience</i> , 1990, 2, 795-801.	2.6	55
33	The protein kinase C-related kinase PRK2 interacts with the protein tyrosine phosphatase PTP-BL via a novel PDZ domain binding motif. <i>FEBS Letters</i> , 2001, 496, 101-104.	2.8	55
34	Inhibition of exocytosis by intracellularly applied antibodies against a chromaffin granule-binding protein. <i>Nature</i> , 1989, 339, 709-712.	27.8	51
35	Ras Homolog Enriched in Brain (Rheb) Enhances Apoptotic Signaling*. <i>Journal of Biological Chemistry</i> , 2010, 285, 33979-33991.	3.4	49
36	Effects of Interferon- β and Tumor Necrosis Factor- α on Survival and Differentiation of Oligodendrocyte Progenitors. <i>Journal of the Society for Gynecologic Investigation</i> , 2004, 11, 89-96.	1.7	48

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37	Nerve growth factor-induced PKB/Akt activity is sustained by phosphoinositide 3-kinase dependent and independent signals in sympathetic neurons. <i>Brain Research</i> , 1999, 837, 127-142.	2.2	46
38	An outer shell of positively charged poly(ethyleneimine) strongly increases the transfection efficiency of calcium phosphate/DNA nanoparticles. <i>Journal of Materials Science</i> , 2010, 45, 4952-4957.	3.7	45
39	Calcium phosphate nanoparticles: colloidally stabilized and made fluorescent by a phosphate-functionalized porphyrin. <i>Journal of Materials Chemistry</i> , 2008, 18, 3655.	6.7	44
40	Erythropoietin Modulates Autophagy Signaling in the Developing Rat Brain in an In Vivo Model of Oxygen-Toxicity. <i>International Journal of Molecular Sciences</i> , 2012, 13, 12939-12951.	4.1	43
41	Tracking the pathway of calcium phosphate/DNA nanoparticles during cell transfection by incorporation of red-fluorescing tetramethylrhodamine isothiocyanate- α -bovine serum albumin into these nanoparticles. <i>Journal of Biological Inorganic Chemistry</i> , 2007, 12, 174-179.	2.6	41
42	Ataxin-2 Modulates the Levels of Grb2 and Src but Not Ras Signaling. <i>Journal of Molecular Neuroscience</i> , 2013, 51, 68-81.	2.3	41
43	Corticosteroids reverse cytokine-induced block of survival and differentiation of oligodendrocyte progenitor cells from rats. <i>Journal of Neuroinflammation</i> , 2008, 5, 39.	7.2	40
44	Preparation and Biological Evaluation of Di- μ -Hetero- μ -Organometallic-Containing PNA Bioconjugates. <i>European Journal of Inorganic Chemistry</i> , 2011, 2011, 5471-5478.	2.0	40
45	Semaphorin4F interacts with the synapse-associated protein SAP90/PSD-95. <i>Journal of Neurochemistry</i> , 2001, 78, 482-489.	3.9	38
46	Bisphenol A Binds to Ras Proteins and Competes with Guanine Nucleotide Exchange: Implications for GTPase-Selective Antagonists. <i>Journal of Medicinal Chemistry</i> , 2013, 56, 9664-9672.	6.4	38
47	Nerve growth factor stimulates MAPK via the low affinity receptor p75LNTR. <i>FEBS Letters</i> , 1999, 463, 231-234.	2.8	37
48	Electrochemical High-Content Screening of Nitric Oxide Release from Endothelial Cells. <i>ChemBioChem</i> , 2006, 7, 662-668.	2.6	37
49	Signaling pathways regulating Homer1a expression: implications for antidepressant therapy. <i>Biological Chemistry</i> , 2016, 397, 207-214.	2.5	33
50	Influence of cations on the electrical activity of neuroblastoma $\tilde{\text{A}}$ - glioma hybrid cells. <i>Brain Research</i> , 1977, 130, 495-504.	2.2	32
51	Polyploid rat glioma cells. <i>Experimental Cell Research</i> , 1982, 139, 117-126.	2.6	31
52	The Beneficial Effects of Physical Activity on Impaired Adult Neurogenesis and Cognitive Performance. <i>Frontiers in Neuroscience</i> , 2011, 5, 51.	2.8	31
53	Structure Determination and Ligand Interactions of the PDZ2b Domain of PTP-Bas (hPTP1E): Splicing-induced Modulation of Ligand Specificity. <i>Journal of Molecular Biology</i> , 2003, 334, 143-155.	4.2	29
54	Nerve growth factor-stimulated mitogen-activated protein kinase activity is not necessary for neurite outgrowth of chick dorsal root ganglion sensory and sympathetic neurons. , 1996, 46, 720-726.		28

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55	Photic inhibition of TrkB/Ras activity in the pigeon's tectum during development: impact on brain asymmetry formation. <i>European Journal of Neuroscience</i> , 2005, 22, 2180-2186.	2.6	25
56	Ras and Rheb Signaling in Survival and Cell Death. <i>Cancers</i> , 2013, 5, 639-661.	3.7	25
57	Acetylcholine Synthesis in the Schwann Cell and Axon in the Giant Nerve Fiber of the Squid. <i>Journal of Neurochemistry</i> , 1981, 36, 765-768.	3.9	24
58	Hyperoxia changes the balance of the thioredoxin/peroxiredoxin system in the neonatal rat brain. <i>Brain Research</i> , 2012, 1484, 68-75.	2.2	23
59	Perspectives of RAS and RHEB GTPase Signaling Pathways in Regenerating Brain Neurons. <i>International Journal of Molecular Sciences</i> , 2018, 19, 4052.	4.1	23
60	Enhanced Ras activity in pyramidal neurons induces cellular hypertrophy and changes in afferent and intrinsic connectivity in synRas mice. <i>International Journal of Developmental Neuroscience</i> , 2004, 22, 165-173.	1.6	22
61	PDZ-domain-directed basolateral targeting of the peripheral membrane protein FRMPD2 in epithelial cells. <i>Journal of Cell Science</i> , 2009, 122, 3374-3384.	2.0	22
62	Nerve growth factor synthesis in cultured rat iris: Modulation by endogenous transmitter substances. <i>Experimental Cell Research</i> , 1988, 179, 18-30.	2.6	21
63	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.	2.2	21
64	Constitutive Ras activity induces hippocampal hypertrophy and remodeling of pyramidal neurons in synRas mice. <i>Journal of Neuroscience Research</i> , 2004, 77, 630-641.	2.9	21
65	Enhanced Ras activity promotes spine formation in synRas mice neocortex. <i>NeuroReport</i> , 2005, 16, 149-152.	1.2	20
66	Lesion-induced Interleukin-6 mRNA Expression in Rat Sciatic Nerve. <i>Annals of the New York Academy of Sciences</i> , 1995, 762, 488-490.	3.8	20
67	MeCP2 phosphorylation in the brain: from transcription to behavior. <i>Biological Chemistry</i> , 2013, 394, 1595-1605.	2.5	20
68	Enhancement of dopaminergic properties and protection mediated by neuronal activation of Ras in mouse ventral mesencephalic neurones. <i>European Journal of Neuroscience</i> , 2007, 25, 1971-1981.	2.6	19
69	Novel Tools towards Magnetic Guidance of Neurite Growth: (I) Guidance of Magnetic Nanoparticles into Neurite Extensions of Induced Human Neurons and In Vitro Functionalization with RAS Regulating Proteins. <i>Journal of Functional Biomaterials</i> , 2019, 10, 32.	4.4	19
70	Immunosuppressant FK506 does not exert beneficial effects in symptomatic G93A superoxide dismutase-1 transgenic mice. <i>NeuroReport</i> , 2001, 12, 2663-2665.	1.2	18
71	Thrombin Has Biphasic Effects on the Nitric Oxide-cGMP Pathway in Endothelial Cells and Contributes to Experimental Pulmonary Hypertension. <i>PLoS ONE</i> , 2013, 8, e63504.	2.5	17
72	Ras Activity Oscillates in the Mouse Suprachiasmatic Nucleus and Modulates Circadian Clock Dynamics. <i>Molecular Neurobiology</i> , 2016, 53, 1843-1855.	4.0	17

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73	Nerve growth factor potentiates the agonist-stimulated accumulation of inositol phosphates in PC-12 pheochromocytoma cells. <i>European Journal of Pharmacology</i> , 1987, 135, 259-260.	3.5	16
74	Reduced number of functional glutamatergic synapses in hippocampal neurons overexpressing full-length TrkB receptors. <i>Journal of Neuroscience Research</i> , 2001, 66, 327-336.	2.9	16
75	Antagonistic effects of TrkB and p75NTR on NMDA receptor currents in post-synaptic densities transplanted into <i>Xenopus</i> oocytes. <i>Journal of Neurochemistry</i> , 2007, 101, 1672-1684.	3.9	16
76	Constitutive Activation of Ras in Neurons: Implications for the Regulation of the Mammalian Circadian Clock. <i>Chronobiology International</i> , 2006, 23, 191-200.	2.0	15
77	Identification of protein phosphatase 2A as an interacting protein of leucine-rich repeat kinase 2. <i>Biological Chemistry</i> , 2016, 397, 541-554.	2.5	15
78	Rheb in neuronal degeneration, regeneration, and connectivity. <i>Biological Chemistry</i> , 2017, 398, 589-606.	2.5	15
79	The small GTPases Ras and Rheb studied by multidimensional NMR spectroscopy: structure and function. <i>Biological Chemistry</i> , 2017, 398, 577-588.	2.5	15
80	Time-Resolved Signaling Pathways of Nerve Growth Factor Diverge Downstream of the p140trk Receptor Activation Between Chick Sympathetic and Dorsal Root Ganglion Sensory Neurons. <i>Journal of Neurochemistry</i> , 1995, 65, 1046-1053.	3.9	14
81	Regulation and function of neuronal GTP-Ras in facial motor nerve regeneration. <i>Journal of Neurochemistry</i> , 2009, 108, 1453-1463.	3.9	14
82	Nanoparticle-Mediated Gene Transfer From Electrophoretically Coated Metal Surfaces. <i>Journal of Physical Chemistry B</i> , 2013, 117, 1550-1555.	2.6	14
83	Differential expression patterns of sodium potassium ATPase alpha and beta subunit isoforms in mouse brain during postnatal development. <i>Neurochemistry International</i> , 2019, 128, 163-174.	3.8	14
84	Nerve Growth Factor. <i>Novartis Foundation Symposium</i> , 1985, 116, 113-128.	1.1	14
85	Factors from glial cells regulate choline acetyltransferase and tyrosine hydroxylase activities in a hybrid-hybrid cell line. <i>FEBS Letters</i> , 1979, 107, 37-41.	2.8	13
86	Prospective of Ras signaling in stem cells. <i>Biological Chemistry</i> , 2008, 389, 791-8.	2.5	13
87	Lethal Factor Domain-Mediated Delivery of Nurr1 Transcription Factor Enhances Tyrosine Hydroxylase Activity and Protects from Neurotoxin-Induced Degeneration of Dopaminergic Cells. <i>Molecular Neurobiology</i> , 2019, 56, 3393-3403.	4.0	13
88	Parallelized Manipulation of Adherent Living Cells by Magnetic Nanoparticles-Mediated Forces. <i>International Journal of Molecular Sciences</i> , 2020, 21, 6560.	4.1	13
89	NGF-Mediated Survival Depends on p21ras in Chick Sympathetic Neurons from the Superior Cervical but Not from Lumbosacral Ganglia. <i>Developmental Biology</i> , 1997, 191, 306-310.	2.0	12
90	Ras Activity Tunes the Period and Modulates the Entrainment of the Suprachiasmatic Clock. <i>Frontiers in Neurology</i> , 2017, 8, 264.	2.4	12

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91	Protection of Oligodendrocytes Through Neuronal Overexpression of the Small GTPase Ras in Hyperoxia-Induced Neonatal Brain Injury. <i>Frontiers in Neurology</i> , 2018, 9, 175.	2.4	12
92	Activation of Ras in neurons modifies synaptic vesicle docking and release. <i>NeuroReport</i> , 2004, 15, 2651-2654.	1.2	11
93	Role of Neuronal Ras Activity in Adult Hippocampal Neurogenesis and Cognition. <i>Frontiers in Neuroscience</i> , 2011, 5, 18.	2.8	11
94	Sequence-specific ¹ H, ¹³ C, and ¹⁵ N backbone assignment of the GTPase rRheb in its GDP-bound form. <i>Biomolecular NMR Assignments</i> , 2007, 1, 45-47.	0.8	10
95	Sequence-specific ¹ H, ¹³ C, and ¹⁵ N backbone assignment of the activated 21 kDa GTPase rRheb. <i>Biomolecular NMR Assignments</i> , 2007, 1, 105-108.	0.8	8
96	Tumorigenicity of neuroblastoma Å— glioma hybrid cells in nude mice and reintroduction of transplanted cells into culture. <i>European Journal of Cancer</i> , 1977, 13, 1417-1420.	0.9	7
97	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.	3.6	7
98	The role of (auto)-phosphorylation in the complex activation mechanism of LRRK2. <i>Biological Chemistry</i> , 2018, 399, 643-647.	2.5	7
99	Ectopic Expression of a Chimeric Colony-Stimulating Factor-1/TrkB-Receptor Promotes CSF-1-Dependent Survival of Cultured Sympathetic Neurons. <i>Biochemical and Biophysical Research Communications</i> , 1998, 249, 891-897.	2.1	6
100	Magnetic spatiotemporal control of SOS1 coupled nanoparticles for guided neurite growth in dopaminergic single cells. <i>Scientific Reports</i> , 2020, 10, 22452.	3.3	6
101	Cloning and sequence analysis of a cDNA encoding a novel truncated form of the chicken TrkB receptor. <i>Gene</i> , 1994, 149, 383-384.	2.2	5
102	Sequence-specific ¹ H, ¹³ C, and ¹⁵ N backbone assignment of the 28 kDa PDZ2/PDZ3 tandem domain of the protein tyrosine phosphatase PTP-BL. <i>Biomolecular NMR Assignments</i> , 2007, 1, 151-153.	0.8	4
103	Molecular Basis of Class III Ligand Recognition by PDZ3 in Murine Protein Tyrosine Phosphatase PTPN13. <i>Journal of Molecular Biology</i> , 2018, 430, 4275-4292.	4.2	4
104	Imaging of anthrax intoxication in mice reveals shared and individual functions of surface receptors CMG-2 and TEM-8 in cellular toxin entry. <i>Journal of Biological Chemistry</i> , 2022, 298, 101467.	3.4	4
105	Products of macrophages stimulate nerve growth factor mRNA synthesis in the injured perihelical nerve. <i>Journal of Neuroimmunology</i> , 1987, 16, 107.	2.3	3
106	Sequence-specific ¹ H, ¹³ C, and ¹⁵ N assignment of the extended PDZ3 domain of the protein tyrosine phosphatase basophil-like PTP-BL. <i>Biomolecular NMR Assignments</i> , 2010, 4, 199-202.	0.8	3
107	The binding affinity of PTPN13's tandem PDZ2/3 domain is allosterically modulated. <i>BMC Molecular and Cell Biology</i> , 2019, 20, 23.	2.0	3
108	Interneuronal growth and expression of interneuronal markers in visual cortex of mice with transgenic activation of Ras. <i>Experimental Brain Research</i> , 2009, 199, 265-278.	1.5	2

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109	The production of NGF mRNA in peripheral organs. Trends in Neurosciences, 1985, 8, 373-374.	8.6	1
110	The structure-function relationship of the nerve growth factor molecule and the regulation of its synthesis. Biochemical Society Transactions, 1987, 15, 131-132.	3.4	0
111	Highlight: Perspectives of molecular neuroscience in health and disease. Biological Chemistry, 2016, 397, 175-175.	2.5	0
112	Highlight Issue â€˜Molecular Basis of Life 2017â€™. Biological Chemistry, 2018, 399, 621-622.	2.5	0