JÃ¼rgen SandkÃ¼hler

List of Publications by Year
in descending order

107 papers	10,288 citations	44069 48 h-index	37204 96 g-index
123 all docs	123 docs citations	123 times ranked	7196 citing authors

#	Article	IF	Citations
1	Models and Mechanisms of Hyperalgesia and Allodynia. Physiological Reviews, 2009, 89, 707-758.	28.8	968
2	Corelease of Two Fast Neurotransmitters at a Central Synapse. , 1998, 281, 419-424.		726
3	Synaptic Plasticity in Spinal Lamina I Projection Neurons That Mediate Hyperalgesia. Science, 2003, 299, 1237-1240.	12.6	507
4	Neurogenic neuroinflammation: inflammatory CNS reactions in response to neuronal activity. Nature Reviews Neuroscience, 2014, 15, 43-53.	10.2	473
5	Synaptic Amplifier of Inflammatory Pain in the Spinal Dorsal Horn. Science, 2006, 312, 1659-1662.	12.6	414
6	Learning and memory in pain pathways. Pain, 2000, 88, 113-118.	4.2	382
7	Perceptual Correlates of Nociceptive Long-Term Potentiation and Long-Term Depression in Humans. Journal of Neuroscience, 2004, 24, 964-971.	3.6	318
8	Long-term potentiation of C-fiber-evoked potentials in the rat spinal dorsal horn is prevented by spinal N-methyl-d-aspartic acid receptor blockage. Neuroscience Letters, 1995, 191, 43-46.	2.1	304
9	Understanding LTP in Pain Pathways. Molecular Pain, 2007, 3, 1744-8069-3-9.	2.1	290
10	Induction of longâ€term potentiation at spinal synapses by noxious stimulation or nerve injury. European Journal of Neuroscience, 1998, 10, 2476-2480.	2.6	272
11	Relative contributions of the nucleus raphe magnus and adjacent medullary reticular formation to the inhibition by stimulation in the periaqueductal gray of a spinal nociceptive reflex in the pentobarbital-anesthetized rat. Brain Research, 1984, 305, 77-87.	2.2	248
12	Characterization of inhibition of a spinal nociceptive reflex by stimulation medially and laterally in the midbrain and medulla in the pentobarbital-anesthetized rat. Brain Research, 1984, 305, 67-76.	2.2	191
13	Long-Term Potentiation in Spinal Nociceptive Pathways as a Novel Target for Pain Therapy. Molecular Pain, 2011, 7, 1744-8069-7-20.	2.1	184
14	Induction of Synaptic Long-Term Potentiation After Opioid Withdrawal. Science, 2009, 325, 207-210.	12.6	182
15	Induction of Thermal Hyperalgesia and Synaptic Long-Term Potentiation in the Spinal Cord Lamina I by TNF-Î± and IL-1Î² is Mediated by Glial Cells. Journal of Neuroscience, 2013, 33, 6540-6551.	3.6	178
16	Laminaâ€specific membrane and discharge properties of rat spinal dorsal horn neurones in vitro. Journal of Physiology, 2002, 541, 231-244.	2.9	177
17	Physiological, neurochemical and morphological properties of a subgroup of GABAergic spinal lamina II neurones identified by expression of green fluorescent protein in mice. Journal of Physiology, 2004, 560, 249-266.	2.9	177
18	JUN, FOS, KROX, and CREB transcription factor proteins in the rat cortex: Basal expression and induction by spreading depression and epileptic seizures. Journal of Comparative Neurology, 1993, 333, 271-288.	1.6	166

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19	Modification of classical neurochemical markers in identified primary afferent neurons with AÎ²-, AÎ´-, and C-fibers after chronic constriction injury in mice. Journal of Comparative Neurology, 2007, 502, 325-336.	1.6	156
20	Hyperalgesia by synaptic long-term potentiation (LTP): an update. Current Opinion in Pharmacology, 2012, 12, 18-27.	3.5	149
21	Pre- and postsynaptic contributions of voltage-dependent Ca2+ channels to nociceptive transmission in rat spinal lamina I neurons. European Journal of Neuroscience, 2004, 19, 103-111.	2.6	142
22	Selective Activation of Microglia Facilitates Synaptic Strength. Journal of Neuroscience, 2015, 35, 4552-4570.	3.6	142
23	Gliogenic LTP spreads widely in nociceptive pathways. Science, 2016, 354, 1144-1148.	12.6	138
24	Long-term depression of C-fibre-evoked spinal field potentials by stimulation of primary afferent AÎ´-fibres in the adult rat. European Journal of Neuroscience, 1998, 10, 3069-3075.	2.6	134
25	Multiple Targets of Î¼-Opioid Receptor-Mediated Presynaptic Inhibition at Primary Afferent AÎ´- and C-Fibers. Journal of Neuroscience, 2011, 31, 1313-1322.	3.6	123
26	Brain-Derived Neurotrophic Factor Improves Long-Term Potentiation and Cognitive Functions after Transient Forebrain Ischemia in the Rat. Experimental Neurology, 1999, 159, 511-519.	4.1	110
27	Distinctive membrane and discharge properties of rat spinal lamina I projection neuronesin vitro. Journal of Physiology, 2004, 555, 527-543.	2.9	106
28	Activation of spinal N-methyl-d-aspartate or neurokinin receptors induces long-term potentiation of spinal C-fibre-evoked potentials in spinalized rats. Neuroscience, 1998, 86, 1209-1216.	2.3	101
29	Inhibition of caspases prevents cell death of hippocampal CA1 neurons, but not impairment of hippocampal long-term potentiation following global ischemia. Neuroscience, 1999, 93, 1219-1222.	2.3	101
30	Partial correlation analysis for the identification of synaptic connections. Biological Cybernetics, 2003, 89, 289-302.	1.3	101
31	Identification of synaptic connections in neural ensembles by graphical models. Journal of Neuroscience Methods, 1997, 77, 93-107.	2.5	90
32	Spinal somatostatin superfusion in vivo affects activity of cat nociceptive dorsal horn neurons: Comparison with spinal morphine. Neuroscience, 1990, 34, 565-576.	2.3	88
33	Erasure of a Spinal Memory Trace of Pain by a Brief, High-Dose Opioid Administration. Science, 2012, 335, 235-238.	12.6	86
34	Potentiated expression of FOS protein in the rat spinal cord following bilateral noxious cutaneous stimulation. Neuroscience, 1992, 48, 525-532.	2.3	78
35	Pain in neuromyelitis opticaâ€"prevalence, pathogenesis and therapy. Nature Reviews Neurology, 2014, 10, 529-536.	10.1	77
36	How to erase memory traces of pain and fear. Trends in Neurosciences, 2013, 36, 343-352.	8.6	75

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37	Spinal pathways mediating tonic or stimulation-produced descending inhibition from the periaqueductal gray or nucleus raphe magnus are separate in the cat. Journal of Neurophysiology, 1987, 58, 327-341.	1.8	71
38	Direct excitation of spinal GABAergic interneurons by noradrenaline. Pain, 2009, 145, 204-210.	4.2	71
39	Physiological properties of spinal lamina II GABAergic neurons in mice following peripheral nerve injury. Journal of Physiology, 2006, 577, 869-878.	2.9	67
40	Central Nervous System Mast Cells in Peripheral Inflammatory Nociception. Molecular Pain, 2011, 7, 1744-8069-7-42.	2.1	66
41	Induction of homosynaptic long-term depression at spinal synapses of sensory AÎ´-fibers requires activation of metabotropic glutamate receptors. Neuroscience, 2000, 98, 141-148.	2.3	65
42	Induction of long-term potentiation of C fibre-evoked spinal field potentials requires recruitment of group I, but not group II/III metabotropic glutamate receptors. Pain, 2003, 106, 373-379.	4.2	63
43	Spread of excitation across modality borders in spinal dorsal horn of neuropathic rats. Pain, 2008, 135, 300-310.	4.2	60
44	Distinct Mechanisms Underlying Pronociceptive Effects of Opioids. Journal of Neuroscience, 2011, 31, 16748-16756.	3.6	60
45	Impaired Excitatory Drive to Spinal Gabaergic Neurons of Neuropathic Mice. PLoS ONE, 2013, 8, e73370.	2.5	58
46	Blockade of GABAA receptors in the midbrain periaqueductal gray abolishes nociceptive spinal dorsal horn neuronal activity. European Journal of Pharmacology, 1989, 160, 163-166.	3.5	57
47	Reduction of glycine receptor-mediated miniature inhibitory postsynaptic currents in rat spinal lamina I neurons after peripheral inflammation. Neuroscience, 2003, 122, 799-805.	2.3	56
48	Long-Term Potentiation at C-Fibre Synapses by Low-Level Presynaptic Activity <i>in vivo</i>. Molecular Pain, 2008, 4, 1744-8069-4-18.	2.1	56
49	Inhibition of c-Fos Protein Expression in Rat Spinal Cord by Antisense Oligodeoxynucleotide Superfusion. European Journal of Neuroscience, 1994, 6, 880-884.	2.6	53
50	Effects of the NMDA-receptor antagonist ketamine on perceptual correlates of long-term potentiation within the nociceptive system. Neuropharmacology, 2007, 52, 655-661.	4.1	48
51	Controlled superfusion of the rat spinal cord for studying non-synaptic transmission: an autoradiographic analysis. Journal of Neuroscience Methods, 1995, 58, 193-202.	2.5	47
52	VGluT3⁺Primary Afferents Play Distinct Roles in Mechanical and Cold Hypersensitivity Depending on Pain Etiology. Journal of Neuroscience, 2014, 34, 12015-12028.	3.6	47
53	Low dose of S(+)-ketamine prevents long-term potentiation in pain pathways under strong opioid analgesia in the rat spinal cord in vivo. British Journal of Anaesthesia, 2005, 95, 518-523.	3.4	46
54	Synaptic input of rat spinal lamina I projection and unidentified neuronesin vitro. Journal of Physiology, 2005, 566, 355-368.	2.9	45

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55	Identification and characterization of rhythmic nociceptive and non-nociceptive spinal dorsal horn neurons in the rat. Neuroscience, 1994, 61, 991-1006.	2.3	43
56	Role of kainate receptors in nociception. Brain Research Reviews, 2002, 40, 215-222.	9.0	43
57	Characteristics of midbrain control of spinal nociceptive neurons and nonsomatosensory parameters in the pentobarbital-anesthetized rat. Journal of Neurophysiology, 1991, 65, 33-48.	1.8	41
58	Characteristics of propriospinal modulation of nociceptive lumbar spinal dorsal horn neurons in the cat. Neuroscience, 1993, 54, 957-967.	2.3	41
59	Heterosynaptic Long-Term Potentiation at GABAergic Synapses of Spinal Lamina I Neurons. Journal of Neuroscience, 2011, 31, 17383-17391.	3.6	40
60	The massive expression of c-Fos protein in spinal dorsal horn neurons is not followed by long-term changes in spinal nociception. Neuroscience, 1996, 73, 657-666.	2.3	39
61	Activation of group I metabotropic glutamate receptors induces long-term depression at sensory synapses in superficial spinal dorsal horn. Neuropharmacology, 2000, 39, 2231-2243.	4.1	36
62	Synchronicity of nociceptive and non-nociceptive adjacent neurons in the spinal dorsal horn of the rat: stimulus-induced plasticity. Neuroscience, 1996, 76, 39-54.	2.3	35
63	Low Doses of Fentanyl Block Central Sensitization in the Rat Spinal Cord In Vivo. Anesthesiology, 2004, 100, 1545-1551.	2.5	35
64	Inhibition of spinal nociceptive neurons by microinjections of somatostatin into the nucleus raphe magnus and the midbrain periaqueductal gray of the anesthetized cat. Neuroscience Letters, 1995, 187, 137-141.	2.1	34
65	Non-Hebbian plasticity at C-fiber synapses in rat spinal cord lamina I neurons. Pain, 2013, 154, 1333-1342.	4.2	34
66	Opioids and central sensitisation: II. Induction and reversal of hyperalgesia. European Journal of Pain, 2005, 9, 149-152.	2.8	33
67	Differential effects of spinalization on discharge patterns and discharge rates of simultaneously recorded nociceptive and non-nociceptive spinal dorsal horn neurons. Pain, 1995, 60, 55-65.	4.2	31
68	The effects of extrasynaptic substance P on nociceptive neurons in laminae I and II in rat lumbar spinal dorsal horn. Neuroscience, 1995, 68, 1207-1218.	2.3	31
69	Possible sources and sites of action of the nitric oxide involved in synaptic plasticity at spinal lamina i projection neurons. Neuroscience, 2006, 141, 977-988.	2.3	31
70	Signal transduction pathways of group I metabotropic glutamate receptor-induced long-term depression at sensory spinal synapses. Pain, 2005, 118, 145-154.	4.2	30
71	Long-range oscillatory Ca2+waves in rat spinal dorsal horn. European Journal of Neuroscience, 2005, 22, 1967-1976.	2.6	29
72	Central Sensitization Versus Synaptic Long-Term Potentiation (LTP): A Critical Comment. Journal of Pain, 2010, 11, 798-800.	1.4	26

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73	Effects of Peripheral Inflammation on the Blood-Spinal Cord Barrier. Molecular Pain, 2012, 8, 1744-8069-8-44.	2.1	26
74	Epileptiform activity in rat spinal dorsal horn in vitro has common features with neuropathic pain. Pain, 2003, 105, 327-338.	4.2	25
75	Presynaptic inhibition of optogenetically identified VGluT3+ sensory fibres by opioids and baclofen. Pain, 2015, 156, 243-251.	4.2	24
76	Distinct patterns of activated neurons throughout the rat midbrain periaqueductal gray induced by chemical stimulation within its subdivisions. Journal of Comparative Neurology, 1995, 357, 546-553.	1.6	22
77	Xenon Blocks the Induction of Synaptic Long-Term Potentiation in Pain Pathways in the Rat Spinal Cord In Vivo. Anesthesia and Analgesia, 2007, 104, 106-111.	2.2	21
78	Pentobarbital, in subanesthetic doses, depresses spinal transmission of nociceptive information but does not affect stimulation-produced descending inhibition in the cat. Pain, 1987, 31, 381-390.	4.2	20
79	Bidirectional actions of nociceptin/orphanin FQ on AÎ´-fibre-evoked responses in rat superficial spinal dorsal horn in vitro. Neuroscience, 2001, 107, 275-281.	2.3	20
80	Pronociceptive and Antinociceptive Effects of Buprenorphine in the Spinal Cord Dorsal Horn Cover a Dose Range of Four Orders of Magnitude. Journal of Neuroscience, 2015, 35, 9580-9594.	3.6	19
81	Interferon-Î³ facilitates the synaptic transmission between primary afferent C-fibres and lamina I neurons in the rat spinal dorsal horn via microglia activation. Molecular Pain, 2020, 16, 174480692091724.	2.1	18
82	Inhibition of spinal nociceptive neurons by excitation of cell bodies or fibers of passage at various brainstem sites in the cat. Neuroscience Letters, 1988, 93, 67-72.	2.1	17
83	Differential actions of spinal analgesics on mono-versus polysynaptic AÎ´-fibre-evoked field potentials in superficial spinal dorsal horn in vitro. Pain, 2000, 88, 97-108.	4.2	16
84	Group I metabotropic glutamate receptor-induced Ca2+-gradients in rat superficial spinal dorsal horn neurons. Neuropharmacology, 2007, 52, 1015-1023.	4.1	16
85	Raphe magnus-induced descending inhibition of spinal nociceptive neurons is mediated through contralateral spinal pathways in the cat. Neuroscience Letters, 1987, 76, 168-172.	2.1	15
86	Map of spinal neurons activated by chemical stimulation in the nucleus raphe magnus of the unanesthetized rat. Neuroscience, 1995, 67, 497-504.	2.3	15
87	Fundamental sex differences in morphine withdrawal-induced neuronal plasticity. Pain, 2020, 161, 2022-2034.	4.2	15
88	The organization and function of endogenous antinociceptive systems. Progress in Neurobiology, 1996, 50, 49-81.	5.7	15
89	GABAergic CaMKIIÎ±+ Amygdala Output Attenuates Pain and Modulates Emotional-Motivational Behavior via Parabrachial Inhibition. Journal of Neuroscience, 2022, 42, 5373-5388.	3.6	14
90	Fear the pain. Lancet, The, 2002, 360, 426.	13.7	13

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91	Properties of spinal lamina <scp>III GABAergic</scp> neurons in naÃ¯ve and in neuropathic mice. European Journal of Pain, 2013, 17, 1168-1179.	2.8	12
92	<scp>Laminaâ€specific</scp> properties of spinal astrocytes. Glia, 2021, 69, 1749-1766.	4.9	12
93	Opioids and central sensitisation: I. Pre-emptive analgesia. European Journal of Pain, 2005, 9, 145-148.	2.8	10
94	Translating synaptic plasticity into sensation. Brain, 2015, 138, 2463-2464.	7.6	10
95	B-vitamins enhance afferent inhibitory controls of nociceptive neurons in the rat spinal cord. Klinische Wochenschrift, 1990, 68, 125-128.	0.6	9
96	Low dimensional attractors in discharges of sensory neurons of the rat spinal dorsal horn are maintained by supraspinal descending systems. Neuroscience, 1996, 70, 191-200.	2.3	9
97	Nozizeption bei FrÃ¼h- und Neugeborenen. Schmerz, 2000, 14, 297-301.	5.3	9
98	Induction of the Proto-Oncogene c-fos as a Cellular Marker of Brainstem Neurons Activated from the PAG. , 1991, , 267-286.		9
99	Spontaneous, Voluntary, and Affective Behaviours in Rat Models of Pathological Pain. Frontiers in Pain Research, 2021, 2, 672711.	2.0	8
100	Withdrawal from an opioid induces a transferable memory trace in the cerebrospinal fluid. Pain, 2019, 160, 2819-2828.	4.2	6
101	Anti-Nociceptive and Anti-Aversive Drugs Differentially Modulate Distinct Inputs to the Rat Lateral Parabrachial Nucleus. Journal of Pain, 2022, 23, 1410-1426.	1.4	6
102	Chapter 23 Neuronal effects of controlled superfusion of the spinal cord with monoaminergic receptor antagonists in the cat. Progress in Brain Research, 1988, 77, 321-327.	1.4	3
103	Opioids for chronic nonmalignant and neuropathic pain. European Journal of Pain, 2005, 9, 99-100.	2.8	3
104	Abundance of Degrees of Freedom. , 2008, , 3-3.		1
105	A brief, high-dose remifentanil infusion partially reverses neuropathic pain in a subgroup of post herpetic neuralgia patients. Journal of Clinical Neuroscience, 2017, 40, 195-197.	1.5	1
106	Long-Term Potentiation in Superficial Spinal Dorsal Horn: A Pain Amplifier. , 2009, , 201-218.		1
107	Nozizeptives System von FrÃ¼h- und Neugeborenen. , 2015, , 35-48.		0