Stephen G Waxman

List of Publications by Citations

569 papers	37,174 citations	106 h-index	162 g-index
606 ext. papers	41,030 ext. citations	7 avg, IF	7.54 L-index

#	Paper	IF	Citations
569	International Union of Pharmacology. XLVII. Nomenclature and structure-function relationships of voltage-gated sodium channels. *Pharmacological Reviews*, **2005**, 57, 397-409	22.5	1031
568	Activated microglia contribute to the maintenance of chronic pain after spinal cord injury. *Journal of Neuroscience*, **2006**, 26, 4308-17	6.6	488
567	Sodium channels in normal and pathological pain. *Annual Review of Neuroscience*, **2010**, 33, 325-47	17	450
566	Determinants of conduction velocity in myelinated nerve fibers. *Muscle and Nerve*, **1980**, 3, 141-50	3.4	437
565	Downregulation of tetrodotoxin-resistant sodium currents and upregulation of a rapidly repriming tetrodotoxin-sensitive sodium current in small spinal sensory neurons after nerve injury. *Journal of Neuroscience*, **1997**, 17, 3503-14	6.6	411
564	Contribution of Na(v)1.8 sodium channels to action potential electrogenesis in DRG neurons. *Journal of Neurophysiology*, **2001**, 86, 629-40	3.2	402
563	Intravenous administration of auto serum-expanded autologous mesenchymal stem cells in stroke. *Brain*, **2011**, 134, 1790-807	11.2	377
562	Gain of function Na1.7 mutations in idiopathic small fiber neuropathy. *Annals of Neurology*, **2012**, 71, 26-39	9.4	375
561	The Na(V)1.7 sodium channel: from molecule to man. *Nature Reviews Neuroscience*, **2013**, 14, 49-62	13.5	374
560	Molecular changes in neurons in multiple sclerosis: altered axonal expression of Nav1.2 and Nav1.6 sodium channels and Na+/Ca2+ exchanger. *Proceedings of the National Academy of Sciences of the United States of America*, **2004**, 101, 8168-73	11.5	372
559	A novel persistent tetrodotoxin-resistant sodium current in SNS-null and wild-type small primary sensory neurons. *Journal of Neuroscience*, **1999**, 19, RC43	6.6	355
558	The roles of sodium channels in nociception: Implications for mechanisms of pain. *Pain*, **2007**, 131, 243-257	8	340
557	The interictal behavior syndrome of temporal lobe epilepsy. *Archives of General Psychiatry*, **1975**, 32, 1580-6		320
556	Transplanted olfactory ensheathing cells remyelinate and enhance axonal conduction in the demyelinated dorsal columns of the rat spinal cord. *Journal of Neuroscience*, **1998**, 18, 6176-85	6.6	302
555	Changes in the expression of tetrodotoxin-sensitive sodium channels within dorsal root ganglia neurons in inflammatory pain. *Pain*, **2004**, 108, 237-247	8	300
554	A single sodium channel mutation produces hyper- or hypoexcitability in different types of neurons. *Proceedings of the National Academy of Sciences of the United States of America*, **2006**, 103, 8245-50	11.5	298
553	De novo pathogenic SCN8A mutation identified by whole-genome sequencing of a family quartet affected by infantile epileptic encephalopathy and SUDEP. *American Journal of Human Genetics*, **2012**, 90, 502-10	11	297

552	Slow closed-state inactivation: a novel mechanism underlying ramp currents in cells expressing the hNE/PN1 sodium channel. *Journal of Neuroscience*, **1998**, 18, 9607-19	6.6	296
551	Electrophysiological properties of mutant Nav1.7 sodium channels in a painful inherited neuropathy. *Journal of Neuroscience*, **2004**, 24, 8232-6	6.6	295
550	Gain-of-function Nav1.8 mutations in painful neuropathy. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 19444-9	11.5	292
549	Axonal conduction and injury in multiple sclerosis: the role of sodium channels. *Nature Reviews Neuroscience*, **2006**, 7, 932-41	13.5	288
548	Multiple sodium channels and their roles in electrogenesis within dorsal root ganglion neurons. *Journal of Physiology*, **2007**, 579, 1-14	3.9	282
547	Upregulation of sodium channel Nav1.3 and functional involvement in neuronal hyperexcitability associated with central neuropathic pain after spinal cord injury. *Journal of Neuroscience*, **2003**, 23, 8881-92	6.6	280
546	Molecular dissection of the myelinated axon. *Annals of Neurology*, **1993**, 33, 121-36	9.4	279
545	Regulating excitability of peripheral afferents: emerging ion channel targets. *Nature Neuroscience*, **2014**, 17, 153-63	25.5	265
544	Rat optic nerve: electrophysiological, pharmacological and anatomical studies during development. *Developmental Brain Research*, **1982**, 255, 371-86		251
543	Nav1.3 sodium channels: rapid repriming and slow closed-state inactivation display quantitative differences after expression in a mammalian cell line and in spinal sensory neurons. *Journal of Neuroscience*, **2001**, 21, 5952-61	6.6	246
542	Mutations in sodium-channel gene SCN9A cause a spectrum of human genetic pain disorders. *Journal of Clinical Investigation*, **2007**, 117, 3603-9	15.9	242
541	Distinct repriming and closed-state inactivation kinetics of Nav1.6 and Nav1.7 sodium channels in mouse spinal sensory neurons. *Journal of Physiology*, **2003**, 551, 741-50	3.9	241
540	Restoration of normal conduction properties in demyelinated spinal cord axons in the adult rat by transplantation of exogenous Schwann cells. *Journal of Neuroscience*, **1996**, 16, 3199-208	6.6	219
539	Plasticity of sodium channel expression in DRG neurons in the chronic constriction injury model of neuropathic pain. *Pain*, **1999**, 83, 591-600	8	217
538	Altered sodium channel expression in second-order spinal sensory neurons contributes to pain after peripheral nerve injury. *Journal of Neuroscience*, **2004**, 24, 4832-9	6.6	214
537	Intense isolectin-B4 binding in rat dorsal root ganglion neurons distinguishes C-fiber nociceptors with broad action potentials and high Nav1.9 expression. *Journal of Neuroscience*, **2006**, 26, 7281-92	6.6	210
536	The presence and role of the tetrodotoxin-resistant sodium channel Na(v)1.9 (NaN) in nociceptive primary afferent neurons. *Journal of Neuroscience*, **2002**, 22, 7425-33	6.6	210
535	Sodium channels contribute to microglia/macrophage activation and function in EAE and MS. *Glia*, **2005**, 49, 220-9	9	208

534	NaN/Nav1.9: a sodium channel with unique properties. *Trends in Neurosciences*, **2002**, 25, 253-9	13.3	206
533	From genes to pain: Na v 1.7 and human pain disorders. *Trends in Neurosciences*, **2007**, 30, 555-63	13.3	201
532	SNS Na+ channel expression increases in dorsal root ganglion neurons in the carrageenan inflammatory pain model. *NeuroReport*, **1998**, 9, 967-72	1.7	201
531	The Role of Voltage-Gated Sodium Channels in Pain Signaling. *Physiological Reviews*, **2019**, 99, 1079-1151	47.9	199
530	Electrophysiological properties of two axonal sodium channels, Nav1.2 and Nav1.6, expressed in mouse spinal sensory neurones. *Journal of Physiology*, **2005**, 564, 803-15	3.9	199
529	Gain-of-function mutations in sodium channel Na(v)1.9 in painful neuropathy. *Brain*, **2014**, 137, 1627-42	11.2	194
528	Multiple sodium channel isoforms and mitogen-activated protein kinases are present in painful human neuromas. *Annals of Neurology*, **2008**, 64, 644-53	9.4	186
527	Co-localization of sodium channel Nav1.6 and the sodium-calcium exchanger at sites of axonal injury in the spinal cord in EAE. *Brain*, **2004**, 127, 294-303	11.2	186
526	Na(+)-Ca2+ exchanger mediates Ca2+ influx during anoxia in mammalian central nervous system white matter. *Annals of Neurology*, **1991**, 30, 375-80	9.4	186
525	Differential role of GDNF and NGF in the maintenance of two TTX-resistant sodium channels in adult DRG neurons. *Molecular Brain Research*, **1999**, 67, 267-82		177
524	Changes in expression of two tetrodotoxin-resistant sodium channels and their currents in dorsal root ganglion neurons after sciatic nerve injury but not rhizotomy. *Journal of Neuroscience*, **2000**, 20, 7279-89	6.6	176
523	Nav1.8 expression is not restricted to nociceptors in mouse peripheral nervous system. *Pain*, **2012**, 153, 2017-2030	8	170
522	Modulation of thalamic nociceptive processing after spinal cord injury through remote activation of thalamic microglia by cysteine cysteine chemokine ligand 21. *Journal of Neuroscience*, **2007**, 27, 8893-902	6.6	168
521	Voltage-gated sodium channels: therapeutic targets for pain. *Pain Medicine*, **2009**, 10, 1260-9	2.8	165
520	Extracellular signal-regulated kinase-regulated microglia-neuron signaling by prostaglandin E2 contributes to pain after spinal cord injury. *Journal of Neuroscience*, **2007**, 27, 2357-68	6.6	165
519	Early treatment suppresses the development of spike-wave epilepsy in a rat model. *Epilepsia*, **2008**, 49, 400-9	6.4	164
518	Compound action potential of nerve recorded by suction electrode: a theoretical and experimental analysis. *Brain Research*, **1991**, 546, 18-32	3.7	163
517	Sodium channels, excitability of primary sensory neurons, and the molecular basis of pain. *Muscle and Nerve*, **1999**, 22, 1177-87	3.4	160

516	Phenytoin protects spinal cord axons and preserves axonal conduction and neurological function in a model of neuroinflammation in vivo. *Journal of Neurophysiology*, **2003**, 90, 3566-71	3.2	159
515	Changes of sodium channel expression in experimental painful diabetic neuropathy. *Annals of Neurology*, **2002**, 52, 786-92	9.4	159
514	Demyelinating diseases--new pathological insights, new therapeutic targets. *New England Journal of Medicine*, **1998**, 338, 323-5	59.2	156
513	Primary cortical motor neurons undergo apoptosis after axotomizing spinal cord injury. *Journal of Comparative Neurology*, **2003**, 462, 328-41	3.4	150
512	Small-fibre neuropathies--advances in diagnosis, pathophysiology and management. *Nature Reviews Neurology*, **2012**, 8, 369-79	15	148
511	GTP-induced tetrodotoxin-resistant Na+ current regulates excitability in mouse and rat small diameter sensory neurones. *Journal of Physiology*, **2003**, 548, 373-82	3.9	146
510	Mechanisms of disease: sodium channels and neuroprotection in multiple sclerosis-current status. *Nature Clinical Practice Neurology*, **2008**, 4, 159-69		145
509	Changes in electrophysiological properties and sodium channel Nav1.3 expression in thalamic neurons after spinal cord injury. *Brain*, **2005**, 128, 2359-71	11.2	142
508	Abnormal sodium channel distribution in optic nerve axons in a model of inflammatory demyelination. *Brain*, **2003**, 126, 1552-61	11.2	141
507	Changes in expression of voltage-gated potassium channels in dorsal root ganglion neurons following axotomy. *Muscle and Nerve*, **1999**, 22, 502-7	3.4	141
506	Phosphorylation of sodium channel Na(v)1.8 by p38 mitogen-activated protein kinase increases current density in dorsal root ganglion neurons. *Journal of Neuroscience*, **2008**, 28, 3190-201	6.6	133
505	Noncanonical roles of voltage-gated sodium channels. *Neuron*, **2013**, 80, 280-91	13.9	132
504	Sporadic onset of erythermalgia: a gain-of-function mutation in Nav1.7. *Annals of Neurology*, **2006**, 59, 553-8	9.4	131
503	The perinodal astrocyte. *Glia*, **1988**, 1, 169-83	9	131
502	Glial-derived neurotrophic factor upregulates expression of functional SNS and NaN sodium channels and their currents in axotomized dorsal root ganglion neurons. *Journal of Neuroscience*, **2000**, 20, 8754-61	6.6	130
501	Mesenchymal stem cells: therapeutic outlook for stroke. *Trends in Molecular Medicine*, **2012**, 18, 292-7	11.5	129
500	A Nav1.7 channel mutation associated with hereditary erythromelalgia contributes to neuronal hyperexcitability and displays reduced lidocaine sensitivity. *Journal of Physiology*, **2007**, 581, 1019-31	3.9	129
499	Demyelination in spinal cord injury. *Journal of the Neurological Sciences*, **1989**, 91, 1-14	3.2	129

498	PGE2 increases the tetrodotoxin-resistant Nav1.9 sodium current in mouse DRG neurons via G-proteins. *Brain Research*, **2004**, 1023, 264-71	3.7	127
497	Membranes, myelin, and the pathophysiology of multiple sclerosis. *New England Journal of Medicine*, **1982**, 306, 1529-33	59.2	127
496	NaV1.9: a sodium channel linked to human pain. *Nature Reviews Neuroscience*, **2015**, 16, 511-9	13.5	126
495	Expression of Nav1.7 in DRG neurons extends from peripheral terminals in the skin to central preterminal branches and terminals in the dorsal horn. *Molecular Pain*, **2012**, 8, 82	3.4	125
494	Voltage-gated sodium channel expression in rat and human epidermal keratinocytes: evidence for a role in pain. *Pain*, **2008**, 139, 90-105	8	124
493	Calmodulin binds to the C terminus of sodium channels Nav1.4 and Nav1.6 and differentially modulates their functional properties. *Journal of Neuroscience*, **2003**, 23, 8261-70	6.6	124
492	ERK1/2 mitogen-activated protein kinase phosphorylates sodium channel Na(v)1.7 and alters its gating properties. *Journal of Neuroscience*, **2010**, 30, 1637-47	6.6	123
491	Selective loss of slow and enhancement of fast Na+ currents in cutaneous afferent dorsal root ganglion neurones following axotomy. *Neurobiology of Disease*, **1995**, 2, 87-96	7.5	122
490	Pharmacological reversal of a pain phenotype in iPSC-derived sensory neurons and patients with inherited erythromelalgia. *Science Translational Medicine*, **2016**, 8, 335ra56	17.5	121
489	Sodium channel genes in pain-related disorders: phenotype-genotype associations and recommendations for clinical use. *Lancet Neurology, The*, **2014**, 13, 1152-1160	24.1	121
488	Regional differentiation of the axon: a review with special reference to the concept of the multiplex neuron. *Brain Research*, **1972**, 47, 269-88	3.7	121
487	Na(V)1.7 mutant A863P in erythromelalgia: effects of altered activation and steady-state inactivation on excitability of nociceptive dorsal root ganglion neurons. *Journal of Neuroscience*, **2006**, 26, 12566-75	6.6	118
486	NGF has opposing effects on Na+ channel III and SNS gene expression in spinal sensory neurons. *NeuroReport*, **1997**, 8, 2331-5	1.7	116
485	Modulation of the cardiac sodium channel Nav1.5 by fibroblast growth factor homologous factor 1B. *Journal of Biological Chemistry*, **2003**, 278, 1029-36	5.4	116
484	Dysregulation of sodium channel expression in cortical neurons in a rodent model of absence epilepsy. *Brain Research*, **2004**, 1000, 102-9	3.7	116
483	Variations in conduction velocity and excitability following single and multiple impulses of visual callosal axons in the rabbit. *Experimental Neurology*, **1976**, 53, 128-50	5.7	116
482	Destruction of paranodal architecture in inflammatory neuropathy with anti-contactin-1 autoantibodies. *Journal of Neurology, Neurosurgery and Psychiatry*, **2015**, 86, 720-8	5.5	115
481	trkA is expressed in nociceptive neurons and influences electrophysiological properties via Nav1.8 expression in rapidly conducting nociceptors. *Journal of Neuroscience*, **2005**, 25, 4868-78	6.6	115

480	Ion channel organization of the myelinated fiber. *Trends in Neurosciences*, **1990**, 13, 48-54	13.3	115
479	Fire and phantoms after spinal cord injury: Na+ channels and central pain. *Trends in Neurosciences*, **2006**, 29, 207-15	13.3	114
478	Selective expression of a persistent tetrodotoxin-resistant Na+ current and NaV1.9 subunit in myenteric sensory neurons. *Journal of Neuroscience*, **2003**, 23, 2715-25	6.6	114
477	Ultrastructural concomitants of anoxic injury and early post-anoxic recovery in rat optic nerve. *Brain Research*, **1992**, 574, 105-19	3.7	114
476	Role of hippocampal sodium channel Nav1.6 in kindling epileptogenesis. *Epilepsia*, **2009**, 50, 44-55	6.4	113
475	International Union of Pharmacology. XXXIX. Compendium of voltage-gated ion channels: sodium channels. *Pharmacological Reviews*, **2003**, 55, 575-8	22.5	112
474	The molecular pathophysiology of pain: abnormal expression of sodium channel genes and its contributions to hyperexcitability of primary sensory neurons. *Pain*, **1999**, Suppl 6, S133-S140	8	112
473	Non-synaptic mechanisms of Ca(2+)-mediated injury in CNS white matter. *Trends in Neurosciences*, **1991**, 14, 461-8	13.3	112
472	Sodium channel activity modulates multiple functions in microglia. *Glia*, **2009**, 57, 1072-81	9	110
471	Erythermalgia: molecular basis for an inherited pain syndrome. *Trends in Molecular Medicine*, **2005**, 11, 555-62	11.5	110
470	Transcriptional channelopathies: an emerging class of disorders. *Nature Reviews Neuroscience*, **2001** , 2, 652-9	13.5	110
469	A novel Nav1.7 mutation producing carbamazepine-responsive erythromelalgia. *Annals of Neurology*, **2009**, 65, 733-41	9.4	109
468	Sodium channel Na(v)1.6 is expressed along nonmyelinated axons and it contributes to conduction. *Molecular Brain Research*, **2002**, 105, 19-28		109
467	Fibroblast growth factor homologous factor 2B: association with Nav1.6 and selective colocalization at nodes of Ranvier of dorsal root axons. *Journal of Neuroscience*, **2004**, 24, 6765-75	6.6	108
466	Subtype-Selective Small Molecule Inhibitors Reveal a Fundamental Role for Nav1.7 in Nociceptor Electrogenesis, Axonal Conduction and Presynaptic Release. *PLoS ONE*, **2016**, 11, e0152405	3.7	108
465	Voltage-gated Na+ channels in glia: properties and possible functions. *Trends in Neurosciences*, **1996**, 19, 325-31	13.3	107
464	Localization of the tetrodotoxin-resistant sodium channel NaN in nociceptors. *NeuroReport*, **2000**, 11, 199-202	1.7	106
463	Freeze-fracture ultrastructure of the perinodal astrocyte and associated glial junctions. *Brain Research*, **1984**, 308, 77-87	3.7	106

462	Ultrastructure of visual callosal axons in the rabbit. *Experimental Neurology*, **1976**, 53, 115-27	5.7	106
461	Safety and efficacy of a Nav1.7 selective sodium channel blocker in patients with trigeminal neuralgia: a double-blind, placebo-controlled, randomised withdrawal phase 2a trial. *Lancet Neurology, The*, **2017**, 16, 291-300	24.1	103
460	Ionic channel distribution and heterogeneity of the axon membrane in myelinated fibers. *Brain Research Reviews*, **1980**, 203, 205-34		103
459	Rat optic nerve: freeze-fracture studies during development of myelinated axons. *Brain Research*, **1982**, 250, 1-20	3.7	103
458	Paroxysmal extreme pain disorder M1627K mutation in human Nav1.7 renders DRG neurons hyperexcitable. *Molecular Pain*, **2008**, 4, 37	3.4	100
457	De novo gain-of-function and loss-of-function mutations of SCN8A in patients with intellectual disabilities and epilepsy. *Journal of Medical Genetics*, **2015**, 52, 330-7	5.8	99
456	Expression of the voltage-gated sodium channel NaV1.5 in the macrophage late endosome regulates endosomal acidification. *Journal of Immunology*, **2007**, 178, 7822-32	5.3	99
455	Fibroblast growth factor homologous factor 1B binds to the C terminus of the tetrodotoxin-resistant sodium channel rNav1.9a (NaN). *Journal of Biological Chemistry*, **2001**, 276, 18925-33	5.4	98
454	Effects of glucose deprivation, chemical hypoxia, and simulated ischemia on Na+ homeostasis in rat spinal cord astrocytes. *Journal of Neuroscience*, **1998**, 18, 3554-62	6.6	98
453	Exacerbation of experimental autoimmune encephalomyelitis after withdrawal of phenytoin and carbamazepine. *Annals of Neurology*, **2007**, 62, 21-33	9.4	96
452	Restoration of brain circulation and cellular functions hours post-mortem. *Nature*, **2019**, 568, 336-343	50.4	95
451	Early- and late-onset inherited erythromelalgia: genotype-phenotype correlation. *Brain*, **2009**, 132, 1711-22	10.2	95
450	An ankyrinG-binding motif is necessary and sufficient for targeting Nav1.6 sodium channels to axon initial segments and nodes of Ranvier. *Journal of Neuroscience*, **2012**, 32, 7232-43	6.6	95
449	Long-term protection of central axons with phenytoin in monophasic and chronic-relapsing EAE. *Brain*, **2006**, 129, 3196-208	11.2	95
448	Molecular reconstruction of nodes of Ranvier after remyelination by transplanted olfactory ensheathing cells in the demyelinated spinal cord. *Journal of Neuroscience*, **2006**, 26, 1803-12	6.6	95
447	Glycosylation alters steady-state inactivation of sodium channel Nav1.9/NaN in dorsal root ganglion neurons and is developmentally regulated. *Journal of Neuroscience*, **2001**, 21, 9629-37	6.6	95
446	Nitric oxide blocks fast, slow, and persistent Na+ channels in C-type DRG neurons by S-nitrosylation. *Journal of Neurophysiology*, **2002**, 87, 761-75	3.2	92
445	Voltage-gated sodium channel Nav1.6 is modulated by p38 mitogen-activated protein kinase. *Journal of Neuroscience*, **2005**, 25, 6621-30	6.6	92

444	Absence of potassium conductance in central myelinated axons. *Nature*, **1980**, 287, 348-9	50.4	92
443	Transfection of rat or mouse neurons by biolistics or electroporation. *Nature Protocols*, **2009**, 4, 1118-26	18.8	91
442	FGF14 N-terminal splice variants differentially modulate Nav1.2 and Nav1.6-encoded sodium channels. *Molecular and Cellular Neurosciences*, **2009**, 42, 90-101	4.8	91
441	Pharmacological characterisation of the highly Na1.7 selective spider venom peptide Pn3a. *Scientific Reports*, **2017**, 7, 40883	4.9	90
440	Neuropathic pain memory is maintained by Rac1-regulated dendritic spine remodeling after spinal cord injury. *Journal of Neuroscience*, **2008**, 28, 13173-83	6.6	90
439	Disruption of cAMP and prostaglandin E2 transport by multidrug resistance protein 4 deficiency alters cAMP-mediated signaling and nociceptive response. *Molecular Pharmacology*, **2008**, 73, 243-51	4.3	90
438	The brain in diabetes: molecular changes in neurons and their implications for end-organ damage. *Lancet Neurology, The*, **2003**, 2, 548-54	24.1	90
437	Specificity in central myelination: evidence for local regulation of myelin thickness. *Brain Research*, **1984**, 292, 179-85	3.7	90
436	Regulation of podosome formation in macrophages by a splice variant of the sodium channel SCN8A. *Journal of Biological Chemistry*, **2009**, 284, 8114-26	5.4	89
435	Nav1.6 channels generate resurgent sodium currents in spinal sensory neurons. *FEBS Letters*, **2005**, 579, 2166-70	3.8	89
434	Protection of corticospinal tract neurons after dorsal spinal cord transection and engraftment of olfactory ensheathing cells. *Glia*, **2006**, 53, 352-9	9	88
433	The conduction properties of axons in central white matter. *Progress in Neurobiology*, **1977**, 8, 297-324	10.9	88
432	Sodium-calcium exchanger and multiple sodium channel isoforms in intra-epidermal nerve terminals. *Molecular Pain*, **2010**, 6, 84	3.4	87
431	Alterations in burst firing of thalamic VPL neurons and reversal by Na(v)1.3 antisense after spinal cord injury. *Journal of Neurophysiology*, **2006**, 95, 3343-52	3.2	87
430	Familial pain syndromes from mutations of the NaV1.7 sodium channel. *Annals of the New York Academy of Sciences*, **2010**, 1184, 196-207	6.5	85
429	Small-fiber neuropathy Nav1.8 mutation shifts activation to hyperpolarized potentials and increases excitability of dorsal root ganglion neurons. *Journal of Neuroscience*, **2013**, 33, 14087-97	6.6	84
428	Intra- and interfamily phenotypic diversity in pain syndromes associated with a gain-of-function variant of NaV1.7. *Molecular Pain*, **2011**, 7, 92	3.4	84
427	GDNF and NGF reverse changes in repriming of TTX-sensitive Na(+) currents following axotomy of dorsal root ganglion neurons. *Journal of Neurophysiology*, **2002**, 88, 650-8	3.2	83

426	In vivo NGF deprivation reduces SNS expression and TTX-R sodium currents in IB4-negative DRG neurons. *Journal of Neurophysiology*, **1999**, 81, 803-10	3.2	83
425	Virus-mediated shRNA knockdown of Na(v)1.3 in rat dorsal root ganglion attenuates nerve injury-induced neuropathic pain. *Molecular Therapy*, **2013**, 21, 49-56	11.7	82
424	Functional profiles of SCN9A variants in dorsal root ganglion neurons and superior cervical ganglion neurons correlate with autonomic symptoms in small fibre neuropathy. *Brain*, **2012**, 135, 2613-28	11.2	82
423	Anoxic injury of rat optic nerve: ultrastructural evidence for coupling between Na+ influx and Ca(2+)-mediated injury in myelinated CNS axons. *Brain Research*, **1994**, 644, 197-204	3.7	82
422	Protection of the axonal cytoskeleton in anoxic optic nerve by decreased extracellular calcium. *Brain Research*, **1993**, 614, 137-45	3.7	82
421	A novel de novo mutation of SCN8A (Nav1.6) with enhanced channel activation in a child with epileptic encephalopathy. *Neurobiology of Disease*, **2014**, 69, 117-23	7.5	81
420	Maladaptive dendritic spine remodeling contributes to diabetic neuropathic pain. *Journal of Neuroscience*, **2012**, 32, 6795-807	6.6	80
419	Voltage-clamp and current-clamp recordings from mammalian DRG neurons. *Nature Protocols*, **2009** , 4, 1103-12	18.8	79
418	Mutation I136V alters electrophysiological properties of the Na(v)1.7 channel in a family with onset of erythromelalgia in the second decade. *Molecular Pain*, **2008**, 4, 1	3.4	79
417	Sodium channels and their genes: dynamic expression in the normal nervous system, dysregulation in disease states(1). *Brain Research*, **2000**, 886, 5-14	3.7	79
416	Sodium channel expression and the molecular pathophysiology of pain after SCI. *Progress in Brain Research*, **2007**, 161, 195-203	2.9	78
415	Structural modelling and mutant cycle analysis predict pharmacoresponsiveness of a Na(V)1.7 mutant channel. *Nature Communications*, **2012**, 3, 1186	17.4	77
414	Na+ channel expression along axons in multiple sclerosis and its models. *Trends in Pharmacological Sciences*, **2004**, 25, 584-91	13.2	77
413	Subthreshold oscillations induced by spinal nerve injury in dissociated muscle and cutaneous afferents of mouse DRG. *Journal of Neurophysiology*, **2002**, 87, 2009-17	3.2	77
412	Specific staining of the axon membrane at nodes of Ranvier with ferric ion and ferrocyanide. *Journal of the Neurological Sciences*, **1977**, 31, 1-11	3.2	77
411	Characterization of a de novo SCN8A mutation in a patient with epileptic encephalopathy. *Epilepsy Research*, **2014**, 108, 1511-8	3	76
410	Inherited erythermalgia: limb pain from an S4 charge-neutral Na channelopathy. *Neurology*, **2006**, 67, 1563-7	6.5	76
409	A gain-of-function mutation in Nav1.6 in a case of trigeminal neuralgia. *Molecular Medicine*, **2016**, 22, 338-348	6.2	76

408	Upregulation of persistent and ramp sodium current in dorsal horn neurons after spinal cord injury. *Experimental Brain Research*, **2006**, 174, 660-6	2.3	75
407	Neurological channelopathies: new insights into disease mechanisms and ion channel function. *Journal of Physiology*, **2010**, 588, 1823-7	3.9	74
406	A sodium channel gene SCN9A polymorphism that increases nociceptor excitability. *Annals of Neurology*, **2009**, 66, 862-6	9.4	74
405	Intracellular calcium mobilization and neurite outgrowth in mammalian neurons. *Journal of Neurobiology*, **1994**, 25, 252-64		74
404	A sodium channel mutation linked to epilepsy increases ramp and persistent current of Nav1.3 and induces hyperexcitability in hippocampal neurons. *Experimental Neurology*, **2010**, 224, 362-8	5.7	72
403	Sodium channel Na(v)1.7 is essential for lowering heat pain threshold after burn injury. *Journal of Neuroscience*, **2012**, 32, 10819-32	6.6	72
402	Differential effects of NGF and BDNF on axotomy-induced changes in GABA(A)-receptor-mediated conductance and sodium currents in cutaneous afferent neurons. *Journal of Neurophysiology*, **1997**, 78, 31-42	3.2	72
401	Size matters: Erythromelalgia mutation S241T in Nav1.7 alters channel gating. *Journal of Biological Chemistry*, **2006**, 281, 36029-35	5.4	71
400	Novel SCN1A mutation in a proband with malignant migrating partial seizures of infancy. *Archives of Neurology*, **2011**, 68, 665-71		70
399	Contactin regulates the current density and axonal expression of tetrodotoxin-resistant but not tetrodotoxin-sensitive sodium channels in DRG neurons. *European Journal of Neuroscience*, **2005**, 22, 39-49	3.5	70
398	Direct interaction with contactin targets voltage-gated sodium channel Na(v)1.9/NaN to the cell membrane. *Journal of Biological Chemistry*, **2001**, 276, 46553-61	5.4	70
397	Integrative properties and design principles of axons. *International Review of Neurobiology*, **1975**, 18, 1-40	4.4	70
396	Sodium channel blockade with phenytoin protects spinal cord axons, enhances axonal conduction, and improves functional motor recovery after contusion SCI. *Experimental Neurology*, **2004**, 188, 365-77	5.7	69
395	Activation and inactivation of the voltage-gated sodium channel: role of segment S5 revealed by a novel hyperkalaemic periodic paralysis mutation. *Journal of Neuroscience*, **1999**, 19, 4762-71	6.6	69
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