CURRICULUM VITAE

Stephen George Waxman

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1967 A.B., cum laude, Harvard College
1970 Ph.D., Albert Einstein College of Medicine, New York
1972 M.D., Albert Einstein College of Medicine
1986 M.A. (Hon.), Yale University

Current Appointments

Yale University (1986 to date):
Professor of Neurology, Neurobiology, and Pharmacology, Yale Medical School,
Bridget Marie Flaherty Professor, 2005-
Director, Center for Neuroscience & Regeneration Research, VA CT Healthcare, West Haven, CT

University College London and Institute of Neurology, Queen Square, London (1998 to date):
Visiting Professor of Clinical Neurology, Anatomy and Biology
Co-Director, Yale-University College London Collaboration on Neural Repair

1986-2009 Chairman, Dept. of Neurology, Yale Medical School
Neurologist-in-Chief, Yale-New Haven Medical Center

1978-1986 *Stanford University*:
Chairman, Neuroscience Program (1982-1986)
Vice Chairman, Department of Neurology (1981-1986)
Professor of Neurology (1978-1986)
Chief, Neurological Unit, VA Hospital, Palo Alto, CA (1978-1986)

1975-1978 *Harvard University / Massachusetts Institute of Technology*:
Associate Professor of Neurology, Harvard Medical School (1977-1978)
Visiting Associate Professor of Biology, MIT (1977-1978)
Assistant Professor of Neurology, Harvard Medical School (1975-1977)
Visiting Assistant Professor of Biology, MIT (1975-1977)

1972-1975 Clinical Fellow in Neurology, Harvard Medical School; Resident in Neurology,
Boston City Hospital

1971-1974 Lecturer, Neurobiology Training Program, Marine Biological Laboratory, Woods Hole, MA

1969 Epilepsy Foundation Chauveau Fellow, Cerebral Functions Research Group,
University College London

Certification and Licensure:

1973 Diplomate, National Board of Medical Examiners
1973 Massachusetts Board of Registration in Medicine
1977 Diplomate, American Board of Psychiatry and Neurology
1978 California Board of Registration in Medicine
1986 Connecticut Physicians and Surgeon's License

Awards and Honors (Selected Listing):

1973 Trygve Tuve Memorial Award for Outstanding Contributions in the Biomedical Sciences, NIH
1975 Research Career Development Award, NINCDS
1987 Established Investigator, National Multiple Sclerosis Society
1991 Distinguished Alumnus Award, Albert Einstein College of Medicine
1991 Fellow, Royal Society of Medicine
1993 Member, Dana Alliance for Brain Initiatives
1994 Listed in *The Best Doctors in America*.
1995 The Adrian Lecture (Xth International Congress of Clinical Neurophysiology)
1996 Elected to Institute of Medicine, National Academy of Sciences
1999 Landmark Award for Biomedical Research
1999 Wartenberg Award, American Academy of Neurology
1999 Honorary Senior Fellow, Institute of Neurology, London
2000 Dystel Prize for Research on Multiple Sclerosis, American Academy of Neurology/NMSS
2004 Reingold Award, National Multiple Sclerosis Society
2005 Honorary Member, Association of British Neurologists
2009 W.I. McDonald Award, British Multiple Sclerosis Society
2009 William S Middleton Award (highest scientific honor of the Dept of Veterans Affairs, presented at Ceremonies at the U.S. Capitol).
2009 Annual Review Prize, The Physiological Society (Premier Award of the Society; previous awardees include J.C. Eccles, A.F. Huxley, A.L. Hodgkin)
2013 Paul B. Magnuson Award for Outstanding Achievement in Rehabilitation Research, U.S. Department of Veterans Affairs
2013 American Neurological Assoc/Annals of Neurology Prize for Distinguished Contribution to Clinical Neuroscience
2014 Soriano Award, American Neurological Association
2017 Elected Fellow, The Physiological Society
2018 Julius Axelrod Prize, Society for Neuroscience

Visiting Lectures and Professorships (Selected Listing):

1987 Denny-Brown Lecturer, Boston Society for Neurology and Psychiatry
1989 Dean's Visiting Professor, Brown University
1990 Annual Royal College Lecturer, Canadian Neurological Society
1996 Geschwind Visiting Professor, Harvard Medical School
1998 Levy Visiting Professor, Washington University
1998 Pfizer Distinguished Lecturer, University College London
2001 Norman Allen Award, Ohio State University
2002 Charcot Memorial Lecturer, Washington, DC
2004 Donald Munro Lecturer, American Paraplegia Society
2005 R.S. Allison Lecturer, Association of British Neurologists
2005 Arnold Bank Memorial Lecturer, Philadelphia Neurological Society
2006 J.Z. Young Memorial Lecture, University of London
2006 R.B. Aird Visiting Professor, UCSF
2007 K. Casey Visiting Professor, University of Michigan

2007 Annual Treuer Lecture of Mechanisms of Pain, University of Washington
2008 H.K. Beecher Visiting Professor, Massachusetts General Hospital
2008 Killam Visiting Professor, McGill University
2008 Plenary Lecture, International Association for the Study of Pain (IASP)
2009 Annual Review Prize Lecture, The Physiological Society (Premier Award of The Society)
2014 Soriano Award, American Neurological Association
2016 JK Merlis Visiting Professor, University of Maryland
2016 Loren D. Carlson Distinguished Lecture in Physiology, University of California, Davis
2019 Julius Axelrod Memorial Lecture, Axelrod Memorial Symposium, NIH
2019 2nd Annual Talman Lecture on Basic Neuroscience in Clinical Neurology, University of Iowa

Editorial Boards and Editorships:

1977-82,84-88	Associate Editor	*Journal of Neurocytology*
1980-2003	Associate Editor	*Muscle and Nerve*
1980-2005	Editorial Board	*Brain Research*
1982-1993	Editorial Board	*Trends in Neurosciences*
1983-1991	Editorial Board	*Experimental Neurology*
1983-2013	Associate Editor	*Journal of Neurological Sciences*
1986-2018	Editorial Board	*International Review of Neurobiology*
1987-1999	Editorial Board	*Glia*
1988-2001	Editorial Board	*Neurorehabilitation & Neural Repair*
1988-1996	Editorial Board	*Developmental Neuroscience*
1989-	Editorial Board	*Restorative Neurology and Neuroscience*
1990-2001	Editorial Board	*Advances in Pharmacology*
1990-1995	Editorial Board	*Annals of Neurology*
1992-2011	Editorial Board	*Journal of Neurotrauma*
1993-	Editorial Board	*Clinical Neuroscience*
1994-	Editorial Board	*The Neurologist*
1994-	Editorial Board	*Neurobiology of Disease*
1994-2001	Editorial Board	*Cerebrovascular Diseases*
1995-	Editor-in-Chief	*The Neuroscientist*
1995-	Editorial Board	*Clinical Neurology and Neurosurgery*
1996	Editorial Board	*SYNAPSE*
1997-2007	Editorial Board	*J. Periph. Nervous System*
1998-2001	Editorial Board	*J. Cerebral Blood Flow and Metabolism*
1998-2002	Associate Editor	*J. Neurocytol.*
1999-	Editorial Board	*Molecular Neurobiology*
2001-	Editorial Board	*Clinical Neuroscience Research*
2004-	Editor-in-Chief	*Neuroscience Letters*
2004-2016	Advisory Board	*Brain*
2005-	Advisory Board	*Nature Reviews Neurology*
2005-2014	Editorial Board	*Neuron-Glia Biology*
2005-2017	Editorial Board	*Neurotherapeutics*
2005-2012	Editor	*The Journal of Physiology*
2006-	Editorial Board	*Trends in Molecular Medicine*
2006-	Editorial Board	*Molecular Pain*
2007-	Editorial Board	*Channels*
2008-	Section Head	*Multiple Sclerosis, Faculty of 1000 Medicine*
2011-	Editorial Board	Pain Management
2012-	Editorial Board	F1000 (Faculty of 1000) Research
2015 -	Associate Editor, Pharmacology of Ion Channels and Channelopathies (specialty section of Frontiers in Pharmacology and Frontiers in Neurology)	
2016-	Editorial Board	*Neurobiology of Pain*
2017-	Editorial Board	Trends in Pharmacological Sciences
2017-	Editorial Board	*Neuronal Signalling*
2018-	Advisory Board	*Cerebrum*

2018- Advisory Board Neuroglia

Ad Hoc Reviewer, *Science, Nature, Neurology, Ann. Internal Med., Arch. Gen. Psychiatr., J. Neurosci, J. Cell Biol., J. Comp. Neurol., J. Neuropath. Exper. Neurol., New Engl. J. Med.*

Advisory Positions (Selected Listing):

1976-78	Advisory Committee, Medical Scientist Training Programs, NIGMS
1978-79	Neurological Disorders Program Project Review Committee, NINCDS
1980-81	Advisory Committee on Regeneration Research Programs, VA Central Office
1980-83, 96-99	Scientific Advisory Committee, National Multiple Sclerosis Society
1981-92	Scientific Advisory Board, Paralyzed Veterans of America, Spinal Cord Research Foundation
1981	Organizer, International Workshop on Demyelinating Diseases, NMSS
1982	Organizer and Chairman, Symposium on Pathophysiology of the Cell Membrane, Fifth International Congress on Neuromuscular Diseases, Marseilles
1982-85	Scientific Advisory Committee, National Spinal Cord Injury Association
1982-91	Advisory Board, Regeneration Research Programs, VA Central Office
1985	Organizing Committee, International Regeneration Research Symposium, Asilomar
1986	Organizer and Chairman, Symposium on Pathobiology of the Axon, International Congress of Neuropathology, Stockholm
1987-92	National Coordinating Council on Spinal Cord Injury
1987-88	Advisory Group on Fundamental Approaches to Neurological Disease, The Neuroscience Institute, Rockefeller University
1988-	Corporation Member, Marine Biological Laboratory, Woods Hole, MA.
1988-	Medical Advisory Board, National Multiple Sclerosis Society
1990-2005	External Advisory Committee, University of Puerto Rico School of Medicine
1989	Chairman, Committee on Scientific Basis of Neurological Rehabilitation, American Academy of Neurology
1990-92	Committee on Decade of the Brain, American Academy of Neurology
1990-93	Scientific Advisory Council, American Paralysis Association
1990-95	Board of Scientific Counselors, NINDS
1991	Organizer and Chairman, Symposium on Molecular and Cellular Approaches to the Treatment of Brain Disease, ARNMD
1991-98	Institute of Medicine, Board on Neuroscience and Behavior
1991	Fellow, Stroke Council, American Heart Association
1992-96	U.S. National Committee, International Brain Research Organization
1994	Organizing Committee, Symposium on Neuron-Glia Interactions, Prague
1996	Organizing Committee, Altschul Symposium on Cell Biology & Pathology of Myelin, Saskatoon.
1998	Organizing Committee, Symposium Advances in Ion Channel Research, San Francisco
1999-2001	Advisory Committee on Multiple Sclerosis: Current Status and Strategies for the Future, Institute of Medicine, National Academy of Sciences
2000	Chairman and Organizer, Novartis Foundation Symposium on Sodium Channels and Neuronal Hyperexcitability
2000	Organizer and Co-Chairman, National MS Society Workshop on Neuronal Injury in MS
2001-	International Advisory Board, Center for Neurosciences, University of Heidelberg
2001	Search Committee for Director, NINDS
2002-2003	International Union of Pharmacology, Subcommittee on Sodium Channels
2002	Laboratory Science Blue Ribbon Panel, U.S. Dept. of Veterans Affairs
2004-2005	Committee on Spinal Cord Injury, Institute of Medicine, National Academy of Sciences
2007-	Scientific Advisory Board, MRC Translational Research Center on Neuromuscular Diseases, University College London
2008-2011	Dept of Veterans Affairs, National Research Advisory Committee on OEF/OIF Research
2008-	Research Programs Advisory Committee, National Multiple Sclerosis Society
2008-2009	Blue Print Pain/Roadmap Transformative R01 Work Group, NIH

2008- UCL Neuroscience Scientific Advisory Board

2009-2010 Chairman and Organizer, Symposium on Ion Channels and Analgesia, 16th World Congress on Pharmacology, Copenhagen

2010 Chairman, Symposium on Ion Channelopathies: New Windows on Complex Disease and Therapy International Congress on Pharmacology, Copenhagen

2010 Editor (with D.M. Kullmann), *Journal of Physiology*, Special Issue on Neurological Channelopathies

2010- China Medical University Clinical Trial Center of Excellence Advisory Board

2010-2011 Planning Committee, Institute of Medicine (IOM) Interest Group on Neuroscience, Behavior, and Brain Function & Disorders

2011 Editor (with J. Vandenberg) Hodgkin-Huxley 60th Anniversary Special Issue, *Journal of Physiology*

2011- 2012 Advisory Committee on Peer Review, Office of Research & Development, U.S. Dept of Veterans Affairs

2011- Committee on Charting Rehabilitation Research for the Future, U.S. Dept of Veterans Affairs

2011- Advisory Board on Neuroscience Interest Group, Institute of Medicine of the National Academy of Sciences

2012-2015 National Research Advisory Council, VA (Advises Secretary of Veterans Affairs)

2013- U.S. Department of Veterans Affairs, Steering Committee, Million Veterans Genomics Project (MVP)

2018- Advisory Committee on Clinical Neurophysiology: Guidelines, International Federation of Clinical Neurophysiology

2018- International Federation of Clinical Neurophysiology (IFCN), Working Group on Consensus Guidelines for Measurement of Axonal Excitability

2019 Scientific Advisory Board, Retreat on Precision Medicine and Ion Channels, Vancouver, BC

Societies: (Selected Listing): American Academy of Neurology (Fellow, 1989), International Brain Research Organization, Peripheral Nerve Study Group, American Association for the Advancement of Science, Society for Neuroscience, American Neurological Association (Fellow, 1980; Councilor, 1991), World Federation of Neurology, Association for Research in Nervous and Mental Diseases (Trustee, 1987- ; President, 1991), Association of University Professors of Neurology, Society for Neurotrauma

Books Edited or Authored

Waxman, S.G. (ed.). Physiology and Pathobiology of Axons, Raven Press New York, 1978.

Waxman, S.G. and Ritchie, J.M. (eds.). Demyelinating Diseases: Basic and Clinical Electrophysiology, Raven Press, New York, 1981.

Waxman, S.G. (ed.). Functional Recovery in Neurological Disease, Raven Press, New York, 1988.

Byrne, T.N. and Waxman, S.G. Spinal Cord Compression, F.A. Davis Co., Philadelphia, 1990.

Yu, A.C.H., Hertz, L., Norenberg, M.D., Syková, E., and Waxman, S.G., (eds.) Neuronal-Astrocytic Interactions, Elsevier Publ. Co., Amsterdam, 1992.

Waxman, S.G., (ed.). Molecular and Cellular Approaches to the Treatment of Neurological Disease, Raven Press, New York, 1993.

Waxman, S.G., Kocsis, J.D. and Stys, P.K. (eds.). The Axon, Oxford University Press, New York, 1995.

Waxman, S.G. Correlative Neuroanatomy, Appleton and Lange, Stamford, 1996, 2000; revised as Clinical Neuroanatomy, McGraw-Hill, 2003, 2009 (translated into eight languages).

Byrne, T.N., Benzel, E.C. and Waxman, S.G. Diseases of the Spine and Spinal Cord, Oxford University Press, New York, 2000.

Waxman, S.G. Form and Function in the Brain and Spinal Cord, MIT Press, Cambridge, Mass., 2001.

Waxman, S.G. (ed.). From Neuroscience to Neurology: Neuroscience, Molecular Medicine, and the Therapeutic Transformation of Neurology, Elsevier Academic Press, 2005

Waxman, S.G. (ed.). Multiple Sclerosis as a Neuronal Disease, Elsevier, 2005.

Waxman, S.G. (ed.). Molecular Neurology, Elsevier Academic Press, 2007

Kullmann, D.M., and Waxman, S.G. (eds.). Special issue of The Journal of Physiology, "Channelopathies", Blackwell Publishing, Ltd., New Jersey, 2010.

Vandenberg, J.I, and Waxman, S.G. (eds.). Special issue of The Journal of Physiology, "Voltage-Gated Ion Channels: Celebrating Sixty Years," Blackwell Publishing, Ltd., New Jersey, 2012.

Published Papers (Selected Listing)

Kriebel, M. E., Bennett, M. V. L., Waxman, S. G. and Pappas, G. D. Oculomotor neurons in fish: electrotonic coupling and multiple sites of impulse initiation. Science, 166:520-524, 1969. PMID: 4309628

Waxman, S. G. Closely spaced nodes of Ranvier in the teleost brain. Nature, 227:283-284, 1970. PMID:5428197

Waxman, S. G. and Bennett, M. V. L. Relative conduction velocities of small myelinated and non- myelinated fibers in the central nervous system. Nature New Biology, 238:217-219, 1972. PMID: 4506206

Waxman, S. G. and Geschwind, N. Hypergraphia in temporal lobe epilepsy. Neurology 14:629- 637, 1974. (reprinted in: Epilepsy and Behav. 6:282-91, 2005). PMID: 15710320

Swadlow, H. A. and Waxman, S. G. Observations on impulse conduction along central axons. Proc. Nat. Acad. Sci. U.S.A., 72:5156-5159, 1975. PMID: 1061101

Waxman, S. G. Prerequisites for conduction in demyelinated fibers. Neurology, 28:27-34, 1978 PMID: 568749

Swadlow, H. A., Geschwind, N. and Waxman, S. G. Commissural transmission in humans. Science, 204:530-531, 1979. PMID: 432661

Foster, R. E., Whalen, C. C. and Waxman, S. G. Reorganization of the axonal membrane of demyelinated nerve fibers: morphological evidence. Science, 210:661-663, 1980. PMID: 6159685

Kocsis, J. D. and Waxman, S. G. Absence of potassium conductance in central myelinated axons. Nature, 287:348-349, 1980. PMID: 7421994

Malenka, R. C., Kocsis, J. D., Ransom, B. R. and Waxman, S. G. Modulation of parallel fiber excitability by postsynaptically mediated changes in extracellular potassium. Science, 214:339-341, 1981. PMID: 7280695

Waxman, S. G. Current concepts in neurology: membranes, myelin and the pathophysiology of multiple sclerosis. New England Journal of Medicine 306:1529-1533, 1982. PMID: 7043271

Kocsis, J. D. and Waxman, S. G. Long-term regenerated nerve fibres retain sensitivity to potassium channel blocking agents. Nature, 304:640-642, 1983. PMID: 6308475

Waxman, S. G. and Ritchie, J. M. Organization of ion channels in the myelinated nerve fiber. Science, 228:1502-1507, 1985. PMID: 2409596

Stys, P. K., Ransom, B. R., Waxman, S. G. and Davis, P. K. Role of extracellular calcium in anoxic injury of mammalian central white matter. Proc. Natl. Acad. Sci., 87:4212-4216, 1990. PMID: 2349231

Stys, P.K., Waxman, S.G. and Ransom, B.R. Ionic mechanisms of anoxic injury in mammalian CNS white matter: Role of Na^+ channels and Na^+-Ca^{2+} exchanger. J. Neurosci., 12:430-439, 1992. PMID: 1311030

Stys, P.K., Sontheimer, H., Ransom, B.R. and Waxman, S.G. Non-inactivating, TTX-sensitive Na^+ conductance in rat optic nerve axons. Proc. Natl. Acad. Sci., 90:6976-6980, 1993. PMID: 8394004

Waxman, S.G., Kocsis, J.D. and Black, J.A. Type III sodium channel mRNA is expressed in embryonic but not adult spinal sensory neurons, and is re-expressed following axotomy. J. Neurophysiol., 72:466-471,1994. PMID: 7965028

Utzschneider, D.A., Archer, D.R., Kocsis, J.D., Waxman, S.G. and Duncan, I.D.: Transplantation of glial cells enhances action potential conduction of amyelinated spinal cord axons in the myelin-deficient rat. Proc. Natl. Acad. Sci., 91:53-57, 1994. PMID: 8278406

Waxman, S.G. Demyelinating diseases: New pathological insights, new therapeutic targets. New England Journal of Medicine, 338:323-325, 1998. PMID: 9445415

Dib-Hajj, S.D., Tyrrell, L., Black, J.A., Waxman, S.G. NaN, a novel voltage-gated Na channel preferentially expressed in peripheral sensory neurons and down-regulated following axotomy. Proc. Natl. Acad.Sci., 95:8963-8968, 1998. PMID: 9671787

Tanaka, M., Cummins, T.R., Ishikawa, K., Black, J.A., Ibata, Y., Waxman, S.G. Molecular and functional remodeling of electrogenic membrane of hypothalamic neurons in response to changes in their input. Proc. Natl. Acad. Sci., 96:1088-1093, 1999. PMID: 9927698

Black, J. A., Dib-Hajj, S., Baker, D., Newcombe, J., Cuzner, M. L., Waxman, S. G. Sensory neuron specific sodium channel SNS is abnormally expressed in the brains of mice with experimental allergic encephalomyelitis and humans with multiple sclerosis. Proc. Natl. Acad. Sci., 97: 11598-11602, 2000. PMID: 11027357

Waxman, S. G. Transcriptional channelopathies: an emerging class of disorders. Nature Reviews Neurosci., 2: 652-659, 2001. PMID: 11533733

Craner, M.J., Newcombe, J., Black, J.A., Hartle, C., Cuzner, M.L., Waxman, S.G. Molecular changes in neurons in MS: altered axonal expression of $Na_v1.2$ and $Na_v1.6$ sodium channels and Na^+ /Ca^{2+} exchanger. Proc. Natl. Acad. Sci., 101: 8168-8173, 2004. PMID: 15148385

Dib-Hajj, S.D., Rush, A.M., Cummins, T.R., Hisama, F.M., Novella, S., Tyrrell, L., Marshall, L., Waxman, S.G. Gain-of-function mutation in Nav1.7 in familial erythromelalgia induces bursting of sensory neurons. Brain, 128:1847-1854, 2005. PMID: 15958509

Waxman, S.G., Dib-Hajj, S.D. Erythermalgia: molecular basis for an inherited pain syndrome, Trends in Molec. Medicine, 11 (12): 555-562, 2005. PMID: 16278094

Waxman, S.G. Axonal conduction and injury in multiple sclerosis: the role of sodium channels. Nature Rev. Neurosci., 5: 932-942 (2006). PMID: 17115075

Waxman, S.G. A channel sets the gain on pain. Nature, 444: 831-832, 2006. PMID: 17167466

Rush, A.M., Dib-Hajj, S.D., Liu, S., Cummins, T.R, Black, J.A., Waxman, S.G. A single sodium channel mutation produces hyper-or hypoexcitability in different types of neurons. Proc. Nat. Acad. Sci., 103: 8245-8250, 2006. PMID: 16702558

Waxman, S.G., Channel, neuronal, and clinical function in sodium channelopathies: From genotype to phenotype. Nature Neurosci., 10:405-410, 2007. PMID: 17387329

Waxman, S.G. Sodium channels and neuroprotection in MS: current status. Nature Clinical Neurology, 4:159-170, 2008. PMID: 18227822

Faber, C.G., Hoeijmakers, J.G.J., Ahn, H.S., Cheng, X, Han, C., Choi, J.S., Estacion, M., Lauria, G., Vanhoutte, E.K., Gerrits, M.M., Dib-Hajj, S., Drenth, J.P.H., Waxman, S.G., and Merkies, I.S.J. Gain-of-function $Na_V1.7$ mutations in idiopathic small fiber neuropathy. Ann. of Neurol., 71(1):26-39, 2012. PMID: 21698661

Dib-Hajj, S.D., Yang, Y., Black, J.A., Waxman, S.G. The $Na_V1.7$ sodium channel: from molecule to man. Nat. Rev. Neurosci., 14(1): 49-62, 2013. PMID: 23232607

Samad, O.A., Tan, A. M., Cheng, X., Foster, E., Dib-Hajj, S.D., Waxman, S.G. Virus-mediated shRNA knockdown of $Na_V1.3$ in rat dorsal root ganglion attenuates nerve-injury induced neuropathic pain. Mol.Therapy., 21(1): 49-56, 2013. PMID: 22910296

Faber, C.G., Lauria, G., Merkies, I.S.J., Cheng, X., Han, C., Ahn, H-S., Persson, A-K., Hoeijmakers, J.G.J., Gerrits, M.M., Pierro, T., Lombardi, R., Kapetis, D., Dib-Hajj, S.D., and Waxman, S.G. Gain-of-function $Na_V1.8$ mutations in painful neuropathy. Pro. Natl. Acad. Sci., 109:19444-19449, 2012. PMID: 23115331.

Yang, Y., Dib-Hajj, S.D., Zhang, J., Zhang, Y., Tyrrell, L., Estacion, M., and Waxman, S.G. Structural modeling and

mutant cycle analysis predict pharmacoresponsiveness of a NaV1.7 mutant channel, Nature Comm., 3: 1186, 2012 PMID 23149731.

Veeramah, K.R., O'Brien, J.E., Meisler, M.H., Cheng, X., Dib-Hajj, S.D., Waxman, S.G., Talwar, D., Girirajan, S., Eichler, E.E., Restifo, L.L., Erickson, R.P., Hammer, M.F. *De novo* pathogenic mutation of *SCN8A* identified by whole genome sequencing of a family quartet with infantile epileptic encephalopathy and SUDEP, Amer. J. Human Genetics, 90(3): 502-510, 2012. PMID: 22365152

Shields, S.D., Butt, R.P., Dib-Hajj, S.D., and Waxman, S.G. Oral administration of PF-01247324, a subtype-selective Nav1.8 blocker, reverses cerebellar deficits in a mouse model of multiple sclerosis. PLOS One, 10(3): e0119067. 2015. PMID: 25747279

Dib-Hajj, S.D., Black, J.A., and Waxman, S.G. $Na_V1.9$: A sodium channel linked to human pain. Nat. Rev. Neurosci., 16: 511-19, 2015. PMID 26243570

Geha, P., Yang, Y., Estacion, M., Schulman, B.R., Tokuno, H., Apkarian, A.V., Dib-Hajj, S.D., Waxman, S.G. Pharmacotherapy for pain in a family with inherited erythromelalgia guided by genomic analysis and functional profiling. JAMA Neurol., in press, 2016. PMID: 27088781

Cao, L., Nitzsche, N., McDonnell, A., Alexandrou, A., Saintot, P-P., Loucif, A.J.C., Brown, A.R., Young, G., Mis, M., Randall, A., Waxman, S.G., Stanley, P., Kirby, S., Tarabar, S., Gutteridge, A., Butt, R., McKernan, R.M., Whiting, R., Ali, Z., Bilsland, J., Stevens, E.B. Pharmacological reversal of pain phenotype in iPSC-derived sensory neurons and human subjects with inherited erythromelalgia, Sci. Transla. Med., 8(335): 335ra56, 2016. PMID: 27099175

Published Papers and Chapters (Full Listing)

1. Waxman, S.G. Peripheral nerve axon processes sharing common myelin sheaths. Brain Research, 7:469-473, 1968. PMID: 5639612

2. Waxman, S.G. Micropinocytotic invaginations in the axolemma of peripheral nerves. Zeitschr. fur Zellforschung, 86:571-573, 1968. PMID: 5707296

3. Waxman, S.G. Contextual categorization by lateral inhibition. IEEE Transactions on Systems Science and Cybernetics, SSC-4:191-192, 1968.

4. Waxman, S.G. Procedure for determination of contextual links within models. Psychol. Repts., 23:1261-1262, 1968.

5. Waxman, S.G. Information content of ensembles of hypotheses. Psychol. Repts., 24:367-371, 1969.

6. Waxman, S.G. and Pappas, G.D. Pinocytosis at postsynaptic membranes: electron microscopic evidence. Brain Research, 14:240-244, 1969. PMID: 5783114

7. Kriebel, M.E., Bennett, M.V.L., Waxman, S.G. and Pappas, G.D. Oculomotor neurons in fish: electrotonic coupling and multiple sites of impulse initiation. Science, 166:520-524, 1969. PMID: 4309628

8. Waxman, S.G. Closely spaced nodes of Ranvier in the teleost brain. Nature, 227:283-284, 1970. PMID: 5428197

9. Waxman, S.G. An ultrastructural study of the pattern of myelination of preterminal fibers in teleost oculomotor nuclei, electromotor nuclei, and spinal cord. Brain Research, 27:189-201, 1971. PMID: 5552167

10. Waxman, S.G. and Pappas, G.D. An electron microscopic study of synaptic morphology in the oculomotor nuclei of three inframammalian species. J. Comp. Neurol., 143:41-72. PMID: 4329004

11. Waxman, S.G. and Melker, R.J. Closely spaced nodes of Ranvier in the mammalian brain. Brain Research, 32:445-448, 1971. PMID: 5134587

12. Pappas, G.D. and Waxman, S.G. Synaptic fine structure: morphological correlates of chemical and electrotonic transmission. In: Structure and Function of Synapses, Pappas, G.D. and Purpura, D.P. (eds.), Raven Press, New York, 1972, pp. 1-44. PMID: 5013596

13. Waxman, S.G. and Pappas, G.D. Changing concepts of the neuron. Microstructures, 3:13-25, 1972.

14. Waxman, S.G., Pappas, G.D. and Bennett, M.V.L. Morphological correlates of functional differentiation of nodes of Ranvier along single fibers in the neurogenic electric organ of the knife fish Sternarchus. J. Cell Biol., 53:210-224, 1972. PMID: 5013596

15. Waxman, S.G. and Bennett, M.V.L. Relative conduction velocities of small myelinated and non-myelinated fibers in the central nervous system. Nature New Biology, 238:217-219, 1972. PMID: 4506206

16. Waxman, S.G. Regional differentiation of the axon: a review with special reference to the concept of the multiplex neuron. Brain Research, 47:269-288, 1972. PMID: 4345196

17. Waxman, S.G. Features associated with paranodal demyelination at a specialized site in the non-pathological nervous system. J. Neurol. Sci., 19:357-362, 1973. PMID: 4716850

18. Pappas, G.D. and Waxman, S.G. Ultrastructure of synapses. In: Physiology and Pharmacology of Synaptic Transmission, Naukah Publi., Leningrad, 1973 (transl. into Russian).

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