ABBREVIATED CURRICULUM VITAE

Robert Barchi, M.D., Ph.D.

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Education:

1968	B.Sc.	Georgetown University	Biology
1968	M.S.	Georgetown University	Cell Biology
1972	Ph.D.	University of Pennsylvania	Biochemistry
1973	M.D.	University of Pennsylvania	Medicine

Postgraduate Training and Fellowship Appointments:

1973-75	Resident in Neurology, Hospital of the University of Pennsylvania
1969-72	Fellow, Medical Scientist Training Program, NIH #GM-02046

Academic Appointments:

2012 -	University Professor and Professor II, Rutgers, The State University of New Jersey
2004-2012	Professor of Neurology, Thomas Jefferson University
	(All below at the University of Pennsylvania)
2004-	Fairhill Professor of Medicine (Emeritus)
2002-2004	Fairhill Professor of Medicine
1985-2002	David Mahoney Professor of Neurological Sciences
1981-1985	Professor of Neurology and of Biochemistry and Biophysics
1978-1981	Associate Professor of Neurology and of Biochemistry and Biophysics
1975-1978	Assistant Professor of Neurology and of Biochemistry and Biophysics
1974-1975	Assistant Professor, Department of Biochemistry and Biophysics

Administrative Appointments:

Current Position:

2012-	President, Rutgers, The State University of New Jersey

Previous Positions:

2004-2012	President, Thomas Jefferson University
	(All below at the University of Pennsylvania)
1999-2004	Provost and Chief Academic Officer, University of Pennsylvania
1995-1999	Chairman, Department of Neurology University of Pennsylvania School of Medicine
1992-1999	Chairman, Department of Neuroscience University of Pennsylvania School of Medicine
1995-1999	President, Penn NeuroCare (regional specialty network)
1983-1996	Director, Mahoney Institute of Neurological Sciences
1993-1995	Director, Clinical Neuroscience Track
1989-1990	Vice Dean for Research - School of Medicine
1986-1992	Director, Dana Fellowship Program in Neuroscience
1983-1989	Chairman, Graduate Group in Neuroscience

Honors and Membership in Honorary Societies:

Institute of Medicine, National Academy of Sciences (elected in 1993)
Distinguished Graduate Award, University of Pennsylvania School of Medicine (2000)
Association of American Physicians
American Society for Clinical Investigation
American Neurological Association
Fellow, American Academy of Neurology
Fellow, College of Physicians
Fellow, American Association for the Advancement of Science
Senior Investigator Achievement Award, American Heart Association
Society of Medical Administrators
Rev. Clarence E. Shaffrey, S.J. Award, 2009
Javits Neuroscience Investigator Award
Lindback Award - Outstanding Teacher, Penn Medical School
NIH Research Career Development Award
Phi Beta Kappa
Alpha Omega Alpha
Society of the Sigma Xi

Medical Licensure: Pennsylvania

Board Certification: Diplomate of the National Board of Medical Examiners
Diplomate of the American Academy of Neurology and Psychiatry. (Certified in Neurology)

Special Training: Neuromuscular disease; clinical electromyography

Selected External Boards:

Board of Trustees, Ursinus College, 2005-2012

Board of Trustees, Thomas Jefferson University Hospital, 2004-2012
Board of Trustees, Jefferson Health System, 2004-2010
Board of Directors, Covance, Inc.
Board of Directors, VWR International
Board of Directors (vice-chair), PA BioAdvance 2002-2007
Board of Directors, Ben Franklin Technology Partnership (SE PA) 2002-2007
Board of Overseers, The Wistar Institute, Philadelphia, PA 2000-2005
Board of Directors, The International House, Philadelphia, PA 1999-2004
Board of Directors, ICEAD, Kitakyushu, Japan, 2000-2004
Scientific Advisory Board, TransMolecular, Inc. 1997-2003
Scientific Advisory Board, Philadelphia Ventures, Inc. 1992-997
Editorial Board, Journal of Neurochemistry, 1981-1990
Editorial Board, Muscle and Nerve, 1981-1992; 1995-2004
Associate Editor, 1997-2000
Editorial Board, (Associate editor) Journal of Neuroscience, 1988-1991
Editorial Board, Current Concepts in Neurology and Neurosurgery, 1992-2002
Editorial Board, The Neuroscientist, 1993-2002
Editorial Board, Neurobiology of Disease, 1994-2002
Editorial Board, inScight, 1998-2000
NIH Physiology Study Section, 1984-1987

SELECTED ACADEMIC PUBLICATIONS

BOOKS

R.P. Lisak and R.L. Barchi. (1982) Myasthenia Gravis. A volume in the "Modern Problems in Neurology" series, W.B. Saunders, Co., Phila., PA. 244 pages.
Translated into Russian and reprinted in 1984.

R. Rosenberg, S. Prusiner, S. DiMauro, R. Barchi, and L. Kunkel, eds. (1993) The Molecular and Genetic Basis of Neurologic Disease, Butterworth Publishers, Stoneham, MA. 1023 pages.

R. Rosenberg, S. Prusiner, S. DiMauro, R. Barchi, eds. (1996) Molecular and Genetic Basis of Neurological Disease, Second edition (1997).

G. Fenichel, R. Rosenberg, S. Prusiner, D. Mauro, R. Barchi. (1999) Clinical Companion to the Molecular and Genetic Basis of Neurological Disease, Butterworth-Heinemann Publishers, Stoneham, MA.
Polish edition published (1999) D.W. Publishing, Poland

R. Rosenberg, S. Prusiner, S. DiMauro, R. Barchi, and E. Nestler. (2003) Molecular and Genetic Basis of Neurological and Psychiatric Disease. Third Edition. Butterworth-Heinemann, pub. 844 pages.

SELECTED RESEARCH ARTICLES PUBLISHED SINCE 1980

R.L. Barchi and L.E. Murphy. (1980) Size characteristics of the solubilized sodium channel STX binding site from mammalian sarcolemma. **Biochem. Biophys. Acta.** 597:391-398.

D. Chalikian and R.L. Barchi. (1980) Fluorescent probe analysis of erythrocyte membrane physical properties in myotonic muscular dystrophy. **Neurology** 30:227-285.

R.L. Barchi, S.A. Cohen, and L.E. Murphy. (1980) Purification of the excitable membrane sodium channel STX binding component from sarcolemma. **Proc. Nat. Acad. Sci. USA** 77:1306-1310.

H.K. Shapiro and R.L. Barchi. (1981) Alteration of synaptosomal plasma membrane cholesterol content: membrane physical properties and cation transport proteins. **J. Neurochem.** 36:1813-1818.

S.A. Cohen and R.L. Barchi. (1981) Glycoprotein characteristics of the sarcolemmal sodium channel. **Biochem. Biophys. Acta.** 645:253-261.

R.L. Barchi and L.E. Murphy. (1981) Estimate of the molecular weight of the sarcolemmal sodium channel using H_20-D_20 centrifugation. **J. Neurochem.** 36:2097-2100.

D.M. Chalikian and R.L. Barchi. (1982) Sarcolemmal desmosterol accumulation and membrane physical properties in 20,25-diazacholesterol myotonia. **Muscle & Nerve** 5:118-124.

J.B. Weigele and R.L. Barchi. (1982) Functional reconstitution of the purified sodium channel from rat sarcolemma. **Proc. Nat. Acad. Sci. USA** 79:578-589.

R.L. Barchi. (1983) Protein components of the purified sodium channel from rat skeletal muscle sarcolemma. **J. Neurochem.** 40:1377-1385.

J. Tanaka, J. Eccleston and R. Barchi. (1983) Cation selectivity in a purified, reconstituted sodium channel. **J. Biol. Chem.** 258:7519-7526.

R.L. Barchi and J.C. Tanaka. (1984) Cation gating and selectivity in a purified voltage-dependent sodium channel. **Biophys. J.** 45:35-37.

R.L. Barchi, J.C. Tanaka and R.E. Furman. (1984) Molecular characteristics and functional reconstitution of muscle voltage-sensitive sodium channels. **J. Cell. Biochem.** 26:135-146.

S.D. Kraner, J.C. Tanaka and R.L. Barchi. (1985) Purification and functional reconstitution of the voltage-sensitive sodium channel from rabbit T-tubular membranes. **J. Biol. Chem.** 60:6341-6347.

R.E. Furman, J.C. Tanaka, P. Mueller, and R.L. Barchi. (1986) Voltage-dependent activation of the purified sodium channel from rabbit T-tubular membranes. **Proc. Natl. Acad. Sci. USA** 83:488-492.

J.M. Casadei, R.D. Gordon, and R.L. Barchi. (1986) Immunoaffinity purification of sodium channels from rat skeletal muscle: analysis of subunit composition. **J. Biol. Chem.** 261:4318-4323.

R.D. Gordon, W.E. Fieles, D.L. Schotland, R. Hogue-Angeletti and R. Barchi. (1987) Topological localization of a C-terminal region of the voltage-dependent sodium channel using antibodies raised against a synthetic peptide. **Proc. Natl. Acad. Sci. USA** 84:308-312.

J.M. Casadei and R.L. Barchi. (1987) Monoclonal antibodies against the voltage-sensitive sodium channel from rat skeletal muscle: mapping antibody binding sites. **J. Neurochem.** 48:773-778.

R.A. Roberts and R.L. Barchi. (1987) The voltage-sensitive sodium channel from rabbit skeletal muscle: chemical characterization of subunits. **J. Biol. Chem.** 262:2298-2303.

B. Haimovich, D. Schotland, W. Fieles, and R. Barchi. (1987) Localization of sodium channel subtypes in adult rat skeletal muscle using channel-specific monoclonal antibodies. **J. Neurosci.** 7:2957-2966.

S.S. Cooperman, S.A. Grubman, R.L. Barchi, R.H. Goodman and G. Mandel. (1987) Modulation of sodium channel mRNA levels in rat skeletal muscle. **Proc. Natl. Acad. Sci. USA** 84:8721-8725.

R.D. Gordon, Y. Li, W.E. Fieles, D.W. Schotland and R.L. Barchi. (1988) Topological localization of a protein segment (AA927-938) of the eel voltage-dependent sodium channel that discriminates between models of 3^{o} structure. **J. Neurosci.** 8:3742-3749.

J. Trimmer, S. Cooperman, S. Tomiko, J. Zhou, S. Crean, M. Boyle, R. Kallen, Z. Sheng, R. Barchi, F. Sigworth, R. Goodman, W. Agnew, and G. Mandel. (1989) Primary structure and functional expression of a mammalian skeletal muscle sodium channel. **Neuron** 3:33-49.

S. Kraner, J. Yang and R. Barchi. (1989) The skeletal muscle sodium channel: structural inferences from patterns of endogenous proteolysis. **J. Biol. Chem.** 264:13273-13280.

R.G. Kallen, Z. Sheng, J. Yang, L. Chen, R.B. Rogart and R.L. Barchi. (1990) Primary structure and expression of a sodium channel characteristic of denervated and immature rat skeletal muscle. **Neuron** 4:233-242.

J. Yang and R.L. Barchi. (1990) Phosphorylation of the rat skeletal muscle sodium channel by cyclic CMP-dependent protein kinase. **J. Neurochem.** 54:954-962.

S.J. Zwerling, S.A. Cohen, and R.L. Barchi. (1991) Analysis of protease-sensitive regions in the skeletal muscle Na^+ channels in vitro and implications for channel tertiary structure. **J. Biol. Chem.** 266:4574-4580.

A.L. George, D.H. Ledbetter, R.G. Kallen, and R.L. Barchi. (1991) Assignment of a Human Skeletal Muscle Sodium Channel Gene (SCN4A) to 17q23.1-25.3. **Genomics** 9:555-556.

M.M. White, L. Chen, R. Kleinfield, R.G. Kallen, and R.L. Barchi. (1991) Functional Expression of Tetrodotoxin-insensitive sodium channels from SkM2 cDNA clones. **Mol. Pharmacol.** 29:604-608.

J. Yang, J.T. Sladky, R.G. Kallen, and R. L. Barchi. (1991) TTX-sensitive and TTX-insensitive sodium channel mRNA transcripts are independently regulated in adult skeletal muscle after denervation. **Neuron** 7:421-427.

J.S. Beckman, A.F. Hahn, W.F. Brown, R.D. Campbell and A.J. Hudson. (1991) Paramyotonia congenita and hyperkalemic periodic paralysis are linked to the adult muscle sodium channel gene. **Ann. Neurol.** 30:810-816.

L. Ptacek, A.L. George, R.C. Griggs, R. Tawil, R.G. Kallen, R.L. Barchi, M. Robertson and M. Leppert. (1991) Identification of a mutation in the gene causing hyperkalemic periodic paralysis. **Cell** 67:1021-1027.

A.L. George, J. Komisarof, R.G. Kallen and R.L. Barchi. (1992) Primary structure of the adult human skeletal muscle voltage-dependent sodium channel. **Annals of Neurology** 31:131-137.

M.A. Gellens, A.L. George, L. Chen, M. Chahine, R. Horn, R.L. Barchi and R.G. Kallen. (1992) Primary structure and functional expression of the human cardiac TTX-insensitive voltage-sensitive sodium channel. **Proc. Natl. Acad. Sci. USA** 89:554-558.

S. Cohen, and R.L. Barchi. (1992) Localization of epitopes for antibodies that differentially label sodium channels in skeletal muscle surface and T-tubular membranes. **J. Memb. Biol.** 28:219-226.

L.J. Ptacek, A.L. George, R.L. Barchi, R.C. Griggs, J.E. Riggs, M. Robertson and M. Leppert. (1992) Mutations in an S4 segment of the adult skeletal muscle sodium channel cause paramyotonia congenita. **Neuron** 5:899-906.

M. Chahine, L.-Q. Chen, R.G. Kallen, R.L. Barchi and R. Horn. (1992) Expressed Na^+ channel clones differ in their sensitivity to external Ca^{++} concentration. **Biophys. J.** 62:37-40.

M. Chahine, L.-Q. Chen, R.L. Barchi, R.G. Kallen and R. Horn. (1992) Lidocaine block of human heart Na^+ channels expressed in Xenopus oocytes. **J. Mol. Cell. Cardiol.** 24:1231-1236.

K. Klocke, K. Kaupmann, A.L. George, R.L. Barchi and H. Jockusch. (1992) Chromosomal mapping of muscle-expressed sodium channel genes in the mouse. **Mouse Genome** 90:433-435.

A.L. George, G.S. Iyer, R. Kleinfield, R.G. Kallen, R.L. Barchi. (1993) Genomic organization of the adult skeletal muscle sodium channel gene. **Genomics** 15:598-606.

L.J. Ptacek, L. Gouw, H. Kwiecinski, P. McManis, J. Mendell, R.J. Barohn, A.L. George, R.L. Barchi, M. Robertson and M.F. Leppert. (1993) Sodium channel mutations in paramyotonia congenita and hyperkalemic periodic paralysis. **Annals of Neurology** 33:300-307.

J.R. Yang, P.B. Bennett, N. Makita, A.L. George, and R.L. Barchi. (1993) Expression of the sodium channel beta-1 subunit in rat skeletal muscle is co-regulated with the TTX-sensitive alpha subunit isoform. **Neuron** 11, 915-922.

Z. Sheng, H. Zhang, R.L. Barchi and R.G. Kallen. (1994) Multiple positive and negative 5'-flanking gene segments control rat skeletal muscle voltage-sensitive sodium channel subtype 2 (SkM2) expression in skeletal muscle. **DNA and Cell Biology** 13:9-23.

M. Chahine, A.L. George, M. Zhou, S. Ji, W. Sun, R.L. Barchi and R. Horn. (1994) Sodium channel mutations in paramyotonia congenita destabilize inactivation. **Neuron** 12:1-20.

S. Ji, W. Sun, A.L. George, R. Horn and R.L. Barchi. (1994) Voltage-dependent regulation of modal gating in rat SkM1 sodium channels expressed in Xenopus oocytes. **J. Gen. Physiol.** 104: 625-643.

N. Yang, S. Ji, M. Zhou, L. Ptacek, R. Barchi, R. Horn and A. George. (1994) Sodium channel mutations in paramyotonia congenita exhibit similar biophysical phenotypes in vitro. **Proc. Natl. Acad. Sci. USA** 91:12785-12789.

W.-J. Sun, R.L. Barchi and S.A. Cohen. (1995) Probing sodium channel cytoplasmic domain structure: evidence for the interaction of the rSkM1 amino- and carboxyl-termini. **J. Biol. Chem.** 270:22271-22276.

S. Ji, A.L. George, R. Horn and R.L. Barchi. (1996) Paramyotonia congenita mutations reveal different roles in the gating of hSkM1 sodium channels for regions in D3/S3 and S4. **J. Gen. Physiol.** 107:1-12.

R.L. Barchi. (1997) Quality of Care Issues in Academic Neurology Departments. **Arch. Neurol.** 54:1336-1340.

M.A. Rich, M.J. Pinter, S.D. Kraner, and R.L. Barchi. (1998) Loss of electrical excitability in an animal model of acute quadraplegic myopathy. **Ann. Neurol.** 43:171-179.

S. Kraner, S. Ji, G. Filatov, W. Sun, P. Bannerman, J. Lindstrom and R. Barchi. (1998) Analysis of local structure in the D2/S1-2 region of the rat skeletal muscle type 1 sodium channel using insertional mutagenesis. **J. Neurochem.** 70:1628-1635.

S.D. Kraner, M.M. Rich, R.G. Kallen and R.L. Barchi. (1998) Two E-boxes are the focal point of muscle-specific skeletal type 1 sodium channel gene expression. **J. Biol. Chem.** 273:11327-11334.

G. Filatov, T. Nguyen, S. Kraner and R. Barchi. (1998) Inactivation and secondary structure in the D4/S4-5 region of the SkM1 sodium channel. **J. Gen. Physiol.** 111:703-715.

S. Kramer, M. Rich, M. Sholl, H. Zhou, C. Zorc, R. Kallen and R. Barchi. (1999) Interaction between the skeletal muscle type 1 Na^+ channel promoter E box and upstream repressor elements. **J. Biol. Chem**. 274:8129-8136.

H. Zhang, M.N. Maldonado, R.L. Barchi and R.G. Kallen. (1999) Tandem redundant promoter elements from the tetrodotoxin-resistant voltage-sensitive Na^+ channel (rSkM2) gene can independently drive muscle-specific transcription in L6 cells. **Gene Expression** 8:85-106.

Barchi, R.L. and Lowery, B.J. (2000) Scholarship in the medical faculty from the University perspective: retaining academic values. **Academic Medicine** 75:899-905.

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