CURRICULUM VITAE- Barbara E. Ehrlich

**Current Position:** Professor

Departments of Pharmacology and Cellular & Molecular Physiology

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**Education:**

Sc.B. Brown University (Applied Mathematics and Biology, Honors) 1974

Ph.D. University of California, Los Angeles (Physiology) 1979

**Research:**

1972-74 Pre-Doctoral Student. Brown University and Mount Desert Island Biological Laboratory, Providence, RI and Salisbury Cove, ME

Iodide transport in choroid plexus epithelium.

1975-80 Graduate Student. Department of Physiology, University of California, Los Angeles, CA

Membrane transport parameters in manic-depressive illness.

1980-86 Post-Doctoral Fellow. Marine Biological Laboratory, Woods Hole, MA.

Lithium transport across squid axon membrane

1980-86 Post-Doctoral Fellow and then Instructor. Departments of Physiology and Neuroscience, Albert Einstein College of Medicine, Bronx, NY

Incorporation of cardiac and *Paramecium* calcium channels in lipid bilayers.

1986-93 Assistant Professor. Departments of Medicine/Cardiology and Physiology, University of Connecticut, Farmington, CT

1993-97 Associate Professor. Departments of Physiology and Medicine/Cardiology, University of Connecticut, Farmington, CT

Intracellular calcium release channel function and modulation.

1997-present Professor. Departments of Pharmacology and Cellular & Molecular Physiology, Yale University School of Medicine, New Haven, CT

**Honors and Awards:**

2020 Blavatnik Foundation Innovator Awardee

2020 University of Chicago Outstanding Educator Award

2020 Washington University Equalize Pitch Competition Finalist

2005 K.S. Cole Award for Excellence in Membrane Biophysics, Biophysical Society

1996 H.F. Cserr Memorial Lecture, Mount Desert Island Biological Laboratory

1995 Blue Ribbon for Blueberry Pie, Barnstable County Fair, Falmouth, MA

1992, 1995 CAMEL Award for Best Pre-Clinical Course. Co-Organizer, Cardiovascular Subject Committee

1987-Summer M.B.L. Kuffler Fellowship

1987 The Margaret Oakley Dayhoff Memorial Award in Biophysics

1986-1990 PEW Scholar in Biomedical Science

1986-Summer M.B.L. Summer Fellowship

1983-1986 The American Home Products Grant-in-Aid, New York Heart Association

1983-1986 Kurt P. Reiman Investigatorship, New York Heart Association

1980-1982 Sidney Blackmer Postdoctoral Fellowship, Muscular Dystrophy Foundation

1980-Summer Grass Foundation Fellowship in Neurophysiology

1979-1980 Bank of America – Giannini Foundation Fellowship

**Elected offices:**

2013-present Wine Steward, Berkeley College of Yale University

2012-2016 Tenure Appointments Committee for the Biological Sciences, Yale University

2012-2016 Biological Science Advisory Committee, Yale University

2004-2010 Science Council, Marine Biological Laboratory

2002-2008 Trustee, Children’s School of Science, Woods Hole, MA

1995-1998 Councilor, Biophysical Society

1995-1996 President, Society of General Physiologists

1993-1999 Science Council, Marine Biological Laboratory

1988-1990 Councilor, Society of General Physiologists

1989-1993 Trustee, Marine Biological Laboratory

**Meetings Organized:**

2003 Membrane Biophysics Subgroup Symposium

1996 FASEB Conference on “Calcium and Cell Function”

1995 Society of General Physiologists 49th Annual Symposium

“Organellar Pumps and Channels” with Dr. David Clapham

1995 Membrane Biophysics Subgroup Symposium

**Extramural Peer Review Committees:**

2004-2011 Board of Scientific Counselors, NICHD, Chair

2000-2004 American Heart Association Affiliate Research Committee

1997-2001 NIH Study Section, Cell Biology and Physiology (CDF3)

1996-2010 Marine Biological Laboratory Fellowship Review Committee

1994-1997 American Heart Association, Regional Review Board

1994 NSF Review Panel, Neuronal and Glial Mechanisms

1988-1991 American Heart Association, New England Affiliates review Board

**Students and Fellows, past:**

Cathy R. Schen, MD (summer student, 1983, 1984)

Present position: Psychiatrist, private practice and Harvard University, Cambridge, MA

Juan Bernal, MD (postdoctoral fellow, 1987-1990)

Present position: Laboratory Director, Tenidos San Juan, Aguascalientes, Ags, Mexico

Karol Ondrias, PhD (postdoctoral fellow, 1988-1990)

Permanent position: Senior Scientist, Institute of Experimental Pharmacology, Slovak Academy of Sciences, Dubravska cesta 9, 84216 Bratislava, Czechoslovakia

Anita M. Kelsey, MD (summer student, 1987; research fellow, 1993, 1995)

Present position: Cardiologist, private practice and Duke University

Louis Borgatta, MD (research fellow, 1989)

Present position: Cardiologist, private practice

Detcho Stoyanovsky, PhD (postdoctoral fellow, 1991-1992)

Present position: Associate Professor, Department of Biochemistry, University of Pittsburgh, Pittsburgh, Pennsylvania

Ilya Bezprozvanny, PhD (postdoctoral fellow, 1990-1994)

Present position: Professor, Department of Physiology, University of Texas, Southwest Medical Center at Dallas, Texas

Edward Kaftan, PhD (graduate student, 1990-1996; postdoctoral fellow, 1996-1997)

Present position: co-Director of Translational Research, Yale Cancer Center, Connecticut

Habib Samady, MBChB (research fellow, 1992, 1993)

Present position: Associate Professor, Medicine/Cardiology, University of Virginia

Mark Landers, MD (research fellow 1992, 1993)

Present position Cardiologist, private practice

Kerry Quinn, PhD (postdoctoral fellow, 1994-1999)

Present position: Technical writer, Alexion, Connecticut

Frank Striggow, PhD (postdoctoral fellow, 1994-1996)

Present position: CEO KeyNeuroTek, Magdeburg, Germany

Bonnie Seecharran, MBChB (research fellow, 1994)

Present position: Cardiologist, private practice

Peter Danias, MD PhD (research fellow, 1995-present)

Present position: Cardiologist, Private practice

Robert Hagar, MD (MD-PhD student, 1995-2000)

Present position: Physician, Private practice, Middletown, CT

Gohar Jamil, MD (research fellow, 1995)

Present position: Cardiologist, Private practice, Hartford, CT

Julian Esteban, MD (research fellow, 1996)

Present position: Cardiologist, Private practice, Hartford, CT

Elizabeth Dodge (research student, 1997-1998)

Present position: Psychiatrist, private practice, Dallas, TX

Peter Koulen, PhD (postdoctoral fellow, 1998-2001)

Present Position: Professor, Univ. of Missouri-Kansas City, Kansas City, MO

Anthony DePass, PhD (postdoctoral fellow, 1998-1999)

Present position: Professor, Long Island University, NY

Tobias Janowitz (research student, 1999, 2000)

Present position: Cardiologist, Private practice and Cambridge University, England

Danielle Johnston (undergraduate research student, 1999)

Present position: Scientist, Biotech Company, Boston, MA

Edwin Thrower, PhD (postdoctoral fellow, 1999-2002)

Present position: Senior Medical Writer, Ashfield Healthcare Communications, CT

Friedrich Johenning (research student, 2000-2001)

Present position: Senior Research Scientist, Charite University, Berlin, Germany

Phedra Marius (postdoctoral fellow, 2002-2003)

Present position: Researcher, Univ. of Southampton, Southhampton, UK

Students and Fellows, past (continued):

Chi-un Choe (research student, 2002-2003)

Present position: Neurologist, University Medical Center Hamburg, Germany

Simon Jacob (research student, 2002-2003)

Present position: Neurologist, private practice, Munich, Germany

Christina Schlecker (research student, 2002-2003)

Present position: Physician, private practice, Tubingen, Germany

Nils Nicolay (research student, 2003-2004)

Present position: Radiation Oncologist, University Hospital, Freiberg, Germany

Fannie Bialek (summer student, 2002, 2003)

Present position: Assistant Professor of Philosophy, Washington University, Missouri

Lauren Johnston (undergraduate research student, 2003, 2004)

Present position: Nurse Practitioner, University of Texas, Austin, TX

Xin Yu (undergraduate research student, 2001-2003)

Present position: Lawyer, NY, NY

Georgia Anyatonwu (graduate student, 2001-2006)

Present position: Consultant-Penn. Biotech Group, Philadelphia, PA

Juliana Rengifo (graduate student, 2001-2006)

Present position: Professor and Chair of Physiology, University of Cali, Cali Columbia

Anurag Varshney (postdoctoral fellow, 2003-2006)

Present position: Asst. Director-Technology, Daiichi Sankyo Life Science Research Centre,

Gurgaon, 122 001, India

Manuel Estrada (postdoctoral fellow, 2003-2006)

Present position: Associate Professor, Universidad de Chile, Santiago, Chile

Per Uhlen (postdoctoral fellow, 2004-2006)

Present position: Professor, Karolinska Institute, Stockholm, Sweden

Eva Winkler (research student, 2004-2005)

Present position: Surgeon, University of Hamburg, Germany

David Johnston (undergraduate research student, 2005)

Present position: Scientist, Biotech Company, Boston, MA

Wolfgang Boehmerle (research student, 2005-2006)

Present position: Neurologist and Research Scientist, Charite University, Berlin, Germany

Felix Heidrich (research student, 2006-2007)

Present position: Cardiologist, University of Dresden, Dresden, Germany

Kun Zhang (research student, 2006-2007)

Present position: Cardiologist, Charite University, Berlin, Germany

Craig Gibson (graduate student, 2003-2008)

Present position: Analyst, Simon-Kucher and Partners, Boston, MA

Stefan Schmidt (research student, 2007-2008)

Present position: Physician, Private practice, Gottingen, Germany

Patricia Bimboese (research student, 2007-2008)

Present position: Physician, private practice, Australia

Christin Schulze (research student, 2007-2008)

Present position: Physician, University of New South Wales, Australia

Courtney Blachford (undergraduate research student, 2007-2008)

Present position: Physician, Mount Sinai Hospital, NY

Ha Thi Hoang (research student, 2008-2009)

Present position: Physician, private practice, Cambridge, UK

Wanqing Xiang (research student, 2009-2010)

Present position: Physician, private practice, Heidelberg, Germany

Jere Paavola (postdoctoral fellow, 2008-2010)

Present position: Neurologist, Minerva Institute for Medical Research, Helsinki,

Finland

Andjelka Ćelić (postdoctoral fellow, 2006-2010)

Present position: Associate Professor, Novi Sad University, Croatia

Students and Fellows, past (continued):

Simon Schliffke (research student, 2009-2010)

Present position: Physician, private practice,, Hamburg, Germany

Jennifer Benbow (postdoctoral fellow, 2009-2011)

Present position: Research scientist, University of Virginia

Rachel Corbin (undergraduate research student, 2010-2011)

Present position: Medical Student, Washington University, St. Louis

Katharina Mück (postgraduate student, 2011- 3 months)

Present position: Graduate Student, Tubingen Germany

Salim Acimi (postgraduate student, 2011- 3 months)

Present position: McKinsey, Berlin, Germany

Michelle Mo (graduate student, 2008-2012)

Present position: Medical Resident, Washington University, Missouri

Esther Giehl (postgraduate fellow, 2012-2013)

Present position: Cardiologist, Charite, Berlin, Germany

Taylor Mann (medical student research elective, 2013)

Present position: Medical Resident, George Washington University

Colleen Feriod (graduate student, 2010-2014)

Present position: Analyst, Canaan Partners, Westport, CT

Victor Wang (graduate student, 2013-2014)

Present position: Dentist, Changsha, China

Lily Nguyen (postgraduate fellow, 2012-2015)

Present position: MD-PhD student, University of Colorado

Lauren Moore (Graduate Student 2011-2016)

Present position: Clinical Chemistry Faculty, San Francisco, CA

Yifei Yang (Graduate Student 2010-2016)

Present position: Clinical Chemistry Faculty, University of Utah

Caitlin Wright (postgraduate fellow, 2014-2015)

Present position: Dental Student

Goran Boeckel (postgraduate fellow, 2014-2015)

Present position: Gastroenterologist, University Hospital, Heidelburg, Germany

Larry Huynh (postgraduate fellow, 2014-2016)

Present position: Medical Resident, UT Southwestern, Texas

Sophie Duong (postgraduate fellow, 2014-2016)

Present position: Medical Student, Luebeck, Germany

Jonathan Apasu (postgraduate fellow, 2016-2017)

Present position: Medical Resident, Bonn, Germany

Ivana Kuo (postdoctoral fellow, 2010-2017)

Present position: Assistant Professor, Loyola University Chicago

Fernanda Lemos (postdoctoral fellow, 2014-2017)

Present position: Postdoctoral fellow, Leuven, Belgium

Julia Steinle (postgraduate fellow, 2017-2018)

Present position: Medical Student, Munich, Germany

Henrike Grosshans (postgraduate fellow, 2017-2018)

Present position: Medical Student, Freiburg, Germany

Daniel Schuette (postgraduate fellow, 2017-2018)

Present position: Medical Student, Cologne, Germany

Lazaros Stefanidis (postgraduate fellow, 2018-2019)

Present position: Intern, private industry

Saira Munshani (summer student, 2018, 2019)

Present position: Undergraduate, University of Chicago, Chicago, IL

Lien Nguyen (graduate student, 2015-2020)

Present position: Postdoctoral fellow, Harvard University, Boston MA

Allison Brill (graduate student, 2015-2020)

Present position: Postdoctoral fellow, Postdoctoral fellow, MIT, Boston MA

Tom Fischer (postgraduate fellow, 2019-2020)

Present position: Medical Student, Heidelberg, Germany

Luca Nolte (postgraduate fellow, 2019-2020)

Present position: Medical Student, Charite Hospital, Berlin, Germany

Hannah Handschild (postgraduate fellow, 2019)

Present position: Medical Student, Heidelberg, Germany

**Students and Fellows, present:**

Alfredo Arroyo (postgraduate fellow, 2019-present)

Eiman Y. Ibrahim (postdoctoral fellow, 2018-present)

Juan Camilo Olaya Gomez (postgraduate fellow, 2020-present)

Juan Fernando Henao Martinez (postgraduate fellow, 2020-present)

Taoyi Li (postgraduate fellow, 2021-present)

**Bibliography:**

1. **Ehrlich, B.E.** & Cserr, H.F. (1978).Comparative aspects of brain barrier systems for iodide. American Journal of Physiology, 234, R61-R65.
2. **Ehrlich, B.E.** & Diamond, J.M. (1978). An ultramicro method for analysis of lithium and other biologically important cations. Biochimica Biophysics Acta, 543, 264-268.
3. Jope, R.S., Jenden, D.J., **Ehrlich, B.E.** & Diamond, J.M. (1978). Choline accumulates in erythrocytes during lithium therapy. New England Journal of Medicine, 299, 833-834.
4. **Ehrlich, B.E.**, Diamond, J.M. (1979). Lithium fluxes in human erythrocytes. American Journal of Physiology, 237, C102-C110.
5. **Ehrlich, B.E.**, Diamond, J.M., Kaye, W., Ornitz, E.M. & Gosenfeld, L. (1979). Lithium transport in erythrocytes from a pair of twins with manic disorder. American Journal of Psychiatry, 136, 1477-1478.
6. **Ehrlich, B.E.**, Diamond, J.M., Braun, L.D., Cornford, E.M. & Oldendorf, W.H. (1980). Effects of lithium on blood-brain barrier transport of the neurotransmitter precursors choline, tyrosine, and tryptophan. Brain Research, 193, 604-607.
7. **Ehrlich, B.E.**, Clausen, C. & Diamond, J.M. (1980). Lithium pharmacokinetics: single dose experiments and analysis using a physiological model. Journal of Pharmacokinetics and Biopharmaceutics, 8, 439-461.
8. Jope, R.S., Jenden, D.J., **Ehrlich, B.E.**, Diamond, J.M. & Gosenfeld, L.F. (1980). Erythrocyte choline concentrations are elevated in manic patients. Proceedings of the National Academy of Sciences, U.S.A., 77, 6144-6146.
9. Modlin, I.M., **Ehrlich, B.E.**, Lamers, C.B.H., Diamond, J.M. & Walsh, J.H. (1981). Variable effect of lithium on canine pancreatic polypeptide and gastrin release by a meal or bombesin. Digestion, 22, 177-184.
10. **Ehrlich, B.E.**, Diamond, J.M. & Gosenfeld, L.F. (1981). Lithium-induced changes in sodium-lithium countertransport. Biochemical Pharmacology, 30, 2539-2543.
11. **Ehrlich, B.E.** & Wright, E.M. (1982). Choline and PAH transport across blood-CSF barriers: The effect of lithium. Brain Research, 250, 245-249.
12. Diamond, J.M., **Ehrlich, B.E.** & Freedman, J.C. (1982). A slow process in the effect of lithium therapy on countertransport. New England Journal of Medicine, 307, 1646.
13. **Ehrlich, B.E.** & Diamond, J.M. (1983). Lithium absorption: implications for sustained-release lithium preparations. Lancet, 1(8319), 306.
14. Diamond, J.M., **Ehrlich, B.E.**, Morawski, S.G., Santa Ana, C.A. & Fordtran, J.S. (1983). Lithium absorption in tight and leaky segments of intestine. Journal of Membrane Biology, 72, 153-159.
15. **Ehrlich, B.E.**, Diamond, J.M, Fry, V. & Meier, K. (1983). Lithium inhibition of erythrocyte cation countertransport involves a slow process in the erythrocyte. Journal of Membrane Biology, 75, 233-240.
16. Clausen, C., **Ehrlich, B.E**., Diamond, J.M. & Gosenfeld, L.F. (1983). Muscle lithium in manic-depressive patients during lithium therapy. New England Journal of Medicine, 309, 190.
17. **Ehrlich, B.E.**, Clausen, C., Gosenfeld, L.F. & Diamond, J.M. (1984). Lithium concentration in the muscle compartment of manic-depressive patients during lithium therapy. Journal of Psychiatric Research, 18, 139-148.
18. **Ehrlich, B.E.** & Russell, J.M. (1984). Lithium transport across squid axon membrane. Brain Research, 311, 141-143.
19. **Ehrlich, B.E.**, Schen, C.R. & Spudich, J.L. (1984). Bacterial rhodopsins monitored with fluorescent dyes in vesicles and *in vivo*. Journal of Membrane Biology, 82, 89-94.

Papers (continued)

1. **Ehrlich, B.E.**, Finkelstein, A., Forte, M. & Kung, C. (1984). Voltage-dependent calcium channels from *Paramecium* cilia incorporated into planar lipid bilayers. Science, 325, 427-428.
2. Hoch, D.H., Romero-Mira, M., **Ehrlich, B.E.**, Finkelstein, A., DasGupta, B.R., & Simpson, L.L. (1985). Channels formed by botulinum, tetanus, and diphtheria toxins in planar lipids bilayers: relevance to translocation of proteins across membranes. Proceedings of the National Academy of Sciences, U.S.A., 82, 1692-1696.
3. **Ehrlich, B.E.**, Schen, C.R., Garcia, M.L. & Kaczorowski, G.J. (1986). Incorporation of calcium channels from cardiac sarcolemmal membrane vesicles into planar lipid bilayers. Proceedings of the National Academy of Sciences, U.S.A., 83, 193-197.
4. **Ehrlich, B.E.**, Jacobson, A.R., Hinrichsen, R., Sayre, L.M. & Forte, M.A. (1989). *Paramecium* calcium channels are blocked by a family of calmodulin antagonists. Proceedings of the National Academy of Sciences, U.S.A., 85, 5718-5722.
5. **Ehrlich, B.E.** & Watras, J. (1989). Inositol 1,4,5-trisphosphate activates a channel from smooth muscle sarcoplasmic reticulum. Nature, 336, 583-586.
6. Ondrias, K., Borgatta, L., Kim, D.H. & **Ehrlich, B.E.** (1990). Biphasic effects of doxorubicin on the calcium release channel from sarcoplasmic reticulum of cardiac muscle. Circulation Research, 67, 1167-1174.
7. Bernal, J., Kelsey, A.M. & **Ehrlich, B.E.** (1991). GTPS increases the duration of backward swimming behavior and the calcium action potential in marine *Paramecium*. Journal of Experimental Biology 155, 505-518.
8. Borgatta, L., Watras, J., Katz, A.M. & **Ehrlich, B.E.** (1991). Regional differences in calcium release channels from heart. Proceedings of the National Academy of Sciences, U.S.A., 88, 2486-2489.
9. Bezprozvanny, I., Watras, J. & **Ehrlich, B.E.** (1991). Bell-shaped calcium responses of Ins (1,4,5) P3- and calcium-gated channels from endoplasmic reticulum of cerebellum. Nature, 351, 751-754.
10. Lee, Y.S., Ondrias, K., Duhl, A.J., **Ehrlich, B.E.** & Kim, D.H. (1991). Comparison of calcium release from sarcoplasmic reticulum of slow and fast twitch muscles. Journal of Membrane Biology, 122, 155-163.
11. Watras, J., Bezprozvanny, I., & **Ehrlich, B.E.** (1991). Inositol 1,4,5-trisphosphate-gated channels in cerebellum: presence of multiple conductance states. Journal of Neuroscience, 11, 3239-3245.
12. Bernal, J. & **Ehrlich, B.E.** (1993). Guanine nucleotides modulate calcium currents in a marine *Paramecium*. Journal of Experimental Biology, 176, 117-133.
13. Bezprozvanny, I., Ondrias, K., Kaftan, E., Stoyanovsky, D.A. & **Ehrlich, B.E.** (1993). Activation of the calcium release channel (ryanodine receptor) by heparin and other polyanions is calcium dependent. Molecular Biology of the Cell, 4, 347-352.
14. Bezprozvanny, I. & **Ehrlich, B.E.** (1993). ATP modulates the function of inositol 1,4,5-trisphosphate-gated channels at two sites. Neuron, 10, 1175-1184.
15. Bezprozvanny, I., Bezprozvannaya, S.G. & **Ehrlich, B.E.** (1994). Caffeine-induced inhibition of inositol (1,4,5)-trisphosphate-gated calcium channels from canine cerebellum. Molecular Biology of the Cell, 5, 97-103.
16. Brillantes, A-M.B., Ondrias, K., Scott, A., Kobrinsky, E., Ondriasova, E., Moschella, M.C., Jayaraman, T., Landers, M., **Ehrlich, B.E**., Marks, A.R. (1994). Stabilization of the calcium release channel (ryanodine receptor) function by FK506-binding protein. Cell, 77, 513-523.

Papers (continued)

1. Bezprozvanny, I. & **Ehrlich, B.E.** (1994). Inositol (1,4,5)-trisphosphate (InsP3)-gated Ca channels from cerebellum: conduction properties for divalent cations and regulation by intraluminal calcium. Journal of General Physiology, 104, 821-856.
2. Kaftan, E.J., Marks, A.R., Ehrlich, B.E. (1996). Effects of rapamycin on ryanodine receptor/ Ca(2+)-release channels from cardiac muscle. Circulation Research, 78, 990-997.
3. Striggow, F. & **Ehrlich, B.E.** (1996). The inositol 1,4,5-trisphosphate receptor of cerebellum. Mn2+ v permeability and regulation by cytosolic Mn2+. Journal of General Physiology, 108, 115-124.
4. Quinn, K.E. & **Ehrlich, B.E.** (1997). Methanethiosulfonate derivatives inhibit current through the ryanodine receptor/channel. Journal of General Physiology, 109, 255-264.
5. Striggow, F. & **Ehrlich, B.E.** (1997). Regulation of intracellular calcium release channel function by arachidonic acid and leukotriene B4. Biochemical and Biophysical research Communication, 237, 413-418.
6. Kaftan, E.J., **Ehrlich, B.E.** & Watras, J. (1997). Inositol 1,4,5-trisphosphate (InsP3) and calcium interact to increase the dynamic range of InsP3 receptor-dependent calcium signaling. Journal of General Physiology, 110, 529-538.
7. Quinn, K.E., Castellani, L., Ondrias, K. & **Ehrlich, B.E.** (1998). Characterization of the ryanodine receptor/channel of invertebrate muscle. American Journal of Physiology, 274, R494-R502.
8. Hagar, R.E., Burgstahler, A.D., Nathanson, M.H. & Ehrlich, B.E. (1998). Type III InsP3 receptor stays open in the presence of increased calcium. Nature, 396, 81-84.
9. Zecevic, N., Milosevic, A. & **Ehrlich, B.E.** (1999). Calcium signaling molecules in human cerebellum at midgestation and in ataxia. Early Human Development, 54(2), 103-116.
10. Moraru, I., Kaftan, E.J., **Ehrlich, B.E.** & Watras, J. (1999). Regulation of type 1 inositol 1,4,5-trisphosphate-gated calcium channels by InsP3 and calcium: simulation of single channel kinetics based on ligand binding and electrophysiological analysis. Journal of General Physiology, 113, 837-849.
11. Hagar, R.E. & **Ehrlich, B.E.** (2000). Regulation of the lll InsP(3) receptor by InsP(3) and ATP. Biophysical Journal, 79, 271-278.
12. Koulen, P. & **Ehrlich, B.E.** (2000). Reversible block of the calcium release channel/ryanodine receptor by protamine, a heparin antidote. Molecular Biology of the Cell, 11, 2213-2219.
13. Koulen, P., Janowitz, T., Johnston, L.D. & **Ehrlich, B.E.** (2000). Conservation of localization of IP(3) receptor type 1 in cerebellar Purkinje cells across vertebrate species. Journal of Neuroscience Research, 61, 493-499.
14. Koulen, P., Janowitz, T., Johenning, F. & **Ehrlich, B.E.** (2001). Characterization of the calcium-release channel/ryanodine receptor from zebrafish skeletal muscle. Journal of Membrane Biology, 183, 155-163.
15. Koulen, P., Cai, Y., Geng, L., Maeda, Y., Nishimura, S., Witzgall, R., **Ehrlich, B.E**., & Somlo, S. (2002). Polycystin-2 is an intracellular calcium release channel. Nature Cell Biology, 4, 191-197.
16. Thrower, E.C., Park, H.S., So, S.H., Yoo, S.H. & **Ehrlich, B.E.** (2002). Activation of the inositol 1,4,5-triposphate receptor by the calcium storage protein chromogranin A. Journal of Biological Chemistry, 277, 15801-15806.
17. O’Neil, A.F., Hagar, R.E., Zipfel, W.R., Nathanson, M.H. & **Ehrlich, B.E.** (2002). Regulation of the type III InsP3 and calcium. Biochemical and Biophysical Research Communications, 294, 719-725.

Papers (continued)

1. Johenning, F.W., Zochowski, M., Conway, S.J., Holmes, A.B., Koulen, P. & **Ehrlich, B.E.** (2002). Distinct intracellular calcium transients in neurites and somata integrate neuronal signals. Journal of Neuroscience, 22, 5344-5353.
2. Pusl, T., Wu, J.J., Zimmerman, T.L., Zhang, L., **Ehrlich, B.E.**, Berchtold, M., Hoek, J.B., Karpen, S., Nathanson, M.H. & Bennett, A.M. (2002). Epidermal growth-factor-mediated activation of the ETS-domain transcription factor Elk-1 requires nuclear calcium. Journal of Biological Chemistry, 277, 27517-27527.
3. Jiang, Q-X, Thrower, E.C., Chester, D.W., **Ehrlich, B.E**. & Sigworth, F.J. (2002). Three-dimensional structure of type I inositol-1,4,5-triphosphate receptor at 24 Ǻ resolution. EMBO Journal, 21, 3575-3581.
4. Leite, W.F., Thrower, E.C., Echevarria, W., Koulen, P., Hirata, K,. Bennett, A.M., **Ehrlich, B.E.** & Nathanson, M.H. (2003). Nuclear and cytosolic calcium are regulated independently. Proceedings of the National Academy of Sciences, U.S.A., 100, 2975-2980.
5. Anyatonwu, G.I., Buck, E.D., & **Ehrlich, B.E.** (2003). Methanethiosulfonate ethylammonium block of amine currents through the ryanodine receptor reveals single pore architecture. Journal of Biological Chemistry, 278, 45528-45538.
6. Thrower, E.C., Choe, C-U, So, S.H., Jeon, S.H., **Ehrlich, B.E.** & Yoo, S.H. (2003). A functional interaction between chromogranin B and the inositol 1,4,5-trisphosphate receptor/Ca2+ channel. Journal of Biological Chemistry, 278, 49699-49706.
7. Cai, Y., Anyatonwu, G.I., Okuhara, D., Lee, K., Yu, Z., Onoe, T., Mei, C., Qian, Q., Geng, L., Witzgall, R., **Ehrlich, B.E**. & Somlo, S. (2004). Calcium dependence of polycystin-2 channel activity is modulated by phosphorylation at Ser812. Journal of Biological Chemistry, 279, 19987-19995.
8. Johenning, F.W., Wenk, M.R., Uhlen, P., DeGray, B., Lee, E., De Camilli, P. & **Ehrlich, B.E.** (2004). InsP3-mediated intracellular calcium signaling is altered by expression of synaptojanin-1. Biochemical Journal, 382, 687-694.
9. Choe, C-U., Harrison, K.D., Grant, W. & **Ehrlich, B.E.** (2004). Functional coupling of chromogranin with the inositol 1,4,5-trisphosphate receptor shapes calcium signaling. Journal of Biological Chemistry, 279, 35551-35556.
10. Zielinski, C.E., Jacob, S.N., Bouzahzah, F., **Ehrlich, B.E.** &Craft, J. (2005). Naïve CD4+ T cells from lupus-prone Fas-intact MRI, mice display TCR-mediated hyperproliferation due to intrinsic threshold defects in activation. Journal of immunology, 174, 5100-5109.
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Patent No.: US 9,700,579 B2 July11, 2017 Drug therapy to inhibit chemotherapy-induced adverse effects and related pharmaceutical compositions, diagnostics, screening techniques and kits

B. Ehrlich, S. Rockwell, J. Benbow

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