## CURRICULUM VITAE

## Kevin P. Campbell, Ph.D.

Personal Data

Place of Birth: Brooklyn, New York

Citizenship: United States   
Marital Status: Married; Three Children

Current Position Investigator, Howard Hughes Medical Institute

Chair and Department Executive Officer, Department of Molecular Physiology and Biophysics

Director, Wellstone Muscular Dystrophy Cooperative Research Center

Roy J. Carver Biomedical Research Chair in Molecular Physiology and Biophysics

Professor, Neurology and Internal Medicine

University of Iowa Roy J. and Lucille A. Carver College of Medicine

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Email: kevin-campbell@uiowa.edu

Web Addresses: Lab: http://www.physiology.uiowa.edu/campbell/

Department: http://www.physiology.uiowa.edu

HHMI: http://www.hhmi.org/research/investigators/campbell\_bio.html

Center: http://www.medicine.uiowa.edu/mdcrc/

**Education**

1979 Ph.D. Biophysics, University of Rochester, School of Medicine & Dentistry,

Rochester, New York

1976 M.S. Biophysics, University of Rochester, School of Medicine & Dentistry,

Rochester, New York

1973 B.S. Physics, Manhattan College,

Bronx, New York

**Post-Graduate Education**

1978-1981 Postdoctoral Fellow Banting and Best Department of Medical Research

University of Toronto

Toronto, Ontario, Canada

Advisor: Dr. David MacLennan

**Academic Appointments**

2005-present Director, Wellstone Muscular Dystrophy Cooperative Research Center

2005-present Chair & Department Executive Officer, Department of Molecular Physiology and Biophysics, University of Iowa

2005-present Professor, Department of Internal Medicine, University of Iowa

2002-2005 Interim Department Chair, Department of Physiology and Biophysics, University of Iowa

2001-present University of Iowa Gene Therapy Center Program Member

2001-present University of Iowa Cancer Center Program Member

1999-present Carver Trust - Roy J. Carver Biomedical Research Chair in Physiology and Biophysics, University of Iowa

1997-present Professor, Department of Neurology, University of Iowa

1996-present Diabetes Endocrinology Research Center Program Member

1989-present Investigator, Howard Hughes Medical Institute

1989-1999 University of Iowa Foundation Distinguished Professor of Physiology and Biophysics

1988-present Professor, Department of Molecular Physiology and Biophysics, University of Iowa

1987-present University of Iowa Medical Scientist Training Program Faculty Mentor

1985-1988 Associate Professor, Department of Physiology and Biophysics, University of Iowa

1981-1985 Assistant Professor, Department of Physiology and Biophysics, University of Iowa

1978-1981 Postdoctoral Fellow with Dr. David MacLennan, Banting and Best Department of Medical Research, University of Toronto, Toronto, Ontario, Canada

1976-1978 Teaching Assistant, Undergraduate and Graduate Biochemistry, University of Rochester

1973-1977 Graduate Fellow, Biophysics Training Grant, Department of Radiation Biology and Biophysics, University of Rochester

**Honors and Awards**

2010 A. Ross McIntyre Award

2009 March of Dimes Prize in Developmental Biology

2007 Presidential Lecturer, The University of Iowa

2006 American Academy of Arts and Sciences

2005 Carver College of Medicine Distinguished Mentor Award

2004 National Academy of Sciences

2004 American Academy of Microbiology

2004 American Academy of Neurology Lecturer Award

2004 Rochester Distinguished Scholar Award

2003 University of Manitoba Samuel Weiner Distinguished Visitor Award

2001 Elsevier Science Award at the World Muscle Society Meeting

2001 S. Mouchly Small, MDA Scientific Achievement Award

2001 Weil Award for Best Paper in Experimental Neuropathology

2000 G. Conte Prize 2000 for Basic Research

1999 National Academy of Medicine (formerly Institute of Medicine) of the National Academy of Sciences

1999 Carver Trust - Roy J. Carver Biomedical Research Chair in Molecular Physiology and Biophysics

1999 Fellow of the Biophysical Society

1997 Duchenne-Erb-Preis Award (German Muscular Dystrophy Association)

1996 Esther Benjamin Memorial Lecture Award

1996 Landacre Society Lecture Award

1996 American Academy of Neurology Decade of the Brain Award

1995 INSERM/Académie des Sciences Prix

1994 McGill University F.L. McNaughton Lecturer

1994 Vanderbilt University 1994 Lamson Memorial Lecturer

1994 ASBMB-AMGEN Award

1994 International Albrecht Fleckenstein Award

1993 Muscular Dystrophy Association Service Merchandise Leadership Award

1992 The Emilio Trabucchi Foundation Medal

1989 Howard Hughes Medical Institute Investigator

1989 University of Iowa Foundation Distinguished Professor of Physiology and Biophysics

1990 Regent's Award for Faculty Excellence

1984 Finalist for 1984 Louis N. Katz Research Prize for Young Investigators

1984-1989 American Heart Association Established Investigator

1978 National Science Foundation - NATO Postdoctoral Fellowship

1978-1981 Medical Research Council of Canada Postdoctoral Fellowship

1977-1978 Elon Huntington Hooker Fellowship

1974-1977 Graduate Fellowship - NIH Biophysics Training Grant

1973 Sigma Pi Sigma Bendix Award

1973 Phi Beta Kappa

1972 Sigma Xi

**Professional Activities**

**Affiliations**

|  |  |
| --- | --- |
| American Academy of Microbiology | Biophysical Society |
| American Academy of Neurology | National Academy of Medicine, National Academy of Sciences |
| American Association for Advancement of Science | National Academy of Sciences |
| American Chemical Society | New York Academy of Sciences |
| American Society for Biology and Molecular Biology | Society for Developmental Biology |
| American Society of Biological Chemistry | Society For Glycobiology |
| American Society for Cell Biology | Society for Neuroscience |
| American Society for Gene Therapy | Society of General Physiologists |
| American Society of Human Genetics | Sigma Xi |
| American Society for Matrix Biology  American Society for Microbiology | World Muscle Society |
| American Physiological Society |  |

**Editorial Boards**

2013-present Journal of Neuromuscular Diseases

2012-present Experimental Neurology

2011-present PLoS Currents: Muscular Dystrophy

2010-present Skeletal Muscle, Founding Co-Editor-in-Chief

2004-present Neuromuscular Disorders

2004-2006 Molecular and Cellular Biochemistry

2003-2006 Drug Discovery Today: Therapeutic Strategies

2002-present NeuroMolecular Medicine

2001-present Acta Myologica

2001-2004 American Society for Biochemistry and Molecular Biology

1999-2004 Journal of Cell Biology

1996-2001 Journal of Biological Chemistry

1995-1997 Physiological Reviews

1988-1993 Cell Calcium

1988-1993 Journal of Biological Chemistry

1987-1993 Circulation Research

**Reviewer (Journals)**

|  |  |
| --- | --- |
| Acta Neuropathologica | Journal of Neuropathology and Experimental Neurology |
| American Journal of Human Genetics | Journal of the Neurological Sciences |
| American Journal of Pathology | Journal of Physiology |
| American Journal of Physiology | Matrix Biology |
| Annals of Neurology | Molecular and Cellular Biology |
| Archives of Biochemistry and Biophysics | Molecular and Cellular Neuroscience |
| Biochimica et Biophysica Acta | Molecular Biology of the Cell |
| BioMed Central | Molecular Brain Research |
| Biophysical Journal | Molecular Pharmaceutics |
| Cardiovascular Research | Molecular Pharmacology |
| Cell | Molecular Therapy |
| Cell Metabolism | Nature |
| Circulation | Nature Cell Biology |
| Circulation Research | Nature Genetics |
| Current Biology | Nature Medicine |
| Development | Nature Neuroscience |
| Developmental Biology | Nature Review Molecular Cell Biology |
| Developmental Cell | Neurobiology of Disease |
| EMBO Molecular Medicine | Neurogenetics |
| European Journal of Human Genetics | Neurology |
| FASEB | Neuromuscular Disorders |
| FEBS | Neuron |
| FEBS Letters | Neuroscience |
| Genome Research | New England Journal of Medicine |
| Glycobiology | PLoS Medicine |
| Human Gene Therapy | PLoS ONE |
| Human Molecular Genetics | Proceedings of the National Academy of Science |
| Journal of Biological Chemistry | Science |
| Journal of Cell Biology | Science Translational Medicine |
| Journal of Cell Science | Stem Cell |
| Journal of Clinical Investigation | Traffic |
| Journal of Comparative Neurology | Trends in Neuroscience |
| Journal of Molecular and Cellular Cardiology | Trends in Pharmacological Sciences |
| Journal of Neurochemistry | Virology |
| Journal of Neuroscience |  |

**Reviewer (Grants)**

2013-present Reviewer, HHMI Medical Fellows Program Group

2008 Inserm, Myology Lab Site Visit (Paris, France)

2005-2007 Council Member, National Arthritis and Musculoskeletal and Skin Disease Advisory Council

2003 March of Dimes Grant Reviews

2001-2005 NIH Skeletal Muscle Biology and Exercise Physiology Study Section

1999 NIH, Grant Reviews

1996-2009 Member, MDA Scientific Advisory Committee

1992 NIH, Site Visit (Indiana University)

1991-1995 NIH, Physiology Study Section

1989-1995 Member, MDA Fellowship Review Committee

1989-1992 Member, AHA’s Cell Transport and Metabolism Research Study Committee

1988 NIH, Site Visit (University of Miami)

1987 NIH, Site Visit (University of Washington)

1986 NIH, NIADDK Conference Grant

1986 Member, NSF - Presidential Young Investigator Advisory Panel

1985-1988 Member, Research Peer Review Committee, AHA - Iowa Affiliate

**National & International Committees**

2013-present Member, Committee on Honors, American Physiological Society

2011-present Vanderbilt Prize in Biomedical Science External Review Committee

2010-present T32 External Networking Committee, The Ohio State University

2010-present Member, Biomedical Science Advisory Board, Vanderbilt University

2009-present Scientific Advisor, Gavriel Meir Trust

2006-2010 Scientific Advisory Board Committee, Duke NUS-Graduate Medical School, Singapore

2004-present Scientific Advisory Board, Cure Duchenne

2004-2005 President, Society of General Physiologists

2003-2006 Council Member, American Society of Matrix Biology

2001-2004 Pharmaceutical Research, MyoContract

2001-2003 NIH Skeletal Muscle Biology Study Section

2001-2006 Member, Executive Board of the World Muscle Society

1998-2004 Member, Muscular Dystrophy Association’s Gene Therapy Task Force

1997 Steering Committee for Huntington’s Disease Society of America

1993-1995 Council Member, Society of General Physiologists

1988-1991 Officer of the Biophysical Society Council

**University Committees**

2011-2012 Search Committee for the Dean of the Carver College of Medicine

2009-2011 Carver College of Medicine Research Advisory Council

2009-2010 Internal Advisory Committee on Genetics for the Carver College of Medicine

2008-2009 Animal Care Facilities Planning Task Force

2007 Intercollegiate Task Force on the Organization of Research and Education in the Life Sciences

2007-present Office of Animal Resources Advisory Committee

2006 Distinguished Mentor Nomination Committee

2003 Holden Comprehensive Cancer Center Space Committee

2003-2008 Molecular Biology Executive Committee

2003-2004 Steering Committee, Presidential Biological Scholar Program

2003-2004 Search Committee, Department of Internal Medicine

2002-2009 Executive Committee, Neuroscience Program

2002-present Medical Council

2001-2005 Curriculum Committee, Neuroscience Program

2000-2004 College of Medicine Molecular Biology Building B Planning Committee

2000-2002 Task Force on Animal Imaging

1997-2006 Member, Neuromuscular Disease Conference

1997 Medical Scientist Training Program Review Committee

1996-2003 College of Medicine Capital Planning Liaison Committee

1995-2005 Howard Hughes Medical Institute, College of Medicine Seminar Series

1995-2003 College of Medicine Research Advisory Council

1995-2000 College of Medicine Research Week Committee

1995-2000 Hybridoma Facility Advisory Committee

1995-1996 Search Committee, Department of Biochemistry

1994-1999 Committee for the Initiative in the Biosciences

1994-1995 Associate Deans’ Search Committee for the College of Medicine

1993-present Executive Committee of the Cardiovascular Center

1993-1994 Review Committee for Vice President for Research

1991-1994 Search Committee for the Dean of the College of Medicine

1990-1991 Microbiology Review and Search Committee

1990 Radiation Research Laboratory Review Committee

1989-1992 Medical Bio-Science Subcommittee of the University Radiation Protection Committee

1988-1992 AHA Medical Student Research Fellowship Program Selection Committee

1986-1989 College of Medicine Research Committee

**Departmental Committees**

1995 Co-Chairman, Physiology and Biophysics Computer Committee

1993 Chairman, Dr. Charles Wunder Review

1991 Physiology and Biophysics Faculty Search Committee

1990 Chairman, Neuroscience Workshop

1989-1990 Chairman, Physiology and Biophysics Faculty Search Committee

1989-2002 Chairman, Physiology Workshop

1987-2002 Departmental Executive Committee

1986-1987 Chairman, Physiology and Biophysics Seminar Committee

1984-1986 Physiology and Biophysics Computer Committee

1983-1986 Chairman, Physiology and Biophysics Graduate Admissions Committee

1982-1986 Chairman, Physiology and Biophysics Graduate Recruiting Poster Committee

1982-1986 Physiology and Biophysics Graduate Admissions Committee

1982-1984 Physiology and Biophysics Equipment User Committee

1981-1983 Physiology and Biophysics Faculty Search Committee

**Reviews of Academic Departments and Centers**

2013 **Vanderbilt Wellstone Scientific Advisory Committee**

Review of Vanderbilt University’s Paul and Sheila Wellstone Muscular Dystrophy Center

2010-present **Vanderbilt Biomedical Science Advisory Board**

Review of the Vanderbilt University School of Medicine

2006-2011 **Duke-NUS Graduate Medical School, Singapore Scientific Advisory Board**

Review of the University of Duke University Graduate Medical School, Singapore

2005-2009 **Minnesota Wellstone Scientific Advisory Committee**

Review of the University of Minnesota’s Paul and Sheila Wellstone Muscular Dystrophy Center

2005 **University of Pennsylvania School of Medicine**

Review of the University of Pennsylvania School of Medicine Department of Physiology

2004  **Duke University**

Review of the Duke University School of Medicine Department of Cell Biology

**Scientific Meeting Organization**

2009-presen t **Organizer,** **Iowa Wellstone Face-to-Face Meeting, *University of Iowa Wellstone MD Center***

2008 **Organizer and Session Chair, Iowa Congenital Muscular Dystrophy Meeting, *University of Iowa Wellstone MD Center***

2007 **Organizer, Congenital Muscular Dystrophy and Dystroglycan Glycosylation Meeting, *World Muscle Society***

2006 **Organizer, Frontiers in Myogenesis Meeting, *Society for Muscle Biology***

2004 **Organizer, College of Medicine/HHMI Seminar Series**

Rosela Tupler, John Faulkner, Hannele Ruohola-Baker, Jeffrey Molkentin, James Ervasti, Gregory Cox

2003 **Organizer, College of Medicine/HHMI Seminar Series**

David J. Glass, Stuart Kornfeld, Ulrich Mueller, Guilio Cossu, Yukio Fukuyama, Francesco Muntoni, Peter Agre, Anton Bennett and Joshua Sanes

2002 **Organizer, College of Medicine/HHMI Seminar Series**

Luis Parada, Martin Chalfie, Sriram Subramaniam, Anthony Wynshaw-Boris and Yukiko Goda

2001 **Organizer, College of Medicine/HHMI Seminar Series**

Wolfhard Almers, Pietro DeCamilli, Brian Duling and Steven Burden

2000 **Organizer, College of Medicine/HHMI Seminar Series**

Morgan Sheng, Susan McConnell, Richard Scheller and Thomas Südhof

1999 **Organizer, College of Medicine/HHMI Symposium,** *Phenotypic Analysis of Genetically Engineered Mice: Insights to Biology and Human Disease*

Sally Camper, Mario Capecchi, William Dove, Reinhard Fassler and Joseph Takahasi

1998 **Organizer, Carver Symposium,** *The Molecular Basis of Neurogenetic Diseases*

Xandra Breakfield, Kay Davies, Kurt Fischbeck, Ulrike Heberlein, Erik Kandel, David MacLennan, Jeffrey Noebels, Mihael Polymeropoulous, Dennis Selkoe, Chris Walsh, Steve Warren and Huda Zoghbi

1997 **Organizer, College of Medicine Research Week,** *Cancer Biology: Molecular and Genetic Approaches*

Wen-Hwa Lee, Erkki I. Ruoslahti, Ayraham Raz, Mina J. Bissell and Carlo Croce

1996 **Organizer and Chair, College of Medicine/HHMI Symposium**, *Cell-Extracellular Matrix Interactions in Development and Disease*

Angela Christiano, David Cheresh, Brigid Hogan, James Kramer and Louis Reichardt

1996 **Organizer and Chair, College of Medicine Research Week,** *Neurobiology: Molecular, Genetic and Clinical Approaches*

Robert H. Brown, Antonio R. Damasio, Ted M. Dawson, Story C. Landis and Katherine Kalil

1992 **Chairperson and Organizer, FASEB Conference,** *Calcium and Cell Function*

1989 **Co-Chair, FASEB Conference**, *Calcium and Cell Function*

**Scientific Advisory Boards & Consulting**

2013-present **Genzyme Corporation**

*Scientific Advisory Board*

2010-present **Coalition to Cure Calpain 3**

*Consultant*

2010-2011 **NGM Biopharmaceuticals, Inc.**

*Consultant*

2010-2011 **Five Prime Therapeutics, Inc.**

*Consultant*

2010-2011 **Eleven Biotherapeutics**

*Consultant*

2010-present **The Duchenne Research Fund**

*Scientific Advisory Board*

2010-present **Vanderbilt University**

*Biomedical Science Advisory Board*

2008-2012 **ARMGO Pharmaceutical, Inc.**

*Scientific Advisory Board*

2006-2010 **Duke NUS Graduate Medical School Singapore**

*Scientific Advisory Board Committee*

2004-present **Cure Duchenne**

*Scientific Advisory Board*

2001-2004 **MyoContract**

*Pharmaceutical Research (Basel, Switzerland)*

**Teaching Activities**

**University of Iowa**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Course Title** | **Course No.** | **Year(s)** | **Registered** | **Effort** |
| Human Organ Systems | 140:250 | 1996-present | 200 | 15 % |
| Medical Cell Biology | 60:116 | 1996-present | 200 | 5 % |
| Human Physiology for PA Students | 72:164 | 2002-present | 40 | 5 % |
| Survival Skills for a Research Career | 060:204 | 2000-present | 150 | 5 % |
| Mini Medical School Lecture, April 10, 2007 | n/a | 2007 | 200 | 5% |
| Neurobiology of Disease | 132:235:001 | 2006 | 25 | 5% |
| Experimental Approaches to Human Disease | 060:208 | 2001-04 | 20 | 5 % |
| Fundamental Neuroscience | 132:180 | 2000 | 20 | 5 % |
| Principles of Molecular and Cell Biology (Facilitator) | 156:201 | 2000-02 | 80 | 5 % |
| Medical Neuroscience | 72:234 | 1992 | 200 | 5 % |
| Medical Neuroscience, Course Co-Director | 72:234 | 1991 | 200 | 5 % |
| Neuroscience Seminar | 132:265 | 1990-91 | 14 | 100 % |
| Cell Biology II | 142:255 | 1990 | 15 | 30 % |
| Medical Physiology, Course Director | 72:212 | 1988-90 | 190 | 30 % |
| Membrane Seminar | 72:255 | 1984-89 | 10 | 100 % |
| Intermediate Physiology | 72:150 | 1983-84 | 235 | 15 % |
| Graduate Physiology | 72:214 | 1983-84 | 8 | 15 % |
| Medical Physiology | 72:212 | 1982-95 | 190 | 20 % |
| Structure and Function of Biological Membranes | 72:241 | 1982-92 | 10 | 100 % |
| Advanced Biomedical Studies | 50:198 | 1982 | 10 | 10 % |
| Cell Biology | 72:111 | 1981 | 10 | 10 % |

**International Teaching Positions**

January 2006 Masters Class in Molecular Mechanisms of Disease Glycogenetics and Neuromuscular Diseases

Nijmegen School of Molecular Life Sciences (NCMLS)

Nijmegen, The Netherlands

**Graduate Students**

|  |  |  |
| --- | --- | --- |
| **Name and Degree** | **Current Employment Organization** | **Current Title** |
| Jyothi Arikkath, Ph.D.  (1997-2002) | Munroe-Meyer Institute for Genetics and Rehabilitation, Department of Developmental Neurology, University of Nebraska Medical Center | Assistant Professor |
|  |  |  |
| Dimple Bansal, Ph.D.  (1998-2003) | Biocon, Oncology Business Unit, Bangalore, India | Head of Marketing and Strategy |
|  |  |  |
| Wei Guo, Ph.D. (1992-1995) | University of Pennsylvania, Department of Biology, Philadelphia, PA | Associate Professor |
|  |  |  |
| Christina Gurnett, M.D./Ph.D.  (1992-1997) | Washington University School of Medicine, Department of Neurology, St. Louis, MO | Associate Professor |
|  |  |  |
| Scott Jay, M.D./Ph.D. (1984-1991) | Wellmont CVA Heart Institute: Laughlin Campus, Greeneville, TN | Staff Cardiologist |
|  |  |  |
| Myoung-Goo Kang, Ph.D.  (1998-2003) | Institute for Basic Science, Center for Cognition and Sociality, Daejeon, Republic of Korea | Principal Investigator |
|  |  |  |
| Michael Knudson, M.D./Ph.D.  (1985-1992) | University of Iowa, Department of Pathology, Iowa City, IA | Associate Professor |
|  |  |  |
| Albert Leung, M.D./Ph.D. (1986-1989) | Merck Research Laboratories, Diabetes and Endocrinology Clinical Research, Rathway, NJ | Executive Director |
|  |  |  |
| Leland Lim, M.D./Ph.D. (1993-1999) | Stanford University School of Medicine and Veterans Affairs Palo Alto Healthcare System , Department of Neurology, Palo Alto, CA | Staff Physician and Clinical Assistant Professor |
|  |  |  |
| Hongyan Liu, Ph.D. (1992-1997) | New York, NY | Homemaker |
|  |  |  |
| Peter McPherson, Ph.D.  (1988-1993) | McGill University, Department of Neurology, Neurosurgery, and Anatomy and Cell Biology; Montreal Neurological Institute, Montreal, Canada | James McGill Professor |
|  |  |  |
| Marlon Pragnell, Ph.D.  (1990-1994) | Juvenile Diabetes Research Foundation  New York, NY | Senior Scientific Program Manager |
|  |  |  |
| David Pepper, M.S./M.D.  (1984-1986) | UCSF Fresno, Department of Family Medicine, Fresno, CA | Associate Clinical Professor |
|  |  |  |
| Jakob Satz, Ph.D. (1999-2007) | Jackson Laboratories, Bar Harbor, ME | Postdoctoral Fellow |
|  |  |  |
| Alan Sharp, Ph.D. (1983-1988) | Developmental Neuro-Biochemistry, Case Western Reserve University | Research Scientist |
|  |  |  |
| Bin Yang, Ph.D.  (1991-1995) | Genentech, Inc./Roche  San Francisco, CA | Scientist/Group Leader |

**Postdoctoral Fellows**

|  |  |  |
| --- | --- | --- |
| **Name and Degree** | **Current Employment Organization** | **Current Title** |
| Valerie Allamand, Ph.D.  (1996-2000) | INSERM Institut de Myologie, Center for Research in Myology, Paris, France | Group Leader |
|  |  |  |
| Rita Barresi, Ph.D.  (1998-2006) | NSCT Diagnostic & Advisory Service for Rare Neuromuscular Diseases  Muscle Immunoanalysis Unit,  Newcastle upon Tyne, United Kingdom | Clinical Scientist and Head |
|  |  |  |
| Aaron Beedle, Ph.D.  (2003 – 2007) | The University of Georgia, Department of Pharmaceutical and Biomedical Sciences, Athens, GA | Assistant Professor |
|  |  |  |
| Daniel Beltran, Ph.D.  (2004-2013) | Invitae Research Institute, San Francisco, CA | Scientist |
|  |  |  |
| Oxana Beskrovanya-Ibraghimov, Ph.D. (1990-1994) | Genzyme Corporation, Framingham, MA | Vice President, Distinguished Scientific Fellow |
|  |  |  |
| Gloria Biddlecome, Ph.D.  (1997-1999) | Summer Stream Homes, LLC, Bakersfield, CA | Self-employed |
|  |  |  |
| Chien-Chang Chen, Ph.D.  (1998-2004) | Academia Sinica, Institute of Biomedical Sciences, Taipei, Taiwan | Associate Professor/Associate Research Fellow |
|  |  |  |
| Ronald Cohn, M.D. (1998-2001) | University of Toronto, Division of Clinical and Metabolic Genetics, Center for Genetic Medicine, The Hospital for Sick Children, Toronto, Canada | Associate Professor; Chief, Division of Clinical and Metabolic Genetics |
|  |  |  |
| Ramon Coral, Ph.D. (1996-1999) | Escuela Superior de Medicina, Intituto Politenico Nacional, Mexico | Research, Senior |
|  |  |  |
| Rachelle Crosbie-Watson, Ph.D.  (1995-1999) | UCLA, Department of Integrative Biology and Physiology, Los Angeles, CA | Professor |
| Jessica de Greef, Ph.D.  (2010-2015) | Department of Human Genetics, Leiden University Medical Center, The Netherlands | Senior Researcher |
|  |  |  |
| Michel De Waard, Ph.D. (1991-1995) | Neuroscience Institute of Grenoble  Grenoble, France | Class 1 Research Director—Group Leader |
|  |  |  |
| Franck Duclos, Ph.D.  (1994-1998) | Bristol-Myers Squibb Pharmaceutical Research Institute, Pennington, NJ | Senior Research Investigator |
|  |  |  |
| Madeleine Durbeej-Hjalt, Ph.D.  (1997- 2001) | Lund University, Department of Experimental Medical Science  Lund, Sweden | Professor |
|  |  |  |
| James M. Ervasti, Ph.D.  (1989-1992) | University of Minnesota, Department of Biochemistry, Molecular Biology and Biophysics; Paul and Sheila Wellstone Muscular Dystrophy Center, Minneapolis, MN | Professor; Research Director |
|  |  |  |
| Ricardo Felix, M.D./Ph.D.  (1995-1998) | Center for Research and Advanced Studies of the National Polytechnic, Department of Cell Biology, Mexico City, Mexico | Professor |
|  |  |  |
| Elena Gertsen, M.D.  (2005-2007) | East Tennessee State University, Department of Pathology, Johnson City, TN | Resident Physician |
|  |  |  |
| Matthew Goddeeris, Ph.D.  (2007-2014) | Mitobridge, Inc., Translational Biology  Cambridge, MA | Scientist |
| Severine Groh, Ph.D.  (2001-2007) | Delta State University, Division of Biological and Physical Sciences  Cleveland, MS | Assistant Professor |
|  |  |  |
| Renzhi Han, Ph.D.  (2003 - 2008) | Loyola University Medical Center, Department of Cell and Molecular Physiology, Maywood, IL | Assistant Professor |
|  |  |  |
| Yuji Hara, Ph.D.  (2005-2012) | Graduate School of Engineering, Kyoto University, Department of Synthetic Chemistry and Biological Chemistry,  Kyoto, Japan | Associate Professor |
|  |  |  |
| Michael Henry, Ph.D.  (1995 - 1999) | The University of Iowa, Department of Molecular Physiology and Biophysics, Iowa City, IA | Associate Professor |
|  |  |  |
| Kate Holt, Ph.D. (1995-2000) | Veteran’s Affairs Health Care System, Iowa City, IA | Research Health Science Specialist |
|  |  |  |
| Toshiaki Imagawa, Ph.D.  (1985-1989) | Hokkaido University, Department of Chemistry, Japan | Associate Professor |
|  |  |  |
| Kei-ichiro Inamori, Ph.D.  (2006-2013) | Institute of Molecular Biomembrane and Glycobiology  Tohoku Pharmaceutical University  Sendai, Miyagi, Japan | Associate Professor |
| Daniel Jung, Ph.D.  (1993-1996) | Laval University, Hema-Quebec Research & Development, Quebec, Canada | Scientist/Adjunct Professor |
|  |  |  |
| Motoi Kanagawa, Ph.D.  (2001-2005) | Department of Medical Genetics  Osaka University Graduate School of Medicine, Japan | Associate Professor |
|  |  |  |
| Yvonne Kobayashi, Ph.D.  (2000-2004) | Eli Lilly & Company, Indianapolis, IN | Principal Research Scientist |
|  |  |  |
| Kazuhiro Kobuke  (2003 - 2009) | Kinki University Faculty of Medicine, Department of Cardiovascular Medicine, Osaka, Japan | Lecturer |
|  |  |  |
| Hajime Kusano, Ph.D.  (2000-2005) | Business Development & Licensing, Tokyo, Japan | Manager |
|  |  |  |
| Connie Lebakken, Ph.D.  (1997-2001) | Life Technologies Corporation, Primary Stem Cell Systems, Research and Development, Madison, WI | Staff Scientist |
|  |  |  |
| John Lueck, Ph.D.  (2008-2014) | The University of Iowa, Department of Molecular Physiology and Biophysics, Iowa City, IA | Associate |
| Kiichiro Matsumura, M.D.  (1990-1993) | Teikyo University Medical School, Department of Neurology, Tokyo, Japan | Professor |
|  |  |  |
| Daniel Michele, Ph.D.  (2000-2004) | University of Michigan, Department of Molecular and Integrative Physiology, Ann Arbor, MI | Associate Professor |
|  |  |  |
| Kay Ohlendieck, Ph.D.  (1989-1991) | National University of Ireland, Department of Biology, Maynooth, County Kildare, Ireland | Professor and Chair |
|  |  |  |
| Jan Parys, Ph.D.  (1990-1992) | Katholieke University, Department of Physiology, Leuven, Belgium | Professor |
| Federica Piccolo, Ph.D.  (1998-2002) | Salvazzano Dentro, Italy | Grant Writer and Project Manager |
|  |  |  |
| Erik Rader, Ph.D.  (2006-2012) | Muscle Pathomechanics, Research Team, Toxicology and Molecular Biology Branch, Health Effects Laboratory Division, Centers of Disease Control and Prevention, Morgantown, WV | Associate Service Fellow |
|  |  |  |
| Steve Roberds, Ph.D.  (1992-1995) | Tuberous Sclerosis Alliance  Silver Spring, MD | Chief Scientific Officer |
|  |  |  |
| Fumiaki Saito, M.D./Ph.D.  (1999-2002) | Teikyo University School of Medicine, Department of Neurology, Tokyo, Japan | Associate Professor |
|  |  |  |
| Yoshiaki Saito, M.D./Ph.D.  (2003-2004) | National Center Hospital of Neurology and Psychiatry, Department of Child Neurology, Tokyo, Japan | Chief of Inpatient Ward |
|  |  |  |
| Junshi Sakamoto, Ph.D.  (1989-1991) | Kyushu Institute of Technology, Department of Bioscience and Bioinformatics, Iizuka, Fukuoka-ken, Japan | Professor |
|  |  |  |
| Jakob Satz, Ph.D. (2007-2009) | Jackson Laboratories, Bar Harbor, ME | Postdoctoral Fellow |
|  |  |  |
| Victoria Scott, Ph.D.  (1994-1996) | Abbott Laboratories, Abbott Park, IL | Senior Biology Group Leader |
|  |  |  |
| Volker Straub, M.D./Ph.D.  (1995-1998) | Institute of Human Genetics, University of Newcastle upon Tyne, United Kingdom | Harold Macmillan Chair of Medicine |
|  |  |  |
| Yoshihide Sunada, M.D./Ph.D.  (1993-1996) | Kawasaki Medical School, Department of Neurology, Okayama, Japan | Professor |
|  |  |  |
| Barry Timms, M.D./Ph.D.  (1985-1988) | University of South Dakota, Department of Cellular and Molec. Biology, Vermillion, SD | Professor |
|  |  |  |
| Rolf Turk, Ph.D.  (2005-2014) | The University of Iowa, Department of Molecular Physiology and Biophysics, Iowa City, IA | Associate |
| Tobias Willer, Ph.D.  (2004-2013) | The University of Iowa, Department of Molecular Physiology and Biophysics, Iowa City, IA | Associate |
| Derrick Witcher, Ph.D.  (1991-1995) | Lilly Research Laboratory  Indianapolis, IN | Senior Research Advisor |
|  |  |  |
| Hiroki Yamada, M.D.  (1996-1999) | Tokyo Metropolitan Hiroo Hospital, Division of Neurology, Tokyo, Japan | Division Chief |
|  |  |  |
| Takako Yoshida-Moriguchi  (2003 – 2008) | Genzyme Corporation  Framingham, MA | Scientist |

**Co-Op Exchange Students**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name** | **Dates in Laboratory** | **Post-Graduate Education** | **Current Position** |  |  |
| Emma Hiscutt  (University of Bath) | June 1997 – August 1997 | M.D., University of Oxford, UK | Dermatologist, Private Practice, Victoria, Australia |  |  |
| Sara Trewick  (University of Bath) | June 1997 – September 1997 | Ph.D. Cancer Research UK – Clare Hall Laboratories, London, UK | Senior Research Scientist, TPP Global Development, Ltd., Edinburgh, UK |  |  |
| Anne Mullen Grey  (McMaster University) | May 2002 – August 2002 | Ph.D. Pharmacology and Toxicology, University of Toronto, Toronto, Ontario, Canada | Medical Student, University of Toronto Faculty of Medicine, Toronto, Ontario, Canada |  |  |
| Chris McLaughlin  (McMaster University) | May 2002 – December 2002 | Ph.D., Cellular and Molecular Medicine, University of Ottawa, Ontario, Canada  M.D., McMaster University, Ontario, Canada | Resident, Department of Ophthalmology, McMaster University, Ontario, Canada |  |  |
| Robert Svensson  (University of Bath) | August 2002 – August 2003 | Ph.D., Molecular Physiology and Biophysics, University of Iowa, Iowa City, IA | Research Associate, Salk Institute for Biological Studies, La Jolla, CA |  |  |
| Daniel Nicholson  (University of Bath) | August 2003 – July 2004 | M.S., Molecular and Cellular Biology, University of Bath, Bath, UK  M.S., History and Philosophy of Science, University of Leeds, Leeds, UK  Ph.D., Philosophy, University of Exeter, Exeter, UK | Research Fellow, Centre for the Study of Life Sciences (Egenis), University of Exeter, Exeter, UK |  |  |
| Jeeyoung Oh  (Ewha Woman’s University Mokdong Hospital) | September 2003 – August 2004 |  | Department of Neurology, Konkuk University School of Medicine, Seoul, South Korea |  |  |
| Stephane Vassilopoulos  (Joseph Fourier University) | February 2005 – August 2005 | Ph.D., Biochemistry and Cell Biology, University Joseph Fourier, Grenoble, France | Therapie des maladies du muscle strie, Institut de Myologie, INSERM, Paris, France |  |  |
| Viviane Muniz  (Universidad de Santo Amaro) | March 2006 – February 2007 | Ph.D. Dept. of Molecular and Cellular Biology, University of Iowa, Iowa City, IA | Postdoctoral Research Scholar, Department of Pharmacology, University of Iowa, Iowa City, IA |  |  |
| Kathryn ‘Conley’ Flynn  (University of Iowa) | September 2011 – January 2013 | M.Ed. Dept. of Teaching and Learning, Vanderbilt University, Nashville, TN (in progress) | Graduate Research Assistant, Department of Teaching and Learning, Vanderbilt University, Nashville, TN |  |  |

**Departmental Chair Activities (2002 – present)**

**Overview**

The Department of Molecular Physiology and Biophysics of the Roy J. and Lucille A. Carver College of Medicine is an outstanding basic science department that makes major contributions to the college’s three-part mission of teaching, research and service. The department is nationally recognized for its strength and accomplishments in research, and is renowned for its exceptional contributions to Medical School teaching. The Department of Molecular Physiology and Biophysics is comprised of a highly interactive, intellectually stimulating and productive faculty of scientists and educators. At present, the department has 18 research faculty and one full-time teaching faculty member. Faculty are recruited to the department for their independent basic science research programs; however, most faculty have a component of translational research and participate in strong clinical collaborations. The department has a strong commitment to diversity, which is evidenced by its three female faculty members, one African American faculty member and three members of Asian and Pacific Islander descent. All faculty members lead active and productive research programs that are supported by external funding. We currently have 12 faculty that average over 72% salary support from grants and/or teaching. Four junior faculty have also been very successful in obtaining extramural funding since their recruitment, covering close to 70% of their salary from extramural funding.

**Faculty Recruitment**

|  |  |  |
| --- | --- | --- |
| **Name and Degree** | **Year Recruited** | **Previous Institution** |
| Julien Sebag, Ph.D. | 2013 | Vanderbilt University |
| Janice Robertson, Ph.D.  Christopher Ahern, Ph.D. | 2013  2012 | Brandeis University  University of British Columbia |
| Amy Lee, Ph.D. | 2008 | Emory University |
| Mike Wright, Ph.D. | 2008 | University of California, Davis |
| Charles Harata, Ph.D. | 2007 | Stanford University |
| Alessio Accardi, Ph.D. | 2007 | Brandeis University |
| Michael Henry, Ph.D. | 2003 | Millenium Pharmaceuticals, Inc. |
| Michael Anderson, Ph.D. | 2003 | The Jackson Laboratory |

**Graduate Student Education**

* Established the Molecular Physiology and Biophysics Graduate Student Symposium
* Established the Ramon D. Buckley Graduate Student Scholarship
* Established Paper of the Year award for a departmental graduate student with an outstanding publication

**Postdoctoral Fellow Education**

* Established the Departmental Postdoc Career Enhancement group
* Developed a Postdoc seminar mentoring program by faculty members
* Established the Peter A. Getting Postdoctoral Scholar Award

**Undergraduate Education**

* Developed the Coop Exchange Program to give undergraduate students the opportunity to carry out laboratory work

**Departmental Chair Talks**

Presentation at “DEO Metrics, Spring 2010” University of Iowa Department of Molecular Physiology & Biophysics Faculty Meeting, Iowa City, Iowa, May 11, 2010.

DEO Department Review/SWOT Meeting with Dean Rothman & CCOM Administration, “SWOT Analysis and Department Review” University of Iowa, Iowa City, Iowa, February 16, 2009.

“The Interview” Presentation to University of Iowa Department of Molecular Physiology & Biophysics Postdoc Career Enhancement Group, Iowa City, Iowa, November 10, 2008.

“Applying and Preparing for Faculty Positions” Presentation at the University of Iowa Department of Molecular Physiology & Biophysics Postdoc Professional Development Series, Iowa City, Iowa, November 13, 2006.

“CV and Resume Preparation” Presentation at the University of Iowa Department of Molecular Physiology & Biophysics Postdoc Professional Development Series, Iowa City, Iowa, August 14, 2006.

“Physiology and Biophysics” Presentation at the University of Iowa Carver College of Medicine (CCOM) Executive Committee Meeting, Iowa City, Iowa, September 12, 2005.

“Physiology and Biophysics” Orientation Presentation to University of Iowa Biosciences Program Students as Professor and Interm Head, Iowa City, Iowa August 19, 2004.

**Financial Resource Support (Grants and Contracts)**

**Current Grants**

|  |  |  |
| --- | --- | --- |
| **Title** | **Period** | **Amount** |
| Investigator, Howard Hughes Medical Institute  (Renewed 10/14) | 10/01/89 – present | Negotiated Annually |
| NIH/NINDS2 U54 NS053672 Senator Paul D. Wellstone Muscular Dystrophy Cooperative Research Center  “Therapeutic Strategies for Congenital and Limb-Girdle Muscular Dystrophies”  (PI: KP Campbell) | 06/08/05-06/31/20 | $1,017,766 |
| Muscular Dystrophy Association  “Protein O-mannosylation: Classification of New Players in Muscular Dystrophy”  (PI: KP Campbell) | 08/01/12 – 07/31/15 | $113,637/year |

**Recent Past Grants**

|  |  |  |
| --- | --- | --- |
| **Title** | **Period** | **Amount** |
| Muscular Dystrophy Association  “Pathways and Consequences of Non-dysferlin Mediated Membrane Repair”  (PI: Jennifer Levy-Keiser) | 8/01/11 – 07/31/14 | $60,000/year |
| Muscular Dystrophy Associate  “Pathophysiology of Muscle Weakness and Wasting in Myotonic Dystrophy”  (PI: John Lueck) | 02/01/11 – 01/31/14 | $60,000/year |
| 5 T32 HL 7121-37  Iowa Cardiovascular Center Institutional Training Grant  “Dystroglycan-dependent anchoring of dystrophin prevents muscular dystrophy”  (PI: Rolf Turk) | 08/15/12 – 08/14/13 | $58,000/year |
| Muscular Dystrophy Association  “Molecular Basis of Glycosylation-Deficient Muscular Dystrophy”  (PI: KP Campbell) | 01/01/10 – 12/31/12 | $144,203/year |
| Ruth L. Krischstein NRSA Fellowship  “ Mechanisms Required for Dystroglycan Posttranslational Modification”  (PI: M Goddeeris, Co-PI: KP Campbell) | 01/15/09 – 01/14/12 | $57,094/year |
| NIH/NINDS 1 RC2 NS069521-01 (GO Grant)  “High-Throughput Genetic & Small-Molecule Screening for Therapeutic Modifiers”  (PI: KP Campbell) | 09/30/09 – 08/31/11 | $1,233,893 |
| Myotonic Dystrophy Fellowship  “The Role of Sarcolemmal Membrane Fidelity in DM Muscle Pathogenesis” (PI: J Lueck, Co-PI: KP Campbell) | 04/01/09 – 03/31/11 | $50,000/year |
| Cardiovascular Center Institutional Research Fellowship  “Roles of Dynamin 2 in Myofiber Organization and Centronuclear Myopathy”  (PI: J Levy, Co-PI: KP Campbell) | 01/01/09-12/31/10 | $47,429/year |
| Muscular Dystrophy Association  Research Development Grant  “Role of Muscle Development/Regeneration in the Pathology of Dystroglycanopathy”  (PI: A Beedle, Co-PI: KP Campbell) | 01/01/09 – 12/31/10 | $60,000/year |
| Muscular Dystrophy Association  Research Development Grant  “Efficacy of LARGE as a Therapeutic Strategy for Limb-Girdle Muscular Dystrophy”  (PI: EP Rader; Co-PI: KP Campbell) | 01/01/08 – 12/31/10 | $45,000/year |
| NIH/NIAMS 3 R01 AR051199-05S1 (R01 Supplement)  “Therapeutic potential of α-sarcoglycan in the treatment of limb-girdle muscular dystrophy type 2D (LGMD-2D)” (PI: KP Campbell) | 09/23/09-09/22/10 | $325,990 |
| NIH/NIAMS 5 R01 AR051199 “Therapeutic Potential of ε-sarcoglycan in the Treatment of LGMD Type 2D”  (PI: KP Campbell) | 04/01/04-03/31/10 | $218,366 |

**Physical Facilities**

Office and Laboratory – Carver Biomedical Research Building, 4283 CBRB, 5000 sq. ft.

**Current Personnel Supervised**

|  |  |  |  |
| --- | --- | --- | --- |
| **Associates** | **Previous University** | **Start Date** | **Degree** |
| Jennifer Levy | University of Pennsylvania | 2008 | Ph.D. |
| John Lueck | University of Rochester | 2008 | Ph.D. |
| Rolf Turk | Leiden University | 2005 | Ph.D. |
| Tobias Willer | University of Regensburg | 2004 | Ph.D. |

|  |  |  |  |
| --- | --- | --- | --- |
| **Postdoctoral Fellows** | **Previous University** | **Start Date** | **Degree** |
| Toru Egashira | Keio University | 2014 | M.D., Ph.D. |
| Takahiro Yonekawa | University of Yamanashi | 2014 | M.D., Ph.D. |
| Tianqing Zheng | Yeshiva University | 2014 | Ph.D. |

|  |  |  |
| --- | --- | --- |
| **Research Assistants** | **Post-Baccalaureate Research Interns** | **Administrative Support** |
| Mary Anderson | Nicolette Johnson | Bekah Walker |
| Keith Garringer |  |  |
| Rebecca Hamlyn | **Undergraduate Lab Assistants** |  |
| Sally Prouty | Allison Bouska |  |
| David Venzke | Megan Devereaux |  |
|  | Sara El-Hattab |  |
| **Graduate Students** | Kayla Jones |  |
| Braden Jensen (Medical) | Adam Mackey |  |
| Ameya Walimbe (MSTP) | Raul O’campo Landa |  |
|  | Tyler Pospisil |  |

**Clinical and Translational Activities**

1997-present **Wellstone Muscular Dystrophy Cooperative Research Center**

*Director: Kevin Campbell*

Exploration of therapeutic strategies for the treatment of various muscular dystrophies by enabling translational research on muscular dystrophies and providing advanced diagnostic services.

1997-present **Neuropathology Meeting**

*Organizers: Kevin Campbell (Molecular Physiology & Biophysics), Katherine Mathews (Pediatrics and Neurology), Steven Moore (Pathology)*

Review and discussion of recent neuromuscular disease patients seen at University of Iowa Hospitals and Clinics or muscle biopsies sent to neuropathology at the University of Iowa for analysis.

*\*for a more detailed description of the Neuromuscular Disease Group, please see appendix XI*

2000 – 2007 **Limb-Girdle Muscular Dystrophy Study**

**Coordinating Center**: Ohio State University

**PI**: Jerry R. Mendell (*Ohio State University)*

**Co-PIs**: Steven Moore, Kevin P. Campbell *(University of Iowa)*

**Members**: Katherine Mathews *(University of Iowa),* Robert C. Griggs *(University of Rochester)*, Alan Pestronk *(Washington University)*, Gerald Fenichel *(Vanderbilt University)*, Hansel Stedmann *(University of Pennsylvania)*

**Aims:**

1. Establish a registry of LGMD patients in North America with defined gene mutations for purposes of determining the incidence and natural history of specific disorders in this outbred population.

2. Establish a cohort of LGMD patients with defined gene mutations to participate in clinical trial involving gene transfer.

3. Define appropriate end points for clinical efficacy for clinical trials including gene transfer in LGMD**.**

**Invited Seminars (2004-Present)**

2004 New Directions in Biology and Disease of Skeletal Muscle, San Diego, California

2004 University of Pennsylvania Children’s Hospital, Philadelphia, Pennsylvania

2004 Keystone Symposium on Molecular Biology and Cardiac Disease, Keystone, Colorado

2004 Cincinnati Children’s Hospital Medical Center Rachford Lecture, Cincinnati, Ohio

2004 Ohio State University Research Day, Columbus, Ohio

2004 University of Washington Department of Biochemistry, Seattle, Washington

2004 University of California, San Diego, California

2004 American Academy of Neurology Plenary Session, Frontiers in Clinical Neuroscience-Beyond the Decade of the Brain, San Francisco, California

2004 University of Rochester, Rochester, New York

2004 George H. Bishop Lecture Series, Washington University, St. Louis, Missouri

2004 Howard Hughes Medical Institute Scientific Meeting, Chevy Chase, Maryland

2004 Gordon Research Conference on Basement Membranes, Bristol, Rhode Island

2004 Muscular Dystrophy Scientific Workshop Toward Therapeutics, Foundation to Eradicate Duchenne, Inc., La Jolla, California

2004 43rd Annual Iowa Branch American Association for Laboratory Animal Science, Iowa City, Iowa

2004 American Society for Matrix Biology, San Diego, California

2004 University of Iowa Neurology Grand Rounds, Iowa City, Iowa

2005 European Neuro Muscular Centre International Workshop on Congenital Muscular Dystrophy, Naarden, The Netherlands

2005 Third Annual Neuromuscular Conference and EMG Workshop, London Health Sciences Centre, London, Ontario, Canada

2005 University of Iowa Internal Medicine Grand Rounds, Iowa City, Iowa

2005 University of Connecticut Health Center Cardiovascular Grand Rounds, Farmington, Connecticut

2005 International Congress of Physiological Sciences, San Diego, California

2005 University of Columbia Colleen Giblin Lecture, New York, New York

2005 Duke CMB Symposium, Duke University, Durham, North Carolina

2005 Mini Medical School Program, University of Iowa, Iowa City, Iowa

2005 AFM Scientific Congress on Myology, Nantes, France

2005 Johns Hopkins Neurology Grand Rounds, Johns Hopkins University, Baltimore, Maryland

2005 Yale Pharmacology Lecture, Yale University, New Haven, Connecticut

2005 Harvard Children’s Hospital Orthopedic Research Seminar, Boston, Massachusetts

2005 FASEB Summer Research Conference “Skeletal Muscle Satellite and Stem Cells,” Tucson, Arizona

2005 26th Annual David W. Smith Workshop on Malformations and Morphogenesis, The University of Iowa

2005 World Muscle Society Meeting, Iguassu Falls, Brazil

2005 Society for Glycobiology, Boston, Massachusetts

2005 Scripps Research Institute, San Diego, California

2006 Masters Class in Molecular Mechanisms of Disease Glycogenetics and Neuromuscular Diseases, Nijmegen School of Molecular Life Sciences (NCMLS), Nijmegen, The Netherlands

2006 Harvard Cell Biology Seminar, Boston, Massachusetts

2006 Neuroscience Program Seminar, The University of Iowa, Iowa City, Iowa

2006 79th Annual Japanese Pharmacological Society, Yokohama, Japan

2006 Osaka University Seminar, Osaka, Japan

2006 Department of Molecular Biology and Genetics Seminar, Johns Hopkins University, Baltimore, Maryland

2006 New Directions in Biology and Disease of Skeletal Muscle Meeting, Dallas, Texas

2006 Frontiers in Myogenesis Meeting, Callaway Gardens, Pine Mountain, Georgia

2006 Department of Defense Military Health Research Forum, San Juan, Puerto Rico

2006 Genetics In-Service Special Presentation, The University of Iowa, Iowa City, Iowa

2006 Neurosurgery Research Conference, The University of Iowa, Iowa City, Iowa

2006 XVI International Congress of Neuropathology, San Francisco, California

2006 HHMI Science Meeting. Janelia Farm Research Campus, Ashburn, Virginia

2006 UT Southwestern Grand Rounds, UT Southwestern, Dallas, Texas

2006 Neuromuscular Plasticity Symposium, University of Florida, Gainesville, Florida

2007 Keystone Symposium: Molecular Pathways in Cardiac Development and Disease, Breckenridge, Colorado

2007 Neurosciences Seminar Series, Stanford University, Stanford, California

2007 Presidential Lecture, The University of Iowa, Iowa City, Iowa

2007 Mini Medical School, The University of Iowa, Iowa City, Iowa

2007 Medical College of Wisconsin Student Choice Lecture, Milwaukee, Wisconsin

2007 The 20th Anniversary of the DMD Gene Discovery: Impact on Muscle Biology, Disease and Therapy, Ottawa

2007 Neurology Grand Rounds, The University of Iowa, Iowa City, Iowa

2007 Cornell Biomedical Sciences, Neuroscience Program, and Institute of Cell and Molecular Biology Distinguished Lecture, Cornell University, Ithaca, New York

2007 Genzyme Seminar, Boston, Massachusetts

2007 Jain Foundation First Annual Dysferlin Conference, Bermuda

2007 HHMI Scientific Meeting-Molecular Transport and Trafficking, Ashburn, Virginia

2007 Faculty of Medicine: Perceptions of the Cell, Vancouver, British Columbia, Canada

2007 Brain Research Centre, Vancouver, British Columbia, Canada

2007 University of Michigan Symposium, Ann Arbor, Michigan

2007 World Muscle Society, Giardini Naxos, Italy

2008 ENMC Workshop on CMD, Naarden, The Netherlands

2008 Neuromuscular Disease Seminar, Leiden, The Netherlands

2008 Banbury Center Meeting, Cold Spring Harbor, New York

2008 Loyola University White Lecture, Maywood, Illinois

2008 SGH 17th Annual Scientific Meeting, Singapore

2008 New Directions in Biology and Disease of Skeletal Muscle, New Orleans, Louisiana

2008 International Workshop for Glycosylation Defects in Muscular Dystrophy, Charlotte, North Carolina

2008 Sloan-Kettering Cancer Center Seminar, New York, New York

2008 Harvard Medical School Grand Rounds, Boston, Massachusetts

2008 Gordon Research Conference on Basement Membranes, Biddeford, Maine

2008 Iowa Congenital Muscular Dystrophy Meeting, Iowa City, Iowa

2008 Society for General Physiologists, Woods Hole, Massachusetts

2008 University of Kentucky Distinguished Speaker Series, Lexington, Kentucky

2008 4th Banbury Conference on SMA: Taking on New Complexities in SMA Biology, Cold Spring Harbor

2008 CFA Symposium, Philadelphia, Pennsylvania

2009 HHMI Science Meeting, Chevy Chase, Maryland

2009 The Scripps Research Institute Bernard Field Lecture, La Jolla, California

2009 Vanderbilt Discovery Lecture, Nashville, Tennessee

2009 Columbia University Making Muscle in the Embryo and Adult joint meeting with Frontiers in Myogenesis, New York, New York

2009 March of Dimes Prize in Developmental Biology Acceptance Lecture, Baltimore, Maryland

2009 Novartis Institutes for BioMedical Research, Inc., Cambridge, Massachusetts

2009 Boston Biomedical Research Institute (BBRI), Watertown, Massachusetts

2009 CMD Therapeutic Target Conference, Atlanta, Georgia

2009 Keynote Speaker, Society of General Physiologists, Woods Hole, Massachusetts

2009 Society of Glycobiology, San Diego, California

2009 49th American Society for Cell Biology Annual Meeting, San Diego, California

2010 ENMC Workshop on Dysferlinopathy, Naarden, The Netherlands

2010 UC Santa Barbara, Santa Barbara, California

2010 Loyola University Chicago, Chicago, Illinois

2010 Genzyme Corp., Framingham, Massachusetts

2010 University of Georgia, Athens, Georgia

2010 The Ottawa Conference on New Directions in Biology & Disease in Skeletal Muscle, Ottawa, Ontario, Canada

2010 University of Nebraska Medical Center, Omaha, Nebraska

2010 University of Minnesota, Lillehei Heart Institute, Minneapolis, Minnesota

2010 University of Texas Health Science Center – Houston, Institute of Molecular Medicine, Houston, Texas

2010 XII International Congress on Neuromuscular Diseases, Naples, Italy

2010 University of Wisconsin, Cardiovascular Research Conference, Madison, Wisconsin

2010 American Society of Matrix Biology meeting, Charleston, South Carolina

2010 University of Texas Southwestern, Dallas, Texas

2010 Muscular Dystrophy Workshop, Charlotte, North Carolina

2010 Children’s National Medical Center, Washington, District of Columbia

2011 NGM Biopharmceuticals, Inc., San Francisco, California

2011 UC San Diego, San Diego, California

2011 Glycobiology Symposium, San Diego, California

2011 2nd Annual SBMRI Rare Disease Symposium, San Diego, California

2011 UC Davis, Davis, California

2011 UC San Francisco, Gladstone Institute, San Francisco, California

2011 1st Chinese conference on translational research in Duchenne muscular dystrophy, Guangzhou, China

2011 The Sanford-Burnham Medical Research Institute, La Jolla, California

2011 Nationwide Children’s Hospital, The Ohio State University, Columbus, Ohio

2011 AANP Annual Meeting, Presidential Symposium, Seattle, Washington

2011 Gordon Research Conference on Collagen, New London, New Hampshire

2011 Consortium for Functional Glycomics PI Meeting, Bethesda, Maryland

2011 International Conference on Muscle Wasting 2011, Ascona, Switzerland

2011 Coalition to Cure Calpain3 LGMD2A Workshop, Santa Monica, California

2011 Kurt Ebner Discovery Lecture, University of Kansas Medical Center, Kansas City, Kansas

2011 ENMC Dystroglycan and Dystroglycanopathies Workshop, Naarden, The Netherlands

2012 Iowa State University, Ames, Iowa

2012 CMD: Exploring the Role of Myomatrix, Reno, Nevada

2012 University of Nebraska-Lincoln, Lincoln, Nebraska

2012 Yeshiva University, Einstein College of Medicine, Bronx, New York

2012 Frontiers in Myogenesis Meeting, New York, New York

2012 New Directions in Biology and Disease of Skeletal Muscle Conference, New Orleans, Louisiana

2012 Institut Pasteur, Paris, France

2012 Duke University, Durham, North Carolina

2012 World Muscle Society Meeting, Perth, Australia

2012 Panel Discussion: Disease Pathogenesis, Wellstone Centers Meeting, Watertown, Massachusetts

2012 College of Medicine Dean’s Distinguished Lecture, University of Kentucky, Lexington, Kentucky

2012 Center for Muscle Biology Fall Retreat, University of Kentucky, Lexington, Kentucky

2013 Glycobiology Research Conference, Ventura, California

2013 Glycosylation Workshop, Charlotte, North Carolina

2013 ASBMB Annual Meeting, Boston, Massachusetts

2013 HHMI Scientific Meeting, Ashburn, Virginia

2013 Johnson-Sokatch Lectureship, University of Oklahoma, Oklahoma City, Oklahoma

2013 Dept. of Biological Chemistry Seminar Program, Johns Hopkins University, Baltimore, Maryland

2013 55th Annual Meeting of the Japanese Society of Child Neurology, Oita, Japan

2013 Segawa Neurological Clinic for Children Symposium, Tokyo, Japan

2013 John and Margaret Faulkner Lectureship, University of Michigan, Ann Arbor, Michigan

2013 EMBO Workshop on Muscle Wasting, Ascona, Switzerland

2013 Cornell University Physiology Biophysics and Systems Biology Seminar Series, New York , New York

2013 University of Georgia, Athens, Georgia

2014 Cincinnati Children’s Heart Institute Seminar Series, Cincinnati, Ohio

2014 Pediatrics Frontiers in Research seminar, University of Iowa, Iowa City, Iowa

2014 Neurology Grand Rounds, University of California Los Angeles, Los Angeles, California

2014 Baylor College of Medicine Seminar, Baylor University, Houston, Texas

2014 Presentation to the Carver Trust, University of Iowa, Iowa City, Iowa

2014 Neurogenetics Symposium, University of Iowa, Iowa City, Iowa

2014 Texas A&M University Neuroscience Seminar, Texas A&M University, College Station, Texas

2014 Duke University Biochemistry Seminar, Duke University, Durham, North Carolina

2015 Frontiers in Biomedical Research Symposium, Scripps Research Institute, Indian Wells, California

2015 Muscular Dystrophy Association Scientific Conference, Washington, DC

2015 Biochemistry, Biophysics and Molecular Biology Seminar, Iowa State University, Ames, Iowa

2015 Pfizer Frontiers in Human Disease Symposium, New York, New York

2015 University of Minnesota Biochemistry Seminar, Minneapolis, Minnesota

2015 Translational Biology and Molecular Medicine Bench to Bedside seminar, Baylor University, Houston, Texas

**Patents**

1. Title: Immunogen Conjugates and the Use Thereof in a Dihydropyridine Assay

Inventor: Kevin P. Campbell

Patent No.: 4,784,955 Patent Issue: November 15, 1988

2. Title: Dihydropyridine Receptor and Antibodies Thereto

Inventors: Kevin P. Campbell, Toshiaki Imagawa and Albert T. Leung

Patent No.: 4,912,202 Patent Issue: March 27, 1990

3. Title: Measuring Non-Dystrophin Proteins and Diagnosing Muscular Dystrophy

Inventors: Kevin P. Campbell, James M. Ervasti, Kay Ohlendieck, Mitchell G. Gaver and Steven D. Kahl

Patent No.: 5,187,063 Patent Issue: February 16, 1993

4. Title: Diagnosing Malignant Hyperthermia Susceptibility by Detection of Abnormal Proteolytic Enzyme Digestion Fragments of the Ryanodine Receptor

Inventors: Kevin P. Campbell, C. Michael Knudson, Steven D. Kahl, Charles F. Louis and James R. Mickelson

Patent No.: 5,242,801 Patent Issue: September 7, 1993

5. Title: Nucleic Acids Encoding Dystrophin-Associated Proteins

Inventors: Kevin P. Campbell, Oxana Ibraghimov-Beskrovnaya, James M. Ervasti and Cynthia J. Leveille

Patent No.: 5,260,209 Patent Issue: November 9, 1993

6. Title: Diagnosis of Autosomal Muscular Dystrophy

Inventors: Kevin P. Campbell and Kiichiro Matsumura

Patent No.: 5,308,752 Patent Issue: May 3, 1994

7. Title: Calcium Channel Compositions and Methods

Inventors: Scott Jay, Steven B. Ellis, Michael M. Harpold and Kevin P. Campbell

Patent No.: 5,386,025 Patent Issue: January 31, 1995

8. Title: Measuring Non-Dystrophin Proteins and Diagnosing Muscular Dystrophy

Inventors: Kevin P. Campbell, James M. Ervasti, Kay Ohlendieck, Mitchell G. Gaver and Steven D. Kahl

Patent No.: 5,413,910 Patent Issue: May 9, 1995

9. Title: Measuring Non-Dystrophin Proteins and Diagnosing Muscular Dystrophy

Inventors: Kevin P. Campbell, James M. Ervasti, Kay Ohlendieck, Mitchell G. Gaver and Steven D. Kahl

Patent No.: 653536 Patent Issue: April 6, 1995

10. Title: Method for Screening for Cardiomyopathy

Inventors: Kevin P. Campbell

Patent No.: 5,418,139 Patent Issue: May 23, 1995

11. Title: Purified, Native Dystrophin

Inventors: Kevin P. Campbell, Steven D. Kahl and James M. Ervasti

Patent No.: 5,430,129 Patent Issue: July 4, 1995

12. Title: Nucleic Acid Encoding Dystrophin-Associated Protein

Inventors: Kevin P. Campbell, Steven L. Roberds and Richard D. Anderson

Patent No.: 5,449,616 Patent Issue: September 12, 1995

13. Title: Diagnosing Malignant Hyperthermia Susceptibility by Detection of Abnormal Proteolytic Enzyme Digestion Fragments of the Ryanodine Receptor

Inventors: Kevin P. Campbell, C. Michael Knudson, Steven D. Kahl, Charles F. Louis and James R. Mickelson

Patent No.: 5,462,857 Patent Issue: October 11, 1995

14. Title: Immunogenic Ryanodine Derivative and Related Uses

Inventors: Kevin P. Campbell, Derrick R. Witcher, Peter McPherson, Steven D. Kahl, John D. Windass, Terence Lewis and Philip Bentley

Patent No.: 5,492,839 Patent Issue: February 20, 1996

15. Title: β-Sarcoglycan Nucleic Acid Sequence, Deleterious Mutations and Applications

Inventors: Kevin P. Campbell, Leland Lim, Franck Duclos, Yoshihide Sunada, Jacques Beckmann, Odile Broux, Fernando M. S. Tomé, Michel Fardeau and Charles E. Jackson

Patent No.: 5,672,694 Patent Issue: September 30, 1997

16. Title: Polyclonal and Monoclonal Antibodies Against a 43 kDa Dystrophin Associated Protein

Inventors: Kevin P. Campbell, Oxana B. Ibraghimov, James M. Ervasti and Cynthia J. Leveille

Patent No.: 5,686,073 Patent Issue: November 11, 1997

17. Title: Recombinant Production of Mammalian Calcium Channel Gamma Subunits

Inventors: Scott D. Jay, Steven B. Ellis, Michael M. Harpold and Kevin P. Campbell

Patent No.: 5,726,035 Patent Issue: March 10, 1998

18. Title: Methods for Detecting Primary Adhalinopathy

Inventors: Kevin P. Campbell, Steven Roberds, Yoshihide Sunada, Federica Piccolo, Marc Jeanpierre and Jean-Claude Kaplan

Patent No.: 5,733,732 Patent Issue: March 31, 1998

19. Title: δ-Sarcoglycan Nucleic Acid Sequences

Inventor: Kevin P. Campbell, Daniel Jung, Franck Duclos, Volker Straub and John McPherson

Patent No.: 5,837,537 Patent Issue: November 17, 1998

20. Title: Merosin Deficiency-Type Congenital Muscular Dystrophy

Inventors: Kevin P. Campbell, Yoshihide Sunada, Fernando M.S. Tomé, Michel Fardeau

Patent No: 5,863,743 Patent Issued: January 26, 1999

21. Title: Arenavirus Receptor and Methods of Use.

Inventors: Kevin P. Campbell, Michael Henry, Hiroki Yamada, Roger Williamson, Wei Cao, Michael Oldstone

Patent No: 6,083,911 Patent Issued: July 4, 2000

22. Title: Method for Aiding the Diagnosis of In-Frame Deletion Type Congenital Muscular Dystrophy

Inventors: Kevin P. Campbell, Valérie Allamand, Yoshihide Sunada, Voker Straub, Mustafa Salih

Patent No: 6,136,546 Patent Issue: October 30, 2000

1. Title: Pathogenesis of Cardiomyopathy

Inventors: Kevin P. Campbell, Ramon Coral, Ronald Cohn, Roger Williamson and Madeleine Durbeej

Patent No: 6,201,168 Patent Issue: March 13, 2001

24. Title: Sarcospan-Deficient Mouse as a Model for Clinical Disorders Associated with Sarcospan Mutations

Inventors: Kevin P. Campbell, Connie Lebakken, Rachelle Crosbie, Roger Williamson

Patent No: 6,207,878 Patent Issue: March 27, 2001

25. Title: δ-Sarcoglycan Nucleic Acid Sequences, Amino Acid Sequences and Applications

Inventors: Kevin P. Campbell, Daniel Jung, Franck Duclos, Volker Straub and John McPherson

Patent No: 6,211,340 Patent Issue: April 3, 2001

26. Title: Gene Replacement Therapy for Muscular Dystrophy

Inventors: Kathleen H. Holt, Franck Duclos, Leland E. Lim, Volker Straub, Beverly Davidson, Roger Williamson and Kevin P. Campbell

Patent No: 6,262,035 Patent Issue: July 17, 2001

27. Title: Receptor for Mycobacterium Leprae and Methods of Use Thereof

Inventors: Anura Rambukkana, Vincent A. Fischetti and Kevin P. Campbell

Patent No: 6,331,405 Patent Issue: December 18, 2001

28. Title: Genes Encoding Neuronal Voltage-Gated Calcium Channel γ Subunits

Inventors: Verity A. Letts, Wayne N. Frankel, Kevin P. Campbell, Ricardo Felix, Gloria Biddlecome

Patent No: 6,365,337 Patent Issue: April 2, 2002

29. Title: Evaluation of Adenocarcinoma of the Prostate and Breast Using Anti-Dystroglycan Antibodies

Inventors: Kevin P. Campbell, Michael Henry, Michael B. Cohen

Patent No: 6,379,893 Patent Issue: April 30, 2002

30. Title: Disruption of the Sarcoglycan-Sarcospan Complex in Vascular Smooth Muscle: A Novel Mechanism in the Pathogenesis of Cardiomyopathy and Muscular Dystrophy.

Inventors: Kevin P. Campbell, Roger Williamson, Ramon Coral, Ronald D. Cohn

Patent Application: August 20, 1999

31. Title: Receptor for Mycobacterium Leprae and Methods of Use Thereof

Inventors: Anura Rambukkana, Vincent A. Fischetti, Kevin P. Campbell

Patent No: 6,331,405B1 Patent Issue: December 18, 2001

32. Title: Increasing Functional Glycosylation of α-Dystroglycan in the Treatment of Muscle Degeneration.

Inventors: Kevin P. Campbell and Rita Barresi

Patent No: 8,119,766 Patent Issue: February 21, 2012

33. Title: Inhibitors of Phosphodiesterase Type 5A for Treating or Preventing Muscle Disease or the Symptoms Thereof in a Patient.

Inventors: Kevin P. Campbell, Yvonne Kobayashi, and Robert Crawford

Patent No: 20140005202 Application Issue: January 2, 2014

**Bibliography**

**Reviews, Book Chapters, and Editorials**

Campbell, K.P. and Shamoo, A.E. Identification of Two Intrinsic Proteins Uniquely Associated with the Terminal Cisternae of the Sarcoplasmic Reticulum. In: Calcium Binding Proteins and Calcium Function. (R.H. Wasserman, R.A. Corradino, E. Carafoli, R.H. Kretsinger, D.H. MacLennan, F.L. Siegel, eds.) North Holland Press, New York, pp. 185-187, 1977.

MacLennan, D.H. and Campbell, K.P. Structure, Function and Biosynthesis of Sarcoplasmic Reticulum Proteins. *Trends Biochem. 4,*148-151, 1979.

MacLennan, D.H., Klip, A., Reithmeier, R.A.F., Michalak, M. and Campbell, K.P. Possible Sites of Ion Flow in the Sarcoplasmic Reticulum Membrane. In: Membrane Bioenergetics (Lee, C.P., Schatz, G. and Ernster, L., eds.). Addison-Wesley Reading, Mass., pp. 255-266, 1979.

MacLennan, D.H., Reithmeier, R.A.F., Shoshan, V., Campbell, K.P., LeBel, D., Herrmann, T.R. and Shamoo, A.E. Ion Pathways in Proteins of the Sarcoplasmic Reticulum.  *Ann. N.Y. Acad. Sci.* *358*, 138-148, 1980.

MacLennan, D.H., Campbell, K.P. and Reithmeier, R.A.F. Calsequestrin. In: Calcium and Cell Function (W. Cheung, ed.) Academic Press, New York, Vol. IV, pp. 151-173, 1983.

MacLennan, D.H., Campbell, K.P., Takisawa, H. and Tuana, B.S. A Calmodulin-Dependent Protein Kinase System from Skeletal Muscle Sarcoplasmic Reticulum. In: Advances in Cyclic Nucleotide and Protein Phosphorylation Research. (P. Greengard, G.A. Robison, R. Paoletti and S. Nicosia, eds.) Raven Press, New York, Vol. XVII, pp. 393-401, 1984.

Campbell, K.P. Protein Components and Their Roles in Sarcoplasmic Reticulum Function. In: Sarcoplasmic Reticulum in Muscle Physiology. (M.L. Entman and W.B. Van Winkle, eds.) CRC Press, Boca Raton, Florida, Vol. I, pp. 65-99, 1986.

Campbell, K.P., Leung, A.T. and Sharp, A.H. The Biochemistry and Molecular Biology of the Dihydropyridine-Sensitive Calcium Channel. *Trends Neurosci.* *11*, 425-430, 1988.

Campbell, K.P., Leung, A.T. and Imagawa, T. Structural Characterization of the Nitrendipine Receptor of the Voltage-Dependent Ca2+ Channel: Evidence for a 52,000 Dalton Subunit. *J Cardiovasc Pharmacol. 12*(Suppl.4), S86-S90, 1988.

Campbell, K.P., Leung, A.T., Sharp, A.H., Imagawa, T. and Kahl, S.D. Ca2+ Channel Antibodies: Subunit-Specific Antibodies as Probes for Structure and Function. Proceedings from the Bayer Centenary Symposium. In: The Calcium Channel: Structure, Function and Implications. (M. Morad, W. Nayler, S. Kazda, M. Schramm, eds.) Springer-Verlag Berlin Heidelberg, Germany, pp. 586-600, 1988.

Fill, M.J., Ma, J., Knudson, C.M., Imagawa, T., Campbell, K.P. and Coronado, R. Role of the Ryanodine Receptor of Skeletal Muscle in Excitation-Contraction Coupling. *Ann NY Acad Sci*. *560*, 155-162, 1989.

Campbell, K.P., Sharp, A.H. and Leung, A.T. 32,000-Dalton Subunit of the 1,4-Dihydropyridine Receptor. *Ann NY Acad Sci.* *560*, 251-257, 1989.

Krause, K.-H., Campbell, K.P., Welsh, M.J. and Lew, D.P. The Calcium Signal and Neutrophil Activation. *Clin Biochem.* *23*, 159-166, 1990.

Campbell, K.P., Ervasti, J.M., Ohlendieck, K. and Kahl, S.D. The Dystrophin-Glycoprotein Complex: Identification and Biochemical Characterization. In: Frontiers in Muscle Research. (E. Ozawa, T. Masaki and Y. Nabeshima, eds.). Proceedings of the Uehara Memorial Foundation Symposium on Frontiers of Muscle Research, Elsevier Science Publishers International Congress Series, pp. 321-340, 1991.

McPherson, P.S. and Campbell, K.P. The Ryanodine Receptor/ Ca2+ Release Channel.  *J Biol Chem.* *268*, 13765-13768, 1993.

Ervasti, J.M. and Campbell, K.P. Dystrophin and the Membrane Skeleton. *Curr Opin Cell Biol.* *5*, 82-87, 1993.

Ervasti, J.M. and Campbell, K.P. Dystrophin-Associated Glycoproteins: Their Possible Roles in the Pathogenesis of Duchenne Muscular Dystrophy. In: Molecular and Cell Biology of Muscular Dystrophy (T. Partridge, ed.) Chapman and Hall, London, United Kingdom, pp. 139-166, 1993.

Matsumura, K. and Campbell, K.P. Deficiency of Dystrophin-Associated Proteins: A Common Mechanism Leading to Muscle Cell Necrosis in Severe Childhood Muscular Dystrophies. *Neuromusc. Disord.* *3*, 109-118, 1993.

Matsumura, K., Ohlendieck, K., Ionasescu, V.V., Tome, F.M.S., Ikuya, N., Burghes, A.H.M., Mora, M., Kaplan, J.-C., Fardeau, M. and Campbell, K.P. The Role of the Dystrophin-Glycoprotein Complex in the Molecular Pathogenesis of Muscular Dystrophies. *Neuromusc. Disord.* *3*, 533-535, 1993.

Matsumura, K. and Campbell, K.P. Dystrophin-Glycoprotein Complex: Its Role in the Molecular Pathogenesis of Muscular Dystrophies. *Muscle Nerve* *17*, 2-15, 1994.

Witcher, D.R., De Waard, M., Kahl, S. D. and Campbell, K.P. Purification and Reconstitution of N-Type Calcium Channel Complex from Rabbit Brain. Methods in Enzymology, Chapter 28 *238*, 335-348, 1994.

Campbell, K.P. Three Muscular Dystrophies: Loss of Cytoskeleton-Extracellular Matrix Linkage. *Cell* *80*, 675-679, 1995.

Campbell, K.P. Adhalin Gene Mutations and Autosomal Recessive Limb-Girdle Muscular Dystrophy. *Ann. Neurol*. *38*:353-354, 1995.

Sunada, Y. and Campbell, K.P. Dystrophin-Glycoprotein Complex: Molecular Organization and Critical Roles in Skeletal Muscle. *Curr. Opin. Neurol*. *8*:379-384, 1995.

Duclos, F., Lim, L.E., Sunada, Y., Meyer, J., Campbell, K.P., Broux, O., Bourg, N., Allamand, V., Richard, I., Beckmann, J.S., Moomaw, C., Slaughter, C., Tomé, F.M.S., Fardeau, M. and Jackson, C.E. β-sarcoglycane: Une Protéine Du Complexe Dystrophine-Glycoprotéines Est Responsable D’Une Forme Récessive De Dystrophie Musculaire. Médecine Sciences *11*, 1732-1738, 1995.

Gurnett, C.A. and Campbell, K.P. Transmembrane Auxiliary Subunits of Voltage-dependent Ion Channels. *J. Biol. Chem.* *271*, 27975-27978, 1996.

De Waard, M., Gurnett, C.A. and Campbell, K.P. Structural and Functional Diversity of Voltage-Activated Calcium Channels. In: Ion Channels *4*, 41-87, 1996.

Sunada, Y. and Campbell, K.P. Dystroglycan: A Novel Laminin Receptor and Its Involvement in the Pathogenesis of Muscular Dystrophy. In The Laminins. (P. Ekblom, ed.) Harwood Academic Publishers GMBH *13*, 291-316, 1996.

Guo, W., Jorgensen, A.O. and Campbell, K.P. Triadin, A Linker for Calsequestrin and the Ryanodine Receptor. *J Gen Physiol.* Series: Organellar Ion Channels and Transporters *51*, 19-28, 1996.

Campbell, K.P. and Crosbie, R.H. Utrophin to the Rescue. *Nature* *384*, 308-309, 1996.

Henry, M.D. and Campbell, K.P. Dystroglycan: An Extracellular Matrix Receptor Linked to the Cytoskeleton. *Curr. Opin. Cell Biol.* *8*, 625-631, 1996.

Beckmann, J.S., Richard, I., Broux, O., Fougerousse, F., Allamand, V., Chiannilkulchai, N., Lim, L.E., Duclos, F., Bourg, N., Brenguier, L., Roudaut, C., Sunada, Y., Meyer, J., Tomé, F.M.S., Cohen, D., Jackson, C.E., Campbell, K.P. and Fardeau, M. Identification of Muscle-Specific Calpain and β-Sarcoglycan Genes in Progressive Muscular Dystrophies. *Cell Pharmacol.* *3*, 189-194, 1996.

Beckmann, J.S., Richard, I., Broux, O., Fougerousse, F., Allamand, V., Chiannilkulchai, N., Lim, L.E., Duclos, F., Bourg, N., Brenguier, L., Pasturaud, P., Quétier, F., Roudaut, C., Sunada, Y., Meyer, J., Dinçer, P., Lefranc, G., Merlini, L., Topaloglu, H., Tomé, F.M.S., Cohen, D., Jackson, C.E., Campbell, K.P. and Fardeau, M. Identification of Muscle-Specific Calpain and β-Sarcoglycan Genes in Progressive Autosomal Recessive Muscular Dystrophies. *Neuromusc. Disord.* *6*, 455-462, 1996.

Jeanpierre, M., Carrié, A., Piccolo, F., Leturcq, F., Azibi, K., De Toma, C., Beldjord, C., Merlini, L., Voit, T., Romero, N., Sunada, Y., Tomé, F.M.S., Fardeau, M., Campbell, K.P. and Kaplan, J.-C. From Adhalinopathies to Alpha-Sarcoglycanopathies: An Overview. *Neuromuscular Disord.* *6*, 463-465, 1996.

Straub, V. and Campbell, K.P. Muscular Dystrophies and the Dystrophin-Glycoprotein Complex.  *Curr. Opin. Neurol.* *10*, 168-175, 1997.

Matsumura, K., Yamada, H., Fujita, S., Fukuta-Ohi, H., Tanaka, T., Campbell, K.P. and Shimizu, T. Peripheral Nerve Dystroglycan: Its Function and Potential Role in the Molecular Pathogenesis of Neuromuscular Diseases. In: Congenital Muscular Dystrophies. (Y. Fukuyama, M. Osawa and K. Saito, eds.). Elsevier Science B.V., Chapter 22, pp. 267-273, 1997.

Scott, V.E.S., Gurnett, C.A. and Campbell, K.P. Overlay and Bead Assay: Determination of Calcium Channel Subunit Interaction Domains. Methods in Molecular Biology Protein Targeting Protocols, Chapter 7, *88*, 71-86, 1998.

Liu, H. and Campbell, K.P. Structural Determinants of Ca2+ Channel β Subunit Function. In: Low-Voltage-Activated T-type Calcium Channels, Proceedings from the International Electrophysiology Meeting. (R.W. Tsien, J.-P. Clozel and J. Nargeot, eds.). Montpellier Proceedings, Section 3, pp. 229-243, 1998.

Henry, M.D., Williamson, R.A. and Campbell, K.P. Analysis of the Role of Dystroglycan in Early Post-Implantation Mouse Development. *Ann. N.Y. Acad. Sci.* *857*, 256-260, 1998.

Durbeej, M., Henry, M.D. and Campbell, K.P. Dystroglycan in Development and Disease. *Curr. Opin. Cell Biol.* *10*, 594-601, 1998.

Lim, L.E. and Campbell, K.P. The Sarcoglycan Complex in Limb-Girdle Muscular Dystrophy. *Curr. Opin. Neurol.* *11*, 443-452, 1998.

Henry, M.D. and Campbell, K.P. Dag1. In: The Gene Knockout Factsbook, (Mak, Penninger, Roder, Rossant and Saunders, eds.) Academic Press, November 15, 1998.

Cao, W., M.D. Henry, P. Borrow, H. Yamada, J.H. Elder, K.P. Campbell and M.B.A. Oldstone. Isolation of a Cellular Receptor for Lymphocytic Choriomeningitis Virus and Lassa Fever Virus. In: Factors in the Emergence and Control of Rodent-borne Viral Diseases (Hantaviruses and Arenal Diseases), J.F. Saluzzo, B. Dodet, eds., Elsevier Publications, France, pp. 225-231, 1999.

Henry, M.D. and Campbell, K.P. Dystroglycan Inside and Out. *Curr. Opin. Cell Biol*. *11*, 602-607, 1999.

Henry, M.D. and Campbell, K.P. Dystroglycan. In: Guidebook to the Extracellular Matrix, Anchor and Adhesion Proteins, Oxford University Press. July 8, 1999.

Wei, C., Henry, M.D., Borrow, P., Yamada, H., Campbell, K.P., Ravkov, E.V., Nichol, S.T., Compans, R.W. and Oldstone, M.B.A. Isolation of a Cellular Receptor for Lymphocytic Choriomeningitis Virus and Lassa Fever Virus. Emergence and Control of Rodent-Borne Viral Diseases (Hantaviruses and Arenaviruses) Foundation Marcel Merieux, Annecy, France, Elsevier. pp. 225-231, 1999.

Ertel, E.A., Campbell, K.P., Harpold, M.M., Hofmann, F., Mori, Y., Perez-Reyes, E., Schwartz, A., Snutch, T.P., Tanabe, T., Birnbaumer, L., Tsien, R.W. and Catterall, W.A. Nomenclature of Voltage-Gated Calcium Channels. *Neuron* *25*, 533-535, 2000.

Cohn, R.D. and Campbell, K.P. The Molecular Pathogenesis of Muscular Dystrophies. Muscle Nerve *23*, 1456-1471, 2000.

Allamand,V. and Campbell, K.P. Animal Models for Muscular Dystrophy: Valuable Tools for the Development of Therapies. *Hum Mol Gen.* *9*, 2459-2467, 2000.

Cohn, R.D. and Campbell, K.P. Pathogenetic Role of the Sarcoglycan-Sarcospan Complex in Cardiomyopathies. *Acta Myologica* 19, 171-180, 2000.

Piccolo, F., Moore, S.A., Mathews, K.D., Campbell, K.P. Limb Girdle Muscular Dystrophies. In Advances  
in Neurology, Neuromuscular Disorders, Vol 88, 2002.

Durbeej, M. and Campbell, K.P. Muscular Dystrophies Involving the Dystrophin-Glycoprotein Complex: An Overview of Current Mouse Models. *Curr. Opin. Genet.* *12*:*3*:349-361, 2002.

Saito, F. and Campbell, K.P. Molecular Mechanism Underlying Congenital Muscular Dystrophy Caused by Aberrant Glycosylation of Dystroglycan. *Zikkenigaku 20(18)*: 2648-2650, 2002.

Inamori, K.I. and Campbell, K.P. Like-glycosyltransferase; glycosyltransferase-like 1B (LARGE, GYLTL1B). In: Handbook of Glycosyltransferases and Related Genes, Naoyuki Taniguchi, Koichi Honke, Minoru Fukuda, Hisashi Narimatsu, Yoshiki Yamaguchi and Takashi Angata, ed., Springer, 2002.

Campbell, K.P. and Stull, J.T. Skeletal Muscle Basement Membrane-Sarcolemma-Cytoskeleton. Interaction Minireview Series. *J. Biol. Chem.*  *278(15)* 12599-12600, 2003.

Michele, D.E. and Campbell, K.P. Dystrophin-Glycoprotein Complex: Post-Translational Processing and Dystroglycan Function. *J. Biol. Chem.* *278(18)* 15457-15460, 2003.

Barresi, R and Campbell, K.P. Limb-Girdle Muscular Dystrophies. In: The Molecular and Genetic Basis of Neurologic and Psychiatric Disease, 3rd ed. (R. N. Rosenberg, et. al., Eds.). Butterworth Heinemann, 479-486, 2003.

Arikkath, J. and Campbell, K.P. Auxiliary Subunits: Essential Components of the Voltage-Gated Calcium Channel Complex. *Curr. Opin. Neurobiol.* 13: 298-307, 2003.

Kang, M. and Campbell, K.P. The Gamma Subunit of Voltage-activated Calcium Channels. *J Biol Chem.* 78(24): 21315-21318, 2003.

Muntoni, F., Valero de Bernabe, B., Bittner, R., Blake, D., van Bokhoven, H., Brrockington, M., Brown, S., Bushby, K., Campbell, K.P., Fiszman, M., Grunewald, S., Merlini, L., Quijano-Roy, S., Romero, N., Sabatelli, P., Sewry, C.A., Straub, V., Talim, H., Topaloglu, H., Voit, T., Yurchenco, P.D., Urtizeberea, A., Wewer, U. and Guicheney, P. Report of the 114th ENMC International Workshop on Congenital Muscular Dystrophy. *Neuromusc. Disord.* 13(7-8): 579-588, 2003.

Bansal, D. and Campbell, K.P. Dysferlin and Plasma Membrane Repair in Muscular Dystrophy. *Trends Cell Biol. 14(4):* 206-213, 2004.

Cohn, R.D. and Campbell, K.P. Molecular Pathways for Dilated Cardiomyopathy. In: Molecular Basis of Cardiovascular Disease: A Companion to Braunwald’s Heart Disease (2nd ed.) (Kenneth Chien, ed). Saunders, Philadelphia, pp. 306-310, 2004.

Michele, D. and Campbell, K.P. Cardiomyopathy in Muscular Dystrophies. In: Molecular Mechanisms of Cardiac Hypertrophy and Failure (Richard A Walsh, ed). Taylor and Francis, London, pp. 541-567, 2005.

Kanagawa, M., Toda, T. and Campbell, K.P. Glycosylation of Dystroglycan and Congenital Muscular Dystrophies. *The Lung Perspectives 14(3)*: 75-81, 2006.

**Barresi, R. and Campbell, K.P. Dystroglycan: From Biosynthesis to Pathogenesis of Human Disease. *J. Cell Sci. 119:*199-207, 2006.**

Han, R. and Campbell, K.P. Dysferlin and Muscle Membrane Repair. *Curr Opin Cell Bio.* *19:* 409-416, 2007.

Satz, J.S. and Campbell, K.P. Unraveling the Ribbon Synapse. *Nat. Neurosci. 11(8)*:857-59, 2008.

Glass, D.J., Campbell, K.P. and Rudnicki, M.A. Welcome to *Skeletal Muscle*. *Skelet. Muscle 1:*1, 2011.

Oldstone, M.B.A. and Campbell, K.P. Decoding Arenavirus Pathogenesis: Essential Roles for Alpha-Dystroglycan-Virus Interactions and the Immune Response. *Virology 411:* 170-79, 2011.

Glass, D.J., Campbell, K.P. and Rudnicki, M.A. *Skeletal Muscle* – one year on. *Skelet. Muscle 2:*1, 2012.

Kobayashi, Y.M. and Campbell, K.P. Skeletal Muscle Dystrophin-Glycoprotein Complex and Muscular Dystrophy. In: Muscle Fundamental Biology and Mechanisms of Disease, Joseph A. Hill and Eric N. Olson, ed., Academic Press, pp. 935-942, 2012.

Inamori, K., Yoshida-Moriguchi, T., Campbell, K.P. LARGE is a bifunctional glycosyltransferase that confers ligand-binding ability on alpha-dystroglycan. *THE LUNG Perspectives* *21*: 188-93, 2013.

Levy, J.R. and Campbell, K.P. Illuminating regeneration: noninvasive imaging of disease progression in muscular dystrophy. *J Clin Invest. 123*: 1931-4, 2013.

Levy, JR, Campbell, KP, Glass, DJ. MG53’s New Identity. *Skelet. Muscle* *3*: 28, 2013.

Inamori, K. and Campbell, K.P. Like-Glycosyltransferase; Glycosyltransferase-Like 1B (LARGE, GYLTL1B). In: Handbook of Glycosyltransferases and Related Genes, Naoyuki Taniguchi, et al., eds., Springer, pp. 1167-1179, 2014.

Glass, D.J., Campbell, K.P. and Rudnicki, M.A. *Skeletal Muscle’s* 3rd Year Anniversary. *Skelet. Muscle 4*:3, 2014.

Hara, Y. and Campbell, K.P. Dystroglycan: an Extracellular Matrix Receptor that Links to the Cytoskeleton. In: Glycoscience: Biology and Medicine, Tamao Endo, et al., eds., Springer, pp. 1-7, 2014.

Yoshida-Moriguchi, T., Campbell, K.P. Matriglycan: a novel polysaccharide that links dystroglycan to the basement membrane. (*Glycobiology* in press)

**Papers Published or in Press**

Campbell, K.P. Biochemical and Morphological Characterization of Light and Heavy Sarcoplasmic Reticulum Vesicles. Ph.D. Thesis, 1978.

Shamoo, A.E., Thompson, T.R., Campbell, K.P., Scott, T.L. and Goldstein, D.A. Mechanism of Action of “Ruthenium Red” Compounds on Ca2+ Ionophore from Sarcoplasmic Reticulum (Ca2+ Mg2+)-Adenosine Triphosphatase and Lipid Bilayer. *J. Biol. Chem*. *250*:8289-8291, 1975.

Campbell, K.P. and Shamoo, A.E. Chloride-Induced Release of Actively Loaded Calcium from Light and Heavy Sarcoplasmic Reticulum Vesicles. *J. Memb. Biol*. *54*:73-80, 1980.

Campbell, K.P., Franzini-Armstrong, C. and Shamoo, A.E. Further Characterization of Light and Heavy Sarcoplasmic Reticulum Vesicles. Identification of the "Sarcoplasmic Reticulum Feet" Associated with Heavy Sarcoplasmic Reticulum Vesicles. *Biochem. Biophys. Acta*. *602*:97-116, 1980.

Campbell, K.P. and Shamoo, A.E. Phosphorylation of Heavy Sarcoplasmic Reticulum Vesicles: Identification and Characterization of Three Phosphorylated Proteins. *J. Memb. Biol*. *56*:241-248, 1980.

Campbell, K.P. and MacLennan, D.H. DIDS Inhibition of Sarcoplasmic Reticulum Anion Efflux and Calcium Transport. *Ann. N.Y. Acad. Sci*. *358*:328-331, 1980.

Michalak, M., Campbell, K.P. and MacLennan, D.H. Localization of the High Affinity Calcium Binding Protein and an Intrinsic Glycoprotein in Sarcoplasmic Reticulum Membranes. *J. Biol. Chem*. *255*:1317-1326, 1980.

Shoshan, V., Campbell, K.P., MacLennan, D.H., Frodis, W. and Britt, B.A. Quercetin Inhibits Ca2+ Uptake But Not Ca2+ Release by Sarcoplasmic Reticulum in Skinned Muscle Fibers. *Proc. Natl. Acad. Sci.* *77*:4435-4438, 1980.

Campbell, K.P. and MacLennan, D.H. Purification and Characterization of the 53,000-dalton Glycoprotein from the Sarcoplasmic Reticulum. *J. Biol. Chem*. *256*:4626-4632, 1981.

Campbell, K.P. and MacLennan, D.H. A Calmodulin-dependent Protein Kinase System from Skeletal Muscle Sarcoplasmic Reticulum: Phosphorylation of a 60,000-dalton Protein*. J. Biol. Chem. 257*:1238-1246, 1982.

Campbell, K.P., MacLennan, D.H., Jorgensen, A.O. and Mintzer, M.C. Purification and Characterization of Calsequestrin from Canine Cardiac Sarcoplasmic Reticulum and Identification of the 53,000 Dalton Glycoprotein. *J. Biol. Chem. 258*:1197-1204, 1983.

Campbell, K.P. and MacLennan, D.H. Labeling of High Affinity ATP Binding Sites on the 53,000- and 160,000-dalton Glycoproteins of the Sarcoplasmic Reticulum with the Photoaffinity Probe 8-N3-(α-32P)-ATP. *J. Biol. Chem. 258*:1391-1394, 1983.

Zubrzycka-Gaarn, E., Campbell, K.P., Jorgensen, A.O. and MacLennan, D.H. Biosynthesis of Intrinsic Sarcoplasmic Reticulum Proteins during Differentiation of the Myogenic Cell Line, L6. *J. Biol. Chem.* *258*:4576-4581, 1983.

Campbell, K.P., MacLennan, D.H. and Jorgensen, A.O. Staining of the Ca2+ Binding Proteins, Calsequestrin, Calmodulin, Troponin C and S-100, with the Cationic Carbocyanine Dye "Stains-all". *J. Biol. Chem. 258*:11267-11273, 1983.

Jorgensen, A.O., Shen, A.C.-Y., Campbell, K.P. and MacLennan, D.H. Ultrastructural Localization of Calsequestrin in Rat Skeletal Muscle by Immunoferritin Labeling of Ultrathin Frozen Sections. *J. Cell Biol. 97*:1573-1581, 1983.

Jorgensen, A.O. and Campbell, K.P. Evidence for the Presence of Calsequestrin in Two Structurally Different Regions of Myocardial Sarcoplasmic Reticulum. *J. Cell Biol. 98*:1597-1602, 1984.

Campbell, K.P., Lipshutz, G.M. and Denney, G.H. Direct Photoaffinity Labeling of the High Affinity Nitrendipine-binding Site in Subcellular Membrane Fractions Isolated from Canine Myocardium. *J. Biol. Chem. 259*:5384-5387, 1984.

Jorgensen, A.O., McLeod, A.G., Campbell, K.P. and Denney, G.H. Evidence for the Presence of Calsequestrin in Both Peripheral and Interior Regions of Sheep Purkinje Fibers. *Circ. Res. 55*:267-270, 1984.

Jorgensen, A.O., Shen, A.C.-Y. and Campbell, K.P. Ultrastructural Localization of Calsequestrin in Adult Rat Atrial and Ventricular Muscle Cells. *J. Cell Biol.* *101*:257-268, 1985.

Fischer, T.H., Campbell, K.P. and White II, G.C. Evidence That Platelet and Skeletal Sarcoplasmic Reticulum Ca2+-ATPase Are Structurally Distinct. *J. Biol. Chem. 260*:8996-9001, 1985.

Campbell, K.P., Sharp, A., Strom M. and Kahl, S.D. High-affinity Antibodies to the 1,4-Dihydropyridine Ca2+-Channel Blockers. *Proc. Natl. Acad. Sci.* *83*:2792-2796, 1986.

Lattanzio, F.A., Schlatterer, R.G., Nicar, M., Campbell, K.P. and Sutko, J.L. The Effects of Ryanodine on Passive Calcium Fluxes Across Sarcoplasmic Reticulum Membranes. *J. Biol. Chem. 262*:2711-2718, 1987.

Campbell, K.P., Knudson, C.M., Imagawa, T., Leung, A.T., Sutko, J.L., Kahl, S.D., Raab, C.R. and Madson, L. Identification and Characterization of the High Affinity [3H]Ryanodine Receptor of the Junctional Sarcoplasmic Reticulum Ca2+ Release Channel*. J. Biol. Chem. 262*:6460-6463, 1987.

Leung, A.T., Imagawa, T. and Campbell, K.P. Structural Characterization of the 1,4-Dihydropyridine Receptor of the Voltage-dependent Ca2+ Channel from Rabbit Skeletal Muscle: Evidence for Two Distinct High Molecular Weight Subunits. *J. Biol. Chem. 262*:7943-7946, 1987.

Imagawa, T., Leung, A.T. and Campbell, K.P. Phosphorylation of the 1,4-Dihydropyridine Receptor of the Voltage-Dependent Ca2+ Channel by an Intrinsic Protein Kinase in Isolated Triads from Rabbit Skeletal Muscle. *J. Biol. Chem.* *262*:8333-8339, 1987.

Campbell, K.P., Sharp, A.H,. and Kahl, S.D. Anti-dihydropyridine Antibodies Exhibit [3H]Nitrendipine Binding Properties Similar to the Membrane Receptor for the 1,4-Dihydropyridine Ca2+ Channel Antagonists*. J. Card. Pharm. 9(*Suppl. 4):S113-S121, 1987.

Sharp, A.H., Imagawa, T., Leung, A.T. and Campbell, K.P. Identification and Characterization of the Dihydropyridine-binding Subunit of the Skeletal Muscle Dihydropyridine Receptor. *J. Biol. Chem. 262*:12309-12315, 1987.

Sharp, A.H. and Campbell, K.P. Affinity Purification of Antibodies Specific for 1,4-Dihydropyridine Ca2+ Channel Blockers. *Circ. Res.* *61*(Suppl. I):I-37 - I-45, 1987.

Fischer, T.H., Campbell, K.P. and White II., G.C. An Investigation of Functional Similarities between the Sarcoplasmic Reticulum and Platelet Calcium-Dependent Adenosinetriphosphatases with the Inhibitors Quercetin and Calmidazolium. *Biochemistry 26:* 8024-8030, 1987.

Imagawa, T., Smith, J.S., Coronado, R. and Campbell, K.P. Purified Ryanodine Receptor from Skeletal Muscle Sarcoplasmic Reticulum is the Ca2+-permeable Pore of the Calcium Release Channel. *J. Biol. Chem. 262*:16636-16643, 1987.

Hoffman, E.P., Knudson, C.M., Campbell, K.P. and Kunkel, L.M. Subcellular Fractionation of Dystrophin to the Triads of Skeletal Muscle. *Nature 330*:754-758, 1987.

Leung, A.T., Imagawa, T., Block, B., Franzini-Armstrong, C. and Campbell, K.P. Biochemical and Ultrastructural Characterization of the 1,4-Dihydropyridine Receptor from Rabbit Skeletal Muscle: Evidence for a 52,000-Da Subunit. *J. Biol. Chem. 263*:994-1001, 1988.

Jorgensen, A.O., Arnold, W., Pepper, D.R., Kahl, S.D., Mandel, F. and Campbell, K.P. A Monoclonal Antibody to the Ca2+-ATPase of Cardiac Sarcoplasmic Reticulum Cross-Reacts with Slow Type I but Not with Fast Type II Canine Skeletal Muscle Fibers: An Immunocytochemical and Immunochemical Study. *Cell Motil. Cytoskeleton 9*:164-174, 1988.

Leung, A.T., Imagawa, T. and Campbell, K.P. Monoclonal Antibody Characterization of the 1,4-Dihydropyridine Receptor of Rabbit Skeletal Muscle. *Ann. N.Y. Acad. Sci. 552*:43-46, 1988.

Knudson, C.M., Hoffman, E.P., Kahl, S.D., Kunkel, L.M. and Campbell, K.P. Evidence for the Association of Dystrophin with the Transverse Tubular System in Skeletal Muscle. *J. Biol. Chem*. *263*:8480-8484, 1988.

Grover, A.K., Boonstra, I., Garfield, R.E. and Campbell, K.P. Ca Pumps in Rabbit Stomach Smooth Muscle Plasma Membrane and Endoplasmic Reticulum. *Biochemical Archives* *4*:169-179, 1988.

Smith, J.S., Imagawa, T., Ma, J., Fill, M., Campbell, K.P. and Coronado, R. Purified Ryanodine Receptor from Rabbit Skeletal Muscle Is the Calcium-Release Channel of Sarcoplasmic Reticulum. *J. Gen. Physiol. 92*:1-26, 1988.

Ellis, S.B., Williams, M.E., Ways, N.R., Brenner, R., Sharp, A.H., Leung, A.T., Campbell, K.P., McKenna, E., Koch, W.J., Hui, A., Schwartz, A. and Harpold, M.M. Sequence and Expression of mRNAs Encoding the α1 and α2 Subunits of a DHP-Sensitive Calcium Channel. *Science* *241*:1661-1664, 1988.

Ma, J., Fill, M., Knudson, C.M., Campbell, K.P. and Coronado, R. Ryanodine Receptor of Skeletal Muscle Is a Gap Junction-Type Channel. *Science 242*:99-102, 1988.

Block, B.A., Imagawa, T., Campbell, K.P. and Franzini-Armstrong, C. Structural Evidence for Direct Interaction between the Molecular Components of the Transverse Tubule/Sarcoplasmic Reticulum Junction in Skeletal Muscle. *J. Cell Biol.* 107:2587-2600, 1988.

Knudson, C.M., Chaudhari, N., Sharp, A.H., Powell, J.A., Beam, K.G. and Campbell, K.P. Specific Absence of the α1 Subunit of the Dihydropyridine Receptor in Mice with Muscular Dysgenesis. *J. Biol. Chem.* *264*:1345-1348, 1989.

Sharp, A.H. and Campbell, K.P. Characterization of the 1,4-Dihydropyridine Receptor Using Subunit-specific Polyclonal Antibodies: Evidence for a 32,000-Da Subunit. *J. Biol. Chem.* *264*:2816-2825, 1989.

Thomas, K., Navarro, J., Benson, R.J.J., Campbell, K.P., Rotundo, R.L. and Fine, R.E. Newly Synthesized Calsequestrin, Destined for the Sarcoplasmic Reticulum, Is Contained in Early/Intermediate Golgi-derived Clathrin-coated Vesicles. *J. Biol. Chem*. *264*:3140-3145, 1989.

Krause, K.H., Chou, M., Thomas, M.A., Sjolund, R.D. and Campbell, K.P. Plant Cells Contain Calsequestrin. *J. Biol. Chem.* *264*:4269-4272, 1989.

Campbell, K.P. and Kahl, S.D. Association of Dystrophin and an Integral Membrane Glycoprotein. *Nature 338*:259-262, 1989.

Knudson, C.M. and Campbell, K.P. Albumin Is a Major Protein Component of Transverse Tubule Vesicles Isolated from Skeletal Muscle. *J. Biol. Chem*. *264*:10795-10798, 1989.

Kutchai, H. and Campbell, K.P. Calcium Transport by Sarcoplasmic Reticulum of Skeletal Muscle Is Inhibited by Antibodies against the 53-Kilodalton Glycoprotein of the Sarcoplasmic Reticulum Membrane. *Biochemistry* *28*:4830-4839, 1989.

Jorgensen, A.O., Shen, A.C.Y., Arnold, W., Leung, A.T. and Campbell, K.P. Subcellular Distribution of the 1,4-Dihydropyridine Receptor in Rabbit Skeletal Muscle In Situ: An Immunofluorescence and Immunocolloidal Gold-labeling Study*. J. Cell Biol.* *109*:135-147, 1989.

Perez-Reyes, E., Kim, H.S., Lacerda, A.E., Horne, W., Wei, X., Rampe, D., Campbell, K.P., Brown, A.M. and Birnbaumer, L. Induction of Calcium Currents by the Expression of the α1-subunit of the Dihydropyridine Receptor from Skeletal Muscle. *Nature* *340*:233-236, 1989.

Fischer, T.H., Barton, D.W., Krause, K.H., White, T.E., Campbell, K.P. and White II, G.C. The Identification of Sarcoplasmic Reticulum Terminal Cisternae Proteins in Platelets. *Biochem. J.* *263*:605-608, 1989.

Chou, M., Krause, K.-H., Campbell, K.P., Jensen, K.G. and Sjolund, R.D. Antibodies Against the Calcium-binding Protein, Calsequestrin from *Streptanthus tortuosus* (Brassicaceae). *Plant Physiol*. *91*:1259-1261, 1989.

Briggs, F.N., Lee, K.F., Feher, J.J., Wechsler, A.S., Ohlendieck, K. and Campbell, K.P. Ca-ATPase Isozyme Expression in Sarcoplasmic Reticulum is Altered by Chronic Stimulation of Skeletal Muscle. *FEBS Lett*. *259*:269-272, 1990.

Knudson, C.M., Mickelson, J.R., Louis, C.F. and Campbell, K.P. Distinct Immunopeptide Maps of the Sarcoplasmic Reticulum Ca2+ Release Channel in Malignant Hyperthermia. *J. Biol. Chem*. *265*:2421-2424, 1990.

Jorgensen, A.O., Arnold, W., Shen, A.C.-Y., Yuan, S., Gaver, M. and Campbell, K.P. Identification of Novel Proteins Unique to Either Transverse Tubules (TS28) or the Sarcolemma (SL50) in Rabbit Skeletal Muscle. *J. Cell Biol*. *110*:1173-1185, 1990.

Ervasti, J.M., Ohlendieck, K., Kahl, S.D., Gaver, M. and Campbell, K.P. Deficiency of a Glycoprotein Component of the Dystrophin Complex in Dystrophic Muscle. *Nature 345*:315-319, 1990.

Jay, S.D., Ellis, S.B., McCue, A.F., Williams, M.E., Vedvick, T.S., Harpold, M.M. and Campbell, K.P. Primary Structure of the γ Subunit of the DHP-Sensitive Calcium Channel from Skeletal Muscle. *Science* *248*:490-492, 1990.

Leberer, E., Timms, B.G., Campbell, K.P. and MacLennan, D.H. Purification, Calcium Binding Properties and Ultrastructural Localization of the 53,000- and 160,000 (Sarcalumenin)-Dalton Glycoproteins of Sarcoplasmic Reticulum. *J. Biol. Chem*. *265*:10118-10124, 1990.

Krause, K.-H., Simmerman, H.K.B., Jones, L.R. and Campbell, K.P. Sequence Similarity of Calreticulin with a Ca2+-Binding Protein that Co-purifies with an Ins(1,4,5)P3-Sensitive Ca2+ Store in HL-60 Cells. *Biochem. J*. *270*:545-548 1990.

Chu, A., Sumbilla, C. Inesi, G., Jay, S.D. and Campbell, K.P. Specific Association of Calmodulin-Dependent Protein Kinase and Related Substrates with the Junctional Sarcoplasmic Reticulum of Skeletal Muscle. *Biochemistry 29*:5899-5905, 1990.

McPherson, P.S. and Campbell, K.P. Solubilization and Biochemical Characterization of the High Affinity [3H]Ryanodine Receptor from Rabbit Brain Membranes*. J. Biol. Chem*. *265*:18454-18460, 1990.

Movsesian, M.A., Leveille, C., Krall, J., Colyer, J., Wang, J.H,. and Campbell, K.P. Identification and Characterization of Proteins in Sarcoplasmic Reticulum from Normal and Failing Human Left Ventricles. *J. Molec. Cell. Cardiol*. *22*:1477-1485, 1990.

Jay, S.D., Sharp, A.H., Kahl, S.D., Vedvick, T.S., Harpold, M.M. and Campbell, K.P. Structural Characterization of the Dihydropyridine-sensitive Calcium Channel α2-Subunit and the Associated δ Peptides. *J. Biol. Chem*. *266*:3287-3293, 1991.

Ohlendieck, K., Ervasti, J.M., Snook, J.B. and Campbell, K.P. Dystrophin-Glycoprotein Complex Is Highly Enriched in Isolated Skeletal Muscle Sarcolemma. *J. Cell Biol*. *112*:135-148, 1991.

Ervasti, J.M., Kahl, S.D. and Campbell, K.P. Purification of Dystrophin from Skeletal Muscle*. J. Biol. Chem*. *266*:9161-9165, 1991.

McPherson, P.S., Kim, Y-K, Valdivia, H., Knudson, C.M., Takekura, H., Franzini-Armstrong, C., Coronado, R. and Campbell, K.P. The Brain Ryanodine Receptor: A Caffeine-Sensitive Calcium Release Channel. *Neuron 7*:17-25, 1991.

McLeod, A.G., Shen, A.C.-Y., Campbell, K.P., Michalak, M. and Jorgensen, A.O. Frog Cardiac Calsequestrin. Identification, Characterization and Subcellular Distribution in Two Structurally Distinct Regions of Peripheral Sarcoplasmic Reticulum in Frog Ventricular Myocardium. *Circ. Res. 69*:344-359, 1991.

Ohlendieck, K. and Campbell, K.P. Dystrophin Constitutes 5% of Membrane Cytoskeleton in Skeletal Muscle. *FEBS Lett.* *283*:230-234, 1991.

Ohlendieck, K., Ervasti, J.M., Matsumura, K., Kahl, S.D., Leveille, C.J. and Campbell, K.P. Dystrophin-Related Protein is Localized to Neuromuscular Junctions of Adult Skeletal Muscle. *Neuron 7*:499-508, 1991.

Sakamoto, J. and Campbell, K.P. A Monoclonal Antibody to the β Subunit of the Skeletal Muscle Dihydropyridine Receptor Immunoprecipitates the Brain ω-Conotoxin GVIA Receptor. *J. Biol. Chem*. *266*:18914-18919, 1991.

Ervasti, J.M. and Campbell, K.P. Membrane Organization of the Dystrophin-Glycoprotein Complex. *Cell* *66*:1121-1131, 1991.

Pragnell, M., Sakamoto, J., Jay, S.D. and Campbell, K.P. Cloning and Tissue-Specific Expression of the Brain Calcium Channel β-Subunit. *FEBS Lett.* *291*:253-258, 1991.

Ohlendieck, K., Briggs, F. N., Lee, K.F., Wechsler, A.W. and Campbell, K.P. Analysis of Excitation-Contraction-Coupling Components in Chronically Stimulated Canine Skeletal Muscle. *Eur. J. Biochem. 202*: 739-747, 1991.

Ohlendieck, K. and Campbell, K.P. Dystrophin-Associated Proteins are Greatly Reduced in Skeletal Muscle from *mdx* Mice. *J. Cell Biol*. *115*:1685-1694, 1991.

McPherson, S.M., McPherson, P.S., Mathews, L., Campbell, K.P. and Longo, F.J. Cortical Localization of a Calcium Release Channel in Sea Urchin Eggs. *J. Cell Biol*. *116*:1111-1121, 1992.

Ibraghimov-Beskrovnaya, O., Ervasti, J.M., Leveille, C.J., Slaughter, C.A., Sernett S.W. and Campbell, K.P. Primary Structure of Dystrophin-Associated Glycoproteins Linking Dystrophin to the Extracellular Matrix. *Nature* *355*:696-702, 1992.

Mickelson, J.R., Knudson, C.M., Kennedy, C.F.H., Yang, D.-I., Litterer, L.A., Rempel, W.E., Campbell, K.P. and Louis, C.F. Structural and Functional Correlates of a Mutation in the Malignant Hyperthermia Susceptible Pig Ryanodine Receptor. *FEBS Lett.* *301*:49-52, 1992.

Matsumura, K., Tomé, F.M.S., Collin, H., Azibi, K., Chaouch, M., Kaplan, J.-C., Fardeau, M. and Campbell, K.P. Deficiency of the 50K Dystrophin-Associated Glycoprotein in Severe Childhood Autosomal Recessive Muscular Dystrophy. *Nature 359*:320-322, 1992.

Parys, J.B., Sernett, S.W., DeLisle, S., Snyder, P.M., Welsh, M.J. and Campbell, K.P. Isolation, Characterization and Localization of the Inositol 1,4,5-Trisphosphate Receptor Protein in *Xenopus laevis* Oocytes. *J. Biol. Chem*. *267*:18776-18782, 1992.

Matsumura, K., Ervasti, J.M., Ohlendieck, K., Kahl, S.D. and Campbell, K.P. Association of Dystrophin-Related Protein With Dystrophin-Associated Proteins in *mdx* Mouse Muscle. *Nature 360*:588-591, 1992.

Klietsch, R., Ervasti, J.M., Arnold, W., Campbell, K.P. and Jorgensen, A.O. Dystrophin-Glycoprotein Complex and Laminin Colocalize to the Sarcolemma and Transverse Tubules of Cardiac Muscle. *Circ. Res. 72:*349-360, 1993.

Matsumura, K., Nonaka, I. and Campbell, K.P. Abnormal Expression of Dystrophin-Associated Proteins in Fukuyama-type Congenital Muscular Dystrophy. *Lancet* *341*:521-522, 1993.

Jorgensen, A.O., Shen, A.C.Y., Arnold, W., McPherson, P.S. and Campbell, K.P. The Ca2+ Release Channel/Ryanodine Receptor is Localized in Junctional and Corbular Sarcoplasmic Reticulum in Cardiac Muscle. *J. Cell Biol*. *120*:969-980, 1993.

Ohlendieck, K., Matsumura, K., Ionasescu, V.V., Towbin, J.A., Bosch, E.P., Weinstein, S.L., Northrup, S.W. and Campbell, K.P. Duchenne Muscular Dystrophy: Deficiency of Dystrophin-Associated Proteins in the Sarcolemma. *Neurol.* *43*:795-800, 1993.

Matsumura, K., Lee, C.C., Caskey, C.T. and Campbell, K.P. Restoration of Dystrophin-Associated Proteins in Skeletal Muscle of *mdx* Mice Transgenic for Dystrophin Gene. *FEBS Lett*. *320*:276-280, 1993.

Roberds, S.L., Ervasti, J.M., Anderson, R.D., Ohlendieck, K., Kahl, S.D., Zoloto, D. and Campbell, K.P. Disruption of the Dystrophin-Glycoprotein Complex in the Cardiomyopathic Hamster. *J. Biol. Chem*. *268*:11496-11499, 1993.

Matsumura, K., Nonaka, I., Arahata, K. and Campbell, K.P. Partial Deficiency of Dystrophin-Associated Proteins in a Young Girl with Sporadic Myopathy and Normal Karyotype. *Neurol.* *43*:1267-1268, 1993.

Sharp, A.H., McPherson, P.S., Dawson, T.M., Aoki, C. Campbell, K.P. and Snyder, S.H. Differential Immunohistochemical Localization of Inositol 1,4,5-Trisphosphate- and Ryanodine-Sensitive Ca2+ Release Channels in Rat Brain. *J. Neurosci. 13*:3051-3063, 1993.

Knudson, C.M., Stang, K.K., Moomaw, C.R., Slaughter, C.A. and Campbell, K.P. Primary Structure and Topological Analysis of a Skeletal Muscle Specific Junctional Sarcoplasmic Reticulum Glycoprotein (Triadin). *J. Biol. Chem*. *268*:12646-12654, 1993.

Witcher, D.R., De Waard, M., Sakamoto, J., Franzini-Armstrong, C., Pragnell, M., Kahl, S.D. and Campbell, K.P. Subunit Identification and Reconstitution of the N-Type Ca2+ Channel Complex Purified from Brain. *Science* *261*:486-489, 1993.

Matsumura, K., Nonaka, I., Tomé, F.M.S., Arahata, K., Collin, H., Leturcq, F., Recan, D., Kaplan, J.-C., Fardeau, M. and Campbell, K.P. Mild Deficiency of Dystrophin-Associated Proteins in Becker Muscular Dystrophy Patients Having In-Frame Deletions in the Rod Domain of Dystrophin. *Am. J. Hum. Genet*. *53*:409-416, 1993.

Ervasti, J. M. and Campbell, K.P. A Role for the Dystrophin-Glycoprotein Complex as a Transmembrane Linker Between Laminin and Actin. *J. Cell Biol*. *122*:809-823, 1993.

Matsumura, K., Shasby, M. and Campbell, K.P. Purification of Dystrophin-Related Protein (Utrophin) From Lung and Its Identification in Pulmonary Artery Endothelial Cells. *FEBS Lett*. *326*:289-293, 1993.

Cox, G.A., Cole, N.M. Matsumura, K., Phelps, S.F., Hauschka, S.D., Campbell, K.P., Faulkner, J.A. and Chamberlain, J.S. Overexpression of Dystrophin in Transgenic *mdx* Mice Eliminates Dystrophic Symptoms Without Toxicity. *Nature 364*:725-729, 1993.

Matsumura, K., Tomé, F.M.S., Ionasescu, V., Ervasti, J.M., Anderson, R.D., Romero, N.B., Simon, D., Récan, D., Kaplan, J-C., Fardeau, M. and Campbell, K.P. Deficiency of Dystrophin-Associated Proteins in Duchenne Muscular Dystrophy Patients Lacking COOH-Terminal Domains of Dystrophin. *J. Clin. Invest.* *92*:866-871, 1993.

McPherson, P.S. and Campbell, K.P. Characterization of the Major Brain Form of the Ryanodine Receptor/ Ca2+ Release Channel. *J. Biol. Chem*. *268*:19785-19790, 1993.

Azibi, K., Bachner, L., Beckmann, J.S., Matsumura, K., Hamouda, E., Chaouch, M., Chaouch, A., Ait-Ouarab, R., Vignal, A., Weissenbach, J., Vinet, M.-C., Leturcq, F., Collin, H., Tomé, F.M.S., Reghis, A., Fardeau, M., Campbell, K.P. and Kaplan, J.-C. Severe Childhood Autosomal Recessive Muscular Dystrophy with the Deficiency of the 50 kDa Dystrophin-Associated Glycoprotein Maps to Chromosome 13q12. *Hum. Mol. Gen*. *2*:1423-1428, 1993.

Fardeau, M., Matsumura, K., Tomé, F.M.S., Collin, H., Leturcq, F., Kaplan, J.-C. and Campbell K.P. Deficiency of the 50 kDa Dystrophin Associated Glycoprotein (Adhalin) in Severe Autosomal Recessive Muscular Dystrophies in Children Native from European Countries. *C.R. Acad. Sci. Paris* *316*:799-804, 1993.

Ibraghimov-Beskrovnaya, O., Milatovich, A., Ozcelik, T., Yang, B., Koepnick, K., Francke, U. and Campbell, K.P. Human Dystroglycan: Skeletal Muscle cDNA, Genomic Structure, Origin of Tissue Specific Isoforms and Chromosomal Localization. *Hum. Mol. Gen*. *2*:1651-1657, 1993.

Roberds, S.L., Anderson, R.D., Ibraghimov-Beskrovnaya, O. and Campbell, K.P. Primary Structure and Muscle-Specific Expression of the 50-kDa Dystrophin-Associated Glycoprotein (α-sarcoglycan). *J. Biol. Chem*. *268*:23739-23742, 1993.

Stea, A., Dubel, S.J., Pragnell, M., John P. Leonard, J.P., Campbell, K.P. and Snutch, T.P. A β-Subunit Normalizes the Electrophysiological Properties of a Cloned N-Type Ca2+ Channel α1-Subunit. *Neuropharm*. *32*:1103-1116,1993.

Witcher, D.R., De Waard, M. and Campbell, K.P. Characterization of the Purified N-Type Ca2+ Channel and the Cation Sensitivity of -Conotoxin GVIA Binding. *Neuropharm*. *32*:1127-1139, 1993.

Passos-Bueno, M.R., Oliveira, J.R., Bakker, E., Anderson, R.D., Marie, S.K., Vainzof, M., Roberds, S., Campbell, K.P. and Zatz, M. Genetic Heterogeneity for Duchenne-like Muscular Dystrophy (DLMD) Based on Linkage and 50 DAG Analysis. *Hum. Mol. Gen*. *2*:1945-1947, 1993.

Ibraghimov-Beskrovnaya, O., Sheffield, V.C. and Campbell, K.P. Single Base Polymorphism in the DAG1 Gene Detected by DGGE and Mismatch PCR. *Hum. Mol. Gen*. *2*, 1983, 1993.

Phillips, W.D., Noakes, P.G., Roberds, S.L., Campbell, K.P. and Merlie, J.P. Clustering and Immobilization of Acetylcholine Receptors by the 43-kD Protein: A Role for Dystrophin-Related Protein (DRP). *J. Cell Biol*. *123*:729-740, 1993.

Matsumura, K., Yamada, H., Shimizu, T. and Campbell, K.P. Differential Expression of Dystrophin, Utrophin and Dystrophin-Associated Proteins in Peripheral Nerve. *FEBS Lett.* *334*:281-285, 1993.

Matsumura, K., Burghes, A.H.M., Mora, M., Tomé, F.M.S., Morandi, L., Cornello, F., Leturcq, F., Jeanpierre, M., Kaplan, J.-C., Reinert, P., Fardeau, M., Mendell, J.R. and Campbell, K.P. Immunohistochemical Analysis of Dystrophin-Associated Proteins in Becker/Duchenne Muscular Dystrophy with Huge In-Frame Deletions in the NH2-Terminal and Rod Domains of Dystrophin. *J. Clin. Invest.* *93*:99-105, 1994.

De Waard, M., Witcher, D.R. and Campbell, K.P. Functional Properties of the Purified N-type Ca2+ Channel from Rabbit Brain. J*. Biol. Chem*. *269*:6716-6724, 1994.

Romero, N.B., Tomé, F.M.S., Leturcq, F., El Kerch, F., Kemal, A., Bachner, L., Anderson, R.D., Roberds, S.L., Campbell, K.P., Fardeau, M.M. and Kaplan, J.-C. Genetic Heterogeneity of Severe Autosomal Recessive Muscular Dystrophy with Adhalin (50 kDa Dystrophin-Associated Glycoprotein) Deficiency. *C.R. Acad. Sci. Paris, Sciences de la vie/Life Sciences* *317*:70-76, 1994.

Matsumura, K., Tomé, F.M.S., Collin, H., Leturcq, F., Jeanpierre, M., Kaplan, J.-C., Fardeau, M. and Campbell, K.P. Expression of Dystrophin-associated Proteins in Dystrophin-Positive Muscle Fibers (Revertants) in Duchenne Muscular Dystrophy. *Neuromusc. Disord*. *4*:115-120, 1994.

Pragnell, M., De Waard, M., Mori, Y., Tanabe, T., Snutch, T.P. and Campbell, K.P. Calcium Channel Subunit Binds to a Conserved Motif in the I-II Cytoplasmic Linker of the α1-Subunit. *Nature 368*:67-70, 1994.

Yang, B., Ibraghimov-Beskrovnaya, O., Moomaw, C.R., Slaughter, C.A. and Campbell, K.P. Heterogeneity of the 59-kDa Dystrophin-Associated Protein Revealed by cDNA Cloning and Expression. *J. Biol. Chem*. *269*:6040-6044, 1994.

Parys, J.B., McPherson, S.M., Mathews, L., Campbell, K.P. and Longo, F.J. Presence of Inositol 1,4,5-Trisphosphate Receptor, Calreticulin and Calsequestrin in Eggs of Sea Urchins and *Xenopus Laevis*. *Develop. Biol*. *161*:466-476, 1994.

Kahl, S.D., McPherson, P.S., Lewis, T., Bentley, P., Mullinnix, M.J., Windass, J.D. and Campbell, K.P. Radioimmunoassay for the Calcium Release Channel Agonist Ryanodine. *Analytical Biochem*. *218*:55-62, 1994.

Witcher, D.R., McPherson, P.S., Kahl, S.D., Lewis, T., Bentley, P., Mullinnix, M.J., Windass, J.D. and Campbell, K.P. Photoaffinity Labeling of the Ryanodine Receptor Ca2+/Release Channel with an Azido Derivative of Ryanodine. *J. Biol. Chem*. *269*:13076-13079, 1994.

Sunada, Y., Bernier, S.M., Kozak, C.A., Yamada, Y. and Campbell, K.P. Deficiency of Merosin in Dystrophic *dy* Mice and Genetic Linkage of the Laminin M Chain Gene to the *dy* Locus. J*. Biol. Chem*. *269*:13729-13732, 1994.

Tomé, F.M.S., Evangelista, T., Leclerc, A., Sunada, Y., Manole, E., Estournet, B., Barois, A., Campbell, K.P. and Fardeau, M. Congenital Muscular Dystrophy with Merosin Deficiency. *C.R. Acad. Sci., Sciences de la Vie/Life Sciences 317:*351-357, 1994.

Sewry, C.A., Sansome, A., Matsumura, K., Campbell, K.P. and Dubowitz, V. Deficiency of the 50 kDa Dystrophin-Associated Glycoprotein and Abnormal Expression of Utrophin in Two South Asian Cousins with Variable Expression of Severe Childhood Autosomal Recessive Muscular Dystrophy. *Neuromusc. Disord*. *4*:121-129, 1994.

El Kerch, F., Sefiani, A., Azibi, K., Boutaleb, N., Yahyaoui, M., Bentahila, A., Vinet, M.-C., Leturcq, F., Bachner, L., Beckmann, J., Campbell, K.P., Tomé, F.M.S., Fardeau, M. and Kaplan, J.-C. Linkage Analysis of Families with Severe Childhood Autosomal Recessive Muscular Dystrophy in Morocco Indicates Genetic Homogeneity of the Disease in North-Africa. *J. Med. Genet*. *31*:342-343, 1994.

Zatz, M., Matsumura, K., Vainzof, M., Passos-Bueno, M.R., Pavanello, R.C.M., Marie, S.K. and Campbell, K.P. Assessment of the 50-kDa Dystrophin-Associated Glycoprotein in Brazilian Patients with Severe Childhood Autosomal Recessive Muscular Dystrophy. *J. Neurol. Sci.* *123*:122-128, 1994.

Campanelli, J.T., Roberds, S.L., Campbell, K.P. and Scheller, R.H. A Role for Dystrophin-Associated Glycoproteins and Utrophin in Agrin-Induced AChR Clustering. *Cell* *77*:663-674, 1994.

Mickelson, J.R., Ervasti, J.M., Litterer, L.A., Campbell, K.P. and Louis, C.F. Skeletal Muscle Junctional Membrane Protein Content in Pigs with Different Ryanodine Receptor Genotypes. *Am. J. Physiol. Cell Physiol.* *267*:C282-C292, 1994.

Roberds, S.L., Leturcq, F., Allamand, V., Piccolo, F., Jeanpierre, M., Anderson, R.D., Lim, L.E., Lee, J.C., Tomé, F.M.S., Romero, N.B., Fardeau, M., Beckmann, J.S., Kaplan, J.-C. and Campbell K.P. Missense Mutations in the Adhalin (α-sarcoglycan) Gene Linked to Autosomal Recessive Muscular Dystrophy. *Cell 78*:625-633, 1994.

De Waard, M., Pragnell, M. and Campbell, K.P. Ca2+ Channel Regulation by a Conserved β Subunit Domain. *Neuron* *13*:495-503, 1994.

Higuchi, I., Yamada, H., Fukunaga, H., Iwaki, H., Okubo, R., Nakagawa, M., Osame, M., Roberds, S.L., Shimizu, T., Campbell, K.P. and Matusumura, K. Abnormal Expression of Laminin Suggests Disturbance of Sarcolemma-Extracellular Matrix Interaction in Japanese Patients with Autosomal Recessive Muscular Dystrophy Deficient in Adhalin. *J. Clin. Invest*. *94*:601-606, 1994.

Tomé, F.M.S., Matsumura, K., Chevallay, M., Campbell, K.P. and Fardeau, M. Expression of Dystrophin-Associated Glycoproteins During Human Fetal Muscle Development: A Preliminary Immunocytochemical Study. *Neuromusc. Disord*. *4*:343-348, 1994.

Ervasti, J.M., Roberds, S.L., Anderson, R.D., Sharp, N.J.H., R.K., Kornegay, J.N. and Campbell, K.P. α-Dystroglycan Deficiency Correlates with Elevated Serum Creatine Kinase and Decreased Muscle Contraction Tension in Golden Retriever Muscular Dystrophy. *FEBS Lett*. *350*:173-176. 1994.

Rafeal, J.A., Sunada, Y., Cole, N.M., Campbell, K.P., Faulkner, J.A. and Chamberlain, J.S. Prevention of Dystrophic Pathology in *mdx* Mice by a Truncated Dystrophin Isoform. *Hum. Mol. Gen*. *3*:1725-1733, 1994.

Sewry, C.A., Matsumura, K., Campbell, K.P. and Dubowitz, V. Expression of Dystrophin-Associated Glycoproteins and Utrophin in Carriers of Duchenne Muscular Dystrophy. *Neuromusc. Disord*. *4*:401-409, 1994.

Guo, W., Jorgensen, A.O. and Campbell, K.P. Characterization and Ultrastructural Localization of a Novel 90 kDa Protein Unique to Skeletal Muscle Junctional Sarcoplasmic Reticulum. *J. Biol. Chem.* *269*:28359-28365, 1994.

Yamada, H., Shimizu, T., Tanaka, T., Campbell, K.P. and Matsumura, K. Dystroglycan is a Binding Protein of Laminin and Merosin in Peripheral Nerve. *FEBS Lett.* *352*:49-53, 1994.

Cox, G.A., Sunada, Y., Campbell, K.P. and Chamberlain, J.S. Dp71 Can Restore the Dystrophin-Associated Glycoprotein Complex in Muscle but Fails to Prevent Dystrophy. *Nature Genet*. *8*:333-339, 1994.

Greenberg, D.S., Sunada, Y., Campbell, K.P., Yaffe, D. and Nudel, U. Exogenous Dp71 Restores the Levels of Dystrophin Associated Proteins but Does Not Alleviate Muscle Damage in *mdx* Mice. *Nature Genet. 8*:340-344, 1994.

Allamand, V., Leturcq, F., Piccolo, F., Jeanpierre, M., Azibi, K., Roberds, S.L., Lim, L.E., Campbell, K.P., Beckmann, J.S. and Kaplan, J.-C. Adhalin Gene Polymorphism. *Hum. Mol. Genet*. *3*:2269, 1994.

Yang, B., Jung, D., Rafael, J.A., Chamberlain, J.S. and Campbell, K.P. Identification of α-Syntrophin Binding to Syntrophin Triplet, Dystrophin and Utrophin. *J. Biol. Chem*. *270*:4975-4978, 1995.

Guo, W. and Campbell, K.P. Association of Triadin with the Ryanodine Receptor and Calsequestrin in the Lumen of Sarcoplasmic Reticulum. *J. Biol. Chem*. *270*:9027-9030, 1995.

Gurnett, C.A., Kahl, S.D., Anderson, R.D. and Campbell, K.P. Absence of the Skeletal Muscle Sarcolemma Chloride Channel ClC-1 in Myotonic Mice. J*. Biol. Chem.* *270*:9035-9038, 1995.

Yang, B., Jung, D., Motto, D., Meyer, J., Koretzky, G. and Campbell, K.P. SH3 Domain-mediated Interaction of Dystroglycan and Grb2. *J. Biol. Chem*. *270*:11711-11714, 1995.

De Waard, M., Witcher, D.R., Pragnell, M., Liu, H. and Campbell, K.P. Properties of the α1-β Anchoring Site in Voltage-dependent Ca2+ Channels. *J. Biol. Chem*. *270*:12056-12064, 1995.

De Waard, M. and Campbell, K.P. Subunit Regulation of the Neuronal α1A Ca2+ Channel Expressed in *Xenopus* Oocytes. *J. Physiol*. *485.3*:619-634, 1995.

Piccolo, F., Roberds, S.L., Jeanpierre, M., Leturcq, F., Azibi, K., Beldjord, C., Carrié, A., Récan, D., Chaouch, M., Reghis, A., El Kerch, F., Sefiani, A., Voit, T., Merlini, L., Collin, H., Eymard, B., Beckmann, J.S., Romero, N., Tomé, F.M.S., Fardeau, M., Campbell, K.P. and Kaplan, J.-C. Primary Adhalinopathy: A Common Cause of Autosomal Recessive Muscular Dystrophy of Variable Severity. *Nature Genet*. *10*:243-345, 1995.

Sunada, Y., Bernier, S.M., Utani, A., Yamada, Y. and Campbell, K.P. Identification of a Novel Mutant Transcript of Laminin α2 Chain Gene Responsible for Muscular Dystrophy and Dysmyelination in *dy2J* mice. *Hum. Mol. Genet*. *4*:1055-1061, 1995.

Roberds, S.L. and Campbell, K.P. Adhalin mRNA and cDNA Sequence Are Normal in the Cardiomyopathic Hamster. *FEBS Lett.* *364*:245-249, 1995.

Kawai, H., Inui, T., Mitsui, T., Campbell, K.P., Shimizu, M. and Matsumura, K. Complete Deficiency of Adhalin (50kDa DAG) in Skeletal Muscle of Malignant Limb-girdle Muscular Dystrophy. *Clin. Neurol. 35*:184-189, 1995.

Cohen, M. W., Jacobson, C., Godfrey, E.W., Campbell, K.P. and Carbonetto, S. Distribution of α-Dystroglycan During Embryonic Nerve-Muscle Synaptogenesis. *J. Cell Biol*. *129*:1093-1101, 1995.

Fritz, J.D., Danko, I., Roberds, S.L., Campbell, K.P., Latendresse, J.S. and Wolff, J.A. Expression of Deletion-Containing Dystrophins in *mdx* Muscle: Implications for Gene Therapy and Dystrophin Function. *Pediatr. Res.* *37*:693-700, 1995.

Yamada, H., Tomé, F.M.S., Higuchi, I., Kawai, H., Azibi, K., Chaouch, M., Roberds, S.L., Tanaka, T., Fugita, S., Mitsui, T., Fukunaga, H., Miyoshi, K., Osame, M., Fardeau, M., Kaplan, J.-C., Shimizu, T., Campbell, K.P. and Matsumura, K. Laminin Abnormality in Severe Childhood Autosomal Recessive Muscular Dystrophy. *Lab. Invest. 72*:715-722, 1995.

Passos-Bueno, M.R., Moreira, E.S., Vainzof, M., Chamberlain, J., Marie, S.K., Pereira, L., Akiyama, J., Roberds, S.L., Campbell, K.P. and Zatz, M. A Common Missense Mutation in the Adhalin Gene in Three Unrelated Brazilian Families with a Relatively Mild Form of Autosomal Recessive Limb-Girdle Muscular Dystrophy. *Hum. Mol. Genet*. *4*:1163-1168, 1995.

Wells, D.J., Wells, K.E., Asante, E.A., Turner, G., Sunada, Y., Campbell, K.P., Walsh, F.S. and Dickson, G. Expression of Human Full-Length and Minidystrophin in Transgenic *mdx* Mice: Implications for Gene Therapy of Duchenne Muscular Dystrophy. *Hum. Mol. Genet*. *4*:1245-1250, 1995.

Durbeej, M., Larsson, E., Ibraghimov-Beskrovnaya, O., Roberds, S.L., Campbell, K.P. and Ekblom, P. Non-Muscle α-Dystroglycan Is Involved in Epithelial Development*. J. Cell Biol*. *130*:79-91, 1995.

Vater, R., Harris, J.B., Anderson, L.V.B., Roberds, S.L., Campbell, K.P. and Cullen, M.J. The Expression of Dystrophin-Associated Glycoproteins During Skeletal Muscle Degeneration and Regeneration. An Immunofluorescence Study. *J. Neuropathol. and Exp. Neurol*. *54*:557-569, 1995.

Witcher, D.R., De Waard, M., Liu, H., Pragnell, M. and Campbell, K.P. Association of Native Ca2+ Channel β Subunits with the α1 Subunit Interaction Domain. *J. Biol. Chem*. *270*:18088-18093, 1995.

Apel, E.D., Roberds, S.L., Campbell, K.P. and Merlie, J.P. Rapsyn May Function as a Link Between the Acetylcholine Receptor and the Agrin-binding Dystrophin-Associated Glycoprotein Complex. *Neuron 15*, 115-126, 1995.

Mills, K.A., Sunada, Y., Campbell, K.P. and Mathews, K.D. A Syntrophin Gene Maps to Mouse Chromosome 8 and Is Not the Myodystrophy Gene. *Mamm. Genome* *6*: 664-665, 1995.

Kawai, H., Akaike, M., Endo, T., Adachi, K., Inui, T., Mitsui, T., Kashiwagi, S., Fujiwara, T., Okuno, S., Shin, S., Miyoshi, K., Campbell, K.P., Yamada, K., Shimizu, T., Matsumura, K. and Saito, S. Adhalin Gene Mutations in Patients with Autosomal Recessive Childhood Onset Muscular Dystrophy with Adhalin Deficiency. *J. Clin. Invest*. *96*:1202-1207, 1995.

Lim, L.E., Duclos, F., Broux, O., Bourg, N., Sunada, Y., Allamand, V., Meyer, J., Richard, I., Moomaw, C., Slaughter, C., Tomé, F.M.S., Fardeau, M., Jackson, C.E., Beckmann, J.S. and Campbell, K.P. β-Sarcoglycan: Characterization and Role in Limb-Girdle Muscular Dystrophy Linked to 4q12. *Nature Genet*. *11*:257-265, 1995.

Jung, D., Yang, B., Meyer, J., Chamberlain, J.S. and Campbell, K.P. Identification and Characterization of the Dystrophin Anchoring Site on β-dystroglycan. *J. Biol. Chem*. *270*:27305-27310, 1995.

Sunada, Y., Edgar, T.S., Lotz, B.P., Rust, R.S. and Cambpell, K.P. Merosin-Negative Congenital Muscular Dystrophy Associated with Extensive Brain Abnormalities. *Neurol.* *45*:2084-2089, 1995.

Montanaro, F., Carbonetto, S., Campbell, K.P. and Lindenbaum, M. Dystroglycan Expression in the Wild Type and Mdx Mouse Neural Retina: Synaptic Colocalization With Dystrophin, Dystrophin-Related Protein but Not Laminin. *J. Neurosci. Res*. *45:*528-538, 1995.

Oexle, K., Herrmann, R., Dodé, C., Leturcq, F., Hübner, Ch., Kaplan, J.-C., Mizuno, Y., Ozawa, E., Campbell, K.P. and Voit, T. Neurosensory Hearing Loss in Secondary Adhalinopathy. *Neuropediatrics 27*:32-36, 1996.

Guo, W., Jorgensen, A.O., Jones, L.R. and Campbell, K.P. Biochemical Characterization and Molecular Cloning of Cardiac Triadin. *J. Biol. Chem*. *271*:458-465, 1996.

Fadic, R., Sunada, Y., Waclawik, A.J., Buck, S., Lewandoski, P.J., Campbell, K.P. and Lotz, B.P. Brief Report: Deficiency of a Dystrophin-Associated Glycoprotein (Adhalin) in a Patient with Muscular Dystrophy and Cardiomyopathy. *N. Engl. J. Med*. *334*:362-366, 1996.

Scott, V.E.S., De Waard, M., Liu, H., Gurnett, C.A., Venzke, D.P., Lennon, V.A. and Campbell, K.P. β Subunit Heterogeneity in N-Type Ca2+ Channels. *J. Biol. Chem*. *271*:3207-3212, 1996.

Gurnett, C.A., De Waard, M. and Campbell, K.P. Dual Function of the Voltage-Dependent Ca2+ Channel α2δ Subunit in Current Stimulation and Subunit Interaction. *Neuron* *16*:431-440, 1996.

Cullen, M.J., Walsh, J., Roberds, S.L. and Campbell, K.P. Ultrastructural Localization of Adhalin, α-Dystroglycan and Merosin in Normal and Dystrophic Muscle. *Neuropathol. Appl. Neurobiol*. *22*:30-37, 1996.

De Waard, M., Scott, V.E.S., Pragnell, M. and Campbell, K.P. Identification of Critical Amino Acids Involved in α1-β Interaction in Voltage-Dependent Ca2+ Channels. *FEBS Lett*. *380*:272-276, 1996.

Jung, D., Leturcq, F., Sunada, Y., Duclos, F., Tomé, F.M.S., Moomaw, C., Merlini, L., Azibi, K., Chaouch, M., Slaughter, C., Fardeau, M., Kaplan, J.-C. and Campbell, K.P. Absence of γ-Sarcoglycan (35 DAG) in Autosomal Recessive Muscular Dystrophy Linked to Chromosome 13q12. *FEBS Lett*. *381*, 15-20, 1996.

Morandi, L., Barresi, R., Di Blasi, C., Jung, D., Sunada, Y., Confalonieri, V., Dworzak, F., Mantegazza, R., Antozzi, C., Jarre, L.A., Pini, A., Gobbi, G., Bianchi, C., Cornelio, F., Campbell, K.P. and Mora, M. Clinical Heterogeneity of Adhalin Deficiency. *Ann. Neurol*. *39*:196-202, 1996.

Yamada, H., Chiba, A., Endo, T., Kobata, A., Anderson, L.V.B., Hori, H., Fukuta-Ohi, H., Kanazawa, I., Campbell, K.P., Shimizu, T. and Matsumura, K. Characterization of Dystroglycan-Laminin Interaction in Peripheral Nerve. *J. Neurochem*. *66*:1518-1524, 1996.

Salih, M.A.M., Mahdi, A.H., Al-Rikabi, A.C., Al-Bunyan, M., Roberds, S.L., Anderson, R.D. and Campbell, K.P. Clinical and Molecular Pathological Features of Severe Childhood Autosomal Recessive Muscular Dystrophy in Saudi Arabia. *Dev. Med. Child Neurol*. *38*:262-271, 1996.

Liu, H., De Waard, M., Scott, V.E.S., Gurnett, C.A., Lennon, V.A. and Campbell, K.P. Identification of Three Subunits of the High Affinity ω-Conotoxin MVIIC-Sensitive Ca2+ Channel. *J. Biol. Chem.* *271*:13804-13810, 1996.

Rafael, J.A., Cox, G.A., Corrado, K., Jung, D., Campbell, K.P. and Chamberlain, J.S. Forced Expression of Dystrophin Deletion Constructs Reveals Structure-Function Correlations. *J. Cell Biol*. *134*:93-102, 1996.

Jung, D., Duclos, F., Apostol, B., Straub, V., Lee, J.C., Allamand, V., Venzke, D.P., Sunada, Y., Moomaw, C.R., Leveille, C.J., Slaughter, C.A., Crawford, T.O., McPherson, J.D. and Campbell, K.P. Characterization of δ-Sarcoglycan, a Novel Component of the Oligomeric Sarcoglycan Complex Involved in Limb-Girdle Muscular Dystrophy. *J. Biol. Chem*. *271*:32321-32329, 1996.

Liu, H., Felix, R., Gurnett, C.A., De Waard, M., Witcher, D.R. and Campbell, K.P. Expression and Subunit Interaction of Voltage-Dependent Ca2+ Channels in PC12 Cells. *J. Neurosci.* *23*:7557-7565, 1996.

Tian, M., Jacobson, C., Gee, S.H., Campbell, K.P., Carbonetto, S. and Jucker, M. Dystroglycan in the Cerebellum is a Laminin-α2-chain Binding Protein at the Glial-Vascular Interface and is Expressed in Purkinje Cells. *Eur. J. Neurosci*. *8*:2739-2747, 1996.

Cartaud, A., Ludosky, M.A., Haasemann, M., Jung, D., Campbell, K. and Cartaud, J. Non-Neural Agrin Codistributes with Acetylcholine Receptors During Early Differentiation of *Torpedo* Electrocytes. *J. Cell Sci*. *109*:1837-1846, 1996.

Clemens, P.R., Kochanek, S., Sunada, Y., Chan, S., Chen, H.-H., Campbell, K.P. and Caskey, C.T. In Vivo Muscle Gene Transfer of Full-Length Dystrophin with an Adenoviral Vector that Lacks All Viral Genes. *Gene Ther*. *3*:965-972, 1996.

Piccolo, F., Jeanpierre, M., Leturcq, F., Dodé, C., Azibi, K., Toutain, A., Merlini, L., Jarre, L., Navarro, C., Krishnamoorthy, R., Tomé, F.M.S., Urtizberea, J.A., Beckmann, J.S., Campbell, K.P. and Kaplan, J.-C. A Founder Mutation in the γ-Sarcoglycan Gene of Gypsies Possibly Predating Their Migration out of India. *Hum. Mol. Gen*. *5*: 2019-2022, 1996.

Salih, M.A.M., Sunada, Y., Al-Nasser, M., Ozo, C.O., Al-Turaiki, M.H.S., Akbar, M. and Campbell, K.P. Muscular Dystrophy Associated with β-Dystroglycan Deficiency. *Ann. Neurol*. *40*:925-928, 1996.

Seidahmed, M.Z., Sunada, Y., Ozo, C.O., Hamid, F., Campbell, K.P. and Salih, M.A.M. Lethal Congenital Muscular Dystrophy in Two Sibs with Arthrogryposis Multiplex: New Entity or Variant of Cobblestone Lissencephaly Syndrome? *Neuropediatrics 27*:305-310, 1996.

Fahlke, C., Knittle, T., Gurnett, C.A., Campbell, K.P. and George, A.L., Jr. Subunit Stoichiometry of Human Muscle Chloride Channels. *J. Gen. Physiol*. *109*:93-104, 1997.

De Waard, M., Liu, H., Walker, D., Scott, V.E.S., Gurnett, C.A. and Campbell, K.P. Direct Binding of G-Protein βγ Complex to Voltage-Dependent Calcium Channels. *Nature 385*:446-450, 1997.

Durbeej, M., Jung, D., Hjalt, T., Campbell, K.P. and Ekblom, P. Transient Expression of Dp140, a Product of the Duchenne Muscular Dystrophy Locus, During Kidney Tubulogenesis. *Dev. Biol*. *181*:156-167, 1997.

Allamand, V., Sunada, Y., Salih, M.A.M., Straub, V., Ozo, C.O., Al-Turaiki, M.H.S., Akbar, M., Kolo, T., Colognato, H., Zhang, X., Sorokin, L.M., Yurchenco, P.D., Tryggvason, K. and Campbell, K.P. Mild Congenital Muscular Dystrophy in Two Patients with an Internally Deleted Laminin α2-Chain. *Hum. Mol. Genet.* *6*:747-752, 1997.

Carrié, A., Piccolo, F., Leturcq, F., de Toma, C., Azibi, K., Beldjord, C., Vallat, J-M, Merlini, L., Voit, T., Sewry, C., Urtizberea, J.A., Romero, N., Tomé, F.M.S., Fardeau, M., Sunada, Y., Campbell, K.P., Kaplan, J-C and Jeanpierre, M. Mutational Diversity and Hot Spots in the α-Sarcoglycan Gene in Autosomal Recessive Muscular Dystrophy (LGMD2D). *J. Med. Genet.* *34*:470-475, 1997.

Matsumura, K., Chiba, A., Yamada, H., Fukuta-Ohi, H., Fujita, S., Endo, T., Kobata, A., Anderson, L.V.B., Kanazawa, I., Campbell, K.P. and Shimizu, T. A Role of Dystroglycan in Schwannoma Cell Adhesion to Laminin. *J. Biol. Chem.* *272*:13904-13910, 1997.

Williamson, R.A., Henry, M.D., Daniels, K.J., Hrstka, R.F., Lee, J.C., Sunada, Y., Ibraghimov-Beskrovnaya, O. and Campbell, K.P. Dystroglycan is Essential for Early Embryonic Development: Disruption of Reichert’s Membrane in *Dag1*-Null Mice. *Hum. Mol. Genet*. *6*:831-841, 1997.

Eymard, B., Romero, N.B., Leturcq, F., Piccolo, F., Carrié, A., Jeanpierre, M., Collin, H., Deburgrave, N., Azibi, K., Chaouch, M., Merlini, L., Thémar-Noël, C., Penisson, I., Mayer, M., Tanguy, O., Campbell, K.P., Kaplan, J.-C., Tomé, F.M.S. and Fardeau, M. Primary Adhalinopathy (α-Sarcolgycanopathy): Clinical, Pathologic and Genetic Correlation in 20 Patients with Autosomal Recessive Muscular Dystrophy. *Neurology* *48*:1227-1234, 1997.

Gurnett, C.A., Felix, R. and Campbell, K.P. Extracellular Interaction of the Voltage-dependent Ca2+ Channel α2δ and α1 Subunits. *J. Biol. Chem*. *272*:18508-18512, 1997.

Felix, R., Gurnett, C.A., De Waard, M. and Campbell, K.P. Dissection of Functional Domains of the Voltage-Dependent Ca2+ Channel α2δ Subunit. *J. Neurosci*. *17*:6884-6891, 1997.

Straub, V., Rafael, J.A., Chamberlain, J.S. and Campbell, K.P. Animal Models for Muscular Dystrophy Show Different Patterns of Sarcolemmal Disruption. *J. Cell Biol.* *139*:375-385, 1997.

Dinçer, P., Leturcq, F., Richard, I., Piccolo, F., Yalnizoglu, D., de Toma, C., Akçören, Z., Broux, O., Deburgrave, N., Brenguier, L, Roudant, C., Urtizberea, J.A., Jung, D., Tan, E., Jeanpierre, M., Campbell, K.P., Kaplan, J.-C., Beckmann, J.S. and Topaloglu, H. A Biochemical, Genetic and Clinical Survey of Autosomal Recessive Limb Girdle Muscular Dystrophies in Turkey. *Ann. Neurol*. *42*:222-229, 1997.

Bies, R.D., Maeda, M., Roberds, S.L., Holder, E., Bohlmeyer, T., Young, J.B. and Campbell, K.P. A 5' Dystrophin Duplication Mutation Causes Membrane Deficiency of α-Dystroglycan in a Family with X-linked Cardiomyopathy. *J. Mol. Cell Cardiol.* *29*:3175-3188, 1997.

Crosbie, R.H., Heighway, J., Venzke, D.P., Lee, J.C. and Campbell, K.P. Sarcospan, the 25-kDa Transmembrane Component of the Dystrophin-Glycoprotein Complex. *J. Biol. Chem*. *272*:31221-31224, 1997.

Walker, D., Bichet, D., Campbell, K.P. and De Waard, M. A β4 Isoform-specific Interaction Site in the Carboxyl-terminal Region of the Voltage-dependent Ca2+ α1 Subunit. *J. Biol. Chem.* *273*:2361-2367, 1998.

Scott, V.E.S., Felix, R., Arikkath, J. and Campbell, K.P. Evidence for a 95 kDa Short Form of the α1A Subunit Associated with the ω-Conotoxin MVIIC Receptor of the P/Q-type Ca2+ Channels. *J. Neurosci*. *18*:641-647, 1998.

Bahls, F.H., Lartius, R., Trudeau, L.-E., Doyle, R.T., Fang, Y., Witcher, D., Campbell, K.P. and Haydon, P.G. Contact-Dependent Regulation of N-type Calcium Channel Subunits During Synaptogenesis. *J. Neurobiol.* *35*:198-208, 1998.

Duclos, F., Broux, O., Bourg, N., Straub, V., Feldman, G., Sunada, Y., Lim. L.E., Piccolo, F., Cutshall, S., Gary, F., Quetier, F., Kaplan, J.-C., Jackson, C.E., Beckmann, J.S. and Campbell, K.P β-Sarcoglycan: Genomic Analysis and Identification of a Novel Missense Mutation in the LGMD2E Amish Isolate. *Neuromusc. Disord*. *8*:30-38, 1998.

Crosbie, R.H., Straub, V., Yun, H.Y., Lee, J.C., Rafael, J.A., Chamberlain, J.S., Dawson, V.L., Dawson, T.M. and Campbell, K.P. *mdx* Muscle Pathogenesis is Independent of nNOS Perturbation. *Hum. Mol. Genet.* *7*:823-829, 1998.

Crosbie, R.H., Yamada, H., Venzke, D.P., Lisanti, M.P. and Campbell, K.P. Caveolin-3 is Not an Integral Component of the Dystrophin-Glycoprotein Complex. *FEBS Lett.* *427*:279-282, 1998.

Holt, K.H., Lim, L.E., Straub, V., Venzke, D.P., Duclos, F., Anderson, R.D., Davidson, B.L. and Campbell, K.P. Functional Rescue of the Sarcoglycan Complex in the BIO 14.6 Hamster Using δ-Sarcoglycan Gene Transfer. *Mol. Cell* *1*:841-848, 1998.

Durbeej, M., Henry, M.D., Ferletta, M., Campbell, K.P. and Ekblom, P. Distribution of Dystroglycan in Normal Adult Mouse Tissues. *J. Histochem. Cytochem.* *46*:449-457, 1998.

Ding, J.M., Buchanan, G.F., Faiman, L., Tischkau, S.A., McPherson, P., Campbell, K.P. and Gillette, M.U. A Neuronal Ryanodine Receptor Mediates Light-Induced Phase Delays of the Circadian Clock. *Nature 394*:381-384, 1998.

Letts, V.A., Felix, R., Biddlecome, G.H., Arikkath, J., Mahaffey, C.L., Valenzuela, A., Bartlett II, F.S., Mori, Y., Campbell, K.P. and Frankel, W.N. The Mouse Stargazer Gene Encodes a Neuronal Ca2+ Channel γ Subunit. *Nature Genet.* *19*:340-347, 1998

Duclos, F., Straub, V., Moore, S.A., Venzke, D.P., Hrstka, R.F., Crosbie, R.H., Durbeej, M., Lebakken, C. S., Ettinger, A. J., Meulen, J.V.D., Holt, K. H., Lim, L. E, Sanes, J. R. Davidson, B. L., Faulkner, J. A., Williamson, R. and Campbell, K. P. Progressive Muscular Dystrophy in α-Sarcoglycan Deficient Mice*. J. Cell Biol. 142*:1461-1471, 1998.

Straub, V., Duclos, F., Venzke, D.P., Lee, J.C., Cutshall, S., Leveille, C.J. and Campbell, K.P. Molecular Pathogenesis of Muscle Degeneration in the δ–Sarcoglycan-Deficient Hamster. *Am. J. of Pathol*. *153*:623-1630, 1998.

Rambukkana, A., Yamada, H., Salzer, J.L., Zanazi, G., Yurchenco, P.D., Campbell, K.P. and Fischetti, V.A. Role of α-dystroglycan as a Schwann Cell Receptor for Mycobacterium Leprae. *Science 282*:2076-2079, 1998.

Cao, W., Henry, M.D., Borrow, P., Yamada, H., Elder, J.H., Ravkov, E.V., Nichol, S.T., Compans, R.W., Campbell, K.P. and Oldstone, M.B.A. Identification of α–dystroglycan as a Receptor for Lymphocytic Choriomeningitis Virus and Lassa Fever Virus. *Science* *282*: 2079-2081, 1999.

Henry, M.D. and Cambpell, K.P. A Role for Dystroglycan in Basement Membrane Assembly. *Cell 95*:859-870, 1998.

Holt, K.H. and Campbell, K.P. Assembly of the Sarcoglycan Complex: Insights for Muscular Dystrophy. *J. Biol. Chem.* *273*:34667-34670, 1998.

Salih, M.A.M., Al Rayess, M., Cutshall, S., Urtizberea, J.A., Al-Turaiki, M.H.S., Ozo, C.O., Straub, V., Akbar, M., Abid, M., Andeejani, A. and Campbell, K.P. A Novel Form of Late Onset Familial Congenital Muscular Dystrophy. *Neuropediatrics 29*:289-93, 1998.

Dinsmore, A.J., Rees-Blanchard, W., Bentley, P., Lewis, T., Kahl, S.D., Mullinnix, M.J., Campbell, K.P. and Earley, F.G.P. Characterization of Antibody Models of the Ryanodine Receptor for Use in High Throughput Screening and Ligand Design. *Pestic. Sci. 54*:345-52, 1998.

Brown, S.C., Fassati, A., Popplewell, L., Page, A.M., Henry, M.D., Campbell, K.P. and Dickson, G. Dystrophic Phenotype Induced in Vitro by Antibody Blockade of Muscle α-dystroglycan-laminin Interaction. *J. Cell Sci*. *112*:209-216, 1999.

Crosbie, R.H., Lebakken, C.S., Holt, K.H., Venzke, D.P., Straub, V., Lee, J.C., Grady, R.M., Chamberlain, J.S., Sanes, J.R., and Campbell, K.P. Membrane Targeting and Stabilization of Sarcospan is Mediated by the Sarcoglycan Subcomplex. *J. Cell Biol*. *145*:153-165, 1999.

Badorff, C., Lee, G-H., Lamphear, B.J., Martone, M.E., Campbell, K.P., Rhoads, R.E., Knowlton, K.U. Enteroviral Protease 2A Cleaves Dystrophin: Evidence of Cytoskeletal Disruption in an Acquired Cardiomyopathy. *Nat. Med.* *5*:320-326, 1999.

Burgess, D.L., Biddlecome, G.H., McDonough, S.I., Diaz, M.E., Zilinski, C.A., Bean, B.P., Campbell, K.P., and Noebels, J.L. β Subunit Reshuffling Modifies N- and P/Q-type Ca2+ Channel Subunit Compositions in Lethargic Mouse Brain. *Mol. Cell Neurosci.* *13*:293-311, 1999.

Johnston, J.C., Gasmi, M., Lim, L.E., Elder, J.H., Yee, J.K., Jolly, D.J., Campbell, K.P., Davidson, B.L. and Sauter, S.L. Minimum Requirements for Efficient Transduction of Dividing and Nondividing Cells by Feline Immunodeficiency Virus Vectors. *J. Virol.* *73*:2491-2498, 1999.

Coral-Vazquez, R., Cohn, R.D., Moore, S.A., Hill, J.A., Weiss, R.M., Davisson, R.L., Straub, V., Barresi, R., Bansal, D., Hrstka, R.F., Williamson, R. and Campbell, K.P. Disruption of the Sarcoglycan-Sarcospan Complex in Vascular Smooth Muscle: A Novel Mechanism for Cardiomyopathy and Muscular Dystrophy. *Cell* *98*: 465-474, 1999.

Durbeej, M. and Campbell, K.P. Biochemical Characterization of the Epithelial Dystroglycan Complex. *J. Biol. Chem*. *274*:26609-26616, 1999.

Straub, V., Ettinger, A. J., Durbeej, M., Venzke, D.P., Cutshall, S., Sanes, J. and Campbell, K.P. ε-Sarcoglycan Replaces α-Sarcoglycan in Smooth Muscle to Form a Unique Dystrophin-Glycoprotein Complex. *J. Biol. Chem.* *274*:27989-28002, 1999.

Leschiziner, A., Moukhles, H., Lindenbaum, M., Gee, S.H., Butterworth, J., Campbell, K.P. and Carbonetto, S. Neural Regulation of α-Dystroglycan Biosynthesis and Glycosylation in Skeletal Muscle. *J Neurochem*. *74*:70-80, 2000.

Durbeej, M., Cohn, R.D., Hrstka, R.F., Moore, S.A., Allamand, V., Davidson, B.L. Williamson, R.A. and Campbell, K.P. Disruption of the β-Sarcoglycan Gene Reveals Pathogenetic Complexity of Limb-Girdle Muscular Dystrophy Type 2E. *Mol. Cell* *5*:141-151, 2000.

Lebakken, C.S., Venzke, D.P., Hrstka, R.F., Consolino, C., Faulkner, J.A., Williamson, R.A., Campbell, K.P. Sarcospan Deficient Mice Maintain Normal Muscle Function. *Mol. Cell Biol*. *20*:1669-1677, 2000.

#### Flanigan, K.M., Kerr, L., Bromberg, M.B., Leonard, C., Tsuruda, J., Zhang, P.,Gonzalez-Gomez, I., Cohn, R., Campbell, K.P. and Leppert, M. Congenital Muscular Dystrophy with Rigid Spine Syndrome: A Clinical, Pathological, Radiological, and Genetic Study. *Ann. Neurol. 47*:152-161, 2000.

Holt, K.H., Crosbie, R.H., Venzke, D.P. and Campbell, K.P. Biosynthesis of Dystroglycan: Processing of a Precursor Propeptide. *FEBS Lett*. *468*:79-83, 2000.

Grady, R.M., Zhou, H., Cunningham, J.M., Henry, M.D., Campbell, K.P. and Sanes, J.R. Maturation and Maintenance of the Neuromuscular Synapse: Genetic Evidence for Roles of the Dystrophin-Glycoprotein Complex. *Neuron*. *25*:279-293, 2000.

Ertel, E.A., Campbell, K.P., Harpold, M.M., Hofmann, F., Mori, Y., Perez-Reyes, E., Schwartz, A., Snutch, T.P., Tanabe, T., Birnbaumer, L., Tsien, R.W. and Catterall, W.A. Nomenclature of Voltage-Gated Calcium Channels. *Neuron 25*, 533-535, 2000.

Crosbie, R.H., Lim, L.E., Moore, S.A., Hirano, M., Hays, A.P., Maybaum, S.W., Collin, H., Dovico, S.A., Stolle, C.A., Fardeau, M., Tomé, F.M.S. and Campbell, K.P. Molecular and Genetic Characterization of Sarcospan: Insights into Sarcoglycan-Sarcospan Domains. *Hum. Mol. Genet*. *9*:2019-2027, 2000.

Allamand, V., Donahue, K.M., Straub, V., Davisson, R.L., Davidson, B.L. and Campbell, K.P. Early Adenoviral-Mediated Gene Transfer Effectively Prevents Muscular Dystrophy in Αlpha-Sarcoglycan-Deficient Mice. *Gene Ther*. *7*:1385-1391, 2000.

Crawford, G.E., Faulkner, J.A., Crosbie, R.H., Campbell, K.P., Froehner, S.C. and Chamberlain, J.S. Assembly of the Dystrophin Associated Protein Complex Does Not Require the Dystrophin C-Terminal Domain. *J. Cell Biol*. *18:*1399-1410, 2000.

Straub, V., Donahue, K.M., Allamand, V., Davisson, R.L., Kim, Y.R. and Campbell, K.P. Contrast Agent-Enhanced Magnetic Resonance Imaging of Skeletal Muscle Damage in Animal Models of Muscular Dystrophy. *Magn. Reson. Med.* *44*:655-659, 2000.

Barresi, R., Moore, S.A., Stolle, C.A., Mendell, J. and Campbell, K.P. Expression of γ-Sarcoglycan in Smooth Muscle and Its Interaction with the Smooth Muscle Sarcoglycan-Sarcospan Complex. *J. Biol. Chem*. *275*: 38554-38560, 2000.

Heathcote, D.R., Ekman, J.M., Campbell, K.P. and Godfrey, E.W. Dystroglycan Overexpression *In Vivo* Alters Acetylcholine Receptor Aggregation at the Neuromuscular Junction. *Dev. Biol*. *227*, 595-605, 2000.

Sevilla, N., Kunz, S. Holz, A., Lewicki, H., Homman, D., Yamada, H., Campbell, K.P., de la Torre, J.C. and Oldstone, M.B.A. Immunosuppression and Resultant Viral Persistence by Specific Viral Targeting of Dendritic Cells. *J. Exp. Med*. *192*:1249-1260, 2000.

Piccolo, F., Moore, S.A., Ford, G.C. and Campbell, K.P. Intracellular Accumulation and Reduced Sarcolemmal Expression of Dysferlin in Limb-Girdle Muscular Dystrophies. *Ann. Neurol.* *48(6)*:902-12, 2000.

Smelt, S.C., Borrow, P., Kunz, S., Cao, W., Tishon, A., Lewicki, H., Campbell K.P. and Oldstone, M.B.A. Differences in Affinity of Binding of Lymphocytic Choriomeningitis Virus Strains to the Cellular Receptor α-Dystroglycan Correlate with Viral Tropism and Disease Kinetics. *J. Virol*. *75*:448-457, 2000.

Cohn, R.D., Durbeej, M., Moore, S.A., Coral-Vazquez, R., Prouty, S. and Campbell, K.P. Prevention of the Cardiomyopathic Phenotype in Genetic Mouse Models with Absence of the Smooth Muscle Sarcoglycan-Sarcospan Complex. *J. Clin. Invest*. *107*:R1-R7, 2001.

Henry, M.D., Satz, J.S., Brakebusch, C., Costell, M., Gustaffson, E., Fässler, R. and Campbell, K.P. Distinct Roles for Dystroglycan, β1 Integrin, and Perlecan in Cell Surface Laminin Organization. *J. Cell Sci*. *114*:1137-44, 2001.

Ahern, C., Arikkath, J., Vallejo, P., Gurnett, C.A., Powers, P., Campbell, K.P. and Coronado, R. Intramembrane Charge Movements and Excitation-Contraction Coupling Expressed by Two-Domain Fragments of Ca2+ Channel. *Proc. Natl. Acad. Sci. U.S.A. 5(12)*:6935-6940, 2001.

Sugita, S., Saito, F., Tang, J., Satz, J., Campbell, K.P. and Sudhof, T.C. A Stoichiometric Complex of Neurexins and Dystroglycan in Brain. *J. Cell Biol*. *154*:435-446, 2001.

Ahern, C.A., Powers P.A., Biddlecome, G.H., Vallejo, P., Mortenson, L., Strube, C., Campbell, K.P., Coronado, R. and Gregg R.G. Modulation of the L-Type Ca2+ Current but Not Excitation-Contraction Coupling by the γ1 Subunit of the Dihydropyridine Receptor of Skeletal Muscle*. BMC Physiol.* *1:8*, 2001.

Kang, M.G., Chen, C.C., Felix, R., Letts, V.A., Frankel, W.N., Mori, Y. and Campbell, K.P. Biochemical and Biophysical Evidence for γ2 Subunit Association with Neuronal Voltage-gated Ca2+ Channels. *J. Biol. Chem.* *276(35)*,32917-32924, 2001.

Henry, M., Cohen, M.B. and Campbell, K.P. Reduced Expression of Dystroglycan in Breast and Prostate Cancer. *Hum. Pathol*. *32(8)*:791-795, 2001.

Kunz, S., Sevilla, N., Campbell, K.P. and Oldstone, M.B.A Molecular Analysis of the Interaction of LCMV with Its Cellular Receptor α-Dystroglycan. *J. Cell Biol*. *155* :301-310, 2001.

Durbeej, M., Talts, J., Henry, M., Yurchenco, P., Campbell, K.P. and Ekblom, P. Dystroglycan Binding to Laminin α1LG4 Module Influences Epithelial Morphogenisis of Salivary Gland and Lung *In Vitro*. *Differentiation* *69*:121-134, 2001.

Spiropoulou, C.F., Kunz, S., Rollin, P.E., Campbell, K.P. and Oldstone, M.B.A. New World Arenavirus Clade C, but Not Clade A and B Viruses, Utilize α-Dystroglycan as its Major Receptor. *J. Virol*. *76(10)*: 5140-5146, 2002.

Levi, S., Grady, R.M., Henry, M.D., Campbell, K.P., Sanes, J.R. and Craig, A.M. Dystroglycan Is Selectively Associated with Inhibitory Garbaergic Synapses but Dispensable for their Differentiation. *J. Neurosci*. *22*: 4274-4285, 2002.

Crosbie, R.H., Dovico, S.A., Flangan, J., Chamberlain, J.S., Ownby, C.L. and Campbell, K.P. Characterization of Aquaporin-4 in Muscle and Muscular Dystrophy. *FASEB* *J.16*: 943-949, 2002.

Moore, S.A., Saito, F., Chen, J., Michele, D.E., Henry, M., Messing, A., Cohn, R.D., Barta, S.R., Westra, S., Williamson, R., Hoshi, T. and Campbell, K.P. Deletion of Brain Dystroglycan Recapitulates Aspects of Congenital Muscular Dystrophy. *Nature 418*: 422-425, 2002.

Michele, D.E., Barresi, R., Kanagawa, M., Saito, F., Cohn, R.D., Satz, J.S., Dollar, H., Nishino, I., Kelley, R.I., Somer, H., Straub, V., Mathews, K.D., Moore, S.A. and Campbell, K.P. Post-translational Disruption of Dystroglycan-Ligand Interactions in Congenital Muscular Dystrophies. *Nature* *418(6896)*: 417-422, 2002.

Cohn, R.D., Henry, M.D., Michele, D.E., Barresi, R., Saito, F., Moore, S.A., Flanagan, J.D., Skwarchuk, M.W., Robbins, M.E., Mendell, J.R., Williamson, R.A. and Campbell, K.P. Disruption of *Dag1* in Differentiated Skeletal Muscle Reveals a Role for Dystroglycan in Muscle Regeneration. *Cell* *110*: 639-648, 2002.

Kang, M., Felix, R. and Campbell, K.P. Long-term Regulation of Voltage-Gated Calcium Channels by Gabapentin. *FEBS Lett.* *528*: 177-182, 2002.

Crosbie, R.H., Barresi, R. and Campbell, K.P. Loss of Sarcolemma nNOS in Sarcoglycan-Deficient Muscle. *FASEB J. 16:* 1786-1791, 2002.

Muschler, J., Levy, D., Boudreau, R., Henry, M., Campbell, K.P. and Bissel, M.J. A Role for Dystroglycan in Epilthelial Polarization: Loss of Function in Breast Tumor Cells. *Cancer Res.* *62*: 7102-7109, 2002.

Arikkath, J., Chen, C., Ahern, C., Allamand, V., Flanagan, J., Coronado, R., Gregg, R. and Campbell, K.P. γ1 **Subunit Interactions Within the Skeletal Muscle L-type Voltage Gated Calcium Channels.** *J. Biol.**Chem*. *278*: 1212-1219, 2003.

Arikkath, J., Felix, R., Ahern, C., Chen, C.C., Song, I., Shin, H., Coronado, R. and Campbell, K.P. Molecular Characterization of a Two-Domain Form of the Neuronal Voltage-Gated P/Q Type Calcium Channel α12.1 Subunit. *FEBS Lett*. *532:* 3, 261-468, 2002.

Bansal, D., Miyake, K., Vogel, S.S., Groh, S., Chen, C.C., Williamson, R., McNeil, P.L. and Campbell, K.P. Defective Membrane Repair in Dysferlin-Deficient Muscular Dystrophy. *Nature* *423(6936):*168-172, 2003.

Ferletta, M., Kikkawa, Y., Yu, H., Talts, J.F., Durbeej, M., Sonnenberg, A. Timpl, R., Campbell, K.P., Ekblom, P. and Genersch, E. Opposing Roles of Integrin α6Aβ1 and Dystroglycan in Laminin-mediated Extracellular Signal-regulated Kinase Activation. *Mol. Biol. Cell* *14(5):* 2088-2103, 2003.

Saito, F., Moore, S.A., Barresi, R., Henry, M.D., Messing, A., Ross-Barta, S.E., Cohn, R.D., Williamson, R.A., Sluka, K.A., Sherman, D.L., Brophy, P.J., Schmelzer, J.D., Low, P.A., Wrabetz, L., Fletri, M.L. and Campbell, K.P. Unique Role of Dystroglycan in Peripheral Nerve Myelination, Nodal Structure, and Sodium Channel Stabilization. *Neuron 38(5)*:747-758, 2003.

Durbeej, M., Sawatzki, S.M., Barresi, R., Schmainda, K.M., Allamand, V., Michele, D.E. and Campbell, K.P. Gene Transfer Establishes Primacy of Striated Versus Smooth Muscle Sarcoglycan Complex in Limb-Girdle Muscular Dystrophy. *Proc. Natl. Acad. Sci. U.S.A. 100(15)*:8910-8915, 2003.

Sampaolesi, M. Torrente, Y., Innocenzi, A., Tonlorenzi, R., D’Antona, G., Pellegrino, M.A., Barresi, R., Bresolin, N., Cusella de Angelis, M.G., Campbell, K.P., Bottinelli, R. and Cusso, G. Cell Therapy of Alpha-Sarcoglycan Null Dystrophic Mice Through Intra-Arterial Delivery of Mesoangioblasts. *Science 301(5632)*: 487-492, 2003.

Letts, V.A., Kang, M.-G., Mahaffey, C.L., Beyer, B., Tenbrink, H., Campbell, K.P. and Frankel, W.N. Phenotypic Heterogeneity in the Stargazin Allelic Series. *Mamm. Genome* *14(8)*: 506-513, 2003.

Chen, C.C., Lamping, K.G., Nuno, D.W., Barresi, R., Prouty, S.J., Lavoie, J.L., Cribbs, L.L., England, S.K., Sigmund, C.D., Weiss, R.M., Williamson, R.A., Hill, J.A. and Campbell, K.P. Abnormal Coronary Function in Mice Deficient in α1H T-type Ca2+ Channels. *Science 302(5649)*:1416-1418, 2003.

Murakami, M., Yamamura, H., Suzuki, T., Kang, M.-G., Ohya, S., Murakami, A., Miyoshi, I., Sasano, H., Muraki, K., Hano, T., Kasai, N., Nakayama, S., Campbell, K.P., Flockerzi, V., Imaizumi, Y., Yanagisawa, T., Yanagisawa, T. and Iijima, T. Modified Cardiovascular L-Type Channels in Mice Lacking the β3 Subunit of the Voltage-Dependent Ca2+ Channel. *J. Biol. Chem.* *278(44)*: 43261-43267, 2003.

Rambukkana, A., Kunz, S., Min, J., Campbell, K.P. and Oldstone, M.B.A. Targeting gene Cells by Nonlytic Arenaviral Infection Selectively Inhibits Myelination. *Proc. Natl. Acad. Sci. U.S.A.* *100(26)*:16071-16076, 2003.

Opatowsky, Y., Chomsky-Hecht, O., Kang, M.-G., Campbell, K.P. and Hirsch, J.A. The Voltage-Dependent Calcium Channel β Subunit Contains Two Stable Interacting Domains. *J. Biol. Chem.* *278(52)*: 52323-52332, 2003.

Kunz, S., Campbell, K.P. and Oldstone, M.B.A. Alpha-Dystroglycan Can Mediate Arenavirus Infection in the Absence of Beta-Dystroglycan. *Virology 316(2)*: 213-220, 2003.

Yurchenco, P.D., Cheng, Y-S., Campbell, K.P. and Li, S. Loss of Basement Membrane, Receptor and Cytoskeletal Lattices in a Laminin-Deficient Muscular Dystrophy. *J. Cell Sci*. *117(5)*: 735-742, 2004.

Kim, D.-S., Hayashi, Y.K., Matsumoto, H., Ogawa, M., Noguchi, S., Murakami, N, Sakuta, R., Mochizuki, M., Michele, D.E., Campbell, K.P., Nonaka, I. and Nishino, I. *POMT1* Mutation Results In Defective Glycosylation and Loss of Laminin-Binding Activity in α-Dystroglycan. *Neurology 62(6):* 1009-1011, 2004.

Opatowsky, Y., Chen, C.C., Campbell, K.P. and Hirsch, J.A. Structural Analysis of the Voltage-dependent Calcium Channel β Subunit Functional Core and its Complex with the α1 Interaction Domain. *Neuron 42(3)*: 387-399, 2004.

Kanagawa, M., Saito, F., Kunz, S., Yoshida-Moriguchi, T., Barresi, R., Kobayashi, Y.M., Muschler, J., Dumanski, J.P., Michele, D.E., Oldstone, M.B.A. and Campbell, K.P. Molecular Recognition by LARGE is Essential for Expression of Functional Dystroglycan. *Cell 117(7)*: 953-964, 2004.

Barresi, R., Michele, D.E., Kanagawa, M., Harper, H.A., Dovico, S.A., Satz, J.S., Moore, S.A., Zhang, W., Schachter, H., Dumanski, J.P., Cohn, R.D., Nishino, I. and Campbell, K.P. LARGE Can Functionally Bypass α-Dystroglycan Glycosylation Defects in Distinct Congenital Muscular Dystrophies. *Nature Med. 10(7):* 696-703, 2004.

**Singh, J., Itahana, Y., Knight-Krajewski, S., Kanagawa, M., Campbell, K.P., Bissell, M.J. and Muschler, J.** Proteolytic Enzymes and Altered Glycosylation Modulate Dystroglycan Function in Carcinoma Cells. *Cancer Res.* *64(17)*: 6152-6159, 2004.

Kikkawa, Y., Yu, H., Genersch, E., Sanzen, N., Sekiguchi, K., Fassler, R., Campbell, K.P., Talts, J.F. and Ekblom, P. Laminin Isoforms Differentially Regulate Adhesion, Spreading, Proliferation and ERK Activation of β1 Integrin-Null Cells. *Exp. Cell Res.* *300*: 94-108, 2004.

Kanagawa, M. and Campbell, K.P. Dystroglycan Posttranslational Modification by LARGE and Congenital Muscular Dystrophy. *Zikkenigaku 22(15)*: 2171-2173, 2004.

Kanagawa, M. and Campbell, K.P. α-Dystroglycanopathy and LARGE. *Med. Sci. Digest* *30(12)*: 491-494, 2004.

Saito, F., Matsumura, K. and Campbell, K.P. Function of Dystroglycan in the Nervous System. *Tanpakushitsu Kakusan Koso.* *49(15)*: 2437-2444, 2004.

Huang, H., Sylvan, J., Jonas, M., **Barresi**, R., So, P.T.C., Campbell, K.P. and Lee, R.T. **Cell Stiffness and Receptors: Evidence for Cytoskeletal Subnetworks.** *Am. J. Physiol. Cell Physiol*. *288*: C72-C80, 2005.

Saito, F., Blank, M., Schroder, J., Manya, H., Shimizu, T., Campbell, K.P., Endo, T., Mizutani, M., Kroger, S. and Matsumura. Aberrant Glycosylation of α-dystroglycan causes Defective Binding of Laminin in the Muscle of Chicken Muscular Dystrophy. *FEBS Lett. 579*: 2359-2363, 2005.

Jones, J.C.R., Lane, K., Hopkinson, S.B., Lecuona, E., Geiger, R.C., Dean, D.A., Correa-Meyer, E., Gonzales, M., Campbell, K.P., Sznajder, J.I. and Budinger, S. Laminin-6 Assembles into Multimolecular Fibrillar Complexes with Perlecan and Participates in Mechanical-signal Transduction via a Dystroglycan-dependent, Integrin-independent Mechanism. *J Cell Sci. 118(2)*: 2557-2566, 2005.

Vogtlander, N.P.J., Dijkman, H., Bakker, M.A.H., Campbell, K.P. and van der Vlag, J., Berden, J.H.M. Localization of alpha-dystroglycan on the Podocyte: From Top to Toe. *J. Histochem. Cytochem. 53*:1345-53, 2005.

Consolino, C.M., Duclos, F., Lee, J., Williamson, R.A., Campbell, K.P. and Brooks, S.V. Muscles of Mice Deficient in α-sarcoglycan Maintain Large Masses and Near Control Force Values Throughout the Life Span. *Physiol. Genomics 22*:244-256, 2005.

Matsumoto, H., Hayashi, Y.K., Kim, D., Ogawa, M., Murakami, T., Noguchi, S., Nonaka, I., Nakazawa, T., Matsuo, T., Futagami, S., Campbell, K.P. and Nishino, I. Congenital Muscular Dystrophy with Glycosylation Defects of α-dystroglycan in Japan. *Neuromusc. Disord. 15*: 342-348, 2005.

Nakagawa, O., Arnold M., Nakagawa M., Hamada H., Shelton J.M., Kusano H., Harris T.M., Childs G., Campbell K.P., Richardson J.A., Nishino I. and Olson E.N. Centronuclear Myopathy in Mice Lacking a Novel Muscle-specific Protein Kinase Transcriptionally Regulated by MEF2. *Genes Dev. 19*: 2066-2077, 2005.

Kanagawa, M., Michele, D.E., Satz, J. S., Barresi, R., Kusano, H., Sasaki, T., Timpl, R., Henry, M.D. and Campbell, K.P. Disruption of Perlecan Binding and Matrix Assembly by Post-Translational or Genetic Disruption of Dystroglycan Function. *FEBS Lett. 579*: 4792-4796, 2005.

Occhi, S., Zambroni, D., Del Carro, U., Amadio, S., Sirkowski, E.E., Scherer, S.S., Campbell, K.P., Moore, S.A., Chen, Z.-L., Strickland, S., Di Muzio, A., Uncini, A., Wrabetz, L. and Feltri, M.L. Both Laminin and Schwann Cell Dystroglycan are Necessary for Proper Clustering of Sodium Channels at Nodes of Ranvier. *J. Neurosci. 25*: 9418-9427, 2005.

Kunz, S., Rojek, J.M., Kanagawa, M., Spiropoulou, C.F., Barresi, R., Campbell, K.P. and Oldstone, M.B. Posttranslational Modification of Alpha-dystroglycan, the Cellular Receptor for Arenaviruses, by the Glycosyltransferase LARGE is Critical for Virus Binding. *J. Virol. 79*: 14282-96, 2005.

**Turk R., Sterrenburg E., van der Wees C.G.C., de Meijer E.J., de Menezes R.X., Groh S., Campbell K.P., Noguchi S., van Ommen G.J.B., den Dunnen J.T. and ‘t Hoen P.A.C.** Common Pathological Mechanisms in Mouse Models for Muscular Dystrophies. *FASEB J. 20(1)*: 127-9, 2006.

Kang M-G., Chen C.C., Wakamori M., Hara Y., Mori Y. and Campbell K.P. A Functional AMPA Receptor-calcium Channel Complex in the Postsynaptic Membrane. *Proc. Natl. Acad. Sci. U.S.A. 103(14)*: 5561-5566, 2006.

Mehes, E, Czirok, A, Hegedus, B, Szabo, B, Vicsek, T, Satz, J, Campbell, K.P. and Jancsik, V. Dystroglycan is Involved in Laminin-1-Stimulated Motility of Muller Glial Cells: Combined Velocity and Directionality Analysis. *Glia 49(4)*: 492-500, 2005.

Vogtlander, N.P., Tamboer, W.P., Bakker, M.A., Campbell, K.P., van der Vlag J. and Berden, J.H. Reactive Oxygen Species Deglycosilate Glomerular Alpha-Dystroglycan. *Kidney Int.* *69(9)*:1526-34, 2006.

Murakami, T., Hayashi, Y.K., Noguchi, S., Ogawa, M., Nonaka, I., Tanabe, Y., Ogino, M., Takada, F., Eriguchi, M., Kotooka, N., Campbell, K.P., Osawa, M. and Nishino, I. Fukutin Gene Mutations cause Dilated Cardiomyopathy with Minimal Muscle Weakness. *Ann. Neurol*. *60(5)*:597-602, 2006.

Choi, S., Na, H.S., Kim, J., Lee, J., Lee, S., Kim, D., Park, J., Chen, C.C., Campbell, K.P. and Shin, H-S. Attenuated Pain Responses in Mice Lacking Cav3.2T-type Channels. *Genes Brain Behav*. *6(5)*:1742-1749, 2006.

Bhosle, R.C., Michele, D.E., Campbell, K.P., Lic, Z. and Robson, R.M. Interactions of Intermediate Filament Protein Synemin with Dystrophin and Utrophin. *Biochem. Biophys. Res. Commun*. *346(3)*:768-77, 2006.

Weir, M.L., Oppizzi, M.L., Henry, M.D., Onishi, A., Campbell, K.P., Bissell, M.J. and Muschler, J.L. Dystroglycan Loss Disrupts Polarity and β-casein Induction in Mammary Epithelial Cells by Perturbing Laminin Anchoring. *J. Cell Sci*. *119*:4047-4058, 2006.

Moore, S.A., Shilling, C.J., Westra, S., Wall, C., Wicklund, M.P., Stolle, C., Brown, C.A., Michele, D.E., Piccolo, F., Winder, T.L., Stence, A., Barresi, R., King, N., King, W., Florence, J., Campbell, K.P., Fenichel, G.M., Stedman, H.H., Kissel, J.T., Griggs, R.C., Pandya, S., Matthews, K.D., Pestronk, A., Serrano, C., Darvish, D. and Mendell, J.R. Limb-Girdle Muscular Dystrophy in the United States.  *J. Neuropathol. Exp. Neurol. 65(10)*:995-1003, 2006.

Joksovic P., Nelson M., Jevtovic-Todorovic V., Patel M., Perez-Reyes E., Campbell K.P., Chen C.C. and Todorovic S. CaV3.2 is the Major Molecular Substrate for Redox Regulation of T-type Ca2+ Channels in the Rat and Mouse Thalamus*. J. Physiol*. *15;574(Pt 2):* 415-30, 2007.

Escoffier, J., Boisseau, S., Serres, C., Chen, C-C., Kim, D., Stamboulian, S., Shin, H-S., Campbell, K.P., Waard, M.D. and Arnoult, C. Expression, Localization and Functions in Acrosome Reaction and Sperm Motlitily of Cav 3.1 and Cav3.2 Channels in Sperm Cells: an Evaluation From Cav3.1 and Cav3.2 Deficient Mice. *J. Cell Physiol.* *212(3):*753-63, 2007.

Sandoval, A., Andrade, A., Beedle, A.M., Campbell, K.P. and Felix, R. Inhibition of Recombinant N-Type Cav Channels by the γ2 Subunit Involves Unfolded Protein Response (UPR)-Dependent and UPR-Independent Mechanisms. *J. Neurosci*. *27(12)*:3317-3327, 2007.

Rojek, J.M., Spiropoulou, C.F., Campbell, K.P. and Kunz, S. **Old World and Clade C New World Arenaviruses Mimic the Molecular Mechanism of Receptor Recognition Used by {alpha}-Dystroglycans's Host-Derived Ligands.** J. Virol. 81(11):5685-95, 2007.

Beedle, A., Nienaber, P. and Campbell, K.P. Fukutin-related Protein Associates with the Sarcolemmal Dystrophin-Glycoprotein Complex. *J. Biol. Chem*. *282(23):*16713-16717, 2007.

Handschin, C., Kobayashi, Y.M., Chin, S., Seale, P., Campbell, K.P. and Spiegelman, B.M. PGC-1α Regulates the Neuromuscular Junction Program and Ameliorates Duchenne Muscular Dystrophy. *Genes Dev.* *21*: 770-783,2007.

Han, R., Bansal, D., Miyake, K., Muniz, V.P., Weiss, R.M., McNeil, P.L. and Campbell, K.P. Dysferlin-Mediated Membrane Repair Protects the Heart From Stress-Induced Left Ventricular Injury. *J. Clin. Invest.* *117(7):*1805-1813, 2007.

Kiyonaka, S., Wakamori, M., Miki, T., Uriu, Y., Nonaka, M., Bito, H., Beedle, A., Mori, E., Hara, Y., DeWaard, M., Kanagawa, M., Itakura, M., Takahashi, M., Campbell, K.P. and Mori, Y. RIM1 confers Sustained Activity and Neurotransmitter Vesicle Anchoring to Presynaptic Ca(2+) Channels. *Nature Neurosci.* *10(6)*:691-701, 2007.

Carmignac, V., Salih, M.A., Quijano-Roy, S., Marchand, S., Al Rayess, M.M., Mukhtar, M.M., Urtizberea, J.A., Labeit, S., Guicheney, P., Leturcq, F., Gautel, M., Fardeau, M., Campbell, K.P., Richard, I., Estournet, B. and Ferreiro, A. C-terminal Titin Deletions Cause a Novel Early-Onset Myopathy With Fatal Cardiomyopathy. *Ann. Neurol.* *61(4)*:340-351, 2007.

Miki, T., Kiyonaka, S., Uriu, Y., De Waard, M., Wakamori, M., Beedle, A.M., Campbell, K.P. and Mori, Y. Mutation Associated with an Autosomal Dominant Cone-Rod Dystrophy CORD7 Modifies RIM1-Mediated Modulation of Voltage-Dependent Ca2+ Channels. *Channels* *1*(3):144-147, 2007.

Figueroa, X., Chen, C.C., Campbell, K.P., Damon, D.N., Day, K.H., Ramos, S. and Duling, B.R. Are Voltage-Dependent Ion Channels Involved In the Endothelial Cell Control of Vasomotor Tone? *Am. J. Physiol. Heart Circ. Physiol.* *293*(3): H1371-83, 2007.

Kobuke, K., Piccolo, F., Garringer, K.W., Sweezer, E., Yang, B. and Campbell, K.P. A Common Disease-Associated Missense Mutation in Alpha-Sarcoglycan Fails to Cause Muscular Dystrophy in Mice. *Hum. Mol. Genet. 17(9):*1201-13, 2007.

Pacak, C.A., Walter, G.A., Gaidosh, G., Bryant, N., Lewis, M.A., Germain, S., Mah, C.S., Campbell, K.P. and Byrne, B.J. Long-term Skeletal Muscle Protection After Gene Transfer in a Mouse Model of LGMD-2D. *Mol. Ther. 15*(10):1775-81, 2007.

Rojek, J.M., Campbell, K.P., Oldstone, M.B.A. and Kunz, S. Old World Arenavirus Infection Interferes with the Expression of Functional Alpha-Dystroglycan in the Host Cell. *Mol. Biol. Cell 18:* 4493-4507, 2008.

Kabosova, A., Azar, D.T., Bannikov, G.A., Campbell, K.P., Durbeej, M., Ghohestani, R.F., Jones, J.C.R., Kenney, M.C., Koch, M., Ninomiya, Y., Patton, B.L., Paulsson, M., Sado, Y., Sage, E.H., Sasaki, T., Sorokin, L.M., Steiner-Champliaud, M.F., Sun, T.T., Sundarraj, N., Timpl, R., Virtanen, I. and Ljubimov A.V. Compositional Differences Between Infant and Adult Human Corneal Basement Membranes. *Invest. Ophthalmol. Vis. Sci.* *48*(11):4989-99, 2007.

Jethwaney, D., Islam, M.R., Leidal, K.G., de Bernabe, D.B., Campbell, K.P., Nauseef, W.M. and Gibson, B.W. Proteomic Analysis of Plasma Membrane and Secretory Vesicles from Human Neutrophils. *Proteome Sci. 10*; 5-2, 2007.

Sandoval, A., Arikkath, J., Manjaraz, E., Campbell, K.P. and Felix, R. γ1 - Dependent Down-Regulation of Recombinant Voltage-Gated Ca2+ Channels. *Cell Mol. Neurobiol. 27(7)*:901-8, 2007.

Nodari, A., Previtali, S.C., Dati, G., Occhi, S., Court, F.A., Colombelli, C., Zambroni, D., Dina, G., Del Carro, U., Campbell, K.P, Quattrini, A., Wrabetz, L. and Feltri, M.L. α6β4 Integrin and Dystroglycan Cooperate to Stabilize the Myelin Sheath. *J. Neurosci. 28(26)*:6714-9, 2008.

Dylla, D.C., Michele, D.E., Campbell, K.P. and McCray, P.B. Basolateral Entry and Release of New and Old World Arenaviruses. *J. Virol. 82(12)*:6034-8, 2008.

Satz, J.S., Barresi, R., Durbeej, M., Willer, T., Turner, A., Moore, S.A. and Campbell, K.P. Brain and Eye Malformations Resembling Walker-Warburg Syndrome are Recapitulated in Mice by Dystroglycan Deletion in the Epiblast. *J. Neurosci. 28*:10567-75, 2008.

Kobayashi, Y.M., Rader, E.P., Crawford, R.W., Iyengar, N.K., Thedens, D.R., Faulkner, J.A., Parikh, S.V., Weiss, R.M., Chamberlain, J.S., Moore, S.A. and Campbell, K.P. Sarcolemma-Localized nNOS is Required to Maintain Activity After Mild Exercise. *Nature 456*:511-5, 2008.

Becker, A., Pitsch, J., Sochivko, D., Opitz, T., Staniek, M., Chen, C.C., Campbell, K.P., Schoch, S., Yaari, Y. and Beck, H. Transcriptional Upregulation of CaV3.2 Mediates Epileptogenesis in the Pilocarpine Model of Epilepsy. *J. Neurosci. 28*:13341-53, 2008.

Kanagawa, M., Nishimoto, A., Chiyonobu, T., Takeda, S., Miyagoe-Suzuki, Y., Wang, F., Fujikake, N., Taniguchi, M., Lu, Z., Tachikawa, M., Nagi, Y., Tashiro, F., Miyazaki, J.I., Tajima, Y., Takeda, S., Endo, T., Kobayashi, K., Campbell, K.P. and Toda, T. Residual Laminin-Binding Activity and Enhanced Dystroglycan Glycosylation in Novel Model Mice to Dystroglycanopathy. *Hum. Mol. Genet. 18*:621-31, 2008.

Murakami, T., Hayashi, Y.K., Ogawa, M., Noguchi, S., Campbell, K.P., Togawa, M., Inoue, T., Oka, A., Ohno, K., Nonaka, I. amd Nishino, I. A Novel POMT2 Mutation Causes Mild Congenital Muscular Dystrophy with Normal Brain MRI. *Brain Dev. 31*:465-8, 2008.

Zong, H., Bastie, C.C., Xu, J., Fassler, R., Campbell, K.P., Kurland, I.J. and Pessin, J.E. Insulin Resistance in Striated Muscle Specific Integrin Receptor Beta 1 Deficient Mice. *J. Biol. Chem. 284*:4679-88, 2009.

Chiang, C.S., Huang, C.H., Chieng, H., Chang, Y.T., Dory Chang, Chen, J. J., Chen, Y.H., Molkentin, J.D., Campbell, K.P. and Chen, C.C. The CaV3.2 T-type Ca2+ Channel is Required for Pressure Overload-Induced Cardiac Hypertrophy in Mice. *Circ. Res. 104*:522-30, 2009.

Puckett, R.L., Moore, S.A., Winder, T.L., Willer, T., Romansky, S.G., King Covalt, K., Campbell, K.P. and Abdenur, J.E. Further Evidence of Fukutin Mutations as a Cause of Childhood Onset Limb-Girdle Muscular Dystrophy Without Mental Retardation. *Neuromusc. Disord. 19*:352-6, 2009.

Beltran-Valero de Barnabe, D., Inamori, K., Moriguchi, T., Weydert, C.J., Harper, H.A., Willer, T., Henry, M.D. and Campbell, K.P. Loss of Alpha-Dystroglycan Laminin Binding in Epithelium-Derived Cancers is Caused by Silencing of LARGE. *J. Biol. Chem. 284:*11279-84, 2009.

Groh, S., Haihong, Z., Goddeeris, M.M., Lebakken, C.S., Venzke, D., Pessin, J.E. and Campbell, K.P. Sarcoglycan Complex: Implications for Metabolic Defects in Muscular Dystrophies. *J. Biol. Chem.* *284*:19178-82, 2009.

Han, R., Kanagawa, M., Yoshida-Moriguchi, T., Rader, E., Ng., R.A., Michele, D.E., Muirhead, D.E., Kunz, S., Moore, S.A., Iannaccone, S.T., Miyake, K., McNeil, P.L., Mayer, U., Oldstone, M.B.A., Faulkner, J.A. and Campbell, K.P. Basal Lamina Strengthens Cell Membrane Integrity via the Laminin G Domain Binding of α-Dystroglycan. *Proc. Natl. Acad. Sci. U.S.A*. *31*:12573-79, 2009.

Jimenez-Mallebrera, C., Torelli, S., Feng, L., Godfrey, C., Clement, E., Mein, R., Abbs, S., Brown, S.C., Campbell, K.P., Kroger, S., Talim, B., Topaloglu, H., Quinlivan, R., Roper, H., Childs, A.M., Kinali, M., Sewry, C.A. and Muntoni, F. A Comparative Study of α-Dystroglycan Glycosylation in Dystroglycanopathies Suggests that the Hypoglycosylation of α-Dystroglycan Does Not Consistently Correlate with Clinical Severity. *Brain Pathol. 19*:596-611, 2009.

Satz, J.S., Philip, A.R., Kusano, H., Lee, J., Riker, M.J., Turk, R., Weiss, R.M., Anderson, M.G., Mullins, R.F., Stone, E.M., Moore, S.A. and Campbell, K.P. Visual Impairment in the Absence of Dystroglycan. *J Neurosci. 29*:13136-46, 2009.

Michele, D.E., Kabaeva, Z., Davis, S., Weiss, R.M. and Campbell, K.P. Dystroglycan Matrix Receptor Function in Cardiac Myocytes is Important for Limiting Activity-induced Myocardial Damage. *Cir. Res.* *105*:984-93, 2009.

Andrade, A., Sandoval, A., Gonzalez-Ramirez, R., Lipscombe, D., Campbell, K.P. and Felix, R. The α2δ Subunit Augments functional Expression and Modifies the Pharmacology of Cav1.3 L-type Channels. *Cell Calcium 46*: 282-92, 2009.

Yoshida-Moriguchi, T., Yu, L., Stalnaker, S.H., Davis, S., Kunz, S., Oldstone, M.B.A., Schachter, H., Wells, L. and Campbell, K.P. *O*-Mannosyl Phosphorylation of Alpha-Dystroglycan is Required for Laminin Binding. *Science* *327*:88-92, 2010.

Watanabe, H., Yamashita, T. Saitoh, N., Kiyonaka, S., Iwamatsu, A., Campbell, K.P., Mori, Y. and Takahashi, T. Involvement of Ca2+ Channel Synprint Site in Synaptic Vesicle Endocytosis. *J Neurosci. 30*:655-60, 2010.

Vogtländer, N.P.J., van der Vlag, J., Bakker, M.A.H., Dijkman, H.B., Wevers, R.A., Campbell, K.P., Wetzels, J.F.M. and Berden, J.H.M. Expression of sialidase and dystroglycan in human glomerular diseases. *Nephrol. Dial. Transplant 25:* 478-484, 2010.

Liou, L-Y., Walsh, K.B., Vartanian, A.R., Beltran, D., Campbell, K.P., Oldstone, M.B.A. and Kunz, S. Functional Glycosylation of Dystroglycan is Crucial for Thymocyte Development in the Mouse. *PLoS ONE 5:*e9915, 2010.

Wang, R.X., Urso, M.L., Zambraski, E.J., Rader, E.P., Campbell, K.P. and Liang, B.T. Adenosine A3 Receptor Stimulation Induces Protection of Skeletal Muscle from Eccentric Contraction Meditated-Injury. *Am. J. Physiol. Regul. Integr. Comp. Physiol. 299*: R259-67, 2010.

Uriu, Y., Kiyonaka, S., Miku, T., Yagi, M., Akiyama, S., Mori, E., Nakao, A., Beedle, A.M., Campbell, K.P., Wakamori, M. and Mori, Y. RAB3-Interacting Molecule γ Isoforms Lacking the Rab3-binding Domain Induce Long-Lasting Currents but Block Neurotransmitter Vesicle Anchoring in Voltage-Dependent P/Q-type Ca2+ Channels. *J. Biol. Chem. 285: 21750-67*, 2010.

Weiss, R.M., Kerber, R.E., Jones, J.K., Stephan, C.M., Trout, C.J., Lindower, P.D., Staffey, K.S., Campbell, K.P. and Mathews, K.D. Exercise-Induced Left Ventricular Dysfunction in Heterozygous Dystrophinopathy. *J. Am. Soc. Echocardiogr. 23*: 848-53, 2010.

Vassilopoulos, S., Oddoux, S., Groh, S., Cacheaux, M., Faure, J., Brocard, J., Campbell, K.P. and Marty, I. Caveolin-3 is Associated with the Calcium Release Complex and is Modified Under *in vivo* Triadin Modification. *Biochemistry 49:* 6130-35, 2010.

Leonoudakis, D., Singh, M., Mohajer, R., Mohajer, P., Fata, J.E., Campbell, K.P. and Muschler, J.L. Dystroglycan Controls Signaling of Multiple Hormones Through Modulation of STAT5 Activity. *J. Cell Sci. 123:* 3683-90, 2010.

Satz, J.S., Ostendorf, A.P., Hou, S., Turner, A., Kusano, H., Lee, J.C., Turk, R., Nguyen, H., Ross-Barta, S.E., Westra., S., Hoshi, T., Moore, S.A. and Campbell, K.P. Distinct Functions of Glial and Neuronal Dystroglycan in the Developing and Adult Mouse Brain. *J Neurosci 30:* 14560-72, 2010.

Lueck, J., Rossi, A.E., Thornton, C.A., Campbell, K.P. and Dirksen, R.T. Sarcolemmal Restricted Localization of Functional C1C-1 Channels in Mouse Skeletal Muscle. *J. Gen. Physiol. 136:* 597-613, 2010.

Han, R., Frett, E.M., Levy, J.R., Rader, E.P., Lueck, J.D., Bansal, D., Moore, S.A., Ng, R.N., Beltran-Valero de Bernabe, D., Faulkner, J.A. and Campbell, K.P. Genetic Ablation of the Complement System Attentuates Dysferlin-deficient Muscular Dystrophy. *J. Clin. Invest. 120:* 4366-74, 2010.

Han, R., Kobuke, K, Anderson, M.E., Beltran-Valero de Bernabe, D., Kobayashi, Y., Yang, B., Campbell, K.P. Improved genotyping of the dysferlin null mouse. *Protocol Exchange* (2011) DOI: 10.1038/protex.2011.232

Mathews, K.D., Stephan, C.M., Laubenthal, K., Winder, T.L., Michele, D.E., Moore, S.A. and Campbell, K.P. Myoglubinuria and Muscle Pain are Common in Patients with Limb Girdle Muscular Dystrophy 2I. *Neurol*. *76:* 194-95, 2011.

Wu J., Ruas, J.L., Estall, J.L., Rasbach, K.A., Choi, J.H., Ye, L, Bostrom, P., Tyra, H.M., Crawford, R.W., Campbell, K.P., Rutkowski, D.T., Kaufman, R.J. and Spiegelman, B.M. The Unfolded Protein Response Mediates Adaptation to Exercise in Skeletal Muscle through a PGC-1α/ATF6α Complex. *Cell Metab. 13:* 160-69, 2011.

Lueck, J.D., Rossi, A.E., Thornton, C.A., Campbell, K.P. and Dirksen, R.T. Response to the letter: “On the localization of ClC-1 in skeletal muscle fibers”. *J. Gen. Physiol. 137:* 331-33, 2011.

Sullivan, B.M., Emonet, S., Welch, M.J., Lee, A.M., Campbell, K.P., de la Torre, J.C. and Oldstone., M.B.A. Point Mutation in the Glycoprotein of Lymphocytic Choriomeningitis Virus is Necessary for Receptor Binding, Dendritic Cell Infection, and Long-term Persistence. *Proc Natl Acad Sci USA*. *108*: 2969-74, 2011.

Hara, Y., Balci, B., Kanagawa, M., Beltran-Valero de Bernabe, D., Gundesli, H., Yoshida-Moriguchi, T., Willer, T., Satz, J.S., Burden, S.J., Oldstone, M.B.A., Accardi, A., Talim, B., Muntoni, F., Topaloglu, H., Dincer, P. and Campbell, K.P. A Dystroglycan Mutation Associated with Limb-Girdle Muscular Dystrophy. *N. Eng. J. Med.* *364:* 939-46, 2011.

Clarke, N.F., Maugenre, S., Vandebrouck, A., Urtizberea, J.A., Willer, T., Peat, R., Gray, F., Bouchet, C., Manya, H., Vuillaumier-Barrot, S., Endo, T., Chouery, E., Campbell, K.P., Megarbane, A. and Guicheney, P. Congenital Muscular Dystrophy Type 1D (MDC1D) Due to a Large Intragenic Insertion/Deletion Involving intron 10 of the LARGE Gene. *Eur. J. Human Genet. 19:* 452-57, 2011.

Stalnaker, S.H., Aoki, K., Lim, J.M.., Porterfield, M., Lui, M., Satz, J.S., Buskirk, S., Campbell, K.P., Hu, H., Live, D., Tiemeyer, M. and Wells, L. Glycomic Analysis of Mouse Models of Congenital Muscular Dystrophy. *J. Biol. Chem. 286:* 21180-90, 2011.

Noell, S., Wolburg-Buchholz, K., Mack, A.F., Beedle, A.M., Satz, J.S., Campbell, K.P., Wolburg, H., Fallier-Becker, P. Evidence for a Role of Dystroglycan Regulating the Membrane Architecture of Astroglial Endfeet. *Eur. J. Neurosci. 33:* 2179-86, 2011.

Lei, D., Gao, X., Perez, P., Ohlemiller, K.K., Chen, C.-C., Campbell, K.P., Hood, A.Y. and Bao, J. Anti-Epileptic Drugs Delay Age-Related Loss of Spiral Ganglion Neurons via T-type Calcium Channel. *Hear. Res. 278:* 106-12, 2011.

Alnawaiseh, M., Albanna, W., Chen, C.-C., Campbell, K.P., Hescheler, J., Luke, M. and Schneider, T. Two Separate Ni2+-sensitive voltage-gated Ca2+ channels modulate transretinal signaling in the isolated murine retina. *Acta Ophthalmol. 89:* e579-e590, 2011.

Hara, Y., Kanagawa, M., Kunz, S., Yoshida-Moriguchi, T., Satz, J.S., Kobayashi, Y.M., Zhu, Z., Burden, S.J., Oldstone, M.B.A. and Campbell, K.P. LARGE-dependent modification of dystroglycan at Thr-317-319 is required for laminin binding and areanavirus infection. *Proc Natl Acad Sci USA*. *108:* 17426-31, 2011.

Lancioni, A., Luisa Rotundo, I., Kobayashi, Y.M., D’Orsi, L., Aurino, S., Nigro, G., Piluso, G., Acampora, D., Cacciottolo, M., Campbell, K.P. and Vincenzo, N. Combined deficiency of alpha and epsilon sarcoglycan disrupts the cardiac dystrophin complex. *Hum. Mol. Genet. 20:* 4644-54, 2011.

Di Blasi, C., Bellafiore, E., Salih, M.A.M., Manzini, M.C., Moore, S.A., Seidahmed, M.Z., Mukhtar, M.M., Karrar, Z.A., Walsh, C.A., Campbell, K.P.,Mantegazza, R.,Morandi, L. and Mora, M. Variable Disease Severity in Saudi Arabian and Sudanese Families with c.3924+2 T>C Mutation of *LAMA2. BMC Res. Notes.4:* 534, 2011.

Han, R., Rader, E.P., Levy, J.R., Bansal, D. and Campbell, K.P. Dystrophin Deficiency Exacerbates Skeletal Muscle Pathology in Dysferlin-null Mice. *Skelet. Muscle 1:35*, 2011.

Inamori, K., Yoshida-Moriguchi, T., Hara, Y., Anderson, M.E., Yu, L. and Campbell, K.P. Dystroglycan Function Requires Xylosyl- and Glucuronyltransferase Activities of LARGE. *Science 335:* 93-96, 2012.

Kobayashi, Y.M., Rader, E.P., Crawford, R.W. and Campbell, K.P. Endpoint Measures in the *mdx* Mouse Relevant for Muscular Dystrophy Pre-clinical Studies. *Neuromuscul. Disord. 22:* 34-42, 2012.

Inamori, K., Yoshida-Moriguchi, T. and Campbell, K.P. New insights into laminin-binding glycosylation on alpha-dystroglycan. *Life Science Shinchaku Ronbun Review 30:* 1775-77, 2012.

Willer, T., Lee, H., Lommel, M., Yoshida-Moriguchi, T., Beltran Valero de Bernabe, D., Venzke, D., Cirak, S., Schachter, H., Vajsar, J., Voit, T., Muntoni, F., Loder, A.S., Dobyns, W.B., Winder, T.L., Strahl, S., Mathews, K.D., Nelson, S.F., Moore, S.A. and Campbell, K.P. *ISPD* loss-of-function mutations disrupt dystroglycan *O*-mannosylation and cause Walker-Warburg syndrome. *Nat. Genet. 44:* 575-80, 2012.

Rojek, J.M., Moraz, M.-L., Pythoud, C., Rothenberger, S., Gisou Van der Goot, F., Campbell, K.P. and Kunz, S. Binding of Lassa virus perturbs extracellular matrix-induced transduction via dystroglycan. *Cell Microbiol. 14*:1122-34, 2012.

Beedle, A., Turner, A., Saito, Y., Lueck, J.D., Nienaber, T. and Campbell, K.P. Mouse fukutin deletion impairs dystroglycan processing and recapitulates muscular dystrophy. *J Clin Invest*. *122*(9): 3330–42, 2012.

Li, Z., Gilbert, J.A., Zhang, Y., Qui,Q., Ramanujan, V.K., Shavlakadze, T., Eash, J.K., Scaramozza, A., Goddeeris, M.M., Kirsch, D.G., Campbell, K.P., Brack, A.S., Glass, D.J. An HMGA2-IGF2BP2 Axis Regulates Myoblast Proliferation and Myogenesis. *Dev Cell.* *23*: 1-13, 2012.

Moraz, M.L., Pythoud, C., Turk, R., Rothenberger, S., Pasquato, A., Campbell, K.P., Kunz, S. Cell entry of Lassa virus induces tyrosine phosphorylation of dystroglycan. *Cell Microbiol. 15*(5): 689-700, 2013.

Inamori K., Hara Y., Willer T., Anderson M.E., Zhu Z., Yoshida-Moriguchi T., Campbell K.P. Xylosyl- and glucuronyltransferase functions of LARGE in α-dystroglycan modification are conserved in LARGE2. *Glycobiology* *23*: 295-302, 2013.

Myshrall, T.D, Moore, S.A., Ostendorf, A.P., Satz, J.S., Kowalczyk, T., Nguyen, H., Daza, R.A.M., Lau, C., Campbell, K.P., Hevner, R.F. Dystroglycan on Radial Glia End feet is Required for Pial Basement Membrane Integrity and Columnar Organization of the Developing Cerebral Cortex. *J Neuropath Exp Neurol. 71*(12): 1047-63, 2012.

Esser AK, Miller MR, Huang Q, Meier MM, Beltran-Valero de Bernabe D, Stipp CS, Campbell KP, Lynch CF, Smith BJ, Cohen MB, Henry MD. Loss of LARGE2 Disrupts Functional Glycosylation of α-Dystroglycan in Prostate Cancer. *J Biol Chem 288:* 2132-42, 2013.

Cirak, S., Foley, A.R., Herrmann, R., Willer, T., Stevens, E., Yau, S., Brodd, L., Torelli, S., Kamynina, A., Vondracek, P., Roper, H., Longman, C., Korinthenberg, R., Marrosu, G., Nürnberg, P., UK10K Consortium, Plagnol, V., Hurles, M., Sewry, C., Campbell, K.P., Voit, T. and Muntoni, F. ISPD gene mutations are a common cause of congenital and limb-girdle muscular dystrophies. *Brain* *136* (1): 269-81, 2013.

Stevens, E., Carss, K., Cirak, S., Foley, A.R., Torelli, S., Willer, T., Manzini, C., UK10K consortium, Yau, M., Brodd, L., Sewry, C., Topaloglu, H., Haliloglu, G., Walsh, C., Hurles, M., Campbell, K.P., Stemple, D., Lin, Y. and Muntoni, F. Mutations in B3GalNT2 cause a novel congenital muscular dystrophy and hypoglycosylation of α-dystroglycan. *Am. J. Hum. Genet. 92*: 1-12, 2013.

Carss, KJ, Stevens, E, Foley, AR, Cirak, S, Riemersma, M, Torelli, S, Hoischen, A, Willer, T, von Scherpenzeel, M, Moore, SA, Messina, S, Bertini, E, Bonnemann, C, Abdenur, JE, Grosmann, AK, Punetha, J, Quinlivan, R, Waddell, LB, Young, HK, Wraige, E, Yau, S, Brodd, L, Feng, L, Sewry, C, MacArthur, DG, North, KN, Hoffman, E, Stemple, DL, Hurles, ME, van Bokhoven, H, Campbell, KP, Lefeber, DJ, UK10K consortium, Lin, YY, Muntoni, F. Mutations in GDP-mannose pyrophosphorylase B cause congenital and limb girdle muscular dystrophies associated with hypoglycosylation of α-dystroglycan. *Am J Hum Genet 93:* 1-13, 2013.

Yang, AC, Ng, BG, Moore, SA, Rush, J, Waechter, CJ, Raymond, KM, Willer, T, Campbell, KP, Freeze, HH, Mehta, L. Congenital disorder of glycosylation due to *DPM1* mutations presenting with dystroglycanopathy-type congenital muscular dystrophy. *Mol Genet Metab 110*(3): 345-351, 2013.

Yoshida-Moriguchi, T., Willer, T., Anderson, ME, Venzke, D., Whyte, T., Muntoni, F., Lee, H., Nelson, SF, Yu, L., Campbell, KP. SGK196 is a Glycosylation-Specific O-Mannose Kinase Required for Dystroglycan Function. *Science* 341: 896-9, 2013.

Goddeeris, M.M., Wu, B., Venzke, D., Yoshida-Moriguchi, T., Saito, F., Matsumura, K., Moore, S.A., Campbell, K.P. Large glycans on dystroglycan function as a tunable matrix scaffold to prevent dystrophy. *Nature 503:* 136-40, 2013.

Nguyen, H., Ostendorf, A.P., Satz, J.S., Westra, S., Ross-Barta, S.E., Campbell, K.P., Moore, S.A. Glial scaffold required for cerebellar granule cell migration is dependent on dystroglycan function as a receptor for basement membrane proteins. *Acta Neuropahol Commun 1* (1): 58, 2013.

Wallace, S.E., Conta, J.H., Winder, T.L., Willer, T., Eskuri, J.M., Haas, R., Patterson, K., Campbell, K.P., Moore, S.A., Gospe, S.M. A novel missense mutation in *POMT1* modulates the severe congenital muscular dystrophy phenotype associated with *POMT1* nonsense mutations. *Neuromuscul Disord 24*: 312-320, 2014.

Lin, S.-S., Tzeng, B.-H., Lee, K.-R., Smith, R.J., Campbell, K.P. and Chen, C.-C. Cav3.2 T-type calcium channel is required for the NFAT-dependent Sox9 expression in tracheal cartilage. *Proc Natl Acad Sci* *111*: E1990-E1998, 2014.

Inamori, K., Willer, T., Hara, Y., Venzke, D., Anderson, M.E., Clarke, N.F., Guicheney, P., Bönnemann, C.G., Moore, S.A., Campbell, K.P. Endogenous glucuronyltransferase activity of LARGE or LARGE2 required for functional modification of α-dystroglycan in cells and tissues. *J Biol Chem* 280(41): 28138-48, 2014.

Willer, T., Inamori, K., Venzke, D., Harvey, C.D., Morgensen, G., Hara, Y., Beltrán Valero de Bernabé, D., Yu, L., Wright, K.M., Campbell, K.P. The glucuronyltransferase B4GAT1 is required for initiation of LARGE-mediated α-dystroglycan functional glycosylation. *eLife* 3;3:e03941, 2014.

**APPENDICES**

**Available Upon Request**

#### Summary of Research (2004-2009)

1. **Future Research Plans (2009)**
2. **Abstracts**
3. **Previous Funding (1981-2009)**

#### Past Seminars (1982-2003)

#### Past Personnel

1. **Graduate Student Comprehensive Exam and Thesis Committees**
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