

Curriculum Vitae

Marco Brotto, B.S.N., M.S., Ph.D.

University of Missouri-Kansas City
Schools of Nursing & Medicine
Health Sciences Building, Office 2246
2464 Charlotte St
Kansas City, Missouri 64108
Office Telephone: (816) 235-1959
E-mail: brottom@umkc.edu

7010 N Denver Ave
Kansas City, MO 64119
Phone: (816) 453-2906

Present Title:

Associate Professor of Nursing, Medicine & Biological Sciences & Director of the UMKC Muscle Biology Research Group (MUBIG)

Undergraduate Education:

1981- Chemistry Technologist, National Course of Medicine, Vitoria, Espirito Santo, Brazil.

1988 - BSN (Suma Cum Laude), Nursing & Obstetrics, Federal University of Ceara, Brazil.

1991- MS (Honors), Pharmacology, Federal University of Ceara, Brazil. (Advisor: Manasses Claudino Fonteles)

Graduate Education (Masters):

1992 – M.S., Masters in Pharmacology (Honors), Department of Pharmacology & Physiology, School of Medicine, Federal University of Ceara, Brazil.

Research Fellowships (Post-Master's education)

- 1995-1997 Research Fellowship: Muscle Physiology/Biophysics & The Heart Development Group (Microspectrophotometry, Intracellular determination of Mg²⁺, K¹⁺, Na¹⁺, pH and ROS in cardiac muscle) Medical College of Georgia (MCG), USA. (Advisors: Robert E. Godt & Tony L. Creazzo).
- 1994-1996 Research Fellowship: The Heart Development Group (Microspectrophotometry and Patch Clamp), MCG, USA (Advisors: Tony L. Creazzo & Robert E. Godt).
- 1992-1995 Research Fellowship: Muscle Physiology & Biophysics (Skeletal & Cardiac Skinned Muscle Fibers), Medical College of Georgia (MCG), USA (Advisors: Profs. Thomas M. Nosek, Robert E. Godt and Ralph C. Kolbeck).

Graduate Education (Ph.D.):

1997-1999 - Research Fellowship and Ph.D. Candidate: Physiology & Biophysics, Trinity College, Oxford, England.

1999 – Ph.D., Physiology & Biophysics (Distinction), Trinity College, London, England. (Advisor: Dr. Robert Buss Edwards (in memoriam))

Post-Graduate Training

2000 - Post-doctoral fellow, Muscle Biochemistry & Muscle Fatigue, Physiology & Biophysics, CWRU. (Advisors: Dr. J-P Jin (Biochemistry) and Dr. Thomas Nosek (Physiology & Biophysics))

2003 – Faculty Trainee, National Institutes of Health (NIH) Faculty Development Grant, Cellular & Molecular Biology (Advisor: Dr. Jianjie Ma)

Academic Appointments

08/2007-present Associate Professor of Nursing & Medicine, University of Missouri, Kansas City, Missouri

2003-08/2007 Assistant Professor, Department of Physiology and Biophysics, UMDNJ-RWJMS.

2000-2003 Instructor of Physiology and Biophysics, School of Medicine, Dept. of Physiology and Biophysics, Case Western Reserve University, Cleveland - Ohio, USA.

1999-2000 Post-Doctoral Fellow, Muscle Fatigue, Physiology and Biophysics, School of Medicine, Dept. of Physiology and Biophysics, Case Western Reserve University, Cleveland - Ohio, USA.

1997-1999 Ph.D. Candidate, Trinity College, England.

1994-1997 Research Fellow, Department of Physiology and Endocrinology and The Heart Development Group, Medical College of Georgia, Augusta - Georgia, USA.

1993-1994 Research Fellow, Department of Cellular Biology and Anatomy, Medical College of Georgia, Augusta Georgia, USA.

1992-1994 Research Fellow, Department of Physiology and Endocrinology, Medical College of Georgia, Augusta Georgia, USA.

1992 Associate Professor, Human Physiology and Pharmacology Health Sciences Center, University of Fortaleza-UNIFOR, State of Ceara, Brazil.

1991 Assistant Professor, Human Physiology, Pharmacology and Neural-Anatomy, Health Sciences Center, University of Fortaleza-UNIFOR, State of Ceara, Brazil.

1990-1991 Instructor, School of Nursing, Federal University of Ceara, State of Ceara, Brazil

1989-1990 Coordinator, Pharmacology Course, for the Dental and Nursing Schools; Federal University of Ceara, State of Ceara, Brazil.

Professional Organizations

American Physiological Society (APS).

Biophysical Society.

American Heart Association

Other Professional Activities

2009-present Director, Muscle Biology Group (MUBIG) at UMKC

2008-present Member, Center for Neuromuscular Disorders, Kansas University Medical Center

2008-present Co-Director with Dr. Thomas Nosek, American Physiological Society Muscle Biology Group

2008 Speaker and Poster Presenter, American Heart Association Research Symposium, New Orleans, 11/06/08

2008 Featured Speaker, Department of Physiology & Biophysics, Case Western Reserve University, Ohio, 10/27/08

2008 Ph.D. Dissertation Co-Chair for Angela Thornton, Department of Physiology & Biophysics, Robert Wood Johnson Medical School, Piscataway, NJ, 09/27/08

2008 Featured Speaker, Department of Cell Biology, Rutgers University, Piscataway, NJ, 09/29/08

2008 Featured Speaker, Brazilian National Meeting on Biomedicine, Maceio, Alagoas, 10/05-09/2008.

2008 Featured Speaker, Department of Molecular Cardiology, Northwestern Medical School, Chicago, IL, 07/01/08

2008 Featured Speaker, Department of Molecular Cardiology, Northwestern Medical School, Chicago, IL, 07/01/08

2008 Organizer and Chair, 1st Muscle Biology Symposium at UMKC, June 9th 2008.

2008 Featured Speaker, Kansas City Bone & Tooth Lecture, Schools of Dentistry and Medicine, University of Missouri-Kansas City

2007 International Speaker and Featured Lecturer, International Conference on “Muscle and Exercise Physiology”, Jequie, Bahia, Brazil, 05/26-29/2007

2007 Invited Speaker, UMKC Schools of Medicine and Nursing, “Muscle Fatigue and Aging: From Milieu to Genes”, 02/15/2007

2006 Invited Speaker, West Virginia Osteopathic School, “Novel Insights into Muscle Fatigue and Aging”, 11/23/2006

2006 Invited Speaker, Irma-Lerma School of Pharmacy, Texas A&M, “Muscle Fatigue and Aging, A Tale of 2 Genes?”, 10/15/2006

2006 International Speaker and Lecturer, International Conference on Muscle Physiology & Biophysics, University of Sciences and Technology, Salvador, Bahia, Brazil, 05/29-06/02/2006

2006 Moderator, Robert Wood Johnson Medical School Summer Fellowship Presentations

2005 International Speaker and Lecturer, International Conference on New Insights on Muscle Fatigue, University of Sciences and Technology, Salvador, Bahia, Brazil, 05/29-06/02/2006

2004-2005 Experimental Biology and Biophysical Society Meetings

2003 Gordon Research Conference, Excitation Contraction Coupling, New London-NH.

2003 Sabbatical Leave, Department of Physiology & Biophysics (Dr. Jianjie Ma Lab), UMDNJ-RWJMS, May 5 – July 5, 2003, New Jersey.

2003 Speaker, Muscle Fatigue Symposium, APS Muscle BIO Group, FASEB Meeting, San Diego, CA.

2002 Speaker, Muscle Fatigue Symposium, APS Muscle BIO Group, FASEB Meeting, San Diego, CA.

2001 Speaker, Muscle Fatigue Symposium, APS Muscle BIO Group, FASEB Meeting, San Diego, CA.

2000 Gordon Research Conference, Excitation Contraction Coupling, New London-NH.

2000 Organizer and Chairperson, Experimental Biology (EB 2000) Symposium: Hypoxia-Induced Muscle Damage from Reactive Oxygen Intermediates: From Pathways to Function San Diego, California, 17 April.

1999 Gordon Research Conference, Calcium Signaling, Henniker-NH.

1999 Faculty Departmental Seminar, Department of Physiology and Biophysics, Case Western Reserve University, Cleveland, Ohio, USA.

1998 Departmental Seminar, Physiology and Endocrinology Departmental Seminars, Medical College of Georgia.

1997 Organizer (with Dr. C.A. Baptista), Heart Development Symposium, The Heart Development Group, The Medical College of Georgia.

1996 Invited Speaker, Heart Development Symposium, The Heart Development Group, Medical College of Georgia.

1993-2004 Experimental Biology Meeting.

1993-2004 Biophysical Society Meeting.

Research Grants

Currently funded grants

1) UMKC-School of Nursing Startup Grant

Animal Models of Healthy and Disease

Total costs: \$470,000

Role in Grant: Principal Investigator and Director.

2) American Heart Association (National, Scientist Development Grant):

AHA0535355N.

“Store Operated Ca Entry and Muscle Fatigue”.

Direct costs: \$260,000

Role in Grant: Principal Investigator (PI).

3) NIH-National Cancer Institute-TREC Pilot Grant

“Role of a novel muscle phosphatase MTMR-14 in muscle function and obesity”

Direct costs: \$100,000

Role in Grant: Principal Investigator with Dr. Thomas Nosek and CK Qu (Case Western Reserve University)

4) National Institutes of Health - NIH Grand Opportunities Grant (GO Grant)

“Muscle-Bone Endocrine Axis”

Total costs: \$1,850,000

Role in Grant: Principal Investigator with Drs. Lynda Bonewald and Mark Johnson, UMKC Bone Biology Group. Dr. Brotto’s direct budget in this grant is \$650,000.

5) Missouri Life Sciences Research Board

Bi-directional crosstalk between bones and muscles.

Total costs: \$72,200

Role in Grant: Principal Investigator.

6) Missouri Life Sciences Research Board

Beneficial effects of electrical stimulation and pulsed electromagnetic therapy.

Total costs: \$48,800

Role in Grant: Principal Investigator.

7) Kansas City Women’s Health Initiative

Role of PEPCK in Females Performance and Diseases

Total costs: \$17,000

Role in Grant: Co-Investigator with Dr. Tina Hines

Pending grants

II) NIH-RO1

Role of Mitsugumin29 and store-operated calcium entry in muscle aging.

Total costs: \$1,897,000

Role in Grant: Principal Investigator (in collaboration with Dr. Jerome Parness, University of Pittsburgh)

Status: Scored 29th percentile, resubmitted July 2009

III) NIH-RO1

MIP phosphatase and PI(3,5)P2 in muscle fatigue, disease and aging.

Total costs: \$2,962,000

Role in Grant: Principal Investigator (in collaboration with Drs, C-K Qu and Thomas Nosek, Case Western Reserve University and Dr. Hector Valdivia, Wisconsin University).
Status: Status: Scored 33th percentile, resubmitted July 2009

IV) Several Instrumentation grants recently submitted to NIH

Completed Grants

a) National Institutes of Aging-NIH, Faculty Development Grant

"Roles of SOC in Muscle fatigue"

Direct costs: \$ 487,686.

Role in Grant: Faculty (Assistant Professor).

b) Robert Wood Johnson Foundation:

Seed Grant #506297.

"Store-Operated Calcium Channels and Muscle Fatigue".

Direct costs: \$50,000.

Role in Grant: Principal Investigator (PI).

c) NHLBI, NIH (HL60304)

"Diaphragmatic Fatigue, Aging & Reactive Oxygen Species"

Direct costs: \$870,715

Role in Grant: Co-Investigator with Dr. Thomas M. Nosek (PI)

Other Honors

- 2009 Co-Chair and Organizer, APS-Muscle Biology Group, Experimental Biology 2009.
- 2009-present Director, Muscle Biology Group (MUBIG) at UMKC
- 2008-present Member, Center for Neuromuscular Disorders, KU Medical Center
- 2008-present Co-Director with Dr. Thomas Nosek, American Physiological Society Muscle Biology Group
- 2008 Featured Speaker, Brazilian National Meeting on Biomedicine, Maceio, Alagoas, October 2008.
- 2008 Organizer and Chair, 1st Muscle Biology Symposium at UMKC, June 9th 2008.
- 2008 Featured Speaker, Kansas City Bone & Tooth Lecture, Schools of Dentistry and Medicine, University of Missouri-Kansas City
- 2006-present Editorial Board Member, Journal of Pharmacology and Experimental Therapeutics
- 2005-2007 International speaker and lecturer in Brazil
- 2007 Invited Speaker at University of Texas, West Virginia School of Osteopathic Medicine, University of Missouri
- 2006 Chair, Summer Fellowship, Medical Students Research Presentation, July 2006.
- 2005 Chair, American Physiological Society (APS) Symposium: "Muscle Fatigue CA, April, 2005.
- 2005 Invited Speaker, Department of Pharmaceutical Sciences, North Dakota State University, October 24, 2005.
- 2005 Invited Speaker, University of Science and Technology, Salvador, Bahia, Brazil, August 24, 2005.
- 2005 Invited Speaker, University Novo Milenium, Vitoria, Espirito Santo, Brazil, August 27, 2005.
- 2005 Invited Speaker, Federal University of Espirito Santo (UFES), Vitoria, Espirito Santo, Brazil, September 2, 2005.
- 2005 Co-Chair, II Departmental Retreat, RWJMS, Physiology & Biophysics, Piscataway, NJ,
- 2004 Chair, American Physiological Society (APS) Symposium: "Excitation-

- Contraction Coupling in Health and Disease, Experimental Biology Meeting
Washington, DC, April 15 2004.
- 2004 Co-Chair, American Physiological Society (APS) and The APS-Muscle Bio
Group Symposium: "Muscle Fatigue, Experimental Biology Meeting
Washington, DC, April 18 2004.
- 2003 Sabbatical Leave, Department of Physiology & Biophysics, UMDNJ-
RWJMS, May 5 – July 5, 2003, New Jersey.
- 2003 Speaker, Muscle Fatigue Symposium, APS Muscle BIO Group, FASEB Meeting, San
Diego, CA.
- 2002 Speaker, Muscle Fatigue Symposium, APS Muscle BIO Group, FASEB
Meeting, San Diego, CA.
- 2001 Speaker, Muscle Fatigue Symposium, APS Muscle BIO Group, FASEB
Meeting, San Diego, CA.
- 2001 Invitee/participant of the Gordon Research Conference, ECC Process, New
London-NH.
- 2000 Chair, Organizer, and Speaker: Symposium, Experimental Biology
Hypoxia-Induced Muscle Damage from Reactive Oxygen Intermediates: From Pathways
to Function San Diego, California.
- 1999 Invitee/participant of the Gordon Research Conference, ECC Process, New London-NH.
- 1999-2001 NIH RO1 grant as the Co-Investigator.
- 1999 Invitee/participant of the Gordon Research Conference, Cell Signaling, Henniker-NH.
- 1992-1995 Fellowships: National Institutes of Health, Medical College of Georgia.
- 1993 Winner of a Graduate Student Travel Fellowship sponsored by the Biophysical Society.
- 1991 Recipient Winner of the prize "Distinguished Researcher" from the Brazilian National
Nursing Council.
- 1991 Recipient Scholarship from Brazil's National Council for the Improvement of Higher
Education Faculty (CAPES).
- 1988-1990 Recipient: Scholarship from Brazil's National Council of Research (CNPq).

Editorial Positions:

Editorial Board Member (Associate Member and Reviewer)

Journal of Pharmacology and Experimental Therapeutics (JPET)

Reviewer Positions

Reviewer for the American Heart Association

Reviewer for the National Institutes of Health

Reviewer for UMKC Faculty Research Grants

Reviewer for University of Missouri Research Board Grants

Reviewer for the following Journals

American Journal of Physiology: Cell

American Journal of Physiology: Heart, Lung and Blood

American Journal of Physiology: Integrative and Regulatory

Biochemical Pharmacology (France)

Brain Research Bulletin

Cell Calcium

Journal of Applied Physiology

Journal of Biological Chemistry

Journal of Pharmacology and Experimental Therapeutics

Journal of Physiology (London)

Physiological Genomics

Teaching Experience & Responsibilities

Secondary Education – Brazil

Lecturer

- 1980-1983 High School Teacher of Sciences and Math, Vitoria, Brazil
1983-1985 Middle and High School Teacher, Yazigi Language Institutes of Languages, Manaus, Brazil
1983-1986 High School Teacher, Learning Cultural Center (CCL), Manaus, Brazil
1984-1986 Instructor of Sciences, English and Math, National Service of Learning and Commerce (SENAC), Manaus, Brazil.

Higher Education –Brazil

Universidade Federal do Ceara - Federal University of Ceara

Course Director of Pharmacology for the School of Pharmacy and the School of Nursing

Lecturer*

- Pharmacy School Curriculum: Cardiac Pharmacology
Medical School Curriculum: Cardiac Pharmacology
Nursing School Curriculum: Basic and Clinical Pharmacology and Monograph I.
Research advisor for Nursing Graduating School & Public Health II.

University of Fortaleza – University of Fortaleza

Lecturer*

- Nursing Curriculum: Human Physiology Basic and Clinical Pharmacology.
Physical Therapy Curriculum: Human Physiology.
Psychology Curriculum: Neural-Anatomy and Neural-Physiology (I integrated pharmacology into these lectures).

*** As a lecturer in these disciplines I taught the complete courses.**

Higher Education – USA

Medical College of Georgia, Augusta, GA (1994-1998)

- Supervisor of undergraduate and graduate Students, research Assistants and post-doctoral fellows; laboratory manager.

Case Western Reserve University (2000-2003)

Medical School Curriculum

- Instructor for the Small Teaching Groups, Medical School.
Instructor for the Small Teaching Groups, Medical School.
Gastrointestinal Committee.

Lecturer: Pharmacology of Beta-adrenergic Stimulation and Cardiac Muscle Function.

Master's in Exercise Physiology:

Lecturer

Physiology 440, Integrative and Cellular Physiology of Exercise; Cardiac, Skeletal and Smooth Muscle Physiology, Muscle Fatigue and Muscle Injury.

Ph.D. in Physiology & Biophysics:

Lecturer

Physiology 519, Systems Physiology. Integrative Approaches to Cardio-Pulmonary Research II; Diaphragmatic Fatigue.

Ph.D. in Physiology & Biophysics:

Lecturer

Physiology 480, Systems Physiology, Physiology of Organ Systems; Cardiac, Skeletal and Smooth Muscle Physiology Muscle Physiology.

Supervisor of Chris Nosek, Research Assistant (1999-2002), Dr. Sheila Andreatta-van Leyen, Post-Doctoral Fellow (2000-2002), Co-Supervisor of Dr. Leticia Brotto, Research Assistant II (1999-2003).

Research Thesis Committee:

Ilma Barros, Ph.D. Graduate, Organizational Behavior, CWRU 2001-2003.

John DiBella, Masters Graduate, Biomedical Engineering, CWRU, 2001-2003.

Xiaoli Zhao, UMDNJ-Rutgers Ph.D. candidate, graduated in 10/2006

Angela Thornton, UMDNJ-Rutgers Ph.D. candidate, expected graduation, Fall of 2008

Chris Ferrante, UMDNJ-Rutgers Ph.D. candidate, expected graduation, Spring of 2008

Research Thesis Advisor:

Xiaoli Zhao, UMDNJ-Rutgers Ph.D. candidate, graduation: October 2006

Angela Thornton, UMDNJ-Rutgers Ph.D. candidate, graduation, September of 2008

Robert Wood Johnson Medical School (2004-2007)

Medical School Curriculum

Instructor for the Cardiac Laboratory.

Instructor for the Respiratory Laboratory.

Instructor for several Small Teaching Groups, PCPs, Case Studies.

Lecturer

Muscle Injury and Muscle Fatigue (Medical Physiology).

Basis of Muscle Contraction (Medical Residency Program-Orthopedic Department, RWJMS and Robert Wood Johnson University Hospital)

Previous Research Advisees:

Yutaka Hirata

Xiaoli Zhao, UMDNJ-Rutgers Ph.D. candidate.

Angela Thornton, UMDNJ-Rutgers graduate student.
William Chao, Rutgers graduate student assistant.
Rachel Campbell, 2nd year Medical Student at Robert Wood Johnson Medical Student
Yaa Opong, 2nd year Medical Student at Robert Wood Johnson Medical Student
Edjacy Lopes, FTC, Brazil, Biomedicine undergraduate student.

Research Thesis Committee:

Xiaoli Zhao, Ph.D. Candidate, Joint Program (Physiology and Integrative Biology) between UMDNJ and Rutgers. (Co-Director)

Angela Thornton, Ph.D. Candidate, Joint Program (Physiology and Integrative Biology) between UMDNJ and Rutgers. (Director)

Chris Ferrante, Ph.D. Candidate, Joint Program (Physiology and Integrative Biology) between UMDNJ and Rutgers.

Post-doctoral Fellows advisor:

Dr. Xiaoli Zhao, (from 2005-2007 at RWJMS, Dr. Zhao now is a Research Assistant Professor at UMDNJ)

Dr. Yutaka Hirata (from 2004-2006 at RWJMS, Dr. Yutaka now is an Assistant Professor at Tohoku University in Japan)

Dr. Noah Weisleder (from 2005-2007 at RWJMS, Dr. Weisleder is now is an Assistant Professor at RWJMS)

Dr. Xuangai Cai (from 2006-2008 at RWJMS, Dr. Cai is now is an Assistant Professor at Louisville Medical School)

Dr. Michael Taylor, UMKC (under my supervision obtained his first grant and has left UMKC to join the University of Montana as an Assistant Professor)

Dr. Robin Craig, UMKC (current post-doc in my lab)

University of Missouri (2007-present)

Lecturer

N-120 Anatomy & Physiology I
N-160 Anatomy & Physiology I
Nursing PHD Program

Advisor

Robin Craig, Ph.D., Post-Doctoral Research Associate.
Kendra Baker, BS, UMKC undergraduate student
Michael Loghry, UMKC undergraduate student

Supervisor

Leticia Brotto, MD, Senior Research Associate and Lab Manager.
Robin Craig, Ph.D., Post-Doctoral Research Associate
Todd Hall, BSA; Research Associate
David Beauchamp, BA; Research Associate

Committees Membership

American Heart Association, Grant Reviewer

American Physiological Society, Associate Member of the Muscle Biology Group

UMKC University-wide High End Instrumentation Grants and Equipment

UMKC School of Nursing Curriculum Committee

UMKC, Schools of Dentistry, Medicine, Nursing and Pharmacy Confocal Microscopy

LIST OF PUBLICATIONS

BOOK CHAPTERS

Tony L. Creazzo, Burch, J. and **Marco A. de Paula Brotto**. The Excitation-Contraction Coupling in Cardiac Dymorphogenesis. *In: The Developing Heart, Chapter 23: pp. 313-324. Lippincott-Raven Publishers, Philadelphia/New York, 1997.*

PEER-REVIEWED FULL-PAPERS (Excluding over 100 abstracts and conference presentations and 5 manuscripts in preparation)

1. **Brotto, M.A.P.**; Fogaca, R.T.H.; Creazzo, T.L.; Godt, R.E.; & Nosek, T.M. The effect of 2,3-Butanedione 2-monoxime (BDM) on Ventricular Trabeculae from the Avian Heart. *Journal of Muscle Research and Cell Motility*. 16:1-10, 1995.
2. Maughan, D.W., Malloy, J.E., **Brotto, M.A.P** and Godt, R.E. Approximating the isometric force-calcium relation of intact frog muscle using skinned fibers. *Biophysical Journal*. 69:1484-1490, 1995.
3. **Brotto, M.A.P** and Creazzo, T.L, The Excitation-Contraction coupling in the Embryonic Chick Heart. *American Journal of Physiology*: 270 (Heart Circ. Physiol. 39):H518-H525, 1996.
4. **Brotto, M.A.P** & Nosek, T.M. Hydrogen peroxide disrupts Ca²⁺release from the sarcoplasmic reticulum of rat skeletal muscle fibers. *Journal of Applied Physiology*: 81:731-737, 1996.
5. Chu, T.C., Jarrett J.L., Burch, **Brotto, M.A.P**, Creazzo, T.L, and. Potter, D.E. Elevation of Intracellular Concentration in rabbit Nonpigmented ciliary Epithelial Cells by Allicin. *Comparative Biochemistry and Physiology*. 115C:89-94, 1996.
6. Simon J.C., Godt R.E., Greene, C.H., Leatherbury, L.S., Zolotouchnikov, V.V., **Brotto, M.A.P**, Copp, A. J., Kirby M.L., and Creazzo, T.L. Neural Crest is Involved in Development of Abnormal Myocardial Function. *Journal of Molecular and Cellular Cardiology* 29:2675-2685, 1997.
7. Creazzo, T.L, Burch, J.L., and **Brotto, M.A.P**. The Excitation-Contraction Coupling in Cardiac Dymorphogenesis. In: The Developing Heart, Chapter 23: pp. 313-324. Lippincott-Raven Publishers, Philadelphia/New York, 1997.
8. Nosek, T.M., Fogaca, R.T.H., **Brotto, M.A.P**, Hatcher, C.G., and Godt, R.E. Effect of Cardiac Neural Crest Ablation on Contractile Force and Calcium Uptake and release in Chick Heart. *American Journal of Physiology* 273:H1464-H1471, 1997.
9. Creazzo, T.L, **Brotto, M.A.P**, & Burch, J.L. Excitation-contraction coupling in the day 15 embryonic chick heart with persistent truncus arteriosus (PTA). *Pediatric Research* 42:731-737, 1997.
10. Nosek, T.M. and **Brotto, M.A.P**, Oxidation Effects in Fatigue: Unphysiological responses to "depolarization" in skinned muscle fibers *Journal of Applied Physiology*. 82:2055-2056, 1997.
11. Shi, B., Bhat, G.K., **Brotto, M.A.P**, Mahesh, V.B., Nosek, T.M. and Brann, D.W. Bradykinin Receptor Localization and Cell Signaling Pathways Utilized by Bradykinin in the Regulation of GnRH Secretion. *Endocrinology*. 140:4669-76, 1999.
12. **Brotto, M.A.P**, Nosek, C.M., Brotto, L.S., van Leyen, S.A., and Nosek, T.M. Effects of Acute Hypoxia on the Contractility and Fatigability of Intact and Skinned Mouse Diaphragm Muscle. *Pflugers Arch* 440:727-734, 2000.

13. Nosek, T.M., **Brotto, M.A.P.**, Essig, D.A., Mestril, R.A., Conover, R.C., Dillmann, W.H., and Kolbeck, R.C. Functional Properties of Skeletal Muscle from Transgenic Animals with Upregulated Heat Shock Protein 70, *Physiological Genomics*, 4:25-33, 2000.
14. Nagaraj, R.Y., Nosek, C.M., **Brotto, M.A.P.**, Nosek T.M. and Ma, J. Contractile Properties of Skeletal Muscles from Mice Lacking the MG29 Gene. *Physiological Genomics* 4:43-9, 2000.
15. **Brotto, M.A.P.**, van Leyen, S.A., Brotto, L.S., Nosek, C.M., Jin, J.-P., and Nosek, T.M. Hypoxia/Fatigue-Induced Degradation of Troponin I and Troponin C: New Insights into Physiologic Muscle Fatigue, *Pflugers Arch.* 442:738-44, 2001.
16. **Brotto, M.A.P.**, Nosek, T.M. and Kolbeck R.C. Influence of Aging on the Fatigability of Isolated Mouse Skeletal Muscle. *Experimental Physiology*, 87:77-82, 2002.
17. Jin, J.-P., **Brotto, M.A.P.**, Hossain, M.M., Huang, Q.-Q., Brotto, L.S., Nosek, T.M., Morton, D.H., and Crawford, T.O. Truncation by Glu180 Nonsense Mutation Results in Complete Loss of Slow Skeletal Muscle Troponin T in A Lethal Nemaline Myopathy. *Journal of Biological Chemistry (JBC)*, Jul 11;278(28):26159-65, 2003.
18. **Brotto, M.A.P.** Chronic Stress by Immobilization and Sensitivity of the Isolated Rat Pacemaker to Isoproterenol: Roles of Corticosterone, Neuronal Uptake and β -Adrenergic Homogeneity. *Journal of Pharmacology and Experimental Therapeutics (JPET)*, Sep; 306(3):1152-8, 2003.
19. Thomas M. Nosek, **Marco A. P. Brotto**, Jin, J-P, TroponinT isoforms alters the tolerance transgenic mouse cardiac muscle to acidosis, *Archives of Biochem. & Biophysics*, 15;430(2):178-84, 2004.
20. **Brotto, M.A.P.***, Nagaraj, R.Y., Brotto, L.S., Nosek, C.M., Takeshima, H., Nosek, T.M., and Ma, J. MG29 Modulation of the ECC and Contractile Processes in Fast-Twitch Muscles, *Cell Research*, 14(5):373-8, 2004.
21. **Brotto, M.A.P.***, Mauro T. Marrelli, Leticia S. Brotto, Marcelo Jacobs-Lorena and Thomas M. Nosek Biochemical and functional modifications of mammalian skeletal muscles infected with malaria, *Experimental Physiology*, 90(3):417-25, 2005.
22. Xu Wang, Noah Weisleder, Claude Collet, Jingsong Zhou, Yi Chu, , Yutaka Hirata, Xiaoli Zhao, Zui Pan, **Brotto, M.A.P.**, Heping Cheng, and Jianjie Ma. Uncontrolled Calcium Sparks as Dystrophic Signal for Mammalian Skeletal Muscle. *Nature Cell Biology.* 7(5):525-30, 2005
23. Zhao X, Yoshida M, Brotto L, Takeshima H, Weisleder N, Hirata Y, Nosek TM, Ma J, **Brotto M.** Enhanced resistance to fatigue and altered calcium handling properties of sarcalumenin knockout mice. *Physiol Genomics.* 23(1):72-8, 2005.
24. **Brotto, M.A.P.**, Brandon, B.J., Brotto, L.S., Nosek, T.M., Jin, J.-P. Coupled expression of troponin T and troponin I isoforms in single mammalian skeletal muscle fibers correlating to contractility. *Am J Physiol Cell Physiol.*;290(2):C567-76. 2006
25. Yutaka Hirata*, **Brotto, M.A.P.***, Zui Pan, Xu Wang, Noah Weisleder, Yi Chu, Peihui Lin, Xiaoli Zhao, Hiroshi Takeshima, and Jianjie Ma. Uncoupling of Store-Operated Ca Entry and Ca-Induced Ca Release through Silencing of Junctophilin Genes. *Biophysical Journal*, 90(12):4418-27, 2006. (*Equal contribution)
26. **Marco Brotto***, Noah Weisleder*, Shinji Komazaki, Zui Pan, Thomas Nosek³, Jerome Parness, Hiroshi Takeshima, Jianjie Ma Aged skeletal muscle displays compromised Ca²⁺ spark signaling and segregated intracellular Ca²⁺ release. *Journal of Cell Biology*, 28;174(5):639-45, 2007. (*Equal contribution).
27. X.Zhao, N.Weisleder, Thorton, A., X. Han, Z. Pan, J. Parness, J. Ma, and **Brotto, M.A. P.** "Azumolene inhibits a component of store-operated calcium entry coupled to the skeletal muscle ryanodine receptor." *Journal of Biological Chemistry*;281(44):33477-86, 2007
28. **Brotto, M.A. P.**, Weisleder, N; Ma, J. Store-operated Calcium Entry in Muscle Physiology. *Current Chemical Biology*, 1, 87-95, 2007, Invited Review
29. X.Zhao, N.Weisleder, Thorton, A., Ma, J. and **Brotto, M.A. P.** "Compromised Store-Operated Calcium Entry in Aged Muscle" *Aging Cell*, 2008, Aug;7(4):561-8.
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