

CURRICULUM VITAE

Mark Alan Sussman

PERSONAL INFORMATION

Business address: SDSU Heart Institute
San Diego State University
Department of Biology, LS 426
5500 Campanile Drive
San Diego, CA 92182

Business telephone: 619/594-2983

Business Fax: 619/594-8635

Business email: msussman@sdsu.edu

Place of birth: Burbank, California

Date of birth: November 14, 1959

EDUCATION

1977-1981 University of California, Davis, CA 95616
B.S. Biological Sciences

1981-1983 California State Univ., Northridge, CA 91330
M.S. Biology (emphasis in Microbiology)

1983-1989 University of So. Calif. Los Angeles, CA 90033
Ph.D. Microbiology

ACADEMIC APPOINTMENTS

2008-present Distinguished Professor of Biology with tenure
California State University, San Diego

2003-present Professor with tenure, Department of Biology
California State University, San Diego

2001-2003 Associate Professor with tenure, Molecular Cardiovascular Biology
The Children's Hospital and Research Foundation
University of Cincinnati College of Medicine - Affiliated

1995-2001 Assistant Professor, Molecular Cardiovascular Biology
The Children's Hospital and Research Foundation
University of Cincinnati College of Medicine - Affiliated

1993-1995 Assistant Professor of Research Department of Biochemistry and
Molecular Biology University of Southern California

1991-1993 Research Fellow
Institute for Genetic Medicine, University of Southern California

1988-1991 Research Fellow
Department of Molecular Biology, The Scripps Research Institute

1983-1988 Graduate Assistant
Department of Microbiology, University of Southern California

1982-1983 Laboratory Instructor
Department of Biology, California State University

OTHER PROFESSIONAL APPOINTMENTS

2003 – present	Member, SDSU Heart Institute, San Diego State University
2007 - present	Visiting Scholar Appointment, University of California, San Diego
2012 – present	Adjunct Professor, Mount Sinai Hospital Medical Center, New York, NY
2012 – present	Director, Integrated Regenerative Research Institute, San Diego State University

MAJOR ADMINISTRATIVE RESPONSIBILITIES

2017-present	Research, Tenure, and Promotions (RTP) Committee Biology Department
2005-2011	Member, Institutional Animal Care and Use Committee San Diego State University
2004-2007	Member, Joint Doctoral Program Admissions Committee San Diego State University
2003-2005	Search Committee, Biology Department Faculty Recruitment, San Diego State University
2003-2005	Chair, Vivarium Users Committee

MAJOR COMMITTEE ASSIGNMENTS

1998-2000	Institutional Research Computing Committee member, Children's Hospital Research Foundation
2000-2001	Website Advisory Panel, Children's Hospital Research Foundation
1998-2001	Member, Molecular Signaling 5a Study Section, Southeastern Affiliates American Heart Association.
2000-2001	Ad hoc reviewer, Experimental Cardiovascular Sciences (ECS) study section, NIH
2000-2001	Ad hoc reviewer, Veterans Administration MERIT award section
2000-2004	Member, Molecular Signaling II Study Group, National American Heart Association
2001-2002	Ad hoc reviewer, Cardiovascular B (CVB) study section, NIH
2001	Ad hoc reviewer, RFA study section from National Institute on Deafness and Other Communication Disorders
2001-2005	Member, Research Committee, Ohio Valley Affiliate of American Heart Association
2002-2004	Ad hoc reviewer, AIDS and related research study section, NIH
2003	Reviewer, Special emphasis panel Cardiovasc. Study Sect., NIH
2003-2008	Abstract review, American Heart Association Scientific Sessions
2004-2007	Member, American Heart Association, Western Affiliates, Molecular Signaling Study Section
2004-2008	Member, Cardiac Contractility, Hypertrophy, and Failure Study section, National Heart Lung Blood Institutes, NIH

2005 Reviewer, Specialized Centers for Cell Based Therapy (SCCT) Committee, NHLBI

2005-2007 Leadership Committee, Council on Basic Cardiovascular Sciences, American Heart Association

2005-2008 Member and Chair, Marcus Young Investigator Awards Selection Committee, American Heart Association

2006-2009 Chair, American Heart Association: Melvin L. Marcus Young Investigator Awards Competition

2006 Chair, Special Emphasis Panel for Bioengineering Research Study Section, NIH

2006 Reviewer, Special Emphasis Panel for Vascular Cell and Molecular Biology (VCMB) Study Section

2006-2008 Chair, Cardiac Contractility, Hypertrophy, and Failure Study section, National Heart Lung Blood Institutes, NIH

2007 Program Chair, 4th Annual Symposium of the American Heart Association Council on Basic Cardiovascular Sciences, "Cardiovascular Repair and Regeneration: Structural and Molecular Approaches in the Cellular Era"

2007 Member, Editorial Board, Journal of Molecular and Cellular Cardiology

2007 Peer Reviewer, Philip Morris External Research Program 2008-2010
Vice-Chair, American Heart Association Basic Cardiovascular Science Research Council

2009-2015 Councilor, International Society for Heart Research – North American Section.

2010-2012 Chair, American Heart Association Basic Cardiovascular Science Research Council

2010-2012 Nominations Committee, American Heart Association Basic Science Research Council

2010-2012 Fall Program Cardiovascular Scientific Sessions Program Committee, American Heart Association

2011-2012 Reviewer, Special Emphasis Panel for Program Projects review (2), NIH-NHLBI

2011-2013 Scientific Advisory Council Committee Nominating Subcommittee, American Heart Association National

2013 Reviewer, Jewish Heritage Fund for Excellence in Research

2013 Member, SDSU Vivarium Program Review, responsible for Administration evaluation

2012-2013 Reviewer, Special Emphasis Panel for Program Projects review (2), NIH-NHLBI

2014 Chair, NIH Special Emphasis Panel Committee Review, Improvement of Animal Models for Stem Cell-Based Regenerative Medicine, IAR

2014 – 2017 Telethon Foundation (TIGEM) reviewer, Milan IT

2015 NIH Aging and Geriatrics Scientific Review Panel

2011-2017

Reviewer, NIH-NRSA Fellowship (F10, F31, F32, etc...) study sections
(March, June, and November cycles to date)

EDUCATIONAL LEADERSHIP / ORGANIZATION

- 1999 Session Chair, American Heart Association: Cell Signaling in Hypertrophy III: regulation at multiple levels.
- 1999 Session Chair, Japanese Circulation Society: Gene expression in cardiovascular disease.
- 2001 American Heart Association: Heart failure: hormones and neurohormones.
- 2005 Session Chair, American Heart Association: Akt kinase: new insights change the old paradigm
- 2005 Session Chair, American Heart Association: Molecular basis of cardiac hypertrophy
- 2005 Session Chair, Microscopy and Microanalysis: Identification and characterization of stem cells
- 2006 Session Chair, American Heart Association: How to Recognize a Cardiac Stem Cell
- 2006 Session Chair, American Heart Association: Molecular Mechanisms of Postnatal Growth
- 2006 Session Chair, American Heart Association: Stem Cell Signaling in the Myocardium
- 2006 Session Chair, FASEB: Cardiac Stem Cells: revolutionizing myocardial biology and regenerating the heart
- 2007 Discussion leader, NHLBI workshop on Modeling Mitochondrial Dysfunction in Cardiovascular Disease
- 2007 Program Chair, 4th Annual Symposium of the American Heart Association Council on Basic Cardiovascular Sciences, "Cardiovascular Repair and Regeneration: Structural and Molecular Approaches in the Cellular Era"
- 2008 Session Chair, American Heart Association: Estrogen: Can we reconcile animal studies with the WHI?
- 2008 Session Chair, American Heart Association: Control of stem cell fate: above and beyond transcription factors.
- 2008 Session Chair, International Society for Heart Failure Research: Recent advances in Stem Cell Biology
- 2008 Chair, International Society for Heart Failure Research: Jay Cohn New Investigator Award: Basic Science
- 2007 – 2009 Vice Chair, Basic Science Council, American Heart Association National Organization
- 2010-2012 Chair, Basic Science Council, American Heart Association National Organization
- 2013 Session Chair, American Heart Association BCVS summer meeting: Targets for Heart Therapy
- 2013 Session Chair, American Heart Association Scientific Sessions, George E. Brown Memorial Lecture and Adult Stem Cells: Cardiac

Homeostasis and Repair

2012-2014	Chair, Nominating Committee, Basic Science Council, American Heart Association National Organization
2014	Session Chair, International Society for Heart Research
2014	Session Chair, BCVS meeting, American Heart Association
2015	Session Chair, American Heart Association BCVS summer meeting
2015	Session Chair: American Heart Association Scientific Session meeting
2016	Session Chair, American Heart Association BCVS summer meeting
2016	Session Chair, Gordon Research Conference in Cardiac Regulatory Mechanisms
2016	Session Chair: American Heart Association Scientific Session meeting
2017	Session Chair, American Heart Association BCVS summer meeting
2017	Session Chair: American Heart Association Scientific Session meeting

PROFESSIONAL SOCIETIES

1978	Sigma Alpha Mu Fraternity, Davis Chapter, founder
1982	Sigma Xi Scientific Research Society, associate member
1994 - present	Basic Science Council, American Heart Association, member
1994	American Society for Cell Biology, member
1997	Microscopy Society of America, member
1998 - present	American Society for Biochemistry and Molecular Biology member
2000 - present	International Society for Heart Research, member
2003 - present	American Society for Pharmacology and Experimental Therapeutics member
2019 – present	Cardiac Muscle Society, member

EDITORIAL BOARDS

2002 – 2007; 2014 -	American Journal of Physiology: Heart and Circulatory Physiology
2003 – 2008; 2013 -	Journal of Biological Chemistry
2004 - present	Journal of Molecular and Cellular Cardiology
2004 – present	Trends in Cardiovascular Research
2005 - present	Regenerative Medicine
2005 - present	Circulation Research, Consulting editor from 2009 - 2019
2008 - present	Basic Research in Cardiology
2010 – present	Cardiovascular Research
2013 - present	PLoS One
2018 – present	Scientific Reports

Referee for Science, Nature, Nature Medicine, Nature Communications, Circulation, Journal of Cell Biology, American Journal of Physiology, Biophysical Journal, Biochemical and Biophysical Abstracts, American

Journal of Respiratory and Critical Care, Canadian Journal of Pharmacology, Developmental Dynamics, Cell Motility and the Cytoskeleton, Current Biology, European Journal of Pharmacology, Journal of the American College of Cardiology, European Heart Journal and many more.

AWARDS AND HONORS

1983	Sigma Xi Award for student research
1984	Student Research Fellowship in Oncology
1990-1991	Neuromuscular Disease Fellowship Muscular Dystrophy Association
1993	Finalist, Louis N. Katz Young Investigator Award, American Heart Association
1993-1994	Advanced Research Fellowship American Heart Association, Greater Los Angeles Affiliate
1994	Second Prize, Laverna Titus Young Investigator Award American Heart Association, Greater Los Angeles Affiliate
1995	Initial Investigator Award and Grant in Aid Award American Heart Association, Greater Los Angeles Affiliate
1996	Grant in Aid Award, Ohio American Heart Association
1996	Scientist Development Grant, National American Heart Association
1997	Institutional Research Award, American Cancer Society
1997	Cardiovascular Center Research Award, University of Cincinnati
2000	Established Investigator, National American Heart Association
2001	Eli Lilly Centre for Women's Health Award
2006	Recipient of Presidential Lecture award, International Society for Heart Research, Toronto, Canada
2007	Top 25 Influential Faculty Award, San Diego State University
2007	Stephen and Mary Krop Honorary Lectureship in Pharmacology, Georgetown University
2008	Distinguished Professor of Biology, San Diego State University, Albert W. Johnson Lecturer
2008	E.R. Smith Lectureship in Cardiovascular Research, University of Calgary
2009	Orkand Lecture, Marine Desert Molecular Biological Laboratory, Bar Harbor, Maine
2010	Fellow of the American Heart Association
2011	Keynote speaker, Perry Halushka Student Research Day, Medical University of South Carolina, Charleston SC
2011	Keynote speaker, "Stem Cells in Regenerative Medicine" Presidential Symposium, Cardiac Signaling Center, Medical University of South Carolina, Charleston SC
2012	Keynote speaker, International Society for Heart Research, Banff, Canada
2012	Mayoral proclamation in recognition of Frontiers in Cardiovascular Regeneration Symposium

RESEARCH AND TEACHING CONTRIBUTIONS

Pioneering studies relating Akt/PKB and gender have demonstrated myocardial differences between the sexes in Akt/ PKB nuclear accumulation that stem from estrogenic stimuli. This finding was the genesis of a pivotal contribution to survival signaling networks in heart: targeting of Akt/PKB to the cardiomyocyte nucleus affords cardioprotection without deleterious hypertrophic consequences. Fusing our ongoing studies of cardioprotection together with my background in cytoskeletal biology, we have expanded studies of nuclear Akt/PKB biology to include novel associations with LIM domain proteins that shuttle through the nucleus. Our current Akt/PKB-related research involves the surprising effects of nuclear Akt/PKB signaling for cardiomyocytes including anti-hyper-trophic signaling, induced downstream mediators of cell survival including Pim-1 kinase, and the potentiation of survival and regenerative capacity for cardiac stem cells.

Repairing and restoring myocardial structure and function represents the ideal outcome for treatment of cardiomyopathy. Recent discoveries related to regeneration and repair of the myocardium using stem cells have shifted the paradigm of treatment for myocardial disease. Discoveries linking stem cell-based therapies to improvements in myocardial performance have invigorated the field, but current limitations in stem cell-based approaches present significant barriers. Our research concentrates upon existing challenges in stem-cell based treatment and how these may be overcome by incorporation of gene therapy, resulting in a combinatorial approach that uses genetic engineering to potentiate stem cell activity for myocardial repair.

Cell Biology - organization and regulation of cytoskeletal structures, signal transduction pathways regulating structure and survival. Studied using conventional and confocal fluorescence microscopy (using computer-based image analysis), monoclonal antibody production and purification, primary cell culture, *in situ* hybridization, viral production, microinjection, real-time calcium imaging.

Molecular Biology - gene cloning and adenoviral-mediated overexpression in sense (+) and antisense (-) orientations. Methods include transfection, polymerase chain reaction; Southern and Northern blot analysis, cDNA library screening, bacterial and adenoviral-based expression vectors, plasmid purification, restriction enzyme analysis.

Biochemistry - protein purification and characterization, fast pressure liquid chromatography (FPLC), gel electrophoresis, western blot analysis, protein-protein interaction (by solid phase blot binding and non-denaturing gel electrophoresis).

Transgenesis - design and characterize transgenic mouse models of cardiomyopathy.

Stem cell biology and regenerative medicine – molecular biology and genetic engineering to enhance myocardial regeneration and repair; molecular and cellular biology of cardiac stem cells.

PATENTS ISSUED

- 2013 “Compositions and methods for kinase-mediated cytoprotection and enhanced cellular engraftment persistence.” International Patent No. PCT/US2010/035362 Issued November 11, 2011.
- 2017 “Cardiac, mesenchymal, and endothelial progenitor cell (CPC) chimeras and methods for making and using them” US Patent No. 10,071,121. Issued September 11, 2018

FUNDED RESEARCH PROJECTS

- 2020 - 2023 California Tobacco-Related Disease Research Program
High Impact Research Award
“Prenatal nicotine / tetrahydrocannabinol exposure promotes

	myocardial damage: a brain-heart parallel”
2020 - 2022	California Tobacco-Related Disease Research Program Pilot Research Award “Gender differences in response to nicotine – role of Akt / Pim-1 signaling axis”
2017-2021	NIH, NHLBI, R01 (3.0 percentile) Resolving myocardial regeneration by tracking commitment of ckit+ cells
2018-2021	NIH, NHLBI, R01 Regulation of signal transduction to treat heart failure- LIPS

PENDING PROPOSALS

FUNDED RESEARCH PROJECTS (COMPLETED)

1997-2002	NIH-NHLBI, PI, R29 “Neonatal response to myofilament degeneration”
1998-2000	AHA-Grant in Aid, PI, “Establishing a transgenic mouse model for chronic and progressive dilated cardiomyopathy”
2000-2003	AHA-Established Investigator Award, PI, “Signaling to regulate adhesion in dilated cardiomyopathy”
2001-2005	NIH-NHLBI, PI, “Akt activation as treatment for dilated cardiomyopathy”
2001-2002	Eli Lilly and Company, Centre for Women’s Health Research Award, PI, “Estrogenic activation of Akt protein kinase in the heart”
2001-2003	NIH-NHLBI, PI, “Cytoskeletal adhesion in cardiac remodeling”
2003-2009	NIH-NIA, PI: Project 4, Core C “Potentiating stem cells to retard cardiac aging”
2009-2011	NIH, NHLBI, PI, Challenge grant Engineering cardiac progenitor cells to enhance myocardial regeneration”
2010-2012	NIH, NHLBI, PI, R21 “Nucleolar disruption in response to cardiomyopathic stress and injury”
2010-2012	NIH, NHLBI, PI, R21 “Inducible Notch improves progenitor cell repair of the damaged heart”
2010-2012	NIH, NHLBI, PI, R21 “Control of cardiac growth by Calcium-dependent phosphorylation of histones”
2011-2013	NIH, NHLBI, PI, R13 “Symposium: AHA Council on Basic Cardiovascular Sciences”
2006-2012	NIH, NHLBI, PI, Program Director PPG “Protecting myocardium by enhancing mitochondrial integrity”
2011-2015	NIH, NHLBI, R01 “Antagonism of myocardial aging and senescence with Pim-1 kinase”

2001-2016	NIH, NHLBI, PI, R01 “Regulation of signal transduction to treat heart failure” (formerly titled “Akt activation to treat heart failure”)
2012-2017	NIH, NHLBI, PI, R01 “Molecular Engineering of Damaged Myocardium To Enhance Regeneration And Repair
2013-2018	NIH, NHLBI, R01 “Beta-adrenergic signaling: double edged sword of myocardial repair”
2013-2017	NIH, NHLBI, R01 “Cardioprotection by optimizing mTOR activity”
2008-2018	NHLBI, PI, MERIT award “Stem cell signaling in the pathologically challenged myocardium
2013-2018	NIH, NHLBI, P01 “Restoring Myocardial Healing”
2014-2019	Foundation Leducq – Transatlantic Networks of Excellence in Cardiovascular Research “Cellular and Molecular Targets to Promote Therapeutic Cardiac Regeneration”
2014-2018	NIH, NHLBI, R01 (8 th percentile) “Enhanced Myocardial Repair with CardioClusters and CardioChimeras”
2015-2019	NCI, U54. SDSU/UCSD Cancer Center Comprehensive Partnership (co-PI)

TRAINEES

1998-2003	David Plank, MD, PhD, University of Cincinnati, practicing physician
2000-2003	Jaime Melendez, Postdoctoral Fellow, now Faculty University of Santiago, Chile
2002-2005	Yasuyuki Tsujita, Postdoctoral fellow, now Shiga Hospital, Japan
2003-2005	Takahiro Kato, Postdoctoral Fellow, Director of Cardiology, Edogawa Hospital, Japan.
2004-2005	Yan Chen, Graduate Student, Awarded MS, now working in Bio-Tech Industry
2004-2005	Jonathan Otsuji, Graduate Student, Awarded MS, now working in Bio-Tech Industry
2005-2007	John Muraski, Rees – Stealy fellowship awardee, awarded PhD in 2007, now CEO of Convoy Therapeutics
2005-2007	Jenna Fransioli, Graduate Student, awarded MS, now a veterinarian (DVM) working in California
2004-2007	Greg Emmanuel, Graduate Student, awarded MS, completed MD, now in clinical practice
2005 - 2012	Travis Cottage, ARCS Scholar, AHA predoctoral fellowship awardee, Rees – Stealy fellowship awardee, Graduate Student, awarded MS in 2008, PhD completed in 2012, now research scientist at AstraZeneca, Washington DC

2005 - 2008	Marta Rubio Ph.D., postdoctoral fellow, now at Life Technologies
2006 - 2008	Walter Woo, Graduate student, awarded MS, now in Biotech industry
2007 - 2009	Gwynne Andaya, Graduate student, awarded MS, now working for Calbiochem Corporation
2006- 2010	Kimberlee Fischer, ARCS Scholar, Graduate Student, PhD completed 2010, now Associate Director at Inception Therapeutics
2006 - 2011	Brandi Bailey, Rees – Stealy fellowship awardee, Graduate student, PhD completed in 2011, now research scientist at Takeda Pharmaceuticals San Diego
2007 - 2010	Matt Mason, Graduate Student, completed MS in 2010, now technical support at Allergan in Irvine, CA
2008 - 2010	Zhaokang Cheng, postdoctoral fellow, now research associate at University of North Carolina
2008 - 2011	Daniele Avitabile, PhD, postdoctoral fellow, returned to faculty position at Universita di Roma Sapienza, Rome Italy
2009 - 2012	Balaji Sundaraman, Graduate student, MS completed 2012, now next generation sequencing core director, UT Southwestern
2009 - 2013	Haruhiro Toko, Uehara fellow, AHA postdoctoral fellow in residence completed 2013, now research scientist at Tokyo University
2009 - 2013	Mohsin Khan, AHA postdoctoral fellow in residence completed 2013, now assistant professor of Physiology at Temple University, Philidelphia PA
2009 - 2013	Mirko Voelkers, DFG fellow, postdoctoral fellow, now research assistant professor at University of Heidelberg, Germany with joint appointment as research assistant professor at SDSU
2009 - 2013	Mathias Konstandin, DFG fellow, postdoctoral fellow, now research assistant professor at University of Heidelberg, Germany
2009 - 2013	Sadia Mohsin, postdoctoral fellow, now assistant professor of Pharmacology at Temple University, Philidelphia PA
2009 - 2013	Michael McGregor, Graduate Student, awarded MS degree 2013
	2010 - 2013 Brett Collins, Graduate Student, awarded MS degree 2013, now in biotech industry technician at Ron Evans lab, Salk Institute, La Jolla CA
2005 -	Natalie Gude, Graduate Student, AHA predoctoral fellowship awardee, PhD completed 2010, now research assistant professor, San Diego State University Biology Department
2008 - 2015	Shabana Din, Graduate student, MS completed 2010, PhD completed in Sussman lab 2014, AHA predoctoral fellowship awardee, now a Research Scientist at Millipore Sigma
2008 - 2015	Pearl Quijada, Graduate student, NIH minority supplement awardee, ARCS scholar, Rees – Stealy awardee, AHA predoctoral fellowship awardee, ISHR Early career investigator finalist, MS completed 2010, completed PhD 2015, now assistant professor at UCLA
2005-2007; 2010 - 2013	Sailay Siddiqi, Medical Student Trainee, returned for graduate thesis

work in 2010, MD / PhD awarded in 2014 in Utrecht NL Now cardiac transplant surgeon.

2012 - 2014 Kaitlen Samse, graduate student, MS completed 2014. Now research operations manager at Poseida Therapeutics, San Diego, CA

2011 - 2014 Nirmala Hariharan, postdoctoral fellow, AHA postdoctoral fellowship awardee, AHA Marcus award finalist, now research scientist at Roche Laboratories, San Francisco

2013 - 2014 Nathalie Nguyen, postdoctoral fellow, now research scientist at Arena Pharmaceuticals, San Diego, CA.

2014 - 2017 Alexandra Casillas, graduate student, Rees –Stealy awardee, now a Safety Data Sheet Coordinator at Lawrence Livermore National Laboratory.

2014 - 2016 Maryam Moshref, graduate student, completed PhD at University of California, Davis, postdoctoral studies at Genentech, San Francisco CA

2014 - 2017 Veronica Sacchi, postdoctoral fellow in residence, Swiss National Science Foundation fellowship awardee, now a research scientist at Phenovista Biosciences, San Diego CA.

2014 - 2018 Farid Khalafalla, postdoctoral fellow in residence, NIH F32 recipient, now Assistant Professor at School of Pharmacy, California Health Sciences University.

2015 - 2018 Taeyong Kim, postdoctoral fellow in residence, Korean National Fellowship awardee, now research bioinformatics scientist at Kite Pharma.

2006 - 2018 Roberto Alvarez, Graduate Student, NIH minority supplement awardee, MS completed 2010, completed PhD 2018, now microscopy technical support for Leica Microsystems.

2015 – 2017 Kelli Korski MS awarded in 2019, now senior research associate at Poseida Therapeutics, San Diego CA

2015 -2019 Dieter Kubli, postdoctoral fellow in residence, NIH F32 recipient, now Postdoctoral fellow, now a Senior Scientist at Ionis

2015 - 2019 Jessica Wang, graduate student, completed PhD in 2019, Rees – Stealy awardee, now postdoc with Hina Chaudry at Mount Sinai Med Center, New York, NY

2012 - 2020 Megan Monsanto, Graduate Student, MS awarded 2014, multiple predoctoral fellow awards, PhD awarded 2020, now Research Scientist at Direct Biologics, San Diego CA

2014 - 2020 Kathleen Broughton, Postdoc NIH F32 recipient, AHA postdoc award recipient (declined), now Assistant Professor of Research at SDSU and examiner for the US Patent and Trademark Office, Alexandria VA

2016 - 2020 David Ebeid, MS degree awarded 2020, now research technician for Poseida Therapeutics, San Diego, CA

2017 - Fareheh Firouzi, graduate student, MS awarded 2018, pursuing PhD degree

2018 - Oscar Hernandez-Echeagaray, graduate student, pursuing PhD

2020 - Clarissa Savko, MS student

2020 - Grant Shain, MS student

SELECTED INVITED PRESENTATIONS

- 1) Masonic Medical Research Institute, Utica NY 2020: Polyploidy: Doubling Down on Cardiac Adaption and Regulation
- 2) Plant and Animal Genome Conference XXVII, San Diego CA 2020: Myocardial Regeneration: Uncommon Sense for Common Problems.
- 3) American Society for Preventive Cardiology Congress on CVD Prevention, San Antonio, Texas 2019.
- 4) ISHR World Congress, Beijing, China, 2019: Stem Cells for Precision Medicine
- 5) 3rd Eastern Symposium in Stem Cell Cardiac Repair, Shanghai, China, 2019: Polyploidy: Doubling Down on Cardiac Adaption and Regulation
- 6) CVRI Symposium, Baylor College of Medicine, Houston, TX, 2019: Polyploidy: Doubling Down on Cardiac Adaption and Regulation
- 7) AHA Scientific Sessions, Chicago, IL November 2018. Omnivert A Misunderstood Personality.
- 8) BCVS at Great Wall of China Meeting, Beijing, China 2018
- 9) 2nd International Symposium on Regenerative Medicine, Ostuni, Brindisi, Italy 2018. Keynote: Myocardial Regeneration: Uncommon Sense for Common Problems.
- 10) Ohio Physiological Society, Cincinnati OH 2018. Keynote: Myocardial Regeneration: Uncommon Sense for Common Problems.
- 11) MCW Seminar Invitation- Milwaukee, WI 2018. Grand rounds: Myocardial Regeneration: Uncommon Sense for Common Problems.
- 12) 47th European Muscle Conference/European Society for Muscle Research- Semmelweis University, Budapest, Hungary August 2018. Keynote: Myocardial Regeneration: Uncommon Sense for Common Problems.
- 13) Basic Cardiovascular Sciences Scientific Sessions, San Antonio, TX July 2018: Omnivert A Misunderstood Personality.
- 14) Partnerships to Advance Cancer Health Equity (PACHE) Program Meeting Gaithersburg, MD July 2018.
- 15) 37th Annual Conference of the North American Section of the ISHR, Halifax, Nova Scotia 2018: Cardiac progenitor cells and heart regeneration session: Myocardial Healing, Simplified.
- 16) 1st Olympiad in Cardiovascular Medicine: International Symposium on Experimental and Clinical Cardiology Athens, Greece 2018: Myocardial Healing, Simplified.
- 17) 15th International Symposium on Stem Cell Therapy & Cardiovascular and Innovations meeting, Madrid, Spain 2018. Yes, but we have to stimulate it.
- 18) Fondation Leducq Meeting- CardioStemNet New York, NY 2018.
- 19) The American Heart Association Scientific Sessions, Anaheim, AZ 2017: Getting your Name out There: Becoming a Scientific Extrovert and Stem Cell Therapy: Next Generation Approaches
- 20) Kostas Research Center for Cardiovascular Nanomedicine Annual International Meeting Houston, TX 2017: Supercharging Stem Cell-Mediated Regeneration
- 21) Texas Heart Institute International Symposium on Cardiovascular Regenerative Medicine, Houston, TX 2017: Many Basic Scientist Don't Support Clinical Cell Therapy Should They?
- 22) Basic Cardiovascular Sciences 2017 Scientific Sessions, Portland, OR 2017: Moderator- Translationally Relevant Model Systems.
- 23) Telethon Scientific Committee Review Meeting, Rome, Italy 2017
- 24) 14th International Symposium on Stem Cell Therapy & Cardiovascular and Innovations, Madrid, Spain 2017: Empowering adult stem cells for myocardial regeneration.
- 25) 36th Annual Conference of the North American Section of ISHR, New Orleans MS 2017: Ploidy: We are so much more than diploid.
- 26) IMM Seminar Series, University of Texas Health Science Center, Houston Texas 2017: Simplifying Confusion: Adult Cardiac Stem Cell Biology.
- 27) University of Mississippi Medical Center, Seminar Program, Jackson MS 2017: Simplifying confusion: adult cardiac stem cell biology.
- 28) Emory University School of Medicine, Cardiovascular Biology Seminar, Birmingham, Atlanta 2017:

Cardiac c-kit biology: Revealed to be Relevant.

- 29) University of Alabama at Birmingham, 3rd annual NIH NHLBI PCBC Cardiovascular Tissue Engineering (CVTE), Workshop and Symposium Birmingham, AL 2017: Endogenous Cardiac Stem Cells
- 30) Louisiana State University Health Sciences Center, John Spitzer Distinguished Lecture 2016: Cardiac Stem Cell Wars.
- 31) American Heart Association, 83rd Scientific Sessions 2016, New Orleans – Cardiac Stem Cell Wars.
- 32) American Heart Association Leadership Academy, San Antonio TX, 2016: 1) The Next Big Thing in Cardiovascular Research, and 2) Early Career: How to Market Yourself and Your Science
- 33) American Heart Association Basic Science Council Research Conference 2016; Phoenix AZ: Cardiac Stem Cell Wars.
- 34) 13th International Symposium on Stem Cell Therapy and Cardiovascular Innovations, Madrid, Spain. 2015. Cardiac Stem Cell Wars.
- 35) Rebuilding the Failing Heart, Lugano Switzerland 2016: Cardiac Stem Cells: Coping with their Existential Crisis.
- 36) International Society for Heart Research, Buenos Aires AR 2015: Cardiac Stem Cell Wars.
- 37) University of Minnesota, Minneapolis MN, Lillhei Institute: Cardiac Stem Cells: Coping with their Existential Crisis.
- 38) National Heart Lung and Blood Biomedicine lecture 2016: Myocardial Regeneration: Uncommon Sense for Common Problems
- 39) Medical University of South Carolina, Student Research Symposium Keynote, Charleston SC 2015: Cardiac Stem Cells: Coping with their Existential Crisis.
- 40) University of California Santa Cruz, Stem Cell Conference 2015: Cardiac Stem Cells: Coping with their Existential Crisis.
- 41) American Heart Association, 82st Scientific Sessions 2015 – Early Career: How to Market Yourself and Your Science
- 42) American Heart Association Basic Science Council Research Conference 2015: Coping with their Existential Crisis.
- 43) International Society for Heart Research 2014, Seattle WA: Myocardial Regeneration Cardiac Stem Cells: Coping with their Existential Crisis.
- 44) 12th International Symposium on Stem Cell Therapy and Cardiovascular Innovations, Madrid, Spain. 2015. Cardiac Stem Cells: Coping with their Existential Crisis.
- 45) Ponce de Leon University, Puerto Rico 2015; Frontiers in Stem Cells: Myocardial Regeneration: Uncommon Sense for Common Problems
- 46) University of Miami, 2014: Myocardial Regeneration: Uncommon Sense for Common Problems
- 47) International Society for Heart Research, Miami FL 2014: Myocardial Regeneration: Uncommon Sense for Common Problems
- 48) Medical University of South Carolina, Halushka Student Research Symposium Keynote, Charleston SC 2014: Myocardial Regeneration: Uncommon Sense for Common Problems
- 49) University of California San Diego, Cardiovascular Seminar Series 2014: Myocardial Regeneration: Uncommon Sense for Common Problems
- 50) Foundation Leducq Network inaugural meeting 2014, Mount Sinai Med Center New York, NY: Myocardial Regeneration: Uncommon Sense for Common Problems
- 51) Texas Health Science Center, Houston TX 2014 - Adult Cardiac Stem Cells: You Can't Turn Back the Clock, but You Can Wind It Up Again
- 52) University of Cincinnati, Department of Pathology, Cincinnati OH 2014 - Adult Cardiac Stem Cells: You

Can't Turn Back the Clock, but You Can Wind It Up Again

- 53) Temple University, Philadelphia PA 2014 - Adult Cardiac Stem Cells: You Can't Turn Back the Clock, but You Can Wind It Up Again
- 54) American Heart Association, 81st Scientific Sessions 2013 - Cardiac Stem Cell and Myocyte Aging in a Cardiovascular Seminar entitled Cardiac Aging and DNA Damage
- 55) American Heart Association, 81st Scientific Sessions 2013 - Mammalian Heart Renewal by Preexisting Cardiomyocytes in a Cardiovascular Seminar entitled Cardiomyocyte Renewal
- 56) International Society for Heart Research 2013, Miami FL: Adult Cardiac Stem Cells: You Can't Turn Back the Clock, but You Can Wind It Up Again
- 57) Japanese International Society for Heart Research Specialty Section 2013: Restoring Healing to the Aged Heart
- 58) University of Hawaii 2013: By the Time You've Made It, You've Had it: Restoring Healing to the Aged Heart
- 59) L'Institut de Cardiologie de Montreal 2013: By the Time You've Made It, You've Had it: Restoring Healing to the Aged Heart
- 60) Brigham and Womens Hospital, Harvard Medical School, Boston MA 2012: Pim-p my heart.
- 61) American Heart Association, 80th Scientific Sessions, Session 2012 – Genetic and Epigenetic Reprogramming in Cardiac Development and Diseases session: Engineering to Make Cardiac Stem Cells for Heart Failure.
- 62) American Heart Association, 80th Scientific Sessions, Session 2012 – Aging and Stem Cell Therapy session: Bench to Bed: Engineered Stem Cells for Heart Failure Therapy.
- 63) University of California Los Angeles, Systems Biology of Heart Failure Symposium 2012: By the Time You've Made It, You've Had it: Restoring Healing to the Aged Heart
- 64) Academy of Cardiovascular Research Excellence, Chinese American Heart Association 2012: By the Time You've Made It, You've Had it: Restoring Healing to the Aged Heart
- 65) University of Kentucky, Cardiovascular Seminar Series 2012: By the Time You've Made It, You've Had it: Restoring Healing to the Aged Heart
- 66) University Medical Dental School New Jersey, Department of Cell Biology and Molecular Medicine, 2012: By the Time You've Made It, You've Had it: Restoring Healing to the Aged Heart
- 67) Cardiac Regulatory Mechanisms, Gordon Conference, Colby Sawyer College, NH 2012: Nucleostemin: not just for regeneration
- 68) International Society for Heart Research North American Society Meeting, Banff, Canada 2012 (Keynote): By the Time You've Made It, You've Had it: Restoring Healing to the Aged Heart
- 69) Mount Sinai School of Medicine, New York, New York 2012: By the Time You've Made It, You've Had it: Restoring Healing to the Aged Heart
- 70) Texas A&M University 2012 (Keynote, Grad Student Symposium): Supercharging stem cell-mediated regeneration.
- 71) University of Texas Southwestern 2012: Supercharging stem cell-mediated regeneration.
- 72) University of Iowa, Iowa City 2012: Supercharging stem cell-mediated regeneration.
- 73) Brigham and Womens Hospital, Harvard Medical School, Boston MA 2011: Telomeres: by the time you've made it, they've had it, but Pim-1 can fix it!
- 74) Beth Israel Deaconess Medical Center, Harvard Medical School, Boston MA 2011: Supercharging stem cell-mediated regeneration.
- 75) Loyola University, Chicago IL 2011: Supercharging stem cell-mediated regeneration.
- 76) Medical University of South Carolina, Halushka Student Research Symposium Keynote, Charleston SC

2011: From Sarcomeres to Signaling to Stem cells: Making Old Hearts Young Again

- 77) Medical University of South Carolina, Frontiers in Cardiovascular Regeneration International Symposium, Charleston SC 2011: Is there a right stem cell to treat heart failure?
- 78) Heart Failure Society of America, Boston, MA 2011: Is there a right stem cell to treat heart failure?
- 79) American Heart Association Basic Science Council Research Conference 2011: Supercharging stem cell-mediated regeneration.
- 80) University of Washington, Seattle WA 2011: Supercharging stem cell-mediated regeneration.
- 81) International Society for Heart Research, Philadelphia PA 2011: Supercharging stem cell-mediated regeneration.
- 82) Albert Einstein College of Medicine, Bronx, NY 2011: Supercharging stem cell-mediated regeneration.
- 83) Indiana University, Riley Heart Center, Indianapolis IN 2011: Supercharging stem cell-mediated regeneration.
- 84) University of California, San Diego. 13th La Jolla International Cardiovascular Conference 2011: Supercharging stem cell-mediated regeneration.
- 85) University of California, San Diego. Cardiology Grand Rounds 2010: Supercharging stem cell-mediated regeneration.
- 86) American Heart Association, 79th Scientific Sessions, Session - Enhancing Stem Cell Therapy 2010: Supercharging stem cell-mediated regeneration.
- 87) Heart Failure Society of America, San Diego, CA 2010: Supercharging stem cell-mediated regeneration.
- 88) American Heart Association Basic Science Council Research Conference 2010: Supercharging stem cell-mediated regeneration.
- 89) University of Cincinnati, Department of Pathology 2010: Pim-1 kinase revealed: a new chapter in myocardial regenerative and survival signaling.
- 90) University of Texas A&M 2010: Pim-1 kinase revealed: a new chapter in myocardial regenerative and survival signaling.
- 91) American Society for Bone Marrow Transplantation, Orlando FL 2010: Kinases that alter stem cell activity in the heart.
- 92) Cardiac Muscle Society, San Francisco, CA 2010: From Sarcomeres to Signaling to Stem cells: Making Old Hearts Young Again
- 93) Washington University, St. Louis MO 2010: Pim-1 kinase revealed: a new chapter in myocardial regenerative and survival signaling.
- 94) Indo US Bilateral Workshop: Redox Signaling in Degenerative Diseases, Heritage Village, Manesar, Gurgaon, India 2009: Pim-1 kinase revealed: a new chapter in myocardial regenerative and survival signaling.
- 95) University of Minnesota, Minneapolis MN: Pim-1 kinase revealed: a new chapter in myocardial regenerative and survival signaling.
- 96) Boston Scientific, St. Paul, MN: Pim-1 kinase revealed: a new chapter in myocardial regenerative and survival signaling.
- 97) American Heart Association, 78th Scientific Sessions, Myocardial Homeostasis and Regeneration 2009: Myocardial Stem Cells in Postnatal Development.
- 98) IRCSS Policlinico San Donato, Laboratorio di Cardiologia Molecolare, Milan Italy 2009: Pim-1 kinase revealed: a new chapter in myocardial regenerative and survival signaling.
- 99) Centro de Cardiologico Monzino, Milan Italy 2009: Pim-1 kinase revealed: a new chapter in myocardial regenerative and survival signaling.
- 100) Heart Failure Society of America Meeting Boston 2009: Pim-1 kinase revealed: a new chapter

in myocardial regenerative and survival signaling.

- 101) Maine Desert Molecular Biological Laboratory, Bar Harbor, Maine. Orkand Lecture: Stem Cells: scientific progress and future directions.
- 102) IX World Congress of the Society for Adaptive Medicine, Taipei Taiwan 2009: Cardiac Stem Cells: engineered to enhance myocardial regeneration.
- 103) Cardiovascular Biology and Heart Failure Symposium, Nanjing China 2009: Pim-1 kinase revealed: a new chapter in myocardial survival signaling.
- 104) American Heart Association Basic Science Council Research Conference 2009: Kinases that alter stem cell activity in the heart.
- 105) Society for Research Administrators International meeting 2009: Stem Cells: scientific progress and future directions.
- 106) International Society for Heart Research 2009: Pim-1 kinase revealed: a new chapter in myocardial survival signaling.
- 107) University of Chicago, IL 2009: Cardiac Stem Cells: engineered to enhance myocardial regeneration.
- 108) Northwestern University, Chicago IL 2009: Pim-1 kinase revealed: a new chapter in myocardial survival signaling.
- 109) Thomas Jefferson University 2009: Pim-1 kinase revealed: a new chapter in myocardial survival signaling.
- 110) Boston University 2009: Cardiac Stem Cells: engineered to enhance myocardial regeneration.
- 111) Cedars Sinai Medical Center, Los Angeles CA 2009: Cardiac Stem Cells: engineered to enhance myocardial regeneration.
- 112) University of California, Los Angeles 2009: Pim-1 kinase revealed: a new chapter in myocardial survival signaling.
- 113) University of Louisville, KY 2009: Cardiac Stem Cells: engineered to enhance myocardial regeneration.
- 114) University of Miami, FL 2008: Cardiac Stem Cells: engineered to enhance myocardial regeneration.
- 115) American Heart Association, 77th Scientific Sessions, Early Career and FIT Program 2008: Grant Writing 101.
- 116) American Heart Association, 77th Scientific Sessions, Cell Therapy: How does it work? 2008: Myocardial regeneration and myocyte survival.
- 117) University of Washington, Pullman WA: Cardiac Stem Cells: engineered to enhance myocardial regeneration.
- 118) Stems of the Heart 2008, Boston MA: Cardiac Stem Cells: engineered to enhance myocardial regeneration.
- 119) American Heart Association Basic Science Council Research Conference 2008: Pim-1 kinase: the missing link in Akt-mediated cardioprotection.
- 120) Cardiac Regulatory Mechanisms Gordon Conference 2008. Cardiac Stem Cells: engineered to enhance myocardial regeneration.
- 121) Istituto Dermopatico dell'Immacolata, Rome, Italy. Cardiac Stem Cells: engineered to enhance myocardial regeneration.
- 122) University of Massachusetts, Worcester MA. Cardiac Stem Cells: engineered to enhance myocardial regeneration.
- 123) Stem Cell Meeting, Cardiocentro Ticino, Lugano, Switzerland 2008: Cardiac Stem Cells: engineered to enhance myocardial regeneration.
- 124) International Society of Heart Research, Cincinnati 2008: Cardiac Stem Cells: engineered to enhance myocardial regeneration.
- 125) Medical University of South Carolina 2008: Cardiac Stem Cells: engineered to enhance myocardial regeneration.

- 126) Kyoto Prefectural University, Kyoto Japan 2008: Engineering stem cells to enhance myocardial regeneration.
- 127) Osaka University, Osaka, Japan 2008: Engineering stem cells to enhance myocardial regeneration.
- 128) Keio University, Tokyo, Japan 2008: Engineering stem cells to enhance myocardial regeneration.
- 129) Japanese Circulation Society Meeting, Fukuoka 2008: Engineering stem cells to enhance myocardial regeneration.
- 130) Cardiovascular Cell and Gene Therapy Conference III. 2008. Mount Sinai Hospital, New York, NY.
- 131) Albert W. Johnson University Distinguished Lectureship 2008, San Diego State University: Stem Cells: scientific progress and future directions.
- 132) University of Rochester 2008: Pim-1 kinase: the missing link in Akt-mediated cardioprotection.
- 133) Stanford University 2008: Engineering stem cells to enhance myocardial regeneration.
- 134) University of North Carolina 2008: Pim-1 kinase: the missing link in Akt-mediated cardioprotection.
- 135) Georgetown University, Krop Honorary Lecture 2007: Pim-1 kinase: the missing link in Akt-mediated cardioprotection.
- 136) American Heart Association, 76th Scientific Sessions 2007: Engineering stem cells to enhance myocardial regeneration.
- 137) American Heart Association, 76th Scientific Sessions 2007, International plenary session opening speaker: Survival signaling in the pathologically challenged myocardium.
- 138) University of California Symposium honoring Larry Kedes and the Institute for Genetic Medicine (2007): Engineering stem cells to enhance myocardial regeneration.
- 139) University of California Los Angeles Cardiovascular Research Symposium 2007 (Keynote): Pim-1 kinase: the missing link in Akt-mediated cardioprotection.
- 140) Heart Failure Society of America Meeting Washington DC 2007: Engineering stem cells to enhance myocardial regeneration.
- 141) State University of New York, Downstate Brooklyn 2007: Pim-1 kinase: the missing link in Akt-mediated cardioprotection.
- 142) American Heart Association Basic Science Council Research Conference 2007: Stem cell signaling in the myocardium: shibboleths of development.
- 143) Centro de Cardiologico Monzino, Milan Italy 2007: Engineering stem cells to enhance myocardial regeneration. New York Medical College, Valhalla NY 2007: Stem cell signaling in the myocardium: shibboleths of development.
- 144) Cornell University NY 2007: Pim-1 kinase: the missing link in Akt-mediated cardioprotection.
- 145) University of Manitoba, Winnipeg Canada 2007: Pim-1 kinase: the missing link in Akt-mediated cardioprotection.
- 146) Emory University, Atlanta GA 2007: Pim-1 kinase: the missing link in Akt-mediated cardioprotection.
- 147) Ohio State University 2007: Pim-1 kinase: the missing link in Akt-mediated cardioprotection.
- 148) Cincinnati Children's Hospital Medical Center 2007: Pim-1 kinase: the missing link in Akt-mediated cardioprotection.
- 149) University of Washington 2007: Stem cell signaling in the myocardium: shibboleths of development.
- 150) University of Alabama 2006: Pim-1 kinase: the missing link in Akt-mediated cardioprotection.
- 151) American Heart Association, 76th Scientific Sessions 2006: Stem cell markers in the pathologically challenged myocardium.
- 152) Heart Failure Society of America 2006: Regenerating myocytes after MI: roles of Akt and IGF.
- 153) International Chinese Cardiovascular Conference 2006 – "Cellular and Gene Treatment of

Cardiovascular Diseases”

- 154) New York Medical College 2006: Pim-1 kinase: the missing link in Akt-mediated cardioprotection.
- 155) International Society for Heart Research 2006: “Akt and Me: Our Nuclear Relationship” Presidential Lecture (Honorary, inaugural).
- 156) Federation of American Societies for Experimental Biology 2006: Genetic engineering of stem cells with Akt kinase.
- 157) American Heart Association, 75th Scientific Sessions 2005: Akt / PKB protein kinase and Plato’s Cave: looking into the light.
- 158) Microscopy and Microanalysis 2005: Identification and tracking of cardiac stem cells.
- 159) American Heart Association Basic Science Council Research Conference 2005: Cardio”Akt”ive Effects: a nucleus of paracrine factors, survival signals, and stem cells.
- 160) Boston Biomedical Research Institute 2005: Cardio”Akt”ive Effects: a nucleus of paracrine factors, survival signals, and stem cells.
- 161) Beth Israel Deaconess Medical Center, Harvard Medical School: Cardio”Akt”ive Effects: a nucleus of paracrine factors, survival signals, and stem cells.
- 162) San Diego Cell Biology Meeting 2005: Cardio”Akt”ive Effects: a nucleus of paracrine factors, survival signals, and stem cells.
- 163) San Diego State University, 2005: Stem Cells: Current progress and future perspectives.
- 164) University of California, San Diego 2005 (Bioengineering): Over”Akt”ing in the nucleus: a healthier heart?
- 165) American Heart Association, 74th Scientific Sessions 2004: Trafficking of stem cells through damaged myocardium.
- 166) University of California, San Diego 2004 (Pharmacology): Over”Akt”ing in the nucleus: a healthier heart?
- 167) University of California, Los Angeles 2004: Over”Akt”ing in the nucleus: a healthier heart?
- 168) 12th International Conference on Second Messengers and Phosphoproteins. Cardiomyocyte apoptosis triggered by RAFTK/pyk2 is antagonized by paxillin.
- 169) Microscopy and Microanalysis 2003: Impaired intracellular calcium dynamics in live cardiomyocytes revealed by rapid line scan confocal microscopy.
- 170) Gordon Research Conference 2004: Over”Akt”ing in the nucleus: a healthier heart?
- 171) Cardiovascular Cell and Gene Therapy Conference II. 2004. Mass. General Hospital, Boston MA.
- 172) Medical University of South Carolina, Charleston 2004: Current and future outlook for stem cell research and applications.
- 173) NCEMB-Comstech (CPC) International Symposium & Training Workshop on stem cells. 2003. Lahore, Pakistan
- 174) American Heart Association, 73rd Scientific Sessions 2003: Cardiomyocyte apoptosis triggered by RAFTK/pyk2 is antagonized by paxillin-mediated interference with src kinase.
- 175) Ohio State University 2003: Over”Akt”ing in the nucleus: a healthier heart?
- 176) San Diego State University 2003: Over”Akt”ing in the nucleus: a healthier heart?
- 177) Beth Israel Hospital, Harvard Medical School 2003: Over”Akt”ing in the nucleus: a healthier heart?
- 178) Massachusetts General Hospital, Boston 2003: Over”Akt”ing in the nucleus: a healthier heart?
- 179) Medical University of South Carolina, Charleston 2003: Dilated cardiomyopathy at the molecular level: building paradigms in transgenic mice.
- 180) University of South Carolina Medical School, Columbia 2003: Calcineurin chasers: GSK and Akt as regulators of cardiac hypertrophy and survival.

- 181) Kyoto Prefectural University 2002: Dilated cardiomyopathy under the microscope: building paradigms in transgenic mice.
- 182) International Symposium on Heart Failure 2002: Dilated cardiomyopathy under the microscope: building paradigms in transgenic mice.
- 183) Japanese Heart Failure Society 2002: Calcineurin chasers: GSK and Akt as regulators of cardiac hypertrophy and survival.
- 184) Gordon Research Conference 2002: Sex Akts: myocardial Akt kinase activation, gender, and susceptibility to cardiovascular disease
- 185) University of California, Irvine 2002: Dilated cardiomyopathy at the molecular level: building paradigms in transgenic mice.
- 186) San Diego State University 2002: Dilated cardiomyopathy at the molecular level: building paradigms in transgenic mice.
- 187) Imperial College, London, England, 2001: Dilated cardiomyopathy under the microscope: building paradigms in transgenic mice.
- 188) European Science Workshop Foundation, Cardiovascular Genomics Research Conference 2001: Cytoskeletal regulation in cardiac remodeling and failure.
- 189) American Heart Association, 73rd Scientific Sessions 2001: Myocardial Akt activation and gender: increased nuclear activity in females versus males.
- 190) AALAS 52nd annual meeting, 2001: Molecular signaling and cardioprotection induced by genistein in mouse models of heart failure.
- 191) University of Louisville, 2001: Dilated cardiomyopathy under the microscope: building paradigms in transgenic mice.
- 192) University of South Carolina, 2001: Dilated cardiomyopathy under the microscope: building paradigms in transgenic mice.
- 193) University of Cincinnati / Procter and Gamble Pharmaceuticals First Joint Scientific Colloquium 2001: Dilated cardiomyopathy under the microscope: building paradigms in transgenic mice.
- 194) Cardiovascular Research Institute, Loyola University Medical Center 2001: Dilated cardiomyopathy under the microscope: building paradigms in transgenic mice.
- 195) Eli Lilly Corporation 2001: Dilated cardiomyopathy under the microscope: building paradigms in transgenic mice.
- 196) American Heart Association, 72nd Scientific Sessions 2000: Activation of the PYK2 / FAK / Paxillin pathway in dilated cardiomyopathy.
- 197) L'Institut de Cardiologie de Montreal 2000: Dilated cardiomyopathy under the microscope: building paradigms in transgenic mice.
- 198) Queens University, Canada, 2000: Dilated cardiomyopathy under the microscope: building paradigms in transgenic mice.
- 199) Gordon Research Conference 2000: Altered calcium dynamics are comparable between murine and human heart failure.
- 200) New York Medical College 2000: Dilated cardiomyopathy under the microscope: building paradigms in transgenic mice.
- 201) Columbia University 2000: Dilated cardiomyopathy under the microscope: building paradigms in transgenic mice.
- 202) American Heart Association, 72nd Scientific Sessions 1999: Activation of rac1 signaling leads to either severe dilation or hypertrophy in juvenile transgenic mice.
- 203) San Diego State University 1999: Dilated cardiomyopathy at the molecular level: building paradigms in transgenic mice.

- 204) Cleveland Clinic 1999: Cardiomyopathy unmasked: a hypertrophic defect revealed by calcineurin expression in asymptomatic tropomodulin overexpressing transgenic (TOT) mice.
- 205) Cleveland Clinic 1999: Dilated cardiomyopathy at the molecular level: building paradigms in transgenic mice.
- 206) Japanese Circulation Society 1999: Dilated cardiomyopathy at the molecular level: building paradigms in transgenic mice.
- 207) Federation of American Societies for Experimental Biology 1999: From genesis to degeneration: cardiac myofibril responses to growth and disease.
- 208) University of Iowa, Department of Cell Biology 1998: Lethal cardiomyopathy in juvenile mice caused by tropomodulin overexpression.
- 209) University of Cincinnati, Department of Cardiology 1998: From genesis to degeneration: cardiac myofibril responses to growth and disease
- 210) American Heart Association, 70th Scientific Sessions 1997: Lethal cardiomyopathy in juvenile mice caused by tropomodulin overexpression.
- 211) L'Institut de Cardiologie de Montreal 1997: Myofibril degeneration leads to dilated cardiomyopathy in juvenile transgenic mice which overexpress tropomodulin.
- 212) University of South Carolina 1996: Lethal cardiomyopathy in juvenile mice caused by tropomodulin overexpression.
- 213) DB Symposium, TCHRF 1996: Cardiomyopathy, cardiomyocytes and confocal microscopy: characterization of a new transgenic mouse line.
- 214) Microscopy Society of America 1996: Analysis of myofibrillar organization and degeneration by fluorescence confocal microscopy.
- 215) Gordon Research Conference 1996: Regulation of tropomodulin expression is critical for maintenance of myofibrillar organization: abnormal stoichiometry disrupts sarcomeric structure.
- 216) Weinstein Cardiovascular Research Conference 1996: Regulation of tropomodulin expression is critical for maintenance of myofibrillar organization: abnormal stoichiometry disrupts sarcomeric structure.
- 217) Laverna Titus Young Investigators Forum, American Heart Association 1995: Regulation of tropomodulin expression is critical for maintenance of myofibrillar organization: abnormal stoichiometry disrupts sarcomeric structure.
- 218) University of Pittsburgh, Department of Cardiology, 1995: Regulation of tropomodulin expression is critical for maintenance of myofibrillar organization: abnormal stoichiometry disrupts sarcomeric structure.
- 219) The Children's Hospital and Research Foundation, Division of Molecular Cardiology, 1994: Regulation of tropomodulin expression is critical for maintenance of myofibrillar organization: abnormal stoichiometry disrupts sarcomeric structure.
- 220) American Heart Association 67th Scientific Sessions, 1994: Regulation of tropomodulin expression is critical for maintenance of myofibrillar organization.
- 221) California State University, Los Angeles and USC Department of Cell and Neurobiology, 1994: A tropomodulin for every actin filament: the cytoskeletal relationship for a terminally differentiated lifestyle.
- 222) Gordon Research Conference 1994 on Cardiac Regulatory Mechanisms: Regulation of tropomodulin expression is critical for maintenance of myofibrillar organization.
- 223) Laverna Titus Young Investigators Forum, American Heart Association 1994: Molecular analysis of myofibrillar degeneration.
- 224) American Heart Association 66th Scientific Sessions, 1993: Expression of tropomodulin in rat cardiocyte cells: localization of protein precedes mRNA organization during myofibrillar development.
- 225) Cold Spring Harbor Laboratory, 1993: Developmental expression of tropomodulin parallels cerebellar organization.

226) National Institutes of Health, 1991: Tropomodulin: An isotype specific tropomyosin binding protein.

227) Cold Spring Harbor Laboratory, 1991: Isotype specificity of tropomodulin-tropomyosin interaction.

PUBLICATIONS

- 1) **Sussman MA**. The cellular immune response to infection by mouse hepatitis virus, strain JHM. Doctoral thesis, University of Southern California (1989).
- 2) Stohlman SA and **Sussman MA**. Matsushima G.K., Shubin R.A. and Ehrlich S.S. Delayed-type hypersensitivity responses in the central nervous system during JHM virus infection requires viral specificity for protection. *J. Neuroimmunol.* 19:255-268 (1988). PMID: 2842378.
- 3) **Sussman MA**, Shubin RA, Kyuwa S and Stohlman SA. T cell mediated clearance of mouse hepatitis virus, Strain JHM, from the central nervous system. *J. Virol.* 63: 3051-3056 (1989). PMID:2542613. PMCID: PMC250860.
- 4) Fleming JO, Shubin RA, **Sussman MA**. Casteel N and Stohlman SA. Monoclonal antibodies to the matrix (E1) glycoprotein of MHV protect mice from lethal encephalitis. *Virology* 168: 162-167 (1989). PMID: 2535900.
- 5) Shubin RA, **Sussman MA**, Fleming JO and Stohlman SA. Relapsing encephalomyelitis following transfer of partial immunity to JHM virus. *Microbial Path.* 8: 305-314 (1990). PMID: 1977071.
- 6) **Sussman MA**, Battenburg E, Bloom FE and Fowler VM. Identification of two nerve growth factor-induced polypeptides in PC12 cells. *J. Mol. Neurosci.* 2: 163-174 (1990). PMID: 2275847.
- 7) **Sussman MA** and Fowler VM. Tropomodulin binding to tropomyosins: Isoform-specific differences in affinity and stoichiometry. *Eur. J. Biochem* 205: 355-362 (1992). PMID: 1555594.
- 8) Sung LA, Fowler VM, Lambert K, **Sussman MA**, Karr D and Chien S. Molecular cloning and characterization of human fetal liver tropomodulin. A tropomyosin-binding protein. *J. Biol. Chem.* 267: 2616-2621 (1992). PMID: 1370827.
- 9) Fowler VM, **Sussman MA**, Flucher BE and Daniels MP. Tropomodulin is associated with the free (pointed) ends of the thin filaments in rat skeletal muscle. *J. Cell Biol.* 120, 411-420 (1993). PMID: 8421055. PMCID: PMC2119515.
- 10) **Sussman MA**, Bilak M, Kedes LH, Engel WK and Askanas, V. Tropomodulin is highly concentrated at the post-synaptic domain of human and rat neuromuscular junctions. *Exp. Cell Res.* 209, 389-391 (1993). PMID: 8262158.
- 11) **Sussman MA**, Sakhi S, Tocco G, Najm I, Baudry M, Kedes LH and Schreiber S. Neural tropomodulin: developmental expression and effect of seizure activity. *Brain Res. (Dev. Brain Res.)* 80, 45-53 (1994). PMID: 7955359.
- 12) **Sussman MA**, Sakhi S, Barrientos P, Ito M and Kedes LH. Tropomodulin in rat cardiac muscle: localization of protein is independent of mRNA distribution during myofibrillar development. *Circ. Res.* 75, 221-232 (1994). PMID: 8033336.
- 13) Ito M, Swanson B, **Sussman MA**, Lyons G and Kedes LH. Cloning of tropomodulin cDNA and localization of gene transcripts during mouse embryogenesis. *Dev. Biol.* 167, 317-328 (1995). PMID: 7851652.
- 14) Przyklenk K, **Sussman MA**, Simkhovich BZ and Kloner RA. Does activation of protein kinase C mediate ischemic preconditioning in the canine model? *Circulation* 92, 1546-1557 (1995).
- 15) **Sussman MA**, Ito M, Daniels MP, Flucher B, Buranen S and Kedes LH. Chicken skeletal muscle tropomodulin: novel localization and characterization. *Cell Tissue Res.* 285, 287-296 (1996). PMID: 8766165.
- 16) **Sussman MA**, McAvoy JW, Rudisill M, Swanson B, Lyons G, Kedes, L and Blanks J. Lens tropomodulin: developmental expression during differentiation. *Exp. Eye Res.* 63, 223-232 (1996). PMID: 8983980.

- 17) **Sussman MA**. Analysis of myofibrillar organization and degeneration by fluorescence confocal microscopy. *Proc. Microscopy and Microanalysis* 18-19 (1996).
- 18) **Sussman MA**, Hamm-Alvarez S, Vilalta P, Welch S, and Kedes LH. Involvement of phosphorylation in doxorubicin-mediated myofibril degeneration: an immunofluorescence microscopy analysis. *Circ. Res.* 80, 52-61 (1997). PMID: 8978322.
- 19) Cambon N. and **Sussman MA**. Isolation and preparation of single mouse cardiomyocytes for fluorescence confocal microscopy. *Meth Cell Sci.* 19, 83-90 (1997).
- 20) **Sussman MA**, Baqué S, Uhm C-S, Daniels MP, Price B, Simpson D, Terracio L and Kedes, L. Altered expression of tropomodulin in cardiomyocytes disrupts the sarcomeric structure of myofibrils. *Circ. Res.* 82, 94-105 (1998). PMID: 9440708.
- 21) **Sussman MA**, Welch S, Cambon N, Klevitsky R, Hewett T, Price RL, Witt SA and Kimball TR. Myofibril degeneration caused by tropomodulin overexpression leads to dilated cardiomyopathy in juvenile mice. *J. Clin. Invest.* 101, 51-61 (1998). PMID: 9421465. PMCID: PMC508539.
- 22) **Sussman MA**, Lim HW, Gude N, Taigen T, Olson EN, Robbins J, Colbert MC, Gualberto A, Wieczorek DF and Molkentin JD. Prevention of cardiac hypertrophy in mice by calcineurin inhibition. *Science* 281, 1690-1693 (1998). PMID: 9733519.
- 23) **Sussman MA**, Welch S, Gude N, Khoury PR, Daniels SR, Kirkpatrick D, Walsh RA, Price RL, Lim HW and Molkentin JD. Pathogenesis of dilated cardiomyopathy: molecular, structural, and population analyses in tropomodulin-overexpressing transgenic mice. *Am. J. Pathol.* 155, 2101-2113 (1999). PMID: 10595939. PMCID: PMC1866919.
- 24) **Sussman MA**, Welch S, Walker A, Klevitsky R, Hewett TE, Witt SA, Kimball TR, Price RL, Lim HW and Molkentin JD. Hypertrophic defect unmasked by calcineurin expression in Asymptomatic Tropomodulin Overexpressing Transgenic mice. *Cardiovasc. Res.* 46, 90-101 (2000). PMID: 10727657.
- 25) Lim HW, DeWindt LJ, Mante J, Kimball TR, Witt SA, **Sussman MA** and Molkentin JD. Reversal of cardiac hypertrophy in transgenic disease models by calcineurin inhibition. *J. Mol. Cell. Cardiol.* 32, 697-709 (2000). PMID: 10756124.
- 26) **Sussman MA**, Welch S, Walker A, Klevitsky R, Hewett TE, Price RL, Schaefer E and Yager, K. Altered focal adhesion regulation correlates with cardiomyopathy in mice expressing constitutively active rac1. *J. Clin. Invest.* 105, 875-886 (2000). PMID: 10749567. PMCID: PMC377478.
- 27) Babu GJ, Lalli JM, Sussman MA, Sadoshima J and Periasamy M. Phosphorylation of elk-1 by MEK/ERK pathway is necessary for c-fos gene activation during cardiac myocyte hypertrophy. *J Mol Cell Cardiol.* 32,1447-1457 (2000). PMID: 10900171.
- 28) Greene AL, Lalli MJ, Ji Y, Babu J, Grupp I, **Sussman M** and Periasamy M. Overexpression of SERCA2b in the heart leads to an increase in sarcoplasmic reticulum calcium transport function and increased cardiac contractility. *J Biol Chem.* 275, 24722-24727 (2000). PMID: 10816568.
- 29) Delling, U, **Sussman MA** and Molkentin JD. Re-evaluating sarcoplasmic reticulum function in heart failure.
- 30) *Nature Med.* 6, 942-943 (2000). PMID: 10973288.
- 31) Yang J, Moravec CS, **Sussman MA**, DiPaola NR, Fu D, Hawthorn L, Mitchell CA, Young JB, Francis GS, McCarthy PM and Bond M. Decreased SLIM1 expression and increased gelsolin expression in failing human hearts measured by high density oligonucleotide arrays. *Circulation* 102, 3046-3052 (2000). PMID: 11120693.
- 32) **Sussman MA**. Hearts and bones. *Nature* 410:640-641 (2001). PMID: 11287932
- 33) Camper-Kirby D, Welch S, Walker A, Setchell KDR, Schaefer E, Kajstura J, Anversa P and **Sussman MA**. Myocardial Akt activation and gender: increased nuclear activity in females versus males. *Circ. Res.* 88, 1020-1027 (2001). PMID: 11375271.

- 34) Ehler E, Horowitz R, Zuppinger C, Price RL, Perriard E, Leu M, Caroni P, **Sussman M**, Eppenberger HM and Perriard J-C. Alterations at the intercalated disk associated with the absence of muscle LIM protein. *J. Cell Biol.* 153, 763-772 (2001). PMID: 11352937. PMCID: PMC2192386.
- 35) Lalli MJ, Yong J, Plank D, Prasad V, Hashimoto K, Babu GJ, Kirkpatrick D, Loukianov E, Walsh RA, **Sussman M**, Yatani A, Marban E and Periasamy M. Sarcoplasmic reticulum Ca(2+) atpase (SERCA) 1a structurally substitutes for SERCA2a in the cardiac sarcoplasmic reticulum and increases cardiac Ca(2+) handling capacity. *Circ. Res.* 89, 160-167 (2001). PMID: 11463723.
- 36) **Sussman MA**. When the thyroid speaks, the heart listens. (Editorial). *Circ. Res.*, 89, 557-559 (2001). PMID: 11577018.
- 37) **Sussman MA**. Cellular indigestion: chaperones head to the cytoskeleton. (Editorial) *J. Mol. Cell. Cardiol.* 34, 83-85 (2002). PMID: 11851348.
- 38) Welch S, Plank D, Witt S, Glascock B, Chimenti S, Andreoli AM, Limana F, Leri A, Kajstura J, Anversa P and **Sussman MA**. Cardiac-specific IGF-1 expression attenuates dilated cardiomyopathy in Tropomodulin Overexpressing Transgenic mice. *Circ Res.* 90, 649-656 (2002). PMID: 11934830.
- 39) Shiraishi I, **Sussman MA** and Hamaoka K. Cellular and molecular aspects of cardiomyocyte survival and possible therapeutic application for heart failure. *Pediatric Cardiol. And Cardiac Surg* 18, 466-474 (2002).
- 40) **Sussman MA**, Taylor A and Borg TK. Dance band on the Titanic. Mechanical stimulation and cardiac hypertrophy. (Review) *Circ Res.* 91, 888-898 (2002). PMID: 12433833.
- 41) Melendez J, Welch S, Schaefer E, Moravec CS, Avraham H, and **Sussman MA**. Activation of the pyk2/FAK pathway in dilated cardiomyopathy. *J. Biol. Chem.* 277, 45203-45210 (2002).
- 42) Plank DM, Yatani A, Ritsu A, Witt S, Glascock B, Lalli MJ, Periasamy M, Fiset C and **Sussman MA**. Calcium dynamics in the failing heart: restoration by β -adrenergic blockade. *Am. J. Physiol. Heart Circ. Physiol.* 285: H305-H315 (2003). PMID: 12649072.
- 43) **Sussman MA**. ICER-capades: putting cardiac cyclic AMP signaling "on ice". (Editorial) *Circ Res.* 93:6-8 (2003). PMID: 12855670.
- 44) Buscemi N, Doherty-Kirby A, Sussman MA, Lajoie G and VanEyck JE. Proteomic analysis of Rac1 transgenic mice displaying dilated cardiomyopathy reveals an increase in creatine kinase M-chain protein abundance. *Mol Cell Biochem.* 251: 145-151 (2003). PMID: 14575316.
- 45) Avraham HK, Lee TH, Koh Y, Kim TA, Jiang S, **Sussman MA**, Samarel AM and Avraham S. Vascular endothelial growth factor regulates focal adhesion assembly in human brain microvascular endothelial cells through activation of the focal adhesion kinase FAK and RAFTK/pyk2. *J. Biol. Chem.* 278:36661-8 (2003). PMID: 12844492.
- 46) Belecky-Adams T, Holmes M, Shan Y, Tedesco CS, Mascari C, Kaul A, Wight DC, Morris RE, **Sussman MA**, Diamond J, and Parysek LM. An intact intermediate filament network is required for collateral sprouting of small diameter nerve fibers. *J. Neurosci.* 23:9312-9 (2003). PMID: 14561858.
- 47) Plank DM and **Sussman MA**. Intracellular Ca²⁺ measurements in live cells by rapid line scan confocal microscopy: simplified calibration methodology. *Meth. in Cell Sci.* 25: 123-133 (2003). PMID: 15801157.
- 48) **Sussman MA** and Anversa P. Myocardial aging and senescence: where have the stem cells gone? *Ann. Rev. Physiol.* 66: 29-48 (2004). PMID: 14977395.
- 49) McMullen M, Keller R, **Sussman MA**, Pumiglia K. Vascular endothelial growth factor-mediated activation of p38 is dependent upon Src and RAFTK/Pyk2. *Oncogene* 12:1275-82 (2004). PMID: 14676843.
- 50) Torella D, Rota M, Nurzynska D, Musso E, Shiraishi I, Zias E, Walsh K, Rosenzweig A, **Sussman MA**, Urbanek K, Nadal-Ginard B, Kajstura J, Anversa P and Leri A. Cardiac stem cell and myocyte aging, heart failure, and insulin-like growth factor-1 overexpression. *Circ Res.* 94: 514-524 (2004). PMID: 14726476.

- 51) Shiraishi I, Melendez J, Ahn Y, Welch S, Schaefer E, Walsh K, Rosenzweig A, Kajstura J, Leri A, Anversa P and **Sussman MA**. Nuclear targeting of Akt enhances kinase activity and survival of cardiomyocytes. *Circ Res*. 94: 884-891 (2004). PMID: 14988230.
- 52) Anversa P, **Sussman MA** and Bolli R. Molecular Genetic Advances in Cardiovascular Medicine. Focus on the myocyte. *Circulation* 109: 2832-2838 (2004). PMID: 15197155.
- 53) Melendez J, Turner CE, Avraham H, Steinberg SF, Schaefer E and **Sussman MA**. Cardiomyocyte apoptosis triggered by RAFTK/pyk2 is antagonized by paxillin. *J. Biol. Chem.* 279: 53516-53523 (2004). PMID: 15322113.
- 54) Tsujita Y, Kato T and **Sussman MA**. Evaluation of Left Ventricular Function in Cardiomyopathic Mice by Tissue Doppler and Color M-mode Doppler Echocardiography. *Echocardiography* 22: 245-253 (2005). PMID: 15725160.
- 55) Steinberg SF and **Sussman MA**. Cardiac hypertrophy served with protein kinase C epsilon: delta isoform substitution available at additional cost. *Circ Res*. 96: 711-713 (2005). PMID: 15831822.
- 56) Plank DM and **Sussman MA**. Impaired intracellular Ca^{2+} dynamics in live cardiomyocytes revealed by rapid line scan confocal microscopy. *Microsc Microanal.* 11, 235-243 (2005). PMID: 16060976.
- 57) Kato T, Muraski J, Chen Y, Tsujita Y, Wall J, Glembotski CC, Schaefer E, Beckerle M and **Sussman MA**. Atrial natriuretic peptide promotes cardiomyocyte survival by cGMP-dependent nuclear accumulation of zyxin and Akt. *J Clin Invest.* 115:2716-2730 (2005). PMID: 16200208. PMCID: PMC1236670.
- 58) Buscemi N, Murray C, Doherty-Kirby A, Lajoie G, **Sussman MA** and Van Eyk J. Myocardial subproteomic analysis of a constitutively active Rac1 expressing transgenic mouse with lethal myocardial hypertrophy. *Am. J. Physiol. Heart Circ. Physiol.*, 289: H2325-2333 (2005). PMID: 16155095.
- 59) Sayen MR, Gustafsson AB, **Sussman MA**, Molkentin JD and Gottlieb RA. Calcineurin transgenic mice have mitochondrial dysfunction and elevated superoxide production. *Am. J. Physiol. Cell Physiol.* 284, C562-570 (2002). PMID: 12397029.
- 60) Goldsmith EC, Carver W, McFadden A, Goldsmith JG, Price RL, **Sussman MA**, Lorell BH, Cooper G and Borg TK. Integrin Shedding as a Mechanism of Cellular Adaptation During Cardiac Growth. *Am J Physiol Heart Circ Physiol.*, 284: H2227-2234 (2003). PMID: 12573995.
- 61) Rota M, Boni A, Urbanek K, Padin-Iruegas ME, Kajstura TJ, Fiore G, Kubo H, Sonnenblick EH, Musso E, Houser SR, Leri A, **Sussman MA**, Anversa P. Nuclear targeting of Akt enhances ventricular function and myocyte contractility. *Circ Res*. 97: 1332-1341 (2005). PMID: 16293788.
- 62) **Sussman MA**. Cause of death: a broken MEKK? *J Mol Cell Cardiol.*, 40: 593-596 (2006). PMID: 16600292.
- 63) Brown JH, Del Re D, and **Sussman MA**. The Rac and Rho hall of fame: a decade of hypertrophic signaling hits. *Circ Res*. 98: 730-742 (2006). PMID: 16574914.
- 64) Martindale JJ, Fernandez R, Thuerlauf DJ, Whittaker R, Gude N, **Sussman MA**, Glembotski CC. ER Stress Gene Induction and Protection from Ischemia/reperfusion injury in the hearts of transgenic mice with a tamoxifen-regulated form of ATF6. *Circ Res*. 98: 1186-1193 (2006). PMID: 16601230.
- 65) Thuerlauf DJ, Marcinko M, Gude N, Rubio M, **Sussman MA** and Glembotski CC. Activation of the unfolded protein response in infarcted mouse heart and hypoxic cultured cardiac myocytes. *Circ. Res.* 99: 275-282 (2006). PMID: 16794188.
- 66) Le Boeuf F, Houle F, **Sussman MA**, Huot J. Phosphorylation of focal adhesion kinase (FAK) on Ser732 is induced by rho-dependent kinase and is essential for proline-rich tyrosine kinase-2-mediated phosphorylation of FAK on Tyr407 in response to vascular endothelial growth factor. *Mol Biol Cell* 17: 3508-3520 (2006). PMID: 16760434. PMCID: PMC1525237.
- 67) Gude N, Muraski J, Rubio M, Kajstura J, Schaefer E, Anversa P and **Sussman MA**. Akt promotes increased cardiomyocyte cycling and expansion of the cardiac progenitor cell population. *Circ. Res.* 99: 381-388

- (2006). Featured article (editorial) as well as cover art of print journal for August 18th. PMID: 16840722.
- 68) Tsujita Y, Muraski J, Shiraishi I, Kato T, Kajstura J, Anversa P and **Sussman MA**. Nuclear targeting of Akt antagonizes aspects of cardiomyocyte hypertrophy. *Proc. Nat. Acad. Sci USA* 103: 11946-11951 (2006). PMID: 16882732. PMCID: PMC1567678.
- 69) Adam O, Frost G, Custodis F, **Sussman MA**, Schafers HJ, Bohm M and Laufs U. Role of Rac1 GTPase activation in atrial fibrillation. *J Am Coll Cardiol.* 50: 359-367 (2007). PMID: 17659204.
- 70) **Sussman MA**. “Akt”ing lessons for stem cells: regulation of cardiac myocyte and progenitor cell proliferation. *Trends Cardiovasc Med.*, 17: 235-240 (2007). PMID: 17936205. PMCID: PMC2083554.
- 71) Muraski JA, Misao Y, Rota M, Fransioli J, Cottage C, Fischer K, Esposito G, Delucchi F, Arcarese M, Alvarez R, Siddiqi S, Emmanuel GN, Wu W, Gude N, Leri A, Kajstura J, Martindale J, Glembotski C, Magnuson N, Berns A, Houser SR, Schaefer EM, Anversa P and **Sussman MA**. Pim-1 regulates cardiomyocyte survival downstream of Akt. *Nature Medicine* 13: 1467-1475 (2007). PMID: 18037896.
- 72) Rota M, Kajstura J, Hosoda T, Bearzi C, Vitale S, Esposito G, Iaffaldano G, Padin-Iruegas ME, Gonzalez A, Rizzi R, Small N, Muraski J, Alvarez R, Chen X, Urbanek K, Bolli R, Houser SR, Leri A, **Sussman MA**, Anversa P. Bone Marrow Cells Adopt the Cardiomyogenic Fate In Vivo. *Proc. Nat. Acad. Sci USA.* 104: 17783-17788 (2007). PMID: 17965233. PMCID: PMC2077031.
- 73) Fransioli J, Bailey, B, Gude NA, Muraski JA, Emmanuel G, Wu W, Alvarez R, Rubio M, Schaefer E and **Sussman MA**. Evolution of the c-kit-positive cell response to pathological challenge in the myocardium. *Stem Cells* 26: 1315-1324 (2008). PMID: 18308948. PMCID: PMC4037162.
- 74) Belmont PJ, Tadmilla A, Chen WJ, Martindale JJ, Thuerlauf DJ, Marcinko M, Gude N, **Sussman MA**, Glembotski, CC. Coordination of growth and endoplasmic reticulum stress signaling by regulator of calcineurin 1 (RCAN1), a novel ATF6-inducible gene. *J Biol Chem.* 283:14012-21 (2008). PMID: 18319259. PMCID: PMC2376224.
- 75) Gude N, Emmanuel GE, Wu W, Cottage CT, Fischer KM, Quijada P, Muraski JA, Wu W, Alvarez R, Rubio M, Schaefer E and **Sussman MA**. Activation of Notch-mediated protective signaling in the myocardium. *Circ. Res.* 102: 1025-1035 (2008). PMID: 18369158. PMCID: PMC3760732.
- 76) **Sussman MA** and Murry CE. Bones of contention: Marrow-derived cells in myocardial regeneration. *J Mol Cell Cardiol.* 44: 950-953 (2008). PMID: 18440020. PMCID: PMC2742337.
- 77) Siddiqi S, Gude N, Hosoda T, Muraski J, Rubio M, Emmanuel GE, Fransioli J, Vitale S, Parolin C, D’Amario D, Schaefer E, Kajstura J, Leri A, Anversa P and **Sussman MA**. Myocardial induction of nucleostemin in response to postnatal growth and pathological challenge. *Circ. Res.* 103: 89-97 (2008). Featured article (editorial). PMID: 18519946. PMCID: PMC2762397.
- 78) Muraski JA, Fischer KM, Wu W, Cottage CT, Quijada P, Mason M, Din S, Gude N, Alvarez R, Rota M, Kajstura J, Wang Z, Schaefer E, Chen X, MacDonnel S, Magnuson N, Houser SR, Anversa P and **Sussman MA**. Pim-1 kinase antagonizes aspects of myocardial hypertrophy and compensation to pathological pressure overload. *Proc. Nat. Acad. Sci USA*, 105: 13889-13994 (2008). PMID: 18784362. PMCID: PMC2544549.
- 79) McKeown CR, Nowak RB, Moyer J, **Sussman MA** and Fowler VM. Tropomodulin1 is required in the heart but not the yolk sac for mouse embryonic development. *Circ. Res.* 103: 1241-1248 (2008). PMID: 18927466. PMCID: PMC2744601.
- 80) Tadmilla A, Belmont PJ, Therauf DJ, Glassy MS, Martindale JJ, Gude, N, **Sussman MA** and Glembotski CC. Mesencephalic astrocyte-derived neurotrophic factor (MANF) is an ischemia-inducible secreted endoplasmic reticulum (ER) stress response protein in the heart. *Circ. Res.* 103: 1249-1258 (2008). PMID: 18927462. PMCID: PMC2746824.
- 81) **Sussman MA**. Showing up isn’t enough for vascularization: persistence is essential. *Circ. Res.* 103: 1200-1201 (2008). PMID: 19028918. PMCID: PMC2713054.

- 82) **Sussman MA**. Developing hearts need their SPEG. *Circulation* 119: 213-214 (2009). PMID: 19153282. PMCID: PMC2762393.
- 83) Rubio M, Avitabile D, Fischer K, Emmanuel G, Gude N, Miyamoto S, Mishra S, Schaefer E, Brown JH and **Sussman MA**. Cardioprotective stimuli mediate phosphoinositide-3 kinase and phosphoinositide dependent kinase 1 nuclear accumulation in cardiomyocytes. *J. Mol. Cell. Cardiol.* 47: 96-103 (2009). PMID: 19269295. PMCID: PMC2692628.
- 84) Whittaker R, Glassy MS, Gude N, **Sussman MA**, Gottlieb RA and Glembotski CC. Kinetics of the translocation and phosphorylation of alphaB-crystallin in mouse heart mitochondria during ex vivo ischemia. *Am. J. Physiol.* 296: H1633-1642 (2009). PMID: 19252088. PMCID: PMC2685329.
- 85) Miyamoto S, Rubio M, and **Sussman MA**. Nuclear and mitochondrial signaling Akts in cardiomyocytes. *Cardiovasc. Res.* 82: 272-285 (2009). PMID: 19279164. PMCID: PMC2675933.
- 87) **Sussman MA**. Mitochondrial integrity: preservation through AKT/Pim-1 kinase signaling in the cardiomyocyte. *Expert Review of Cardiovascular Therapy* 7: 929-938 (2009). PMID: 19673671. PMCID: PMC4066730.
- 88) Fischer KM, Cottage CT, Wu W, Din S, Gude N, Avitabile D, Quijada P, Collins BL, Fransioli J, Quijada P, Truffa S, Avitabile D, Gude NA and **Sussman MA**. Enhancement of myocardial regeneration through genetic engineering of cardiac progenitor cells expressing Pim-1 kinase. *Circulation* 120: 2077-2087 (2009). PMID: 19901187. PMCID: PMC2787902.
- 89) Bailey B, Izarra A, Alvarez R, Fischer K, Cottage CT, Quijada P, Diez-Juan A and **Sussman MA**. Cardiac stem cell genetic engineering using the alphaMHC promoter. *Regenerative Med.* 4: 823-833 (2009). PMID: 19903002. PMCID: PMC2869202.
- 90) Belmont PJ, Chen WJ, San Pedro MN, Thuerauf DJ, Gellings Lowe N, Gude N, Hilton B, Wolkowicz R, **Sussman MA**, Glembotski CC. Roles for Endoplasmic Reticulum-Associated Degradation and the Novel Endoplasmic Reticulum Stress Response Gene Derlin-3 in the Ischemic Heart. *Circ Res.* 106: 307-316 (2010). PMID: 19940266. PMCID: PMC3330119.
- 91) Huang C, Zhang X, Ramil JM, Rikka S, Kim L, Lee Y, Gude NA, Thistlethwaite PA, **Sussman MA**, Gottlieb RA, Gustafsson AB. Juvenile exposure to anthracyclines impairs cardiac progenitor cell function and vascularization resulting in greater susceptibility to stress-induced myocardial injury in adult mice. *Circulation* 121: 675-683 (2010). PMID: 20100968. PMCID: PMC2834271.
- 92) Adam O, Lavall D, Theobald K, Hohl M, Grube M, Ameling S, **Sussman MA**, Rosenkranz S, Kroemer HK, Schäfers HJ, Böhm M, Laufs U. Rac1-induced connective tissue growth factor regulates connexin 43 and N-cadherin expression in atrial fibrillation. *J Am Coll Cardiol.* 55: 469-480 (2010). PMID: 20117462.
- 93) Cottage CT, Bailey B, Fischer K, Avitable D, Collins B, Tuck S, Quijada P, Gude N, Alvarez R, Muraski J and **Sussman MA**. Cardiac progenitor cell cycling stimulated by Pim-1 kinase. *Circ. Res.* 106: 891-901 (2010). PMID: 20075333. PMCID: PMC3116713.
- 94) Völkers M, Salz M, Herzog N, Frank D, Dolatabadi N, Frey N, Gude N, Friedrich O, Koch WJ, Katus HA, **Sussman MA**, Most P. Orail and Stim1 regulate normal and hypertrophic growth in cardiomyocytes. *J Mol Cell Cardiol.* 48: 1329-1334 (2010). PMID: 20138887.
- 95) Borillo GA, Mason M, Quijada P, Völkers M, Cottage C, McGregor M, Din S, Fischer K, Gude N, Avitabile D, Barlow S, Alvarez R, Truffa S, Whittaker R, Glassy MS, Gustafsson AB, Miyamoto S, Glembotski CG, Gottlieb RA, Brown JH and **Sussman MA**. Pim-1 kinase protects mitochondrial integrity in cardiomyocytes. *Circ. Res.* 106: 1265-1274 (2010). PMID: 20203306. PMCID: PMC2864233.
- 96) Miyamoto S, Purcell NH, Smith JM, Gao T, Whittaker R, Huang K, Castillo R, Glembotski CC, **Sussman MA**, Newton AC, Heller Brown J. PHLPP-1 Negatively Regulates Akt Activity and Survival in the Heart. *Circ Res.* 107: 476-484 (2010). PMID: 20576936. PMCID: PMC2957297.
- 97) Tabor-Godwin JM, Ruller CM, Bagalso N, An N, Pagarigan RR, Harkins S, Gilbert PE, Kiosses WB, Gude

- NA, Cornell CT, Doran KS, **Sussman MA**, Whitton JL, Feuer R. A novel population of myeloid cells responding to coxsackievirus infection assists in the dissemination of virus within the neonatal CNS. *J Neurosci.* 30: 8676-8691 (2010). PMID: 20573913. PMCID: PMC2902258.
- 98) **Sussman MA**. “And now for something completely different...” (editorial) *Circ. Res.* 107: 820-821 (2010).
- 99) Cheng Z, Völkers M, Din S, Avitabile D, Khan M, Gude N, Mohsin S, Bo T, Truffa S, Alvarez R, Mason M, Fischer KM, Konstandin MH, Zhang X-K and **Sussman MA**. Mitochondrial translocation of Nur77 mediates cardiomyocyte apoptosis. *Eur. Heart J.* 32: 2179-2188 (2011). PMID: 21228009. PMCID: PMC3164102.
- 100) Fischer KM, Cottage CT, Konstandin MH, Voelkers M, Khan M and **Sussman MA**. Pim-1 kinase inhibits pathological injury by promoting cardioprotective signaling. *J Mol Cell Cardiol.* 51; 554-558 (2011). PMID: 21255581. PMCID: PMC3130822.
- 101) **Sussman MA**, Völkers M, Fischer K, Bailey B, Cottage CT, Din S, Gude N, Avitabile D, Alvarez R, Sundararaman B, Quijada P, Mason M, Konstandin M, Malhowski A, Cheng Z, and McGregor M. Myocardial AKT: the omnipresent nexus. *Physiol. Rev.* 91: 1023-1070 (2011). PMID: 21742795. PMCID: PMC3674828.
- 102) Avitabile D, Bailey B, Cottage CT, Sundaraman B, Joyo A, McGregor M, Gude N, Truffa S, Zarrabi A, Konstandin M, Khan M, Mohsin S, Voelkers M, Toko H, Mason M, Cheng Z, Din S, Alvarez R, Fischer KM and **Sussman MA**. Nucleolar stress is an early response to myocardial damage involving nucleolar proteins nucleophosmin and nucleostemin. *Proc. Nat. Acad. Sci.* 108: 6145-6150 (2011). PMID: 21444791. PMCID: PMC3076816.
- 103) Fischer KM, Din S, Gude N, Konstandin M, Wu W, Quijada P and **Sussman MA**. Cardiac progenitor cell commitment is inhibited by nuclear Akt expression. *Circ. Res.* 108: 960-970 (2011). PMID: 21350213. PMCID: PMC3082319.
- 104) Paulin R, Courboulin A, Meloche J, Mainguy V, Dumas de la Roque E, Saksouk N, Côté J, Provencher S, **Sussman MA**, Bonnet S. Signal transducers and activators of transcription-3/pim1 axis plays a critical role in the pathogenesis of human pulmonary arterial hypertension. *Circulation* 123: 1205-15 (2011). PMID: 21382889. PMCID: PMC3545712.
- 105) Meloche J, Paulin R, Corboulin A, Lambert C, Barrier M, Bonnet P, Bissierier M, Roy M, **Sussman MA**, Agharazil M, Bonnet S. RAGE-dependent activation of the oncoprotein Pim1 plays a critical role in systemic vascular remodeling processes. *ATVB* 31: 2114-2124 (2011). PMID: 21680901. PMCID: PMC3545710.
- 106) **Sussman MA**. Curiosity killed the cat and found new myocytes. (editorial). *Circ. Res.* 108: 1158-1159 (2011). PMID: 21566219.
- 107) Green T, Vera C, **Sussman MA**, Martone M and Sung LA. Mechanobiology of erythrocytes from adult mice homozygous for a targeted disruption of the E-Tmod gene at exon1. *Cell Mech Bioengineering* 4: 637-647 (2011).
- 108) Mohsin S, Siddiqi S, Collins B and **Sussman MA**. Empowering adult stem cells for myocardial regeneration. (Invited review). *Circ. Res.* 109: 1415-1428 (2011). PMID: 22158649. PMCID: PMC3266718.
- 109) Ruller CM, Tabor-Godwin JM, Van Deren DA Jr, Robinson SM, Maciejewski S, Gluhm S, Gilbert PE, An N, Gude NA, **Sussman MA**, Whitton JL, Feuer R. Neural Stem Cell Depletion and CNS Developmental Defects After Enteroviral Infection. *Am J Pathol*; 180: 1107-1120 (2012). PMID: 22214838. PMCID: PMC3349883.
- 110) Voelkers M, Dolatabadi N, Gude N, Most P, **Sussman MA** and Hassel D. ORAI1 deficiency leads to heart failure and skeletal myopathy in zebrafish. *J. Cell Sci.* 125: 287-294 (2012). PMID: 22302996. PMCID: PMC3283868.
- 111) Sundararaman B, Avitabile D, Konstandin M, Cottage CT, Gude N and **Sussman MA**. Asymmetric chromatid segregation in cardiac progenitor cells is enhanced by Pim-1 kinase. *Circ Res.* 110: 1267-1269 (2012). PMID: 22441844. PMCID: PMC3357328.

- 112) **Sussman MA**. Myocardial Is11⁺-land: a place with lots of rhythm but no beat (editorial). *Circ. Res.* 110; 1267-1269 (2012). PMID: 22581917. PMCID: PMC3397794.
- 113) Houser SR, Margulies KB, Murphy AM, Spinale FG, Francis GS, Prabhu SD, Rockman HA, Kass DA, Molkenstein JD, **Sussman MA**, Koch WJ; on behalf of the American Heart Association Council on Basic Cardiovascular Sciences, Council on Clinical Cardiology, and Council on Functional Genomics and Translational Biology. Animal Models of Heart Failure: A Scientific Statement From the American Heart Association. *Circ Res.* 111:131-150 (2012). PMID: 22595296.
- 114) Quijada P, Toko H, Fischer KM, Bailey B, Reilly P, Hunt KD, Gude NA, Avitabile D, **Sussman MA**. Preservation of myocardial structure is enhanced by pim-1 engineering of bone marrow cells. *Circ Res.* 111: 77-86 (2012). PMID: 22619278. PMCID: PMC3398618.
- 115) Mohsin S, Khan M, Toko H, Bailey B, Cottage C, Wallach K, Nag D, Lee A, Siddiqi S, Lan F and **Sussman MA**. Human cardiac progenitor cells engineered with Pim-1 kinase enhance myocardial repair. *J Am Coll Cardiol* 60: 1278-1287 (2012). PMID: 22841153. PMCID: PMC3461098.
- 116) Gude N and **Sussman MA**. Notch signaling and cardiac repair. *J Mol Cell Cardiol.* 52: 1226-1232 (2012). PMID: 22465038. PMCID: PMC3348268.
- 117) Bailey B, Fransioli J, Gude NA, Alvarez R, Zhang X, Gustafsson AB and **Sussman MA**. Sca-1 knockout impairs myocardial and cardiac progenitor cell function. *Circ Res.*, 111: 750-760 (2012). PMID: 22800687. PMCID: PMC3463406.
- 118) Cottage CT, Neidig L, Sundararaman B, Din S, Joyo A, Bailey B, Gude N, Hariharan N, and **Sussman MA**. Increased mitotic rate coincident with transient telomere lengthening resulting from Pim-1 overexpression in cardiac progenitor cells. *Stem Cells* 30: 2512-2522 (2012). PMID: 22915504. PMCID: PMC3479348.
- 119) Tufan H, Zhang X-H, Haghshenas N, **Sussman MA**, Cleemann L and Morad M. Cardiac progenitor cells engineered with Pim-1 (CPCeP) develop cardiac phenotypic electrophysiological properties as they are co-cultured with neonatal myocytes. *J. Mol. Cell. Cardiol.* 53: 695-706 (2012). PMID: 23010478. PMCID: PMC3528406.
- 120) Williams AR, Hatzistergos KE, Addicott B, McCall F, Carvalho D, Suncion V, Morales AR, Da Silva J, **Sussman MA**, Heldman AW, and Hare JM. Enhanced effect of combining human cardiac stem cells and bone marrow mesenchymal stem cells to reduce infarct size and restore cardiac function after myocardial infarction. *Circulation* 127: 213-223 (2013). PMID: 23224061. PMCID: PMC3579523.
- 121) Din S, Mason M, Volkers M, Johnson B, Cottage CT, Wang Z, Joyo AY, Quijada P, Erhardt P, Konstandin MH, Magnuson NS and **Sussman MA**. Pim-1 preserves mitochondrial morphology by inhibiting dynamin-related protein 1 translocation. *Proc. Nat. Acad. Sci USA* 110: 5969-5974 (2013). PMID: 23530233. PMCID: PMC3625351.
- 122) Khan M, Mohsin S, Avitabile D, Siddiqi S, Nguyen J, Wallach K, Quijada P, McGregor M, Gude N, Alvarez R, Tilley DG, Koch WJ, **Sussman MA**. β -Adrenergic regulation of cardiac progenitor cell death versus survival and proliferation. *Circ Res.* 112: 476-86 (2013). PMID: 23243208. PMCID: PMC3595054.
- 123) Toko H, Konstandin MH, Doroudgar S, Ormachea L, Joyo E, Joyo A, Din S, Gude N, Collins B, Volkers M, Therauf DJ, Glembotski CG, Chen C-H, Lu KP, Uchida T and **Sussman MA**. Regulation of cardiac hypertrophic signaling by prolyl isomerase Pin1. *Circ Res.* 112: 1244-1252 (2013). PMID: 23487407. PMCID: PMC3742109.
- 124) Thomas RL, Roberts DJ, Kubli DA, Lee Y, Quinsay MN, Owens JB, Fischer KM, **Sussman MA**, Miyamoto S, and Gustafsson AB. Loss of MCL-1 leads to impaired autophagy and rapid development of heart failure. *Genes Dev.* 27: 1365-1377 (2013). PMID: 23788623. PMCID: PMC3701192.
- 125) Konstandin MH, Toko H, Gastelum GM, Quijada PJ, De La Torre A, Quintana M, Collins B, Din S,

- Avitabile D, Völkens MJ, Gude NA, Fässler R, **Sussman MA**. Fibronectin is essential for reparative cardiac progenitor cell response after myocardial infarction. *Circ Res*. 108: 375–388 (2013). PMID: 23652800. PMCID: PMC3815660.
- 126) Siddiqi S and Sussman MA. Cell and gene therapy for severe heart failure patients: the time and place for Pim-1 kinase. *Expert Rev Cardiovasc. Therapy* 11: 949-957 (2013). PMID: 23984924. PMCID: PMC4140652.
- 127) Völkens M, Toko H, Doroudgar S, Din S, Quijada P, Joyo AY, Ornelas L, Joyo E, Thuerauf DJ, Konstandin MH, Gude N, Glembotski CC, **Sussman MA**. Pathological hypertrophy amelioration by PRAS40-mediated inhibition of mTORC1. *Proc Natl Acad Sci U S A*. 110: 12661-12666 (2013). PMID: 23842089. PMCID: PMC3732982.
- 128) Völkens M, Konstandin M, Doroudgar S, Toko H, Quijada P, Din S, Joyo A, Ornelas L, Sanse K, Therauf DJ, Gude N, Glembotski CG, **Sussman MA**. Mechanistic target of rapamycin complex 2 protects the heart from ischemic damage. *Circulation* 128: 2132-2144 (2013). PMID: 24008870. PMCID: PMC4131547.
- 129) Konstandin MH, Völkens M, Collins B, Quijada P, Quintana M, De La Torre A, Ormachea L, Din S, Gude N, Toko H, **Sussman MA**. Fibronectin contributes to pathological hypertrophy but not physiological growth. *Basic Res. Cardiol.*; 108: 375-378 (2013). PMID: 23912225. PMCID: PMC3813434.
- 130) Khan M, Mohsin S, Toko H, Alkatib M, Nguyen J, Truffa S, Gude N, Chuprun K, Tilley D, Koch WJ, **Sussman MA**. Cardiac progenitor cells engineered with β ARKct have enhanced β -adrenergic tolerance. *Molecular Therapy* 22: 178-185 (2013). PMID: 24002692. PMCID: PMC3978798.
- 131) Mohsin S, Khan M, Nguyen J, Alkatib M, Siddiqi S, Hariharan N, Wallach K, Monsanto M, Gude N, Dembitsky W, **Sussman MA**. Rejuvenation of human cardiac progenitor cells with Pim-1 kinase. *Circ Res*. 113: 1169-1179 (2013). PMID: 24044948. PMCID: PMC3999968.
- 132) Völkens M, Doroudgar S, Nguyen N, Konstandin MH, Quijada P, Din S, Ornelas L, Friedrich K, Herzig S, Thuerauf DJ, Gude N, Glembotski CG, **Sussman MA**. PRAS40 prevents development of diabetic cardiomyopathy and improves hepatic insulin sensitivity in obesity. *EMBO Mol Med*. 6: 57-65 (2014). PMID: 24408966. PMCID: PMC3936489.
- 133) Völkens M and **Sussman MA**. mTOR/PRAS40 interaction: hypertrophy or proliferation. *Cell Cycle*; 12: 23 (2013). PMID: 24131922 PMCID: PMC3903704
- 134) Mohsin S, Wu JC, **Sussman MA**. Predicting the future with stem cells. *Circulation* 129, 136-138 (2014). PMID: 24249719. PMCID: PMC3919528.
- 135) McGregor M, Hariharan N, Yasko A, Margolis R and **Sussman MA**. CENP-A is Essential for Cardiac Progenitor Cell Proliferation. *Cell Cycle* 13: 739–748 (2014). PMID: 24362315. PMCID: PMC3979910.
- 136) Siddiqi S and **Sussman MA**. Cardiac hegemony of senescence. *Curr Transl Geriatr Exp Gerontol Rep*. 2, 247-254 (2013). PMID: 24349878. PMCID: PMC3862253.
- 137) Hariharan N and **Sussman MA**. Stressing on the nucleolus in cardiovascular disease. *Biochim Biophys Acta* 1842, 798-801(2014). PMID: 24514103. PMCID: PMC3972279.
- 138) Sin J, Puccini JM, Huang C, Konstandin MH, Gilbert PE, **Sussman MA**, Gottlieb RA, Feuer R. The impact of juvenile coxsackievirus infection on cardiac progenitor cells and postnatal heart development. *PLoS Pathog*. 10, e1004249 (2014). PMID: 25079373. PMCID: PMC4117602.
- 139) Hariharan N, **Sussman MA**. Pin1: A molecular orchestrator in the heart. *Trends Cardiovasc Med*. 24, 256-262 (2014). PMID: 25070718. PMCID: PMC4150822.
- 140) Din S, Konstandin MH, Johnson B, Emathingier J, Völkens M, Toko H, Collins B, Ormachea L, Samse K, Kubli DA, De La Torre A, Kraft AS, Gustafsson AB, Kelly DP, **Sussman MA**. Metabolic dysfunction consistent with premature aging results from deletion of Pim kinases. *Circ Res*.115, 376-87 (2014) PMID: 24916111. PMCID: PMC4254755
- 141) Anderson ME, Goldhaber J, Houser SR, Puceat M, **Sussman MA**. Embryonic stem cell-derived cardiac

- myocytes are not ready for human trials. *Circ Res.* 115: 335-8 (2014). PMID: 24935962. PMCID: PMC4133694
- 142) Panopoulos A, Pacios-Bras C, Choi J, Yenjerla M, **Sussman MA**, Fotedar R, Margolis RL. Failure of cell cleavage induces senescence in tetraploid primary cells. *Mol Biol Cell.* 25: 3105-3118 (2014). PMID: 25143403. PMCID: PMC4196863.
- 143) Gaetani R, Feyen DA, Doevendans PA, Gremmels H, Forte E, Fledderus JO, Ramjankhan FZ, Messina E, **Sussman MA**, Giacomello A, Sluijter JP. Different types of cultured human adult cardiac progenitor cells have a high degree of transcriptome similarity. *J Cell Mol Med.* 18: 2147-2151(2014). PMID: 25311343. PMCID: PMC4224548.
- 144) Quijada P, Sussman MA. Making it stick: chasing the optimal stem cells for cardiac regeneration. *Expert Rev Cardiovasc Ther.* 12: 1275-88 (2014). PMID: 25340282. PMCID: PMC4254743.
- 145) **Sussman MA**, Puceat M. Response to letter regarding article, "Embryonic stem cell-derived cardiac myocytes are not ready for human trials". *Circ Res.* 115: 115, 335-338 (2014). PMID: 24935962. PMCID: PMC4133694.
- 146) Siddiqi S, **Sussman MA**. The heart: mostly postmitotic or mostly premitotic? Myocyte cell cycle, senescence, and quiescence. *Can J Cardiol.* 30:1270-8(2014). PMID: 25442430. PMCID: PMC4254463.
- 147) Hariharan N, Quijada P, Mohsin S, Joyo A, Samse K, Monsanto M, De La Torre A, Avitabile D, Ormachea L, McGregor MJ, Tsai EJ, Sussman MA. Nucleostemin rejuvenates cardiac progenitor cells and antagonizes myocardial aging. *J Am Coll Cardiol.* 65: 133-47(2015). PMID: 25593054. PMCID: PMC4297321.
- 148) Quijada P, **Sussman MA**. Circulating around the tissue: hematopoietic cell-based fusion versus transdifferentiation. *Circ Res.* 116: 563-5 (2015). PMID: 25677514. PMCID: PMC4362704.
- 149) Nguyen N, **Sussman MA**. Rejuvenating the senescent heart. *Curr Opin Cardiol.* 30: 235-9 (2015). PMID: 25760821. PMCID: PMC5157202.
- 150) Samse K, Emathing J, Hariharan N, Quijada P, Ilves K, Völkers M, Ormachea L, De La Torre A, Orogo AM, Alvarez R, Din S, Mohsin S, Monsanto M, Fischer KM, Dembitsky WP, Gustafsson ÅB, **Sussman MA**. Functional Effect of Pim1 Depends upon Intracellular Localization in Human Cardiac Progenitor Cells. *J Biol Chem.* 290:13935-13947(2015). PMID: 25882843. PMCID: PMC4447967.
- 151) Hariharan N, **Sussman MA**. Cardiac aging - Getting to the stem of the problem. *J Mol Cell Cardiol.* 83: 32-6 (2015). PMID: 25886698. PMCID: PMC4459886.
- 152) Gude N, Joyo E, Toko H, Quijada P, Villanueva M, Hariharan N, Sacchi V, Truffa S, Joyo A, Voelkers M, Alvarez R, **Sussman MA**. Notch activation enhances lineage commitment and protective signaling in cardiac progenitor cells. *Basic Res Cardiol.* 110: 29 (2015). PMID: 25893875.
- 153) Monsanto M, **Sussman MA**. Myocardial Infarct Scar: Hunting Down the Responsible Cells, But Then What? *J Am Coll Cardiol.* 65: 2067-2069 (2015). PMID: 25975468.
- 154) Doroudgar S, Völkers M, Thuerauf DJ, Khan M, Mohsin S, Respress JL, Wang W, Gude N, Müller OJ, Wehrens XH, **Sussman MA**, Glembotski CC. Hrd1 and ER-Associated Protein Degradation, ERAD, are Critical Elements of the Adaptive ER Stress Response in Cardiac Myocytes. *Circ Res.* 117: 536-46 (2015). PMID: 26137860. PMCID: PMC4670262.
- 155) Orogo AM, Gonzalez ER, Kubli DA, Baptista IL, Ong SB, Prolla TA, **Sussman MA**, Murphy AN, Gustafsson ÅB. Accumulation of Mitochondrial DNA Mutations Disrupts Cardiac Progenitor Cell Function and Reduces Survival. *J Biol Chem.* 290: 22061-75 (2015). PMID: 28687597. PMCID: PMC5500800.
- 156) Quijada P, Salunga HT, Hariharan N, Cubillo JD, El-Sayed FG, Moshref M, Bala KM, Emathing JM, De La Torre A, Ormachea L, Alvarez R Jr, Gude NA, **Sussman MA**. Cardiac Stem Cell Hybrids Enhance Myocardial Repair. *Circ Res.* 117: 695-706 (2015). PMID: 26228030. PMCID: PMC4583815.
- 157) Quijada P, Hariharan N, Cubillo JD, Bala KM, Emathing JM, Wang BJ, Ormachea L, Bers DM, **Sussman**

- MA**, Poizat C. Nuclear Calcium/Calmodulin-dependent Protein Kinase II Signaling Enhances Cardiac Progenitor Cell Survival and Cardiac Lineage Commitment. *J Biol Chem.* 290: 25411-26 (2015). PMID: 26324717. PMCID: PMC4646189.
- 158) Samse K, Hariharan N, **Sussman MA**. Personalizing cardiac regenerative therapy: At the heart of Pim1 kinase. *Pharmacol Res.*103: 13-16 (2016). PMID: 26563999. PMCID: PMC4738091.
- 159) Broughton KM, **Sussman MA**. Empowering Adult Stem Cells for Myocardial Regeneration V2.0: Success in Small Steps. *Circ Res.*118: 867-880 (2016). PMID: 26941423 PMCID: PMC4780229.
- 160) Castaldi A, Chesini GP, Taylor AE, **Sussman MA**, Brown JH, Purcell NH. Sphingosine 1-phosphate elicits RhoA-dependent proliferation and MRTF-A mediated gene induction in CPCs. *Cell Signal.* 28: 871-879 (2016). PMID: 27094722. PMCID: PMC5004781.
- 161) **Sussman MA**. Inject Me Once and Inject Me Twice. Then Inject Me Once Again. *Circ Res.*119: 580-581 (2016). PMID: 27539968.
- 162) Doroudgar S, Quijada P, Konstandin M, Ilves K, Broughton K, Khalafalla FG, Casillas A, Nguyen K, Gude N, Toko H, Ornelas L, Thuerauf DJ, Glembotski CC, **Sussman MA**, Völkens M. S100A4 protects the myocardium against ischemic stress. *J Mol Cell Cardiol.* 100: 54-63 (2016). PMID: 27721024 PMCID: PMC5512101.
- 163) Kulandavelu S, Karantalis V, Fritsch J, Hatzistergos KE, Loescher VY, McCall F, Wang B, Bagno L, Golpanian S, Wolf A, Grenet J, Williams A, Kupin A, Rosenfeld A, Mohsin S, **Sussman MA**, Morales A, Balkan W, Hare JM. Pim1 Kinase Overexpression Enhances Ckit⁺ Cardiac Stem Cell Cardiac Repair Following Myocardial Infarction in Swine. *J Am Coll Cardiol.* 68: 2454-2464 (2016). PMID: 27908351. PMCID: PMC5223744.
- 164) **Sussman MA**. Viewpoint: A Matter of Opinion. The Cardiovascular Spiral of Silence. *Circ. Res.*120: 36-38 (2017). PMID: 28057789. PMCID: PMC5287133.
- 165) Monsanto MM, Wang BJ, **Sussman MA**. Synthetic MSC? Nothing Beats the Real Thing. *Circ Res.* 120: 1694-1695(2017). PMID: 28546347. PMCID: PMC5555396.
- 166) Kubli DA, **Sussman MA**. Eat, breathe, ROS: controlling stem cell fate through metabolism. *Expert Rev Cardiovasc Ther.* 15: 345-356 (2017). PMID: 28406333. PMCID: PMC5704935.
- 167) Monsanto MM, White KS, Kim T, Wang BJ, Fisher K, Ilves K, Khalafalla FG, Casillas A, Broughton K, Mohsin S, Dembitsky WP, **Sussman MA**. Concurrent Isolation of 3 Distinct Cardiac Stem Cell Populations From a Single Human Heart Biopsy. *Circ Res.* 121: 113-124 (2017). PMID: 28446444. PMCID: PMC5555597.
- 168) Sacchi V, Wang BJ, Kubli D, Martinez AS, Jin JK, Alvarez R, Hariharan N, Glembotski C, Uchida T, Malter JS, Yang Y. **Sussman, MA**. Peptidyl-Prolyl Isomerase 1 Regulates Ca²⁺ Handling by Modulating Sarco (Endo) Plasmic Reticulum Calcium ATPase and Na²⁺/Ca²⁺ Exchanger 1 Protein Levels and Function. *Journal of the American Heart Association* 6 pii: e006837 (2017). PMID: 29018025. PMCID: PMC5721875.
- 169) Khalafalla FG, Greene S, Khan H, Ilves K, Monsanto MM, Alvarez R, Chavarria M, Nguyen J, Norman B, Dembitsky WP, **Sussman MA**. P2Y2 Nucleotide Receptor Prompts Human Cardiac Progenitor Cell Activation by Modulating Hippo Signaling Novelty. *Circ Res.*121: 1224-1236. PMID: 28923792. PMCID: PMC5726767.
- 170) Gude NA, **Sussman MA**. Chasing c-Kit through the heart: Taking a broader view. *Pharmacol Res.* 127:110-115(2018). PMID: 28627370. PMCID: PMC5729070.
- 171) Khalafalla, Farid G., and **Sussman MA**. Cardiac progenitor cell ion currents: revealing a little more on the lesser known. *The Journal of physiology.* 596: 2271-2272 (2018). PMID: 29676466. PMCID: PMC6002205.
- 172) Broughton KM, **Sussman MA**. Enhancement Strategies for Cardiac Regenerative Cell Therapy: Focus on Adult Stem Cells. *Circ Res.* 123:177-187(2018). PMID: 29976686.
- 173) Broughton KM, Wang BJ, Firouzi F, Khalafalla F, Dimmeler S, Fernandez-Aviles F, **Sussman MA**. Mechanisms of Cardiac Repair and Regeneration. *Circ Res.* 122:1151-1163 (2018). PMID: 29650632.

- 174) Matsumoto C, Jiang Y, Emathing J, Quijada P, Nguyen N, De La Torre A, Moshref M, Nguyen J, Levinson AB, Shin M, **Sussman MA**, Hariharan N. Short Telomeres Induce p53 and Autophagy and Modulate Age-Associated Changes in Cardiac Progenitor Cell Fate. *Stem Cells*. 36:868-880 (2018). PMID: 29441645.
- 175) Gude NA, Firouzi F, Broughton KM, Ilves K, Nguyen KP, Payne CR, Sacchi V, Monsanto MM, Casillas AR, Khalafalla FG, Wang BJ, Ebeid DE, Alvarez R, Dembitsky WP, Bailey BA, van Berlo J, **Sussman MA**. Cardiac c-Kit Biology Revealed by Inducible Transgenesis. *Circ Res*.123: 57-72 (2018). PMID: 29636378.
- 176) Gude NA, Broughton KM, Firouzi F, **Sussman MA**. Cardiac ageing: extrinsic and intrinsic factors in cellular renewal and senescence. *Nat Rev Cardiol*. 15: 523-542 (2018). Review. PMID: 30054574
- 177) Kim T, Echeagaray OH, Wang BJ, Casillas A, Broughton KM, Kim BH, **Sussman MA**. In situ transcriptome characteristics are lost following culture adaptation of adult cardiac stem cells. *Sci Rep*. 8(1):12060 (2018). PMID: 30104715
- 178) Alvarez R Jr, Wang BJ, Quijada PJ, Avitabile D, Ho T, Shaitrit M, Chavarria M, Firouzi F, Ebeid D, Monsanto MM, Navarrete N, Moshref M, Siddiqi S, Broughton KM, Bailey BA, Gude NA, **Sussman MA**. Cardiomyocyte cell cycle dynamics and proliferation revealed through cardiac-specific transgenesis of fluorescent ubiquitinated cell cycle indicator (FUCCI). *J Mol Cell Cardiol*. 127:154-164 (2018). PMID: 30571978
- 179) Korski KI, Kubli DA, Wang BJ, Khalafalla FG, Monsanto MM, Firouzi F, Echeagaray OH, Kim T, Adamson RM, Dembitsky WP, Gustafsson ÅB, **Sussman MA**. Hypoxia Prevents Mitochondrial Dysfunction and Senescence in Human c-Kit+ Cardiac Progenitor Cells. *Stem Cells* 37: 555-567 (2019). PMID: 30629785.
- 180) Lampert MA, Orogo AM, Najor RH, Hammerling BC, Leon LJ, Wang BJ, Kim T, **Sussman MA**, Gustafsson ÅB. BNIP3L/NIX and FUNDC1-mediated mitophagy is required for mitochondrial network remodeling during cardiac progenitor cell differentiation. *Autophagy* 15:1182-1198 (2019). PMID: 30741592
- 181) **Sussman MA**. Cardiac nonmyocyte subpopulations: a secular congregation. *Regen Med*. 14:489-494 (2019). PMID: 31115258
- 182) Broughton KM, Khieu T, Nguyen N, Rosa M, Mohsin S, Quijada P, Wang BJ, Echeagaray OH, Kubli DA, Kim T, Firouzi F, Monsanto MM, Gude NA, Adamson RM, Dembitsky WP, Davis ME, **Sussman MA**. Cardiac interstitial tetraploid cells can escape replicative senescence in rodents but not large mammals. *Commun Biol*. 13:205 (2019). PMID: 31231694
- 183) Broughton KM, **Sussman MA**. Adult Cardiomyocyte Cell Cycle Detour: Off-ramp to Quiescent Destinations. Trends in endocrinology and metabolism: *Trends Endocrinol. Metabolism* 8:557-567 (2019). PMID: 31262545
- 184) Echeagaray O, **Sussman MA**. Transcribing the heart: faithfully interpreting cardiac transcriptional insights. *Regen Med*. 14: 805-810 (2019). PMID: 31464566.
- 185) Broughton K, Korski K, Echeagaray O, Adamson R, Dembitsky W, Lu Z, Schaefer E, **Sussman MA**. Safety profiling of genetically engineered Pim-1 kinase overexpression for oncogenicity risk in human c-kit+ cardiac interstitial cells. *Gene Ther*. 26: 324-337 (2019). PMID: 31239537
- 186) Gude NA, **Sussman MA**. Cardiac regenerative therapy: Many paths to repair. *Trends Cardiovasc Med*. 30, 338-343 (2019) Review. PMID: 31515053
- 187) Murphy JF, Mayourian J, Stillitano F, Munawar S, Broughton KM, Agullo-Pascual E, **Sussman MA**, Hajjar RJ, Costa KD, Turnbull IC. Adult human cardiac stem cell supplementation effectively increases contractile function and maturation in human engineered cardiac tissues. *Stem Cell Res Ther*. 10: 373 (2019). PMID: 31801634
- 188) Wang BJ, Alvarez R, Mulino A, Sengphanith S, Monsanto MM, Weeks J, Sacripanti R, **Sussman MA**. Adaptation within embryonic and neonatal heart environment reveals alternative fates for adult c-kit+ cardiac interstitial cells. *Stem Cells Translational Med*. 9, 620-635 (2019). PMID: 31891237
- 189) Broughton KM and **Sussman MA**. Cardiac tissue engineering therapeutic products to enhance myocardial

repair. *J Muscle Res Cell Motil.* (2019). In press. PMID: 31863324

- 190) Firouzi F, Choudhury SS, Broughton KM, Salazar A, **Sussman MA**. Human CardioChimeras: creation of a novel 'next generation' cardiac cell. *JAHA* 9(1): e013452 (2020). PMID: 31902324.
- 191) Ebeid DE, Khalafalla FG, Broughton KM, Monsanto MM, Esquer CY, Sacchi V, Hariharan N, Korski KI, Moshref M, Emathingier J, Cottage CT, Quijada PJ, Nguyen JH, Alvarez R, Völkers M, Konstandin MH, Wang BJ, Firouzi F, Navarrete JM, Gude NA, Goumans MJ, **Sussman MA**. Pim1 Maintains Telomere Length in Mouse Cardiomyocytes by Inhibiting TGF β Signaling. *Cardiovasc Res.* 2020 Online ahead of print. PMID: 32176281
- 192) **Sussman MA**. Atrial myxoma: the cardiac chameleon. *Eur Heart J.* (2020) Online ahead of print. PMID: 32330936
- 193) Firouzi F, **Sussman MA**. Blood speaks: Personalised medicine profiling for heart failure patients. *EBioMedicine* (2020). PMID: 32711252
- 194) Monsanto MM, Firouzi F, **Sussman MA**. Hiding in plain sight: an encapsulated approach to cardiac cell therapy. *Cardiovasc Res.* (2020). Online ahead of print. PMID: 32750104
- 195) Monsanto MM, Wang BJ, Ehrenberg ZR, Echeagaray O, White KS, Alvarez R Jr, Fisher K, Sengphanith S, Muliono A, Gude NA, **Sussman MA**. Enhancing myocardial repair with CardioClusters. *Nat Commun.* 11, 3955 (2020). PMID: 32769998
- 196) Ebeid DE, Firouzi F, Esquer CY, Navarrete JM, Wang BJ, Gude NA, **Sussman MA**. PIM1 Promotes Survival of Cardiomyocytes by Upregulating c-Kit Protein Expression. *Cells* (2020). 9: E2001. PMID: 32878131

BOOK CHAPTERS AND REVIEWS

Sussman MA, Fleming JO, Allen HA and Stohlman SA. Immune mediated clearance of JHM virus from the central nervous system. In: Coronaviruses: Advances in Experimental Biology and Medicine. MMC Lai and SA Stohlman, editors. Plenum press, Vol 218, 399-410 (1987). PMID: 2829552.

Sussman MA and De Windt LJ. Little mice, big hearts: finding the molecular basis for dilated cardiomyopathy. In: Cardiovascular Genomics. P Doevedans, editor (2002).

Sussman MA. Transgenic Manipulation of Cell and Organ Phenotypes: Applications for Proteomics. In: Functional Proteomics. P Ping, editor. Humana Press (2003).

Sussman MA. Gender Differences in Heart Failure: Concerns for Drug Development. In: Cardiac Drug Development Guide. M Pugsley, editor. Academic Press (2003).

Sussman MA, Taylor A and Borg TK. Dance band on the Titanic. Mechanical stimulation and cardiac hypertrophy. (Review) *Circ Res.* 91, 888-898 (2002). PMID: 12433833.

Sussman MA and Anversa P. Myocardial aging and senescence: where have the stem cells gone? *Ann. Rev. Physiol.* 66: 29-48 (2004). PMID: 14977395.

Anversa P, **Sussman MA** and Bolli R. Molecular Genetic Advances in Cardiovascular Medicine. Focus on the myocyte. *Circulation* 109: 2832-2838 (2004). PMID: 15197155.

Sussman MA. Gene Therapy and Cellular Therapy in Cardiac Repair. In: Cardiac Regeneration and Stem Cell Therapy. A. Leri, editor. Blackwell Futura Press (2007).

Nguyen N, Hariharan N, **Sussman MA**. Impact of telomere shortening with age in stem cell therapy: new strategies to increase telomere length. In: Stem Cell and Gene Therapy for Cardiovascular Disease. Perin EC, Miller LW, Taylor DA and Willerson JT, eds. Academic Press, Waltham MA (2016).