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EDUCATION

Postdoctoral Fellow, Cardiovascular and Metabolic Diseases, Duke-NUS Graduate Medical School, Singapore, 2011
Ph.D., Bioenergetics, East Carolina University, Greenville, North Carolina, 2008
M.Sc., Exercise Physiology, Brigham Young University, Provo, Utah, 2005
B.Sc., Exercise Science, Brigham Young University, Provo, Utah, 2003

PROFESSIONAL EXPERIENCE

- Brigham Young University, Provo, UT
Assistant Professor, Department of Physiology and Developmental Biology, 07/11-present
- East Carolina University, Greenville, NC,
Graduate Assistant, Department of Exercise Science, 08/2006-10/2008
Graduate Instructor, Department of Exercise Science, 08/2007-12/2007
- Brigham Young University, Provo, UT
Graduate Research Assistant, Department of Exercise Sciences, 08/2004-08/2005
Graduate Instructor, Department of Exercise Sciences, 01/2005-08/2005

AWARDS, HONORS AND RECOGNITION

Faculty

- APS Research Career Enhancement Award – 2013
- APS/NSF Mentor Award - 2013
- Oroboros Travel Award, O2K Workshop - 2012

Postdocotoral

- Travel Scholarship, Keystone Symposium - Lipid Biology and Lipotoxicity, 2011

Graduate School

- Valedictorian, Department of Exercise Sciences, Brigham Young University, 2005
- Dean's List, Department of Exercise Sciences, Brigham Young University, 2003-2005

Undergraduate

- Sloan Speech Showcase: Public Speaking Award, Brigham Young University, 2002
- Undergraduate Academic Scholarship, Brigham Young University, 2000-2002

FUNDING

Current

- NIH/NIA R01 – Novel molecular mechanisms of skeletal muscle insulin resistance in physically inactive older adults (R01 AG050781). 04/01/16-03/31/21. Total costs: \$1,875,850. Role on project: Collaborator.

In Review

- NIH R01 – The role of ceramides in diabetes-induced fetal complications. Total costs: \$1,875,850. Role on project: Collaborator.
- NIH R01 – Investigating how perturbed lipid metabolism predisposes for development of Alzheimer's disease. Total costs: \$1,650,500. Role on project: Collaborator.
- Department of Defense – The role of ...

Sponsored Research

- Unicity – The capacity of a proprietary anti-oxidant cocktail to mitigate ROS. Total costs: \$60,000 (with Dr. Jason Hansen).
- Unicity – The efficacy of a 21-day lifestyle program. Total costs: \$130,000 (with Dr. James LeCheminant).

Completed

- BYU Gerontology Research Grant Award, Title: *A Role for Ceramides in Sarcopenia*. Term: 01/01/12-12/31/12. Total Costs: \$10,000. Role on Project: P.I.
- Predoctoral Institutional Training Grant (T32), NIH/NIA, 2005
- BYU Mentoring Environment Grant – TLR4/MyD88 signaling in cigarette smoke-induced heart ceramide accrual. 01/01/16-12/31/16. Total costs: \$20,000. Role on project: P.I.
- BYU Life Sciences Translational Research Grant – The efficacy of TGF β inhibition via SGI-1252 in the prevention and reversal of diet-induced obesity and diabetes. 4/1/16-3/31/17. Total costs: \$15,000. Role on project: P.I.

Gifts

- Unicity (2016): \$2,000
- Bank of American Fork (2015): \$500
- Becton-Dickinson (2015/2016): \$4,000
- Mannatech Inc. (2015): \$5,000
- College of Physical and Mathematical Sciences (2014): \$15,000.

Student Funding

- 2017 BYU ORCA, Title: The Efficacy of Orally Ingested D-hydroxybutyrate in Skeletal Muscle in the Prevention and Reversal of Diet-induced Obesity and Diabetes. Total costs: \$1,500. Awardee: Brian Parker
- 2016 BYU Graduate Research Fellowship, Title: The role of insulin in the etiology of Alzheimer disease. Total costs: \$10,000. Awardee: Sheryl Carr
- 2016 BYU ORCA, Title: The Efficacy of TGF-Beta Inhibition via SGI-1252 in the Prevention and Reversal of Diet-induced Obesity and Diabetes. Total costs: \$1,500. Awardee: Blake Dallan
- 2013 APS/NSF, Undergraduate Research Fellowship, Title: Reactive Oxygen Species and Mitochondrial Fission. Total costs: \$4,000. Awardee: Braden Tucker

- 2013 BYU Graduate Research Fellowship, Title: Ceramides as a Mediator of Cigarette Smoke-induced Metabolic Disruption. Total costs: \$15,000. Awardee: Mikayla Thatcher
- 2013 BYU ORCA Grant, Title: Ceramides and Oxidative Stress. Total costs: \$1,000. Awardee: Braden Tucker
- 2012 BYU ORCA Grant, Title: Ceramides and AMPK. Total costs: \$1,000. Awardee: Kate Erickson
- 2012 Graduate Research Fellowship, Title: Ceramides and Mitochondrial Function. Total costs: \$15,000. Awardee: Melissa Smith

BYU Diabetes Research Lab

- 2017: \$114,000 – Including a \$100,000 gift to the established endowments.
- 2016: \$156,000 – Including a donation allowed establishing two endowments to fund student research and conference travel.
- 2015: \$12,000

SERVICE

Journal Reviewer

- Ad Hoc Reviewer, Experimental and Clinical Endocrinology & Diabetes
- Ad Hoc Reviewer, Journal of Biological Chemistry
- Ad Hoc Reviewer, Journal of Lipid Research
- Ad Hoc Reviewer, Diabetology and Metabolic Syndrome
- Ad Hoc Reviewer, PloS One
- Ad Hoc Reviewer, The American Journal of Physiology: Regulatory, Integrative, and Comparative Physiology
- Ad Hoc Reviewer, The International Journal of Sports Medicine
- Ad Hoc Reviewer, Journal of Gerontology: Medical Science
- Ad Hoc Reviewer, Life Sciences Journal
- Ad Hoc Reviewer, BMC Public Health
- Ad Hoc Reviewer, Scientific Reports - Nature

Journal Leadership

- 2017-present:- Editorial board member, Journal of Insulin Resistance
- 2016-present:- Guest editor, International Journal of Molecular Science, “Inhaled Pollutants Modulate Respiratory and Systemic Diseases”
- 2015-2016: - Lead guest editor, Journal of Diabetes Research, “The Role of Inhaled Pollution in the Etiology of Insulin Resistance”
- 2006-2008: - Assistant Editor, The International Journal of Sports Medicine

Grant Reviewer

- 2016:
 - CSR NIH Early Career Reviewer Program
 - Maratona de Saude, Cardiovascular Complications of Diabetes and Metabolism (Portugal)
- 2015:
 - Maratona de Saude, Cardiovascular Complications of Diabetes and Metabolism (Portugal)
 - UK Diabetes Fund (England)

Society Leadership and Responsibilities

- 2016: - Experimental Biology – Co-Chair: Focus on the effects of alcohol abuse, behavior, diet, nutrition, and extreme environmental conditions on physiology
- International Association of Medical Science Educators – Nutrition Objectives Group Member
- 2015: - American Physiology Society – Translational Physiology Interest Group Planning Committee Member, **2015 – present**
- 2011: - Conference assistant, Keystone Symposium – Lipid Biology and Lipotoxicity, Killarney, Ireland
- 2010: - Asia-Pacific Diabetes Obesity Study Group – Chair; Singapore
- Graduate student assistant mentor
- Postdoctoral representative for the Program in Cardiovascular and Metabolic Diseases, Duke-NUS Graduate Student Recruitment Committee

University Appointments and Administrative Responsibilities

- 2017: - College Faculty Consultant with LSAC Pre-professional Development Committee (**ongoing**)
- Department Search Committee Member
- 2015: - College ORCA Reviewer (**ongoing**)
- 2014: - Department Research Committee Member (**ongoing**)
- College MEG Review Committee Chair
- Department Safety Officer
- College Safety Committee
- 2013: - College MEG Review Committee
- Department Safety Officer
- 2012: - Department Search Committee Member
- Department Safety Officer
- 2011: - Department Safety Officer
- 2010: - Session Chair, Asia-Pacific Diabetes Obesity Study Group, Singapore
- Graduate student assistant mentor
- Postdoctoral representative for the Program in Cardiovascular and Metabolic Diseases, Duke-NUS Graduate Student Recruitment Committee
- 2004-2005: - Assistant Investigator, The Brigham Young University Lifestyle Project

General University Service

- 2017: - Faculty advisor, BYU Strong Barbell Club (**ongoing**)
- 2016: - Director, BYU Diabetes Research Lab (**ongoing**)
- Education Week Presenter: “Why we get sick: Insulin resistance and chronic disease”
- 2015: - Education Week Presenter: “Why we get sick: Insulin resistance and chronic disease”
- Organizer and Director, BYU Sugar Rush 5K (diabetes awareness and fundraiser event) (ongoing)
- 2014: - UCUR Moderator

Graduate Student Thesis/Dissertation Committees

- 2016: - Sheryl Carr (Thesis Committee Chair – PDBIO; Graduated 2016)
- Kevin Steed (Dissertation Committee Member – Neuro)
- BreAnna Hutchinson (Dissertation Committee Member – Neuro)
- 2015: - Aimee Hodson (Thesis Committee Chair – PDBIO; Graduated 2016)

- Bradley Naylor (Dissertation Committee Member – Biochem)
- Carri Draney (Thesis Committee Member – NDFS)
- 2014: - Nidhi Choksi (Thesis Committee Member – MMBIO)
- Trevor Tippetts (Thesis Committee Chair – PDBIO; Graduated 2015)
- Kai Li Ong (Thesis Committee Member – MMBIO)
- 2013: - Seung Ook Yang (Dissertation Committee Member – Biochem)
- Courtney Banks (Dissertation Committee Member – Biochem)
- Michael Nelson (Thesis Committee Member – PDBIO; Graduated 2015)
- Amy Crandall (Dissertation Committee Member – PDBIO)
- Chen Ting (Dissertation Committee Member – PDBIO)
- Duane Winden (Dissertation Committee Member – PDBIO; Graduated 2014)
- 2012: - Melissa Smith (Dissertation Committee Chair – PDBIO; Graduated 2014)
- Mikayla Thatcher (Dissertation Committee Chair – PDBIO; Graduated 2015)
- Shalene Hardman (Dissertation Committee Member – PDBIO; Graduated 2014)
- Kevin Tuttle (Dissertation Committee Member – PDBIO)
- 2011: - Shenali De Silva (Dissertation Committee Member – PDBIO; Graduated 2013)

General Community Service

- 2017: - Science Advisor, Honors Science Research, Wilbur High School, Spokane, WA
- 2016: - Revere Health Advisor (unpaid; ongoing)

CONSULTING

- 2016: - Unicity Scientific Advisory Board
- 2015: - Expert consultant, Kelley Drye & Warren LLP

PROFESSIONAL AND SCIENTIFIC SOCIETIES

Membership

- Mitochondrial Physiology Society
- American College of Sports Medicine
- American Diabetes Association
- American Physiology Society
- American Society for Investigative Pathology

TEACHING

Brigham Young University

- PDBIO601 Cell and Molecular Physiology: 2013 – present
- PDBIO365 Pathophysiology: 2012 – present
- PDBIO494/5R Research Methods: 2012 – present
- STAC191 Beginning Weight Lifting: 2013 – 2014
- EXSC367 Exercise Physiology Lab: 2004 – 2005

East Carolina University

- EXSS8330 Advanced Topics in Metabolism, selected lectures, 2008

- EXSS3805 Physiology of Exercise, 2007

PRESENTATIONS

Scientific Meetings

1. 2017 Experimental Biology (poster)
Presentation: "Nasal administration of diesel exhaust particles does not evoke inflammation, endothelial dysfunction, or initiate autophagy in murine femoral arteries"
2. 2017 Experimental Biology (poster)
Presentation: "Beta-hydroxybutyrate favorably alters muscle cell survival and mitochondrial bioenergetics"
3. 2017 Experimental Biology (poster)
Presentation: "Beta-hydroxybutyrate favorably alters beta-cell survival and mitochondrial bioenergetics"
4. 2017 Experimental Biology (poster)
Presentation: "SGL-1252, a TGF-beta inhibitor, protects against diet-induced obesity and insulin resistance in mice"
5. 2017 Experimental Biology (poster)
Presentation: "Insulin alters brain lipid profile and mitochondrial function"
6. 2017 Experimental Biology (Oral)
Presentation: "Diesel exhaust particle exposure compromises macrophage mitochondrial physiology"
7. 2016 Experimental Biology (poster)
Presentation: "Treatment with diet or insulin induces a different placental ceramide expression during gestational diabetes mellitus"
8. 2016 Experimental Biology (poster)
Presentation: "Acylation of SOD1 provides tool to determine if mitochondrial aggregation of SOD1 is main driver of ALS"
9. 2016 Experimental Biology (oral)
Presentation: "Insulin treatment increases myocardial ceramide accumulation and disrupts cardiometabolic function"
10. 2016 Experimental Biology (poster)
Presentation: "Gingival cell smoke exposure disrupts skeletal muscle metabolic function"
11. 2016 Experimental Biology (poster)
Presentation: "HMGB1 mediates sidestream cigarette smoke-induced metabolic disruption"
12. 2016 American Association of Dental Research (poster)
Presentation: "Smoke exposure disrupts skeletal muscle metabolic function through oral gingiva"
13. 2015 Experimental Biology (poster)
Presentation: "Ceramide-induced Mitochondrial Fission is Necessary for Sidestream Cigarette Smoke-induced Cardiometabolic Disruption"
14. 2015 Experimental Biology (poster)
Presentation: "Macrophage-secreted Ceramides are Necessary for Skeletal Muscle Mitochondrial Disruption with LPS Treatments"
15. 2015 Experimental Biology (poster)

- Presentation: “Macrophage-secreted Ceramides are Necessary for Myocardial Mitochondrial Disruption with LPS Treatments”
16. 2014 American Diabetes Association Scientific Sessions (oral)
Presentation: “Mitochondrial Fission is Necessary for Ceramide-induced Metabolic Disruption”
 17. 2014 American Diabetes Association Scientific Sessions (poster)
Presentation: “Ceramide is Necessary for Smoke-induced Cardiomyocyte Mitochondrial Disruption”
 18. 2014 American Diabetes Association Scientific Sessions (poster)
Presentation: “Insulin Increases Ceramide Biosynthesis in Skeletal Muscle”
 19. 2014 American Diabetes Association Scientific Sessions (poster)
Presentation: “Ceramide Mediates Cigarette Smoke-induced Metabolic Disruption”
 20. 2014 American Diabetes Association Scientific Sessions (poster)
Presentation: “RAGE Activation Disrupts Heart Mitochondrial Function”
 21. 2014 Experimental Biology (poster)
Presentation: “Mitochondrial Fission is Necessary for Ceramide-induced Metabolic Disruption”
 22. 2014 Experimental Biology (poster)
Presentation: “Ceramide is Necessary for Smoke-induced Cardiomyocyte Mitochondrial Disruption”
 23. 2013 Experimental Biology (poster)
Presentation: “Reactive Oxygen Species Generation as a Result of Ceramide-induced Mitochondrial Fission”
 24. 2013 Experimental Biology (poster)
Presentation: “Ceramides as a Mediator of Cigarette Smoke-induced Metabolic Disruption”
 25. 2013 Experimental Biology (poster)
Presentation: “Mitochondrial Fission as a Mediator of Ceramide-induced Metabolic Disruption”
 26. 2012 APS – Integrative Biology of Exercise (poster)
Presentation: “AICAR selective inhibits ceramide biosynthesis in skeletal muscle”
 27. 2011 FASEB Summer Research Conferences – Glucose Transporters, Signaling, and Diabetes (poster)
Presentation: “Dihydroceramide desaturase inhibition prevents ceramide accumulation and improves insulin sensitivity”
 28. 2011 Keystone Symposium – Lipid Biology and Lipotoxicity (poster)
Presentation: “Fenretinide improves insulin sensitivity by inhibiting dihydroceramide desaturase and preventing ceramide accumulation”
 29. 2011 Singapore Annual Scientific Meeting in Translational Science (poster)
Presentation: “Fenretinide improves insulin sensitivity by inhibiting dihydroceramide desaturase and preventing ceramide accumulation”
 30. 2011 Keystone Symposium - Type 2 Diabetes, Insulin Resistance and Metabolic Dysfunction (poster)
Presentation: “Resveratrol protects from lipid-induced insulin resistance, independent of Sirt1, via inhibition of ceramide”
 31. 2010 Duke-NUS Research Symposium, Singapore (oral)
Presentation: “Mechanism of inflammation-induced insulin resistance: Reliance of TLR4 action on ceramide synthesis reveals role for saturated fatty acids”
 32. 2010 SingHealh-Duke-NUS Scientific Congress, Singapore (poster)

- Presentation: "Inflammation, Lipids, and Insulin Resistance"
33. 2010 Meeting of the Asia-Pacific Diabetes/Obesity Study Group, Singapore (oral)
Presentation: "Mechanism of inflammation-induced insulin resistance: Reliance of TLR4 action on ceramide synthesis reveals role for saturated fatty acids"
 34. 2010 MGH-KI-Cell Days of Molecular Medicine, Stockholm, Sweden (oral)
Presentation: "Mechanism of inflammation-induced insulin resistance: Reliance of TLR4 action on ceramide synthesis reveals role for saturated fatty acids"
 35. 2009 American Diabetes Association Scientific Session, New Orleans, LA (oral)
Presentation: "Lipid-induced insulin resistance is prevented in lean and obese myotubes with AICAR treatment"
 36. 2008 APS Integrative Biology, Hilton Head, SC (poster)
Presentation: "The effects of intrinsic aerobic capacity and diet on insulin signaling and IKK β activity in rats"
 37. 2008 American Diabetes Association Scientific Session, San Francisco, CA (poster)
Presentation: "Insulin Sensitivity Improves After Gastric-Bypass in the Obese: a Possible Mechanism"
 38. 2008 Experimental Biology, San Diego, CA (poster)
Presentation: "A Novel Mechanism for Metformin in Improving Insulin Signaling in Skeletal Muscle"
 39. 2008 ECU Research Week, Greenville, NC (oral)
Presentation: "Metformin Improves Skeletal Muscle Insulin Signaling in Obese Rats in a Fiber-type Dependent Manner"
 40. 2007 Diabetes-Obesity Research Day, Greenville, NC (oral)
Presentation: "Metformin Treatment Induces AMPK Activation and Inhibits IKK Activity in Rat Skeletal Muscle"
 41. 2007 ECU Research Week, Greenville, NC (oral)
Presentation: "The Association Between Body Weight, Body Fat, and C-Reactive Protein: A Prospective Study"
 42. 2005 ACSM National Meeting, Nashville, TN (oral)
Presentation: "VO₂max and C-Reactive Protein in Women"

Invited Scientific Meeting Oral Presentations

1. 2016 American College of Sports medicine
Presentation: "Ceramide Force Fission"
2. 2016 Experimental Biology
Presentation: "Mitochondrial fission is necessary for ceramide-induced metabolic disruption"
3. 2015 American Physiological Society – Physiological Bioenergetics
Presentation: "Sphingolipid accrual is necessary for LPS-induced mitochondrial disruption"
4. 2016 Thailand Medical Professionals
Presentation: "Insulin Resistance and Chronic Diseases"

Invited University, Professional, and Community Presentations

1. 2018 Chinese University of Honk Kong
Presentation: "The Air we Breathe: The effects of Diesel Exhaust on Macrophage Mitochondrial Bioenergetics"
2. 2017 Orem Rotary Club
Presentation: "In defense of fat"

3. 2017 KetoCon
Presentation: "Insulin vs. Ketones: Battle for the Mitochondrion"
4. 2017 Canada's Mormon Trail Chautauqua
Presentation: "Why we get sick and fat: what to do about it"
5. 2017 Elderquest, Utah Valley University
Presentation: "Why we get sick and fat"
6. 2016 Timpanogos Regional Hospital Grand Rounds
Presentation: "Why we get sick: the role of insulin resistance in chronic disease"
7. 2016 Southern Alberta Chautauqua
Presentation: "The Plagues of Prosperity"
8. 2016 Brigham Young University Police
Presentation: "In Defense of Fat"
9. 2016 Thailand Medical Professionals
Presentation: "Why we get sick: Insulin resistance and Chronic disease"
10. 2015 University of Louisville Diabetes and Obesity Center
Presentation: "Ceramide mediate metabolic disruption following inhaled pollution"
11. 2015 Brigham Young University, Diabetes Club
Presentation: "Diabetes, Insulin, and Ketones"
12. 2015 Roseman University of Health Sciences
Presentation: "The pathology of Insulin Resistance"
13. 2014 Brigham Young University, Cancer Research Program
Presentation: "Ceramide, Mitochondria, and Cancer"
14. 2013 Southwest Chapter of ACSM
Presentation: "The role of ceramide as a mediator of metabolic disruption"
15. 2013 University of Utah Vascular Research Laboratory
Presentation: "The Role of Sphingolipids in Metabolic Disruption"
16. 2013 ARUP Laboratories
Presentation: "Insulin Resistance: The Great Mediator"
17. 2011 Brigham Young University, Department of Nutrition and Food Science Lecture Series
Presentation: "Ceramide as a Regulator of Obesity and Metabolism"
18. 2010 Brigham Young University, Department of Physiology and Developmental Biology Lecture Series
Presentation: "Between a Rock and Hard Place: Ceramide as a Mediator of Inflammation-induced Insulin Resistance"
19. 2007 East Carolina University, Metabolic Institute for Obesity and Diabetes Research
Presentation: "Does AMPK Inhibit NF- κ B in Skeletal Muscle?"

PUBLICATIONS

Manuscripts in Review

Published Manuscripts

1. What nutrition-related knowledge, skills, and attitude should medical students develop? Lindsley JE, Abali EE, **Bikman BT**, Cline SD, Fulton T, Lopez B, Rosenthal OD, Uhley VE, Weintraut RJ, Williams PD, Wisco JJ, Thompson K. Medical Science Educator 2017; 27(4) 579-583.

2. β -Hydroxybutyrate improves β -cell mitochondrial function and survival. Sampson MJ, Lathen DR, Dallon BW, Draney C, Ray JD, Kener KB, Parker BA, Gibbs JL, Gross JS, Tessem TS, **Bikman BT**. *J Ins Resist* 2017; 2(1), a25.
3. Banks CJ, Rodriguez NW, Gashler KR, Pandya R, Mortenson JB, Whited MD, Soderblom EJ, Thompson JW, Moseley MA, Reddi AR, Tessem JS, Torres MP, **Bikman BT**, Andersen JL. Acylation of Superoxide Dismutase 1 (SOD1) at K122 Governs SOD1-mediated Inhibition of Mitochondrial Respiration. *Mol Cell Biol* 2017 Jul 24. pii: MCB.00354-17. doi: 10.1128/MCB.00354-17.
2. Napa K, Baeder AC, Witt JE, Rayburn ST, Miller MG, Dallon BW, Gibbs JL, Wilcox SH, Winden DR, Smith JH, Reynolds PR, **Bikman BT**. LPS from *P. gingivalis* negatively alters gingival cell mitochondrial bioenergetics. *Int J Dent* 2017:2697210.
3. Taylor OJ, Thatcher MO, Hubbard ST, Gibbs J, Trumbull AM, Gray HM, Winden DR, Pearson MJ, Tippetts TS, Holland WH, Reynolds PR, **Bikman BT**. High-mobility group box 1 disrupts metabolic function with cigarette smoke exposure in a ceramide-dependent manner. *Int J Mol Sci.* 2017 18 (5).
4. Sanders NT, Dutson DJ, Durrant JW, Lewis JB, Wilcox SH, Winden DR, Arroyo JA, **Bikman BT**, Reynolds PR. Cigarette smoke extract (CSE) induces RAGE-mediated inflammation in the Ca9-22 gingival carcinoma epithelial cell line. *Arch Oral Bio* 2017 80; 95-100.
5. Lewis JB, Hirschi KM, Arroyo JA, **Bikman BT**, Kooyman DL, Reynolds PR. Plausible Roles for RAGE in Conditions Exacerbated by Direct and Indirect (Secondhand) Smoke Exposure. *Int J Mol Sci.* 2017 Mar 17;18(3)
6. Mathis AD, Naylor BC, Carson RH, Evans E, Harwell J, Knecht J, Hexem E., Peelor III FF, Miller BF, Hamilton KL, Transtrum M, **Bikman BT**, Price JC. Mechanisms of *in vivo* ribosome maintenance respond to nutrient signals. *Molecular and Cellular Proteomics* 2017 16(2):243-254.
7. Reynolds M, Hancock C, Ray J, Kener K, Draney C, Garland K, Hardman J, **Bikman BT**, Tessem J. β -cell deletion of Nr4a1 and Nr4a3 nuclear receptors impedes mitochondrial respiration and insulin secretion. *Am J Physiol Endocrinol Metab* 2016 311(1):E186-201.
8. Braeder AC, Napa K, Richardson ST, Taylor OJ, Andersen SG, Wilcox SH, Winden DR, Reynolds PR, **Bikman BT**. Gingival cells exposed to cigarette smoke extract induce muscle cell metabolic disruption. *International Journal of Dentistry* 2016 ID 2763160.
9. Hodson AE, Tippetts TS, **Bikman BT**. Insulin treatment increases myocardial ceramide accumulation and disrupts cardiometabolic function. *Cardiovascular Diabetology* 2015 Dec 18;14(1):153.
10. Hansen ME, Thatcher MO, Simmons KJ, Tippetts TS, Saito RR, Trumbull AM, Taylor OJ, Hubbard ST, **Bikman BT**. Lipopolysaccharide Disrupts Mitochondrial Physiology in Skeletal Muscle via Disparate Effects on Sphingolipid Metabolism. *Shock* 2015 Dec;44(6):585-92.
11. Kwon OS, Tanner RE, Barrows KM, Runtsch M, Symons JD, Jalil T, **Bikman BT**, McClain DA, O'Connell RM, Drummond MJ. MyD88 regulates physical inactivity-induced skeletal muscle inflammation, ceramide biosynthesis signaling and glucose tolerance. *Am J Physiol Endocrinol Metab* 2015 DOI: 10.1152/ajpendo.00124.2015.
12. Nelson MB, Swensen AC, Winden DR, Bodine JS, **Bikman BT**, Reynolds PR. Receptor for advanced glycation end-products (RAGE) signaling reduces cardiomyocyte mitochondrial function in a ceramide-dependent manner. *Am J Physiol Heart* 2015 DOI: 10.1152/ajpheart.00043.2015.

13. Gibby JT, Njeru DK, Cvetko ST, Merrill RM, **Bikman BT**, Gibby WA. Volumetric analysis of central body fat accurately predicts incidence of diabetes and hypertension in adults. *BMC Obesity* 2015; 2:10.
 14. Tippetts TS, Winden DR, Swensen AC, Nelson MB, Thatcher MO, Saito RR, Condie TB, Simmons KJ, Judd AM, Reynolds PR, **Bikman BT**. Cigarette smoke increases cardiomyocyte ceramide accumulation and inhibits mitochondrial respiration. *BMC Cardiovasc Disord* 2014 Nov 22;14:165.
 15. Thatcher MO, Tippetts TS, Nelson MB, Swensen AC, Winden DR, Hansen ME, Johnson IE, Porter JP, Prince JT, Reynolds PR, **Bikman BT**. Ceramides mediate cigarette smoke-induced metabolic disruption in mice. *Am J Physiol Endocrinol Metab*. 2014 307(10):E919-27. (**This manuscript was ranked #15 on the APS annual ranking of “most shared” manuscripts among all physiology publications through online search portals, social media, news outlets, etc.**)
 16. DeMille D, **Bikman BT**, Mathis AD, Prince JT, Mackay JT, Sowa SW, Hall TD, Grose JH. A Comprehensive Protein-protein Interactome for Yeast PAS Kinase 1 Reveals Direct Inhibition of Respiration through the Phosphorylation of Cbf1. *Mol Biol Cell* 2014 May 21. pii: mbc.E13-10-0631.
 17. Hansen ME, Tippetts TS, Moulton ER, Holub ZE, Swensen AC, Prince JT, **Bikman BT**. Insulin increases ceramide biosynthesis and accumulation in skeletal muscle. *J Diabetes Res* 2014; Article ID 765784.
 18. Smith ME, Tippetts TS, Brassfield ES, Tucker BJ, Ockey A, Swensen AC, Anthonymuthu TS, Washburn TD, Kane DA, Prince JT, **Bikman BT**. Mitochondrial fission mediates ceramide-induced metabolic disruption in skeletal muscle. *Biochem J* 2013; 456(4):427-439. (**Highlighted as one of three “high-impact” manuscripts in the issue.**)
 19. Erickson KA, Smith ME, Anthonymuthu TS, Evanson MJ, Brassfield ES, Hodson AE, Bressler MA, Tucker BJ, Thatcher MO, Prince JT, Hancock CR, **Bikman BT**. AICAR inhibits ceramide biosynthesis in skeletal muscle. *Diabetol Metab Syndr* 2012; 4(9):45.
 20. Siddique MM, **Bikman BT**, Wang L, Ying L, Reinhardt E, Shui G, Wenk MR, Summers SA. Ablation of dihydroceramide desaturase confers resistance to Etoposide-induced apoptosis in vitro. *PLoS One*. 2012; 7(9):e44042.
 21. **Bikman BT**, Guan YG, Shui G, Siddique MM, Kim JY, Wenk MR, Summers SA. Fenretinide prevents lipid-induced insulin resistance by blocking ceramide synthesis. *J Biol Chem* 2012; 287:17426-37.
 22. **Bikman BT**. A Role for Sphingolipids in the Pathophysiology of Obesity-induced Inflammation. *Cell Mol Life Sci* 2012; 69:2135-46.
 23. **Bikman BT** and Summers SA. Ceramides as modulators of cellular and whole-body metabolism. *J Clin Invest* 2011 121(11): 4222-4230.
 24. **Bikman BT** and Summers SA. Sphingolipids and Hepatic Steatosis. *Adv Exp Med Biol* 2011 721: 87-97.
 25. Holland WL*, **Bikman BT***, Wang LP, Liu Y, Sargent KM, Knotts TA, Pagliasotti MJ, Shui G, Wenk MR, Scherer PE, Summers SA. Lipid-induced insulin resistance mediated by the proinflammatory receptor TLR4 requires saturated fatty acid-induced ceramide biosynthesis in mice. *J Clin Invest* 2011 121(5): 1858–1870.
- * Co-first authors
26. Holland WL, Miller RA, Wang ZV, Sun K, Barth B, Bui HH, Davis KE, **Bikman BT**, Halberg N, Rutkowski JM, Wade MR, Tenorio VM, Kuo M-S, Brozinick JT, Zhang BB, Birnbaum MJ, Summers SA, Scherer PE. The Pleiotropic Actions of Adiponectin are

Initiated via Receptor-Mediated Activation of Neutral Ceramidase Activity. *Nat Med* 2010 17(1):55-63.

27. Kane DA, Anderson EJ, Woodlief TL, Price III JW, **Bikman BT**, Cortright, RN and Neuffer PD, Metformin Selectively Attenuates Mitochondrial H₂O₂ Emission without Affecting Respiratory Capacity in Skeletal Muscle of Obese Rats. *Free Radic Biol Med* 2010; 49(6): 1082-1087.
28. **Bikman BT**, Zheng D, Reed MA, Hickner RC, Houmard JA, Dohm GL. Lipid-induced insulin resistance is prevented in lean and obese myotubes with AICAR treatment. *Am J Physiol Regulatory Integrative Comp Physiol* 2010; 298: R1692-R1699.
29. **Bikman BT**, Zheng D, Cortright RN, Neuffer PD, Kane DA, Anderson EJ, Woodlief TL, Price JW, Dohm GL. Metformin Improves Skeletal Muscle Insulin Signaling in Obese Rats in a Fiber-type Dependent Manner. *J Obes* 2010 (Epub 2010 Jan 14).
30. **Bikman BT**, Woodlief TL, Noland RC, Lust RM, Dohm GL, Cortright RN. High-fat diet induces IKKbeta and reduces insulin sensitivity in rats with low running capacity. *Int J Spor Med* 2009; 30: 631-635.
31. **Bikman BT**, Zheng D, Pories WJ, Chapman WH, Pender J, Bowden R, Reed MA, Cortright RN, Tapscott EB, Houmard JA, Tanner CJ, Lee J, Dohm GL. Mechanism(s) for Improved Insulin Sensitivity After Gastric Bypass Surgery. *J Clin Endo Metab* 2008; 93: 4656-4663.
32. Stob NR, Seals DR, Jensen J, van Baak MA, Steig AJ, Lindstrom RC, **Bikman BT**, Bell C. Increased Thermogenic Responsiveness to Intravenous Beta-Adrenergic Stimulation in Habitual Exercisers is Not Related to Skeletal Muscle Beta2-Adrenergic Receptor Density. *Experimental Physiology* 2007; 92: 823-830.

Book Chapters

1. **Bikman BT** and Summers SA. Sphingolipids and Hepatic Steatosis, in: *Sphingolipids and metabolic diseases*, 2010, Landes Biosciences.

Magazine Articles

1. Bressler MA and **Bikman BT**. Inflammation and the Metabolic Syndrome. *Asia Pacific Biotech News*. December 2011.

PATENTS

1. 2015 Brigham Young University – The use of SGI-1252 in the treatment of obesity and diabetes.

MEDIA

2017

Documentary

- “Recommended Daily Amount”

Newspaper/Online News

- The Daily Herald

Podcasts

- Livin’ La Vida Low Carb
- Lowcarb Leader
- My Sugar-free Journey
- Ketovangelist

- End of Three Fitness
- Nourish Trive Balance
- Athletic Nutrition
- The Wolf Bear Project
- Ketogeek

2015

Radio

- BYU XM Radio – “Top of Mind”

Newspaper/Online News

- Women’s Health Magazine
- Healthy Utah

2014

Radio

- KSL News Radio

Newspaper/Online News

- Fox News
- KSL News
- Daily Herald
- Salt Lake Tribune
- Daily Mail (UK)
- Jagran Post
- Zee News (India)
- Times of India (India)
- NDTV (India)
- Scicasts
- Newsmax health

2013

TV

- ABC Channel 4

Radio

- KSL News Radio
- BYU Radio

Newspaper/Online News

- Daily Herald
- Salt Lake Tribune
- Meridian Magazine
- The Church News
- University Herald
- Biochemical Journal - Podcast