

CURRICULUM VITAE

T. Scott Isbell, PhD, DABCC, FACB

DATE: November 5, 2013

CURRENT POSITIONS: Assistant Professor, Department of Pathology, Saint Louis University School of Medicine
Director of Clinical Chemistry, Saint Louis University Hospital
Technical Director of DNA Diagnostic Laboratory, Department of Pathology, Saint Louis University School of Medicine

CONTACT INFORMATION:

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EDUCATION/TRAINING:

1998-2002 Bachelors of Science (BS) in Biology with Honors
University of Alabama at Birmingham (UAB)
Birmingham, AL

2003-2007 Doctor of Philosophy (PhD) in Pathology
Department of Pathology
University of Alabama at Birmingham (UAB)
Birmingham, AL

2008-2010 Fellowship in Clinical Chemistry and Laboratory
Medicine
Department of Pathology and Immunology
Division of Laboratory and Genomic Medicine
Washington University School of Medicine
St. Louis, MO

2011 Point of Care Specialist Certification (AACC)

BOARD CERTIFICATION American Board of Clinical Chemistry (2010-Present)

ACADEMIC POSITIONS/EMPLOYMENT:

1999-2002	Undergraduate Research Assistant Department of Pharmacology and Toxicology Mass Spectrometry/Proteomics Core Facility University of Alabama at Birmingham Birmingham, AL Advisor: Dr. Stephen Barnes Professor of Pharmacology and Toxicology and Director Mass Spectrometry/Proteomics Core Facility
2003-2007	Doctoral Researcher Department of Pathology University of Alabama at Birmingham Birmingham, AL Advisor: Dr. Rakesh P. Patel
2008-2010	Postdoctoral Trainee in Clinical Chemistry and Laboratory Medicine Department of Pathology and Immunology Division of Laboratory and Genomic Medicine Washington University School of Medicine St Louis, MO Advisors: Drs. Reid Townsend and Jeffrey D. Milbrandt
2009-2010	Chief Clinical Chemistry Fellow Department of Pathology and Immunology Division of Laboratory and Genomic Medicine Washington University School of Medicine St Louis, MO
2010-2013	Director of Medical and Scientific Affairs for North America. Nova Biomedical Corp. Waltham, MA
2013-Present	Assistant Professor, Director of Clinical Chemistry, and Technical Director of DNA Diagnostic Laboratory Department of Pathology St. Louis University School of Medicine St. Louis, MO

PROFESSIONAL MEMBERSHIPS:

2011 – Present	National Academy of Clinical Biochemistry (Fellow)
2010 – Present	American Society for Clinical Pathology
2008 – Present	American Association for Clinical Chemistry

2004 - 2007 Society for Free Radical Biology and Medicine

PROFESSIONAL SERVICE:

2013 – Present Chair Elect – Chicago Section of the AACC

2013 – Present Treasurer, Critical and Point of Care Testing (CPOCT) Division of the AACC

2013 – Present Member, Organizing Committee for the 25th CPOCT International Symposium

2012 – Present Contributor, Document Development Committee on Emergency and Disaster Point of Care Testing – Clinical and Laboratory Standards Institute

2012 – Present Chemistry and Toxicology Consensus Committee – Clinical and Laboratory Standards Institute

2012 – 2013 Recording Secretary – Chicago Section of the AACC

HONORS AND AWARDS:

2011 AACC Outstanding Speaker Award

2010 Paul E. Strandjord Young Investigator Award from the Academy of Clinical Laboratory Physicians and Scientists

2010 Richard Marshall Education Award from the Midwest section of AACC

2008-2010 Recipient of a two-year, \$100,000 2008 Past-Presidents' Scholarship Award from the American Association for Clinical Chemistry's Van Slyke Foundation to support postdoctoral training in laboratory medicine

2007 Travel Award – Second International Role of Nitrite in Physiology, Pathophysiology, and Therapeutics Meeting

2007 Selected to represent UAB at the Howard Hughes Medical Institute Fellows Meeting

2007 Samuel B. Barker Award for Excellence in Graduate Studies. Selected as the top doctoral student amongst all UAB graduate programs

2007 Selected Most Outstanding Graduate Student, School of Medicine, Department of Pathology

2006 Marshall Sherfield Fellowship Finalist

2006	Selected for attendance at National Institutes of Health (NIH) National Graduate Student Research Festival
2006	UAB Graduate Student Research Day– Third Place
2005	Presentation/Science Award – NIH Role of Nitrite in Physiology, Pathophysiology and Therapeutics Meeting
2005	UAB Graduate Student Research Day – Second Place
2005	Visiting Scientist, National Institutes of Health
2005	Selected as one of two students to represent UAB at “A Gathering of Nobel Laureates: Science for the 21 st Century” UNC Charlotte. Feb. 28 – Mar. 1
2004	Young Investigator’s Award – Society for Free Radical Biology and Medicine
2004	UAB Center for Free Radical Biology Travel Award
2004	UAB Graduate Student Research Day– First Place
2004-2007	Cardiovascular Pathophysiology Fellowship

BIBLIOGRAPHY:

Peer Reviewed Articles:

1. Deshane, J., Chaves, L., Sarikonda, K.V., Wilson, L., **Isbell, S.**, Kirk, M., Grubbs, C., Barnes, S., Meleth, S., and Kim, H. *Modulation of dementia-relevant proteins in normal rat brain by grape seed extract.* Journal of Agricultural and Food Chemistry. 2004 Dec 29; 52(26):7872-83.
2. **T. Scott Isbell**, Jeffrey R. Koenitzer, Jack H. Crawford, C.R. White, David W. Kraus and Rakesh P. Patel *Assessing NO-dependent vasodilatation using vessel bioassays at defined oxygen tensions.* Methods in Enzymology. 2005; 396:553-68.
3. Jeannette E. Doeller, **T. Scott Isbell**, Rakesh P. Patel, Jack R. Lancaster Jr., Victor M. Darley-Usmar and David W. Kraus *Polarographic measurement of hydrogen sulfide production and consumption by mammalian tissues.* Analytical Biochemistry. 2005 Jun 1; 341(1):40-51.
4. Mahesh Basiraddy, **T. Scott Isbell**^{*}, Xinjun Teng, Rakesh Patel and Anupam Agarwal. *Effects of sodium nitrite on ischemia-reperfusion injury in the rat kidney.* American Journal of Physiology-Renal Physiology. 2006; 290 (4). F779-86.
5. Jack H. Crawford, , **T. Scott Isbell**, James Huang, Sruti Shiva, Balu K Chacko, Alan Schechter, Victor M Darley-Usmar, Jeffrey D. Kerby, John D Lang Jr, David Kraus, Chien Ho, Mark T. Gladwin, Rakesh P. Patel. *Hypoxia, Red Blood Cells and Nitrite Regulate NO-dependent Hypoxic Vasodilatation.* Blood. 2006 Jan 15; 107(2):566-74.
6. Xin Sha, **T. Scott Isbell**, Rakesh P. Patel, Cynthia S. Day, and S. Bruce King. *Hydrolysis of Acyloxy Nitroso Compounds Yields Nitroxyl (HNO).* Journal of the American Chemical Society. 2006; 128 (30): 9687-92.

7. Jeffrey R. Koenitzer, **T. Scott Isbell**, Hetal D. Patel, Gloria A. Benavides, Dale A. Dickinson, Rakesh P. Patel, Victor M. Darley-USmar, Jack R. Lancaster, Jr. Jeannette E. Doeller, David W. Kraus. *Hydrogen Sulfide Mediates Vasoactivity in an Oxygen Dependent Manner*. American Journal of Physiology-Heart and Circulatory Physiology. 2007 Apr; 292(4):H1953-60.
8. John D Lang Jr, Xinjun Teng, Philip Chumley, Jack H Crawford, **T. Scott Isbell**, Balu K Chacko, Yuliang Liu, Nirag Jhala, Ralph Crowe, Alvin B Smith, Richard C Cross, Luc Frenette, , Eric Kelley,, Diana W Wilhite, Cheryl R Hall, Grier P Page, J Steven Bynon, Devin E Eckhoff and Rakesh P. Patel. *Preemptive Administration of Inhaled Nitric Oxide Accelerates Restoration of Liver Function in Adults Following Orthotopic Liver Transplantation*. Journal of Clinical Investigation. 2007 Sep; 117(9):2583-91.
9. **T. Scott Isbell**, Mark T. Gladwin and Rakesh P. Patel. *Hemoglobin Oxygen Fractional Saturation Regulates Nitrite-Dependent Vasodilation of Aortic Ring Bioassays*. American Journal of Physiology-Heart and Circulatory Physiology. 2007 Oct;293(4):H2565-72
10. Gloria A. Benavides, Giuseppe L. Squadrito, Robert W. Mills, Hetal D. Patel, **T. Scott Isbell**, Rakesh P. Patel, Victor M. Darley-USmar, Jeannette E. Doeller, David W. Kraus. *Hydrogen Sulfide Mediates the Vasoactivity of Garlic*. Proceedings of the National Academy of Sciences. 2007 Nov 13; 104 (46): 17977-82.
11. **T. Scott Isbell**, Chiao-Wang Sun, Li-Chen Wu, Xinjun Teng, Dario A. Vitturi, Billy G Branch, Christopher G Kevil, Namasivayam Ambalavanan, Lisa Schwiebert, Jinxiang Ren, Kevin M. Pawlik, Matthew B. Renfrow, Rakesh P. Patel, Tim M. Townes. *Role of SNO-Hemoglobin in Normal Development and Physiology*. Nature Medicine. 2008 July. 14(7): 773-7.
12. Teng X, **Scott Isbell T**, Crawford JH, Bosworth CA, Giles GI, Koenitzer JR, Lancaster JR, Doeller JE, W Kraus D, P Patel R. *Novel method for measuring S-nitrosothiols using hydrogen sulfide*. Methods Enzymology. 2008; 441:161-72.
13. **T. Scott Isbell** and Reina Villareal-Amarmento. *A Case of Thick but Brittle Bones and Instant Tea*. Clinical Chemistry. 2010. 56 (6): 1041-44.
14. ME Shoman, JF DuMond, **TS Isbell**, JH Crawford, A Brandon, J Honovar, DA Vitturi, CR White, RP Patel, SB King. *Acyloxy nitroso compounds as nitroxyl (HNO) donors: kinetics, reactions with thiols, and vasodilation properties*. J Med Chem. 2011 Feb 24;54(4):1059-70.
15. **TS Isbell** and ME Lyon. *Glucose meters: Where are we now? Where are we heading?* Medical Laboratory Observer. 2012. Jun; 44(6): 16-18.

Book Chapters

1. **T. Scott Isbell**, Emily Jungheim, and Ann M Gronowski. *Reproductive Related Disorders*. In: Tietz Textbook of Clinical Chemistry and Molecular Diagnostics. 5th Edition. Eds., Burtis C, Bruns D, and Ashwood E. Elsevier Press. St Louis MO. 2012

Abstracts

1. Foxwell, A.I., **Isbell, T.S.**, Wilson, L., Kirk, M., and Barnes, S., *Endogenous 4-Hydroxy-2-Nonenal-Protein Adducts Exists in Rat Liver Mitochondria*. Oxygen Society Annual Meeting. San Antonio, TX, 2002.
2. Foxwell, A.I., Coward, L., Kirk, M., Wilson, L., **Isbell, T.S.**, Darley-USmar, V., and Barnes, S., *Aldehyde Adducts of Mitochondrial Protein: Characterization of 4-Hydroxy-2-Nonenal +*

Cytochrome C Adducts. Federation of American Societies for Experimental Biology Conference. New Orleans, LA, 2002.

3. Novak, L., McCorkle, H., Wilson, L., **Isbell, S.**, Kirk, M., Rowell, C., Barnes, S., Kim, H., Lamartiniere, C., Thompson, J., Mestecky, J., Novak, J., and Jilian B., *Cold Storage of renal tissue alters differential expression of proteins and patterns of immunohistochemical staining*. World Congress of Nephrology 2003.
4. Kim, H., Deshane, J., Sarikonda, K.V., McCorkle, H., Chaves, L., **Isbell, S.**, Wilson, L., Kirk, M., Barnes, S., and Meleth, S. *Proteomics of neuroprotective actions of grape seed extract*. Federation of American Societies for Experimental Biology Conference. 2003.
5. Jeff Koenitzer, **Scott Isbell**, Rakesh Patel, Victor Darley-USmar, Jack Lancaster, and David Kraus. *Hydrogen Sulfide Release NO from S-nitrosothiols*. Free Radical Biology and Medicine. 2004. Vol. 37, Supplement 1. p S184.
6. **Scott Isbell**, Jeff Koenitzer, Rakesh Patel, Victor Darley-USmar, and David Kraus. *Hydrogen sulfide Regulation of Aortic Vessel Tension is Oxygen Dependent*. Free Radical Biology and Medicine. 2004. Vol.37, Supplement 1. p S184.
7. **T. Scott Isbell**, Jack H. Crawford, Sruti Shiva, Balu K Chacko, John D. Lang Jr., Chien Ho, Mark T Gladwin and Rakesh P. Patel. *Coordinated Regulation of Hypoxic Vasodilation by the Red Blood Cell: Role of Nitrite and ATP Derived Nitric Oxide*. Free Radical Biology and Medicine. 2004. Vol. 37, Supplement 1. p S83.
8. **T. Scott Isbell**, Xinjun Teng, Arlene Bulger, David Kraus, Namasivayam Ambalavanan, and Rakesh Patel. *Role of Red Cell Nitrite Reductase Activity in Physiological Hypoxic Adaptation*. Free Radical Biology and Medicine. 2005. Vol.39 Supplement 1. p S86.
9. **T. Scott Isbell**, Dario Vitturi, Xinjun Teng, Joe Sun, Tim Townes and Rakesh Patel. *Is S-Nitrosohemoglobin Dependent Vasodilatation Under Allosteric Control? Insights from a Hemoglobin β C93A Mouse Model*. Free Radical Biology and Medicine. 2006. Vol. 41. Supplement 1. pS50.
10. Dario A. Vitturi, Xinjun Teng, Jose Toledo, **T. Scott Isbell**, Jack Lancaster Jr., and Rakesh P. Patel. *Nitrite Transport in Erythrocytes: Evidence for Oxygen Dependent Modulation of Export*. Free Radical Biology and Medicine. 2007. Vol. 43. Supplement 1. S172.
11. **T. Scott Isbell**, Mark T. Gladwin and Rakesh P Patel. *Deoxyhemoglobin Possesses Dual Functions as a NO Scavenger and a Nitrite Dependent NO Generator: Insights from Oxygen Controlled Vessel Bioassays*. Free Radical Biology and Medicine. 2007. Vol. 43. Supplement 1. S167.
12. **T. Scott Isbell**, Petra Gilmore, Cheryl Lichti, Reid Townsend, and Jeffrey Milbrandt. *Development and Validation of a Tandem Mass Spectrometry Method to Measure Nicotinamide and Nicotinamide Mononucleotide in Plasma*. American Association for Clinical Chemistry 2010 Annual Meeting.
13. Antonia P. Eyssalenne, **T. Scott Isbell**, Roberte Destin, Gillian Hotz, Enrique Ginzburg and David Andrews.SPON: Mitchell Scott. *Laboratory Medicine in a Post-Disaster Setting in Haiti*. Academy of Clinical Laboratory Physicians and Scientist 46th Annual Meeting. St Louis, MO. June 9-11, 2011.
14. **T. Scott Isbell**, Jeffery DuBois, and Martha Lyon. *Clinical Relevance of Assessing Glucose Meter Total Analytical Error*. International Hospital Diabetes Meeting. November 17-19, 2011. Barcelona, Spain.

15. Ron Heese, **T. Scott Isbell**, Martha Lyon, Jeffery DuBois, Tom Dembinski, and Savas Menticoglou. *Umbilical Cord Lactate Measured at the Point of Care as a Surrogate Screen for Acidemia in Neonates Immediately Post-Partum*. Annual Clinical Meeting – Society of Obstetricians and Gynecologists of Canada. 2012.

INVITED PRESENTATIONS:

1. *Coordinated Regulation of Hypoxic Vasodilation by the Red Blood Cell: Role of Nitrite and ATP Derived Nitric Oxide*. Oral Presentation. 11th Annual Meeting for the Society for Free Radical Biology and Medicine. Nov. 17-21, 2004.
2. *Role of Red Cell Nitrite Reductase Activity in Physiological Hypoxic Adaptation*. Oral Presentation. 12th Annual Meeting for the Society for Free Radical Biology and Medicine. Nov. 16-20, 2005.
3. *Mass Spectrometry and the Clinical Laboratory*. Department of Laboratories, Continuing Education Lecture, Barnes Jewish Hospital, St. Louis, MO. June 2009.
4. *A Case of Beta Thalassemia Major – Or is it?* Morning Rounds. Sick Cell Clinic. St. Louis Children's Hospital. St. Louis, MO. April 2010.
5. *Blood Glucose Testing in the Hospital- How do we measure up?* Connecticut Hospital Association, Laboratory Administrators Meeting. Wallingford, CT. October 29, 2010.
6. *Point of Care Testing – Glucose (POCT-G) in the Hospital- How do we measure up?* Heart of America POC Network Meeting. Kansas City MO. November 12, 2010.
7. *Glucose Monitoring in the Hospital: How do POC Devices Measure Up?* TriMark POC Conference 4 & 5 – Breakthroughs in Patient Care and Data Management. Upland, CA. May 20, 2011 and Teaneck, NJ September 27, 2011.
8. *Hospital Glucose Meter Performance – Analytical and Clinical Considerations*. Point of Care Arizona (POCA) Conference. October 7, 2011
9. *Clinical Utility of Measuring iMg^{2+}* . Conference at the National Institute of Pediatrics. Mexico City, Mexico. September 29, 2011.
10. *Point of Care Testing for the Assessment of Different Disease States*. LABCON2012, CSMLS's National Conference of Medical Laboratory Science. Gatineau, Quebec. June 3, 2012.
11. *Point of Care Testing*. Invited lecture and laboratory exercise. Louisiana State University (LSU) Health Science Center. Department of Clinical Laboratory Sciences. New Orleans, LA. September 12-14, 2012.
12. *Can POCT play a role in tackling the increasing burden of chronic kidney disease (CKD)?* PathPoint 2012. Cape Town, South Africa. September 28, 2012.
13. *Blood gas analysis – an essential tool in the management of critically ill patients*. JORNADA DE ACTUALIZACIÓN TERAPIA RESPIRATORIA EN EL PACIENTE CON HIPOPERFUSIÓN TISULAR. Bogota, Colombia. March 20, 2013.
14. *Are hospital glucose meters up to the task? Current standards and challenges associated with hospital POC glucose testing*. Trimark Conference: New Instrumentation and Management of Patient Results. Randolph, MA. June 3, 2013.

15. *Hospital Point of Care Glucose Testing: Challenges and Performance Expectations*. BayChem 2013 Meeting – Northern California Section of AACC. San Leandro, CA. September 13, 2013.
16. *Hospital Point of Care Glucose Testing: Challenges and Performance Expectations*. Tri-State POC Network Conference. Alsip, IL. October 2, 2013.