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2012-2013 Department of Surgery Scholarly Activity Report

Quillen College of Medicine, East Tennessee State University

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**EAST TENNESSEE STATE UNIVERSITY
JAMES H. QUILLEN COLLEGE OF MEDICINE
SUMMARY OF SCHOLARLY ACTIVITIES
DEPARTMENT OF SURGERY**

July 1, 2012 through June 30, 2013

I. PUBLICATIONS

A. Journal Publications

Al-Balbissi L, Bassante M. "Red-Light Cameras Decrease T-bone and Rear-end Crashes at Intersections. Accepted for publication by the American College of Surgeons, 2013.

Breitman I, Isbell JM, Saliba J, Jabbour K, Flynn CR, Marks-Shulman P, Laferrère B, Abumrad NN, Tamboli RA. Effects of Foregut Bypass on Glucose Tolerance and Insulin Sensitivity in Humans. in press, Diabetes Care, 2013.

Cao Z, Ren D, Ha T, Liu L, Wang X, Kalbfleisch J, Gao X, Kao R, Williams D, Li C. CpG-ODN, the TLR9 agonist, attenuates myocardial ischemia/reperfusion injury: Involving activation of PI3K/Akt signaling. Biochim Biophys Acta 1832(1) 96-104, 2013.

Gao M, Ha T, Zhang X, Liu L, Wang X, Kelley J, Singh K, Kao R, Gao X, Williams D, Li C. Toll-like receptor 3 plays a central role in cardiac dysfunction during polymicrobial sepsis. Crit Care Med 40(8):2390-2399, 2012.

Gao M, Ha T, Zhang X, Wang X, Liu L, Kalbfleisch J, Singh K, Williams D, Li C. The TLR9 ligand, CpG-ODN attenuates cardiac dysfunction in polymicrobial sepsis: involving activation of both PI3K/Akt and ERK signaling. Journal of Infectious Diseases 2013, May; 207(9):1471-1479.

Graves BM, Simerly T, Li C, Williams DL, Wondergem R. Phosphoinositide-3-kinase/Akt-dependent signaling is required for maintenance of [Ca²⁺]_i, Ica, and CA²⁺ transients in HL-1 cardiomyocytes. J Biomed Sci 19(1): 59, 2012.

Hunter J, Stahl RD, Kakade M, Breitman I, Grams J, Clements RH. Effectiveness of Thoracoscopic Truncal Vagotomy in the Treatment of Marginal Ulcers after Laparoscopic Roux-en-Y Gastric Bypass. Am Surg. 2012 Jun;78(6):663-8.

Ifrim DC, Joosten LA, Kullberg BJ, Jacobs L, Jansen T, Williams DL, Gow NA, van der Meer JW, Netea MG, Quintin J. Candida albicans Primes TLR Cytokine Responses through a Dectin-1/Raf-1-Mediated Pathway. J Immunol. 2013 Apr 15. 190(8): 4129-4135.

Li C, Hua F, Ha T, Singh K, Lu C, Kalbfleisch J, Breuel KF, Ford T, Kao RL, Gao M, Ozment TR, Williams DL. Activation of myocardial phosphoinositide-3-kinase p110 α ameliorates cardiac dysfunction and improves survival in polymicrobial sepsis. PLoS ONE, 2012; 7(9):e44712.

Lowman DW, West LJ, Bearden DW, Wempe MF, Power TD, Ensley HE, Haynes K, Williams DL, Kruppa MD. New Insights into the Structure of (1 \rightarrow 3, 1 \rightarrow 6)- β -D-Glucan Side Chains in the *Candida glabrata* Cell Wall. PLoS ONE, 6(11):327614 (epub).

Marakalala MJ, Williams DL, Hoving JC, Engstad R, Netea MG, Grown GD. Dectin-1 plays a redundant role in the immunomodulatory activities of β -glucan-rich ligands in vivo. Microbes and Infection. 2013 Mar 19. Epub ahead of press.

Ozment T, Goldman M, Kalbfleisch J, Williams D. Soluble glucan is internalized and trafficked to the Golgi apparatus in macrophages via a clathrin mediated lipid raft regulated mechanism. Journal of Pharmacology and

Experimental Therapeutics, 342(3): 808-815, 2012.

Ozment TR, Ha T, Breuel KF, Ford TR, Ferguson DA, Kalbfleisch J, Schweitzer JB, Kelley JL, Li C, Williams DL. Scavenger Receptor class A plays a central role in mediating mortality and the development of the pro-inflammatory phenotype in polymicrobial sepsis. PLoS Pathogens, 8(10): e1002967 (epub).

Ren D, Wang X, Ha T, Liu L, Kalbfleisch J, Gao X, Williams D, Li C. SR-A deficiency reduces myocardial ischemia/reperfusion injury; involvement of increased microRNA-125b expression in macrophages. Biochimica et Biophysica Acta 1832(2013): 336-346.

Testerman GM, West MR, Hensley S. "Full-time Orthopedic Traumatologists Enhance Value and Increase Pelvic Fracture Caseloads at a Rural Level 1 Trauma Center." American Surgeon 79(5):549-550, 2013.

Wang X, Ha T, Liu L, Zou J, Zhang X, Kalbfleisch J, Gao X, Williams D, Li D. Increased expression of microRNA-146a decreases myocardial ischemia/reperfusion injury. Cardiovascular Research, 2013 Mar 1; 97(3):432-442.

West L, Lowman DW, Mora-Montes HM, Grubb S, Murdoch C, Thornhill MH, Gow NAR, Williams D, Haynes K. Differential Virulence of *Candida glabrata* Glycosylation Mutants. J Biol Chem, May 28, 2013, <http://www.jbc.org/cgi/doi/10.1074/jbc.M113-478743>.

Wondergem R, Graves BM, Li C, Williams DL. Lipopolysaccharide prolongs action potential duration in HL-1 mouse cardiomyocytes. Am J Physiol Cell Physiol 303:C825-C833, 2012.

Yu H, Ha T, Liu L, Wang X, Gao M, Kelley J, Kao R, Williams D, Li C. Scavenger receptor A (SR-A) is required for LPS-induced TLR4 mediated NF-kB activation in macrophages. Biochimica et Biophysica Acta-Molecular Cell Research, In Press, 2012.

Zhang X, Gao M, Ha T, Kalbfleisch JH, Williams DL, Li C, Kao RL. The Toll-Like Receptor 9 Agonist, CPG-Oligodeoxynucleotide 1826, Ameliorates Cardiac Dysfunction After Trauma-Hemorrhage. Shock 38(2):146-152, 2012.

B. Books or Chapters

Abumrad, N.N., Breitman, I. Wattacheril J., Hubbard J.W., Chaudry H.I. MASTERY OF SURGERY, 6th edition (2012), Philadelphia, PA: Lippincott Williams & Wilkins. Metabolic and inflammatory response to trauma and infection.

Kao RL, Editor. Cellular Cardiomyoplasty: Sciences, Methods and Protocols. Humana Press: New York, IN PRESS, 2013.

Also wrote Chapters 1 and 2: "Cellular Cardiomyoplasty: Its Past, Present, and Future" and "Skeletal Muscle Stem Cells."

Williams DL. Glucan review chapter in *Biology and Chemistry of Beta-Glucans*, Ed. By V. Vetvicka and M. Novak. Bentham Publishers, 2013, In Press.

C. Proceedings

II. PAPERS, ABSTRACTS, AND/OR PRESENTATIONS

A. Regional and National

Bassante M, McDonald DR, Moss C, Hall DR, Kadowaki M, Browder WI: Single Incision Cholecystectomy in a Community Setting—Is Operator Experience Important? Presented at the SAGES Annual Meeting; Baltimore, MD. April 2013.

Bassante M, Breitman I, Cobble AD. Idiopathic Spontaneous Intraperitoneal Hemorrhage: A Case report and Review of literature. Poster presented at the Southeastern Surgical Congress, Jacksonville, FL. Feb. 9-12, 2013.

Bassante, M. Idiopathic Spontaneous Intraperitoneal Hemorrhage: A Case Report And Review Of Literature – Adult Woman with a Simultaneous Pancreaticoduodenal Artery Aneurysm and Arterial to Portal Vein Fistula. Poster presented at Southeastern Surgical Congress, Jacksonville, FL 02/12/2013.

Burt R, Graves BM, Li C, Williams DL, Fregoso SP, Hoover DB, Wondergem R. 9-Phenanthrol Inhibits Calcium Oscillations in HL-1 Mouse Cardiomyocytes. Abstract presented to Experimental Biology 2013 Meeting, Boston, MA, April 20-24, 2013. Won the Robert Gunn Award from the Cell Physiology section of the American Physiological Society.

Delucia AJ. Climate Change and Public Health. Presentation at Johnson City Local Climate Action Team, Johnson City, TN, May 7, 2013.

Gao M, Zhang X, Kao R, Ha T, Wang X, Lu C, Hu J, Kalbfleisch J, Williams DL, Li C. Microparticles isolated from septic mice suppress cardiac function in vivo and induce cellular injury in macrophages. Abstract accepted for presentation to Shock Society 36th Annual Conference on Shock, June 1-4, 2013, San Diego, CA. Shock (39) Suppl 2, p. 24.

Gao M, Wang X, Zhang X, Lu C, Hu J, Ha T, Kalbfleisch J, Kao R, Williams D, Li C. Overexpression of MicroRNA-146A attenuates cardiac dysfunction in Polymicrobial Sepsis. Abstract presented at 2013 Appalachian Student Research Forum, East Tennessee State University, Johnson City, TN, April 3-4, 2013.

Ha T, Wang X, Ren D, Liu L, Kalbfleisch J, Gao X, William D, Li C. Increased Microrna-125b in SR-A Deficient Macrophages Protects Against Hypoxia/reoxygenation-induced Cell Damage and Myocardial Ischemia/reperfusion injury. Abstract presented at American Heart 2012 Scientific Sessions, Nov. 3-7, 2012, Los Angeles, CA.

Hall, David Ryan. Atriacaval Shunt for Retrohepatic Caval Injuries - A Case Report and Literature Review. Oral Presentation at the Tennessee Chapter of the American College of Surgeons, August 3-5, 2012, Chattanooga, TN.

Hoover DB, Bond C, Ozment TR, McDonald D, Williams DL. Molecular evidence for upregulation of the cholinergic anti-inflammatory phenotype during sepsis. Abstract accepted for presentation to Shock Society 36th Annual Conference on Shock, June 1-4, 2013, San Diego, CA. Shock (39) Suppl 2, p. 18.

Lu C, Ha T, Wang X, Liu L, Schweitzer J, Kalbfleisch J, Williams D, Li C. The TLR9 Ligand, CpG-ODN, Induces Protection Against Cerebral Ischemia/reperfusion Injury Via a PI3K/Akt Dependent Mechanism. Abstract accepted for poster presentation at the International Stroke Conference 2013, February 6-8, 2013, Honolulu, Hawaii.

Lu C, Ren D, Wang X, Zhang X, Gao M, Hu J, Ha T, Kalbfleisch J, Kao R, Williams D, Li C. Toll-like receptor 3 deficiency decreases myocardial ischemia/reperfusion injury. Abstract presented at 2013 Appalachian Student Research Forum, East Tennessee State University, Johnson City, TN, April 3-4, 2013.

McDonald DR, Jackson E, Weir RB, Kalbfleisch J, Browder WI, Hooks MA: Definitive Treatment of DCIS in a Rural Setting. Presented at the Society of Surgical Oncology 66th Annual Cancer Symposium; Washington, DC, March 2013.

Ozment TR, Schweitzer J, Williams DL. Polymicrobial sepsis increases leukocyte scavenger receptor A expression. Abstract accepted for presentation to Shock Society 36th Annual Conference on Shock, June 1-4, 2013, San Diego, CA. Shock 2013 (39) Suppl 2, p. 102.

Taylor, Leslie. Pediatric Trauma. Presentation at the Niswonger Children's Hospital Pediatric EMS Workshop, September 18, 2012. Johnson City, TN.

Wang X, Ha T, Zhang X, Liu L, Gao X, Kao R, Williams D, Li C. Overexpression of MicroRNA-214 Protects the Myocardium from Ischemia/reperfusion Injury Via Activation of PI3K/AKT Signaling by Targeting PTEN. Abstract presented to American Heart 2012 Scientific Sessions, Nov. 3-7, 2012, Los Angeles, CA.

Wang X, Gao M, Lu C, Zhang X, Ha T, Hu J, Kalbfleisch J, Kao R, Williams DL, Li C. Increased myocardial expression of microRNA-125B attenuates sepsis induced cardiac dysfunction. Abstract accepted for presentation to Shock Society 36th Annual Conference on Shock, June 1-4, 2013, San Diego, CA. Shock (39) Suppl 2, p. 34.

Wang X, Zhang X, Lu C, Gao M, Hu J, Ha T, Kalbfleisch J, Kao R, Williams D, Li C. MicroRNA-125b protects against myocardial ischemia/reperfusion injury by targeting p53-mediated apoptotic signaling and TRAF6. Abstract presented at 2013 Appalachian Student Research Forum, East Tennessee State University, Johnson City, TN, April 3-4, 2013.

B. International

I. INVITED PRESENTATIONS

A. Grand Rounds

B. National or International Meetings

Williams DL, Billiar TR. "How to Advance Your Academic Career" Invited Presentation at 36th Annual Conference on Shock, June 1-4, 2013, San Diego, CA.

IV. OTHER

National and International Peer-review Committees

Browder IW. GMEC, Academic Partnership Council (APC)
Williams DL. Shock Society

Journal Reviewers:

Browder IW. Journal of Trauma (ad hoc) The American Surgeon (ad hoc)
Li CL.
Ozment T.
Williams DL.

V. VISITING PROFESSORS

IV. OTHER

Ozment T. NIH Study Section.

VI EXTRAMURAL FUNDING

Number of PI's on Funded Grants: 5

VI EXTRAMURAL FUNDING

Peer Review (NIH, AHA, etc.)

| Faculty | Agency | Project Period | Current Year Award | Total Award |
|---|---|-------------------------------|------------------------------|-----------------------|
| Race L. Kao | NIH - ARRA | 6/1/10-5/31/13 | Unfunded Extention | \$422,373.00 |
| Li C & Williams DL | NIH 1 RO1 GM83016 Innate Immunity & CV | 8/1/09 -7/31/13 (4th yr) | \$207,900 DC \$89,397 IC | \$1,201,200.00 |
| Li C | NIH | 3/1/09 - 2/28/14 | Second Unfunded Extention | \$1,426,668.00 |
| Williams, DL | NIH | 12/15/11-11/30/15 (2nd yr) | \$176,965 DC \$81404 IC | \$1,148,308.00 |
| DeLucia, AJ | CDC | 9/30/09-9/29/12 | \$19,187.00 | \$19,187.00 |
| Ozment, TR | AHA Scientist Development Grant | 1/1/11 - 12/31/14 | \$70,000.00 DC \$7,000 IC | \$308,000.00 |
| Total Funding Received | | | | |
| Total for Multi-Year Commitments | | | | \$4,525,726.00 |

Other Sponsored Activities – Current (Chair of Carroll Long, RDC, etc.)

| Faculty | Agency | Project Period | Current Year Award | Total Award |
|---|---------------|-----------------------|---------------------------|--------------------|
| | | | | |
| | | | | |
| | | | | |
| Total Funding Received | | | | |
| Total for Multi-Year Commitments | | | | |

VII PENDING EXTRAMURAL APPLICATIONS

(Means proposed but unfunded.)

| Faculty | Agency | Project Period | Current Year Award | Total Award |
|---|--------------------------|-----------------------|---------------------------|--------------------|
| Williams DL | NIH U01 | 7/1/13 – 6/30/18 | | 2,453,601.00 |
| Li & Williams | NIH R01 | 3/1/14 – 2/28/19 | 250,000 | 1,825,000.00 |
| Kao R | NIH R15 | | | |
| Li | NIH Competing Renewal | 7/1/14 – 6/30/19 | 250,000 | 1,825,000.00 |
| Williams DL | NIH R01 | 7/1/14 – 6/30/19 | 250,000 | 1,825,000.00 |
| Total Funding Received | | | | |
| Total for Multi-Year Commitments | | | | |