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Quillen College of Medicine Scholarly Activity Report

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### 2011-2012 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, 2011 through June 30, 2012**

**I. PUBLICATIONS**

**A. Journal Publications**

Gao M, Ha T, Zhang X, Liu L, Wang X, Kelley J, Singh K, Kao R, Gao X, Williams D, Li C. TLR3 plays a central role in cardiac dysfunction during polymicrobial sepsis. *Critical Care Medicine*, In Press, 2012.

Ha T, Xia Y, Liu X, Lu C, Liu L, Kelley J, Kalbfleisch J, Kao RL, Williams DL, Li C. Glucan phosphate attenuates myocardial HMGB1 translocation in severe sepsis through inhibiting NF- $\kappa$ B activation. *Am J Physiol Heart Circ Physiol* 301(3):H848-55, 2011.

Ha T, Liu L, Kelley J, Kao R, Williams D, Li C. Toll-like receptors: new players in myocardial ischemia/reperfusion injury. *Antioxid Redox Signal* 15(7):1875-1893, 10/1/2011.

Kruppa M, Greene RR, Noss I, Lowman DW, Williams DL. *C. albicans* increases cell wall mannoprotein, but not mannan, in response to blood, serum and cultivation at physiological temperature. *Glycobiology* 21(9):1173-1180, 2011.

Lowman DW, Ensley HE, Greene RR, Knagge KJ, Williams DL, Kruppa MD. Mannan structural complexity is decreased when *Candida albicans* is cultivated in blood or serum at physiological temperature. *Carbohydrate Research* 346 (2011):2752-2759.

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)- $\beta$ -D-glucan side chains in the *Candida glabrata* cell wall. *PLoS One* 6(11):e27614, 2011. PMID: PMC3214063.

Lu C, Liu L, Chen Y, Ha T, Kelley J, Schweitzer J, Kalbfleisch JH, Kao RL, Williams DL, Li C. TLR2 Ligand Induces Protection against Cerebral Ischemia/Reperfusion Injury via Activation of Phosphoinositide 3-Kinase/Akt Signaling. *The Journal of Immunology*, 6/27/2011, doi:10.4049/jimmunol.1003428. *J Immunol* 187(3):1458-1466. 8/1/2011.

Smeekens SP, van de Veerdonk FL, Joosten LA, Jacobs L, Jansen T, Williams DL, van der Meer JW, Kullberg BJ, Netea MG. The classical CD14(++) CD16 (-) monocytes, but not the patrolling CD14(+) CD16 (+) monocytes, promote Th17 responses to *Candida albicans*. *Eur J Immunol*, 41(10):2915-24. Epub 2011 Aug 30.

Wu H, Gao M, Ha T, Kelley J, Young A, Breuel K. *Prunella vulgaris* aqueous extract attenuates IL-1 $\beta$ -induced apoptosis and NF- $\kappa$ B activation in INS-1 Cells. *Experimental and Therapeutic Medicine*, 2012 In Press.

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- $\kappa$ B activation in macrophages. *Biochimica et Biophysica Acta – Molecular Cell Research* 1823(2012): 1192-1198, 2012.

Zhang X, Gao M, Ha T, Kalbfleisch JH, Williams DL, Li C, Kao RL. The TLR9 Agonist, CpG-ODN 1826, Ameliorates Cardiac Dysfunction After Trauma-Hemorrhage. *Shock*, May 9, 2012, Epub ahead of print.

## **B. Books or Chapters**

Ha T, Li L, Kelley J, Williams D, Li C. Role of Toll-like Receptors in myocardial ischemia/reperfusion injury. Chapter in Nutritional and Therapeutic Interventions for Cardiovascular Diseases, Taylor & Francis Group, CRC Press. 2012 publication date.

## **C. Proceedings**

## **II. PAPERS, ABSTRACTS, AND/OR PRESENTATIONS**

### **A. Regional and National**

Delucia AJ. Food and Public Health. Presented to East Tennessee Local Food Summit, Elizabethton, TN, October 22, 2011.

Delucia AJ. Presentation: Children Advocacy Panel – Best Approaches for Translation of Children’s Environmental Health, Presented at National Institute of Environmental Health Sciences and US Environmental Protection Agency Children’s Environmental Health and Disease Prevention Research Centers: Strengthening the Network, Bethesda, MD, March 6, 2012.

Delucia AJ. Adding Health Equity to Sustainable Transportation Efforts: Why Not Here, Why Not Now? Presented at Tennessee Bike Summit, Chattanooga, TN, May 4, 2012.

Gao M, Ha T, Zhang X, Lam F, Wang X, Kelley JL, Singh K, Kalbfleisch J, Kao R, Williams DL, Li C. The TLR9 Ligand, CPG-DNA, Attenuates Cardiac Dysfunction in Polymicrobial Sepsis Via Activation of PI3K/AKT and ERK Signaling Pathways. Abstract submitted to 35<sup>th</sup> Annual Congress on Shock, June 9-13, 2012, Miami Beach, FL.

Hall DR, Floresguerra CA. Common Bile Duct Obstruction from late Surgical Clip Migration. Poster presented at Southeastern Surgical Congress Annual Scientific Meeting, Birmingham, AL, February 11-14, 2012.

Li C, Ha T, Wang X, Zhang X, Gao M, Kelley JL, Kalbfleisch J, Kao R, Williams DL. Transfection with Microrna-146A Attenuates Myocardial Ischemia/Reperfusion Injury. Abstract submitted to 35<sup>th</sup> Annual Congress on Shock, June 9-13, 2012, Miami Beach, FL.

Lowman DW, Bearden DW, Pottier M, Monteiro MA, Soldatov DV, Ensley HE, Kruppa MD, Greene RR, Williams DL. Evidence for a novel cyclical (1-3, 1-6)-glucan isolated from *Candida albicans* hyphae. Abstract submitted to 11<sup>th</sup> American Society for Microbiology Conference on Candida and Candidiasis, March 29-April 2, 2012, San Francisco, CA.

Ma J, Lu C, Li J, Zhang X, Li C, Gao X, Li L. HSPA12B is a Novel Neuroprotective Heat Shock Protein against Ischemic Stroke. Abstract submitted to American Heart Association Scientific Sessions 2011, Orlando FL, November 12-16, 2011.

McDonald D, Ashe S, Ozment T, Kalbfleisch J, Williams, DL. Interferon Sensitive Genes (ISG) are Up Regulated in Class A Scavenger Receptor (SR-1) Deficient Mice During Sepsis. Abstract submitted to 35<sup>th</sup> Annual Congress on Shock, June 9-13, 2012, Miami Beach, FL.

McDonald DR, Hart S, Lockett MA, Floresguerra C. Giant Gastrointestinal Stromal Tumor: An Unusual Cause of GI Bleeding. Poster presented at Southeastern Surgical Congress Annual Scientific Meeting, Birmingham, AL, February 11-14, 2012.

McDonald DR, Mishra MM, Soike DR, Lockett MA. Cribriform Breast Cancer: An Extremely Rare Diagnosis in a

Male. Poster presented at Southeastern Surgical Congress Annual Scientific Meeting, Birmingham, AL, February 11-14, 2012.

Wang X, Gao M, Zhang X, Rend D, Ha T, Lam F, Kelley JL, Kalbfleisch J, Kao R, Williams DL, Li C. Overexpression of Cardiac MicroRNA-146A Attenuates Myocardial Dysfunction in Polymicrobial Sepsis. Abstract submitted to 35<sup>th</sup> Annual Congress on Shock, June 9-13, 2012, Miami Beach, FL.

Wang X, Yu Y, Ren D, Ha T, Kelley J, Gao X, Kao R, Williams D, Li C. SR-A Deficiency Protects the Myocardium From Ischemic Injury: Involving Upregulation of Mir-125b and Mir-146a Expression. Abstract accepted for Poster presentation to American Heart Association Scientific Sessions 2011, Orlando FL, November 12-16, 2011. (A10504)

Wondergem R, Graves B, Li C, Williams. Lipopolysaccharide directly inhibits rapid delayed rectified K<sup>+</sup> current, I<sub>Kr</sub>, and calcium oscillations in HL-1. Poster presentation at Tennessee Physiological Society Meeting, October 13-14, 2011, Quillen College of Medicine, Johnson City, TN.

Zhang X, Lu C, Gao M, Ha T, Kalbfleisch J, Browder W, Williams DL, Li C, Kao RL. TLR4 Antagonism Restored Cardiac Function after Trauma-Hemorrhage. Abstract submitted to 35<sup>th</sup> Annual Congress on Shock, June 9-13, 2012, Miami Beach, FL.

## **B. International**

Cao Z, Hu Y, Wang X, Ha T, Kelley J, Kao R, Williams D, Li C. TLR9 ligand CpG-ODN decreases myocardial ischemic injury via activation of PI3K/Akt signaling. Accepted for presentation at ICCAD 2011 – 9<sup>th</sup> International Congress on Coronary Artery Disease, Venice, Italy, October 23-26, 2011.

## **III. INVITED PRESENTATIONS**

### **A. Grand Rounds**

### **B. National or International Meetings**

Williams DL. The *Candida albicans* cell wall: A dynamic and adaptable organelle. Invited presentation to the Society for General Microbiology, University of York, UK, September 5-7, 2011.

Williams, DL. Macrophage scavenger receptor A (SR-A): It's not just about cholesterol anymore! Opening Lecture for Tennessee Physiological Society Meeting, October 13-14, 2011, Quillen College of Medicine, Johnson City, TN.

## **IV. OTHER**

### **National and International Peer-review Committees**

Delucia AJ. HIA Steering Committee, Tennessee Health Impact Assessment: Member of Food Desert Relief Act

### **Journal Reviewers:**

I. William Browder  
David L. Williams  
Chuanfu Li

## **V. VISITING PROFESSORS**

## **IV. OTHER**

## VI. EXTRAMURAL FUNDING

### Number of PI's on Funded Grants:

David L. Williams  
Chuanfu Li  
Tammy Ozment  
Race Kao  
Anthony Delucia

## VI EXTRAMURAL FUNDING

Peer Review (NIH, AHA, etc.)

Faculty	Agency	Project Period	Current Year Award	Total Award
Race L. Kao	NIH - ARRA	6/1/10-5/31/12	\$150,000 DC \$61,187 IC	\$422,373.00
Li C & Williams DL	NIH 1 RO1 GM83016 Innate Immunity & CV	8/1/09 -7/31/13 (3rd yr)	\$207,900 DC \$89,397 IC	\$1,201,200.00
Li C	NIH	3/1/09 - 2/28/11 (4th yr)	\$250,000 DC \$107,500 IC	\$1,426,668.00
Williams, DL	NIH	12/15/11- 11/30/15 (1 <sup>st</sup> yr)	\$196,628 DC \$90,449 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
<b>Total Funding Received</b>				
<b>Total for Multi-Year Commitments</b>				<b>\$4,525,726.00</b>

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

Faculty	Agency	Project Period	Current Year Award	Total Award
<b>Total Funding Received</b>				
<b>Total for Multi-Year Commitments</b>				

**VII PENDING EXTRAMURAL APPLICATIONS**

(Means proposed but unfunded.)

<b>Faculty</b>	<b>Agency</b>	<b>Project Period</b>	<b>Current Year Award</b>	<b>Total Award</b>
Kao	NIH	9/1/12 – 8/31/13	\$526,389	\$2,887,376
Li	NIH	9/1/12 – 8/31/17	\$250,000	\$1,825,000
Williams	NIH	1/1/13 – 12/31/18	\$250,000	\$1,825,000
<b>Total Funding Received</b>				
<b>Total for Multi-Year Commitments</b>				<b>\$6,537,376.00</b>