
Cherry Ballard-Croft, Ph.D.

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DEPARTMENT OF SURGERY
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Curriculum Vitae

PERSONAL DATA:

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November 19, 1968
Lexington, Tennessee

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Married:

John Thomas Croft, M.Div.
1995

Children:

Tabitha Danielle 1999

UNDERGRADUATE EDUCATION:

1991	B.S.	Union University, Jackson, TN (Biology and Chemistry)
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PROFESSIONAL EDUCATION:

1998	Ph.D.	University of South Alabama, Mobile, AL (Pharmacology)
1998 – 1999	Postdoctoral Fellow	Pharmacology, University of Texas Southwestern, Dallas, TX

ABSTRACTS, BOOK REVIEW AND DISCUSSION AFTER PAPERS:

SW Schaffer, **C Ballard**, S Punna. Role of protein kinase C in development of diabetic cardiomyopathy. *The FASEB J* 7: Abs. 640, 1993.

CK Ballard and SW Schaffer. Signal transduction mechanism for activation of the $\text{Na}^+/\text{Ca}^{2+}$ exchanger by insulin. At: Southeastern Pharmacology Society Meeting, 1993.

SW Schaffer and **C Ballard**. Altered protein phosphorylation as a contributor to impaired cardiac function. *Can J Cardiol* 10 (Suppl A): Abs. 57A, 1994.

CK Ballard and SW Schaffer. Involvement of a G protein and phosphorylation in the regulation of the $\text{Na}^+/\text{Ca}^{2+}$ exchanger by insulin. *J Mol Cell Cardiol* 26: Abs. 81, 1994.

SW Schaffer, K Nguyen, A Bhattacharjee, **C Ballard**. Regulation of phospholipid N-methylation by insulin and diabetes. *J Mol Cell Cardiol* 27: Abs. 65, 1995.

S Schaffer, **C Ballard**, K Nguyen, HK Schaffer. Modulation of $\text{Na}^+/\text{Ca}^{2+}$ exchange by taurine. *Amino Acids* 9: Abs. 82, 1995.

CK Ballard-Croft, SN Allo, SR Boerth, SW Schaffer. Mechanisms underlying depressed $\text{Na}^+/\text{Ca}^{2+}$ exchanger activity in diabetic heart. *J Mol Cell Cardiol* 28: Abs. M15, 1996.

C Ballard-Croft, R Whitehurst, M Li, S Schaffer. Regulation of calcium transport by hyperglycemia and hyperosmolality. *J Mol Cell Cardiol* 29: Abs. 99, 1997.

SW Schaffer and **C Ballard-Croft**. Osmotic Stress: an important mechanism in preconditioning the myocyte. *J Mol Cell Cardiol* 29: Abs. 178, 1997.

C Ballard-Croft, D Peters-Hybki, J Thomas, JW Horton. Effects of propranolol on burn-related upregulation of stress-responsive pathways in burn trauma. *J Burn Care & Rehab* 22: Abs. 125, 2001.

C Ballard-Croft, D Maass, P Sikes, J White, J Horton. Activation of stress-responsive pathways by the sympathetic nervous system in burn trauma. *Shock* 15: Abs. 83, 2001.

C Ballard-Croft, D Maass, J Horton. Altered calcium handling in the heart following burn trauma. *Crit Care Med* 29(12S): Abs. 151, 2002.

C Ballard-Croft, DL Maass, PJ Sikes, JW Horton. Burn Complicated by Sepsis Alters Calcium Handling in the Heart. *FASEB J* 16: Abs. 868.1, 2002.

JW Horton, C Ballard-Croft, DL Maass. Does Burn Trauma Upregulate Myocardial PKC ϵ ? *FASEB J* 17: Abs 806.1, 2003.

C Ballard-Croft, G Kristo, Y Yoshimura, E Reid, B Keith, R Mentzer, Jr, R Lasley. P38 MAPK Mediates Acute Adenosine Preconditioning in the Adult Rat Myocardium. *FASEB J* 18: Abs. 213.9, 2004.

C. Ballard-Croft, BJ Keith, EA Reid, RD Lasley. Adenosine A₁ Receptor Agonists and H₂O₂ Differentially Modulate p38 MAPK and ERK in Discrete Subcellular Compartments. *FASEB J* 19: Abs 679.11, 2005.

EA Reid, BJ Keith, **C Ballard-Croft**, RD Lasley. Selective MAPK Activation in Cardiomyocyte Membrane Compartments. *FASEB J* 19: Abs 679.11, 2005.

MANUSCRIPTS:

C Ballard, M Mozaffari, S Schaffer. Signal transduction mechanism for the stimulation of the sarcolemmal Na⁺/Ca²⁺ exchanger by insulin. *Mol Cell Biochem* 135: 113-119, 1994.

S Punna, **C Ballard**, T Hamaguchi, J Azuma, S Schaffer. Effect of taurine and methionine on sarcoplasmic reticular Ca²⁺ transport and phospholipid methyltransferase activity. *J Cardiovasc Pharmacol* 24: 286-292, 1994.

C Ballard and S Schaffer. Stimulation of the Na⁺/Ca²⁺ exchanger by phenylephrine, angiotensin II and endothelin 1. *J Mol Cell Cardiol* 28: 11-17, 1996.

SW Schaffer, **C Ballard**, MS Mozaffari. Is there a link between impaired glucose metabolism and protein kinase C activity in the diabetic heart? *Mol Cell Biochem* 176: 219-225, 1997.

SW Schaffer, **C Ballard-Croft**, S Boerth, SN Allo. Mechanisms underlying depressed Na⁺/Ca²⁺ exchanger activity in the diabetic heart. *Cardiovas Res*, 34: 129-136, 1997.

C Ballard-Croft, MS Mozaffari, J Azuma, S Schaffer. Interaction between taurine and angiotensin II: Modulation of calcium transport and myocardial contractile function. *Amino Acid* 13:105-114, 1997.

SW Schaffer, **C Ballard-Croft**, J Azuma, K Takahashi, DG Kakhniashvili, TE Jenkins. Shape and size changes induced by taurine depletion in neonatal cardiomyocytes. *Amino Acid* 15:135-142, 1998.

SW Schaffer, **CB Croft**, V Solodushko. Cardioprotective effect of chronic hyperglycemia: effect on hypoxia-induced apoptosis and necrosis. *Am J Physiol* 278: H1948-H1954, 2000.

C Ballard-Croft, DJ White, D Maass, DP Hybki, JW Horton. The role of p38 mitogen-activated protein kinase in cardiac myocyte secretion of the inflammatory cytokine TNF- α . *Am J Physiol* 280:H1970-H1981, 2001.

C. Ballard-Croft, DL Maass, P Sikes J White, JW Horton. Activation of stress-responsive pathways by the sympathetic nervous system in burn trauma. *Shock*, 18: 38-45, 2002 .

C Ballard-Croft, JW Horton. Sympathoadrenal modulation of stress-activated signaling in burn trauma. *J Burn Care & Rehab* 23:172-182, 2002.

C Ballard-Croft, D Carlson, DL Maass, JW Horton. Burn trauma alters calcium transporter expression in the heart. *J Appl Physiol* 97: 1470-1476, 2004.

C Ballard-Croft, G Kristo, Y Yoshimura, E Reid, BJ Keith, RM Mentzer, RD Lasley. Acute adenosine preconditioning is mediated by p38 MAPK activation in discrete subcellular compartments. *Am J Physiol* 288: H1359-H1366, 2005.

EA Reid, G Kristo, Y Yoshimura, **C Ballard-Croft**, BJ Keith, RM Mentzer, Jr, RD Lasley. In vivo adenosine receptor preconditioning reduces myocardial infarct size via subcellular ERK signaling. *Am J Physiol* 288: H2253-H2259, 2005.

JW Horton, DL Maass, **C Ballard-Croft**. Rho-associated kinase modulates myocardial inflammatory cytokine responses. *Shock* 24: 53-58, 2005.

C Ballard-Croft, DL Maass, JW Horton. Sepsis and sepsis complicated by previous burn injury alter calcium cardiac transporter expression. *Shock* 2005 (Submitted).

C Ballard-Croft, AC Locklar, BJ Keith, RM Mentzer, Jr., RD Lasley. Adenosine A₁ receptor activation and oxidative stress differentially modulate MAPKs in cardiomyocyte membrane fractions. *Cardiovasc Res* 2006 (Submitted).

C Ballard-Croft, AC Locklar, G Kristo, RD Lasley. Regional myocardial ischemia induced activation of MAPKs is associated with subcellular redistribution of caveolin and cholesterol. *Am J Physiol* 2006 (Accepted).

RD Lasley, BJ Keith, **C Ballard-Croft**. Effects of the cholesterol depleting agent methyl- β -cyclodextrin on adult cardiomyocyte signaling. (in preparation).

BOOKS AND BOOK CHAPTERS:

SW Schaffer, **C Ballard**, J Azuma. Mechanisms underlying physiological and pharmacological actions of taurine on myocardial calcium transport, in Taurine in Health and Disease, RJ Huxtable and D Michalk (eds.), Plenum Publishing Corp, 171-180, New York: 1994.

S Schaffer, **C Ballard**, A Bhattacharjee. Role of protein kinase C in the development of noninsulin-dependent diabetic cardiomyopathy, in Heart Hypertrophy and Failure, NS Dhalla, GN Pierce, V Panagia, and RE Beamish (eds.) Kluwer Academic Publishers, Boston: 1995.

S Schaffer, K Nguyen, **C Ballard**, N Gardner, J Azuma. Regulation of calcium transport by insulin and taurine: Interaction at the level of the Na⁺-Ca²⁺ exchanger, *Adv Exper Med & Biol* 403: 551-560, 1996.

C Ballard-Croft, and SW Schaffer. Stimulation of the Na⁺/Ca²⁺ exchanger by angiotensin II, in Angiotensin II Blockade: Physiological and Clinical Implications, N.S. Dhalla, P. Zahradka, I.M.C Dixon, and R.E. Beamish (eds.) Kluwer Academic Publishers, Boston: 1998.

SW Schaffer, **C Ballard-Croft**, K Takahashi, J Azuma. Effect of taurine depletion on angiotensin II-mediated modulation of myocardial function, in Taurine: Cellular and Regulatory Mechanisms, SW Schaffer, JB Lombardini, R Huxtable (eds) Plenum Press, New York: 145-152, 1998.

PRESENTATIONS:

Involvement of a G protein and phosphorylation in the regulation of the Na⁺/Ca²⁺ Exchanger by insulin. Presented at the International Society for Heart Research, North American Section. London, Ontario, Canada. July 1994.

The Role of p38 Map Kinase in Burn-Mediated Organ Dysfunction. Presented at the University of Texas Southwestern Surgery Research Forum. Dallas, TX. June 2000.

Effects of Propranolol on Burn-Related Upregulation of Stress-Responsive Pathways in Burn Trauma. Presented at the American Burn Association Meeting. Boston, MA. April 2001.

Activation of Stress-Responsive Pathways by the Sympathetic Nervous System in Burn Trauma. Presented at the Shock Society Meeting. Marco Island, FL. June 2001.
Altered Calcium Handling in the Heart Following Burn Trauma. Presented at the University of Texas Southwestern Surgery Research Forum. Dallas, TX. May 2002.

POSTER PRESENTATIONS:

Signal Transduction Mechanism for Activation of the Na⁺/Ca²⁺ Exchanger by Insulin. Presented at the Southeastern Pharmacology Society Meeting. Memphis, TN. 1993.

Mechanisms Underlying Depressed Na⁺/Ca²⁺ Exchanger Activity in Diabetic Heart. Presented at the International Society for Heart Research, North American Section. Vancouver, B.C. Canada. 1996.

Regulation of Calcium Transport by Hyperglycemia and Hyperosmolality. Presented at the International Society for Heart Research, North American Section. Chicago, IL. 1997.

Altered Calcium Handling in the Heart Following Burn Trauma. Presented at the 31st Critical Care Congress. San Diego, CA. 2002.

Burn Complicated by Sepsis Alters Calcium Handling in the Heart. Presented at the FASEB Meeting. New Orleans, LA. 2002.

P38 MAPK Mediates Acute Adenosine Preconditioning in the Adult Rat Myocardium. Presented at the FASEB Meeting. Washington, DC 2004.

Adenosine A₁ Receptor Agonists and H₂O₂ Differentially Modulate p38 MAPK and ERK in Discrete Subcellular Compartments. Presented at the FASEB Meeting. San Diego, CA 2005.

RESEARCH SUPPORT

Beginning Grant-in-Aid 0465166B American Heart Association (Ballard-Croft)	7/1/04-6/30/06 \$60,500	20%
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Role of Mitogen-Activated Kinases in Ischemia/Reperfusion
Principal Investigator

R01 HL66132-04 (Lasley) NIH/NHLBI	7/25/01-5/31/06 \$150,000/yr	50%
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Compartmentation of Myocyte Adenosine Receptor Signaling
Co-investigator

R01 HL34579-18 (Mentzer) NIH/NHLBI	6/1/05-5/31/09 \$200,000/yr	30%
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Adenosine and Pyruvate Protection During Heart Surgery
Co-investigator

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