

A. Research Papers in Press/in Print (January-March 2009 -alphabetically by 1st author):

1. **Ceylan-Isik AF, Guo KK, Carlson EC, Privratsky JR, Liao SJ, Cai L, Chen AF, Ren J.** Metallothionein abrogates GTP cyclohydrolase I inhibition-induced cardiac contractile and morphological defect: Role of mitochondrial biogenesis. *Hypertension* (in press).
2. **Dong F, Hua Y, Zhao P, Ren J, Du M, Sreejayan, N.** Chromium supplement inhibits skeletal muscle atrophy in hindlimb suspended mice. *J. Nutr. Biochem.* (in press).
3. **Dong F, Ren J.** Adiponectin improves cardiomyocyte contractile function in db/db diabetic obese mice. *Obesity* 17:262-268, 2009.
4. **Doser TA, Tuerdi S, Thomas DP, Epstein PN, Li SY, Ren J.** Transgenic overexpression of aldehyde dehydrogenase-2 rescues chronic alcohol intake-induced myocardial hypertrophy and contractile dysfunction. *Circulation* 119: 1941-1949, 2009.
5. **Ge W, Ren J.** Combined L-/T- type calcium channel blockers: Ready for prime time. *Hypertension* 53: 592-594, 2009.
6. **Guo R, Ma H, Gao F, Zhong L, Ren J.** Metallothionein alleviates oxidative stress-induced endoplasmic reticulum stress and myocardial dysfunction. *J. Mol. Cell. Cardiol.*(in press).
7. **Guo R, Zhong L, Ren J.** Overexpression of aldehyde dehydrogenase-2 (ALDH2) attenuates chronic alcohol exposure-induced apoptosis and alters Akt and Pim signaling in liver. *Clin. Exp. Pharm. Physiol* 36: 463-468, 2009.
8. **Li D, Wang Z, Chen H, Wang J, Zheng Q, Shang J, Li J.** Isoliquiritigenin induces monocytic differentiation of HL-60 cells. *Free Rad Biol Med* 46:731-736, 2009.
9. **Li SY, Gilbert SAB, Li Q, Ren J.** Aldehyde dehydrogenase-2 (ALDH2) ameliorates chronic alcohol ingestion-induced myocardial insulin resistance and endoplasmic reticulum stress. *J. Mol. Cell. Cardiol.* (in press).
10. **Liu, F., J. Yin, M. Du, P. Yan, J. Xu, X. Zhu, and J. Yu.** Heat stress induced damage to porcine small intestinal epithelium associated with down-regulation of epithelial growth factor (EGF) signaling. *Journal of Animal Science*, (in press)
11. **Lu QL, Xie Zj, Zhang HW, Ren J.** Evaluation of the appropriate diagnostic threshold of waist circumference for cardiometabolic syndrome in Chinese Uygur adults. *J. Cardiometab. Syndrome* (in press).
12. **Ma H, Li J, Gao F, Ren J.** Aldehyde dehydrogenase 2 (ALDH2) ameliorates acute cardiac toxicity of ethanol: Role of protein phosphatase and forkhead transcription factor. *J. Am. Coll. Cardiol.* (in press).
13. **Ma H, Li SY, Xu PS, Babcock SA, Dolence EK, Brownlee M, Li J, Ren J.** **Advanced** glycation endproduct (AGE) accumulation and AGE receptor (RAGE) upregulation contribute to the onset of diabetic cardiomyopathy. *J. Cell. Mol. Med.*(in press).
14. **Nair RP, Ren J.** Pharmacotherapy of obesity - benefit, bias and hyperbole. *Curr. Med. Chem.* (in press).
15. **Pei ZH, Zhuang ZQ, Xiao PX, Chen JZ, Sang HF, Ren J, Wu ZB, Yan GM.** Influence of infrasound exposure on the whole L-type calcium currents in rat ventricular myocytes. *Cardiovasc. Toxicol.* (in press).
16. **Ren J, Babcock SA, Li Q, Huff AF, Li SY, Doser TA.** Aldehyde dehydrogenase-2 transgene ameliorates chronic alcohol ingestion-induced apoptosis in cerebral cortex. *Toxicol. Lett.* 187: 149-156, 2009.
17. **Ren J, Davidoff AJ, Ingwall JS.** Creatine kinase inhibitor iodoacetamide antagonizes calcium-stimulated inotropy in cardiomyocytes. *Clin. Exp. Pharm. Physiol* 36: 141-145, 2009.

18. **Ren J, Kelley RO.** Cardiac health in women with metabolic syndrome – clinical aspects and pathophysiology. *Obesity* in press.
19. **Ren J.** The leptin paradox - a Treacherous art in cardiac sequelae of obesity. *Chin. Heart J.* 21: 1- 5 , 2009.
20. **Tong, J. F., X. Yan, M. J. Zhu, S. P. Ford, P. W. Nathanielsz, and M. Du.** Maternal obesity down-regulates myogenesis and β -catenin signaling in fetal skeletal muscle. *American Journal of Physiology-Endocrinology and Metabolism*, 296: E917-924, 2009.
21. **Turdi S, Schamber RM, Roe ND, Chew, HG, Jr., Culver B, Ren J.** Acute methamphetamine exposure inhibits cardiac contractile function. *Toxicol. Lett.* in press.
22. **Wang J, Ma H, Zhang X, He L, Wu J, Gao X, Ren J, Li J.** A novel AMPK activator from Chinese herb medicine and ischemia phosphorylate the cardiac transcription factor FOXO3. *Int. J. Physiol. Pathophysiol. Pharmacol.* 1:126-136, 2009.
23. **Yang XP, Pei ZH, Ren J.** Making up or breaking up - the Tortuous role of platelet-derived growth factor (PDGF) in vascular aging. *Clin. Exp. Pharm. Physiol.* in press.
24. **Zhu, M. J., M. Du, M. J. Nijland, P. W. Nathanielsz, B.W. Hess, G. E. Moss, S. P. Ford.** Down-regulation of growth signaling pathways linked to a reduced cotyledonary vascularity in placentomes of overnourished, obese pregnant ewes. *Placenta.* (in press).
25. **Zhao P, Sharma AC, Ren J.** Pathogenesis and therapy of autoimmunity-induced dilated cardiomyopathy: Focus on cardiac excitation contraction coupling. *Frontier Biosci* 14:1708-1715, 2009.
26. **Zhao P, Turdi S, Dong F, Xiao X, Su G, Zhu X, Scott GI, Ren J.** Cardiac-specific overexpression of insulin-like growth factor 1 (IGF-1) rescues lipopolysaccharide-induced cardiac dysfunction and activation of stress signaling in murine cardiomyocytes. *Shock* in press.
27. **Zhao P, Wang J, Ma H, Xiao Y, He L, Tong C, Wang Z, Zheng Q, Dolence EK, Nair S, Ren J, Li J.** A newly synthetic chromium complex – Chromium (D-phenylalanine)₃ activates AMP-activated protein kinase and stimulates glucose transport. *Biochem. Pharmacol.* 77: 1002-1010, 2009.
28. **Zhao P, He L, Li J, Ma H, Wang J, Zhu X, Dolence EK, Ren J, Li J.** Toll-like receptor 4 deficiency ameliorates cardiac injury and cardiomyocyte contractile dysfunction during ischemia. *J. Cell. Mol. Med.* (in press).

B. Abstracts and Presentations (January-March 2009):

1. **Tong C, Zhao P, Xiao X, He L, Wang J, Perez Z, Ren J and Li J.** Macrophage migration inhibitory factor deficiency augments cardiac dysfunction in Type 1 diabetic murine cardiomyocytes. *American Diabetes Association 69th Annual Meeting*, New Orleans, LA. June 5 to 9, 2009.
2. **K. R. Underwood, J. F. Tong, X. Yan, L. Nicodemus, P. L. Price, W. J. Means, B. W. Hess, and M. Du.** Maternal protein supplementation at a crucial stage for muscle and fat development diverts adipogenesis to myogenesis in beef steers while not affecting tenderness of longissimus steaks. *American Meat Science Association 2009 Reciprocal Meat Conference*, June 21-24, Rogers, Arkansas.
3. **Lander Nicodemus, K. R. Underwood, J. F. Tong, P. L. Price, E. E. Grings, B. W. Hess, W. J. Means, and M. Du.** Effect of maternal nutritional status on finishing growth performance, muscle development and carcass characteristics in steer progeny. *2009 Graduate Student Symposium.* April 6-7, 2009.
4. **Tong, J. F., X. Yan, J. X. Zhao, and M. Du.** Metformin inhibits adipogenesis in neonatal mice muscle of dams receiving high energy diet. *2009 Graduate Student Symposium.* April 6-7, 2009.
5. **Yan, X., and M. Du.** From maternal obesity to offspring obesity—the possible role of chronic inflammation. *2009 Graduate Student Symposium.* April 6-7, 2009.
6. **Zhao, J. X., J. F. Tong, X. Yan, M. J. Zhu, and M. Du.** AMP-activated protein kinase g3 subunit mutation in RN pigs inhibits adipogenesis. *2009 Graduate Student Symposium.* April 6-7, 2009.

7. **Nicodemus, L. V., K. R. Underwood J. F. Tong, P. L. Price, E. E. Grings, B. W. Hess, W. J. Means, and M. Du.** Effect of maternal nutritional status on finishing growth performance, muscle development and carcass characteristics in steer progeny. *2009 Graduate Student Symposium*. April 6-7, 2009.
8. **Long, N. M., M. J. Zhu, M. Du, P. W. Nathanielsz, and S. P. Ford.** Effects of maternal obesity and high nutrient intake on fetal adiposity and associated fatty acid and glucose transporter expression. Society for the Study of Reproduction 42nd Annual Meeting, Pittsburgh, PA. July 18-22, 2009.
9. **Yan, X. Jun F. Tong, Mei J. Zhu, Stephen P. Ford, Peter W. Nathanielsz, and Min Du.** Maternal obesity induces inflammation and adipogenesis in late gestation fetal sheep muscle. American Diabetes Association 69th Annual Meeting, June 5-9, New Orleans, Louisiana.
10. **Tong, J. F., X. Yan, J. X. Zhao, and M. Du.** Metformin inhibits adipogenesis in fetal muscle of dam receiving high energy diet. *American Society of Animal Scientists Annual Meeting*, Montreal, Canada. July 12 to 16, 2009.
11. **Yan, X., W. Xu, J. F. Tong, M. J. Zhu, S. P. Ford, and M. Du.** Maternal obesity affects adipogenesis and myogenesis in fetal sheep muscle at late gestation. *American Society of Animal Scientists Annual Meeting*, Montreal, Canada. July 12 to 16, 2009.
12. **Zhao, J., X. Yan, J. F. Tong, M. J. Zhu, and M. Du.** AMP-activated protein kinase γ 3 subunit mutant in RN⁻ pigs inhibits adipogenesis. *American Society of Animal Scientists Annual Meeting*, Montreal, Canada. July 12 to 16, 2009.
13. **Subat Turdi** is scheduled with an oral presentation on AMPK and obesity during UW's Graduate School Forum. Dr. Ren will be the chair of that session on April 7, 2009.
14. **MR Kandadi MR, Prabhakar KR, Unnikrishnan MK, Ji Li, J Ren and N. Sreejayan.** A Newly Synthetic Small Molecule-DHPO Alleviates Insulin Resistance via Activation of AMP Activated Protein Kinase. *American Diabetes Association 69th Annual Meeting*, New Orleans, LA. June 5 to 9, 2009.

C. Manuscripts and Abstracts Submitted in January-March 2009:

Manuscripts:

1. **Du, M., X. Yan, J. F. Tong, J. X. Zhao, and M. J. Zhu.** Maternal obesity, inflammation and fetal skeletal muscle development. *Biology of Reproduction*, In revision.
2. **Fan XJ, Turdi S, Ford SP, Nijland MJ, Nathanielsz PW, Ren J.** Influence of gestational overfeeding on cardiac morphometry and hypertrophic protein markers in fetal sheep. *Clin. Exp. Pharm. Physiol.* acceptance pending minor revision.
3. **Hua Y, Ma H, Samson WK, Ren J.** Neuronostatin inhibits cardiac contractile function via a protein kinase A- and JNK-dependent mechanism in murine hearts. *Am. J. Physiol. Comp Regul Physiol.* acceptance pending minor revision.
4. **Li Q, Hueckstaedt LK, Ren J.** UCF-101 ameliorates streptozotocin-induced cardiomyocyte contractile dysfunction in vitro: Role of AMP-activated protein kinase. *Exp. Physiol.* in revision (minor revision required).
5. **Li Q, Li J, Ren J.** UCF-101 mitigates streptozotocin-induced cardiomyocyte dysfunction: Role of AMP-activated protein kinase. *Cardiovasc. Res.* in review.
6. **Ma H, Ren J.** Aldehyde dehydrogenase 2 (ALDH2) rescues myocardial ischemia/reperfusion injury: the autophagy paradox. *Circulation* in review.
7. **Ma H, Jones KR, Guo R, Xu P, Shen Y, Ren J.** Cisplatin compromises myocardial contractile function and mitochondrial ultrastructure: Role of endoplasmic reticulum stress. *Toxicol. Lett.* in review.
8. **Ren J, Hua Y, Ma H, Li Q, Kuo SR, Duesbery NS, Frankel AE.** Anthrax lethal toxin suppresses murine cardiomyocyte contractile function and intracellular Ca²⁺ handling via a matrix metalloproteinase-dependent mechanism. *Biochem. Pharmacol.* submitted.
9. **Ren J.** Correspondence - Pericardial fat, intrathoracic fat, and measures of left ventricular structure and function: The Framingham Heart Study. *Circulation* submitted

10. **Ren J, Dong F, Zhao P, Wold LE, Pei JM.** Interaction between age and obesity on cardiomyocyte contractile function: Role of leptin and stress signaling. *Aging Cell* acceptable.
11. **Turdi S, Guo R, Wolf EM, Culver B, Ren J.** Cardiomyocyte contractile dysfunction in the APP^{swe}/PS1^{dE9} mouse model of Alzheimer's disease. *PLoS One* acceptance pending minor revision.
12. **Wang GJ, Lin YL, Chen CH, Wu XC, Liao JF, Ren J.** Cellular Calcium Regulatory Machinery of the Vasorelaxation Elicited by Petasin Purified from the Medicinal Herb *Petasites Formosanus*. *Toxicol. Lett.* in review.
13. **Zhao P, Xiao X, Su G, Ren J.** Cardiac overexpression of metallothionein rescues cardiac contractile dysfunction and endoplasmic reticulum stress in sepsis. *J. Mol. Cell. Cardiol.* in review.

D. Grants/Awards:

1. **Li J.** ITHS small pilot grant. Macrophage migration inhibitor factor (MIF) in the heart. \$10,000
2. **Li J.** College Health Science Seed Award. The regulation of glucose transporters by AMPK. \$7,500
3. **Wang J.** College Health Science Student Research Award. The cardioprotection effect of activated protein C. \$1,000
4. **Li J.** C-CRAM 2008 Research Award.
5. **Li J.** College Health Sciences New Investigator Award 2009
6. **Sreejayan Nair.** College Health Science Outstanding Research Award 2009

E. Pending Grants:

1. **Ren J.** NIH/NCCR: Wyoming IDEa Network of Biomedical Research Excellence (INBRE). (PI). \$16,705,815 (funded).
2. **Roth D, Nunez N, Ren J.** NIH/NCCR: University of Wyoming Science Education Partnership Award (SEPA) Program. Co-PI, \$3,000,000.
3. **Du, M.** (PI). *NIH R03.* Maternal nutrient restriction and nonhuman primate fetal skeletal muscle development. \$145,000. (07/2009-6/2010). (Percentile: 14.4; Priority score: 150).
4. **Du, M.** (PI), and M. J. Zhu. *NIH R01.* Maternal obesity impairs fetal skeletal muscle development via TLR4 signaling. \$1,430,000. (1/2010-12/31/2014).
5. **Ma H.** American Heart Association - The role of advanced glycation endproducts (AGEs) induced eNOS uncoupling in diabetic cardiomyopathy. \$100,000 for two years; Sponsor: Ren J.
6. **Ren J.** ARRA RFA-RR-09-008 - Extramural Research Facilities Improvement Program (C06). \$4.98 million for 5 years (2010-2015);
7. **Ren J.** American ARRA Stimulus grant: "Role of acetaldehyde in alcoholic cardiomyopathy", \$100,100 for 1.5 years.
8. **Li J.** American ARRA Challenge grant: "AMPK as a target for aging-associated ischemic heart disease", \$1,000,000 for 2 years

F. Seminars Presented:

1. **Ren J:** "Cardiac dysfunction in diabetes and obesity", Xi'an Jiaotong University School of Medicine, Xi'an, China, January 2009.
2. **Ren J:** "Gene therapy and nanotechnology in cancer research", Gastroenterology Hospital of the Fourth Military Medical University, Xi'an, China, January 2009.

G. Other Research Activities of C-CRAM:

- **Nathan Roe**, a first year MCLS PhD student, will join Dr. Ren's group at the end of this semester - welcome.
- **Aylin Marquez**, a McNair Scholar and a junior transferred from Eastern Wyoming College, will work with Dr. Ren on model of cardiac physiology.
- **Wyoming INBRE** met at the Hilton Garden Inn in Laramie on April 6 followed by banquet and social events. Several members from C-CRAM will be presenting.
- **Henry Ma, Jingying Wang, Asli Ceylan-Isik Machender R Kandadi and Jun Ren** presented a poster at the CHS Grand Round on March 27.
- **Ji Li** became editorial board of *Int J Physiol, Pathophysiol and Pharm (IJPPP)* and *The Open Diabetes Journal (ODJ)*. He also became a committee member of American Diabetes Associate (ADA) Research Grant Review

Life is good!



Xue Shen & Hongbo Zhao



2009 New York Car Show



Air show



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