

# CURRICULUM VITAE

## **Xiaochen He**

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### **EDUCATION:**

2017	Ph.D	Medical Pharmacology University of Mississippi Medical Center Jackson, Mississippi
2009	M.S.	Biological Science Mississippi College Clinton, Mississippi
2007	B.S.	Biotechnology Shandong Institute of Light Industry Jinan, Shandong, China

### **POSITIONS AND EMPLOYMENT:**

04/21-current	Postdoctoral Fellow	Department of Physiology & Biophysics University of Mississippi Medical Center, Jackson, Mississippi
08/2017-04/2021	Postdoctoral Fellow	Department of Pharmacology & Toxicology University of Mississippi Medical Center, Jackson, Mississippi
06/2011-07/2012	Researcher II	Department of Physiology & Biophysics University of Mississippi Medical Center, Jackson, Mississippi

### **TEACHING EXPERIENCE:**

2014-2018	Discussion Facilitator	Medical Pharmacology Course, Department of Pharmacology & Toxicology, University of Mississippi Medical Center, Jackson, Mississippi
2006-2007	Lab Assistant	Department of Food and Bioengineering, Shandong Institute of Light Industry, Jinan, Shandong, China

### **HONORS AND AWARDS:**

2019	Poster Presentation Winner, UMMC Research Day 2020
2017	ASN-Kidney Stars, Kidney Week 2017
2017	Randall-Trustmark Graduate Research Award, School of Graduate Studies in the Health Sciences, UMMC
2017	Excellence in Medical Pharmacology Award, Department of Pharmacology & Toxicology, UMMC
2017	APS-Cardiovascular Section Research Recognition Award, Experimental Biology 2017
2015	Trainee Research Recognition in Physiological Genomics, Experimental Biology 2015
2013	Inducted into Phi Kappa Phi Honor Society
2012	Fundamentals of Physiology Award

## **PROFESSIONAL SOCIETIES:**

Member of American Society of Nephrology

Member of American Physiological Society

Member of American Heart Association

Member of the Honor Society of Phi Kappa Phi

## **ACADEMIC ACTIVITIES:**

### ***Ad hoc Peer Reviewer:***

2021	International Journal of Molecular Sciences
2020	American Journal of Physiology-Heart and Circulatory Physiology
2020	American Journal of Physiology-Endocrinology and Metabolism
2020	Nutrients
2019	Cells
2019	Journal of Applied Physiology
2019	Biomedicine & Pharmacotherapy
2019	Biomolecules

## **COMMUNITY SERVICES**

2017	Poster Judge, Student Award, Council for High Blood Pressure
2017	Volunteer of Discovery U event at the Mississippi Children's museum
2016	Team captain of PhUn Week event at the Mississippi Children's museum
2015	Volunteer of PhUn Week event at the Mississippi Children's museum

## **INVITED TALK**

2016	Introduction of medical pharmacology graduate program at UMMC. Invited talk at the Department of Endocrinology at the Affiliated Hospital of Qingdao University Medical College, China
2015	Trainee Research Recognition in Physiological Genomics, <i>SIRT3 Deficiency Impairs Hypoxic Signaling, Reprograms Basal Glycolytic Metabolism and Exacerbates Myocardial Ischemic Injury</i> . Experimental Biology 2015, Boston, MA.

## **PUBLICATIONS:**

1. **He, X**, Zeng, H, Cantrell, A.C, Chen, JX. Regulatory Role of TIGAR on Endothelial Metabolism and Angiogenesis. J Cell Physiol. 2021. (Accepted).
2. **He, X**, Zeng, H, Cantrell, A.C, Chen, JX. Knockout of TIGAR Attenuates Myocardial Fibrosis and Preserves Diastolic Function in Heart Failure. Int. J. Mol. Sci. 2021. (Under revision).
3. Li L, Zeng H, **He X**, Chen JX. Sirtuin 3 Alleviates Diabetic Cardiomyopathy by Regulating TIGAR and Cardiomyocyte Metabolism. J Am Heart Assoc. 2021 Feb;10(5):e018913. doi: 10.1161/JAHA.120.018913. Epub 2021 Feb 15. PubMed PMID: 33586458.

4. Zeng H, **He X**, Chen JX. A Sex-Specific Role of Endothelial Sirtuin 3 on Blood Pressure and Diastolic Dysfunction in Female Mice. *Int J Mol Sci.* 2020 Dec 21;21(24). doi: 10.3390/ijms21249744. PubMed PMID: 33371209; PubMed Central PMCID: PMC7766145.
5. Feng X, Su H, **He X**, Chen JX, Zeng H. SIRT3 Deficiency Sensitizes Angiotensin-II-Induced Renal Fibrosis. *Cells.* 2020 Nov 20;9(11). doi: 10.3390/cells9112510. PubMed PMID: 33233553; PubMed Central PMCID: PMC7699810.
6. Su H, Zeng H, **He X**, Zhu SH, Chen JX. Histone Acetyltransferase p300 Inhibitor Improves Coronary Flow Reserve in SIRT3 (Sirtuin 3) Knockout Mice. *J Am Heart Assoc.* 2020 Sep 15;9(18):e017176. doi: 10.1161/JAHA.120.017176. Epub 2020 Aug 31. PubMed PMID: 32865093; PubMed Central PMCID: PMC7727016.
7. Zeng H, **He X**, Chen JX. Endothelial Sirtuin 3 Dictates Glucose Transport to Cardiomyocyte and Sensitizes Pressure Overload-Induced Heart Failure. *J Am Heart Assoc.* 2020 Jun 2;9(11):e015895. doi: 10.1161/JAHA.120.015895. Epub 2020 May 29. PubMed PMID: 32468895; PubMed Central PMCID: PMC7428981.
8. Zhao Y, Zeng H, Liu B, **He X**, Chen JX. Endothelial prolyl hydroxylase 2 is necessary for angiotensin II-mediated renal fibrosis and injury. *Am J Physiol Renal Physiol.* 2020 Aug 1;319(2):F345-F357. doi: 10.1152/ajprenal.00032.2020. Epub 2020 Jul 27. PubMed PMID: 32715763; PubMed Central PMCID: PMC7473903.
9. Fan F, Geurts AM, Pabbidi MR, Ge Y, Zhang C, Wang S, Liu Y, Gao W, Guo Y, Li L, **He X**, Lv W, Muroya Y, Hirata T, Prokop J, Booz GW, Jacob HJ, Roman RJ. A Mutation in  $\gamma$ -Adducin Impairs Autoregulation of Renal Blood Flow and Promotes the Development of Kidney Disease. *J Am Soc Nephrol.* 2020 Apr;31(4):687-700. doi: 10.1681/ASN.2019080784. Epub 2020 Feb 6. PubMed PMID: 32029431; PubMed Central PMCID: PMC7191921.
10. Fan L, Wang S, **He X**, Gonzalez-Fernandez E, Lechene C, Fan F, Roman RJ. Visualization of the intrarenal distribution of capillary blood flow. *Physiol Rep.* 2019 Apr;7(8):e14065. doi: 10.14814/phy2.14065. PubMed PMID: 31008571.
11. Zhang C, **He X**, Murphy SR, Zhang H, Wang S, Ge Y, Gao W, Williams JM, Geurts AM, Roman RJ, Fan F. Knockout of Dual-Specificity Protein Phosphatase 5 Protects Against Hypertension-Induced Renal Injury. *J Pharmacol Exp Ther.* 2019 Aug;370(2):206-217. doi: 10.1124/jpet.119.258954. Epub 2019 May 22. PubMed PMID: 31118214.
12. **He X**, Zeng H, Chen JX. Emerging role of SIRT3 in endothelial metabolism, angiogenesis, and cardiovascular disease. *J Cell Physiol.* 2019 Mar;234(3):2252-2265. doi: 10.1002/jcp.27200. Epub 2018 Aug 21. Review. PMID: 30132870.
13. Muroya Y, **He X**, Fan L, Wang S, Xu R, Fan F, Roman RJ. Enhanced Renal Ischemia-Reperfusion Injury in Aging and Diabetes. *Am J Physiol Renal Physiol.* 2018 Sep 12. doi: 10.1152/ajprenal.00184.2018. [Epub ahead of print] PMID: 30207168.
14. **He X**, Zeng H, Roman RJ, Chen JX. Inhibition of prolyl hydroxylases alters cell metabolism and reverses pre-existing diastolic dysfunction in mice. *Int J Cardiol.* 2018 Dec 1;272:281-287. doi: 10.1016/j.ijcard.2018.08.065. Epub 2018 Aug 24. PMID: 30177233.

15. Zhang C, Booz GW, Yu Q, **He X**, Wang S, Fan F. Conflicting roles of 20-HETE in hypertension and renal end organ damage. *Eur J Pharmacol*. 2018 Aug 15;833:190-200. doi: 10.1016/j.ejphar.2018.06.010. Epub 2018 Jun 7. Review. PMID: 29886242.
16. **He X**, Zeng H, Chen ST, Roman RJ, Aschner JL, Didion S, Chen JX. Endothelial specific SIRT3 deletion impairs glycolysis and angiogenesis and causes diastolic dysfunction. *J Mol Cell Cardiol*. 2017 Nov;112:104-113. doi: 10.1016/j.yjmcc.2017.09.007. Epub 2017 Sep 19. PMID: 28935506.
17. Wang S, Zeng H, Chen ST, Zhou L, Xie XJ, **He X**, Tao YK, Tuo QH, Deng C, Liao DF, Chen JX. Ablation of endothelial prolyl hydroxylase domain protein-2 promotes renal vascular remodelling and fibrosis in mice. *J Cell Mol Med*. 2017 Sep;21(9):1967-1978. doi: 10.1111/jcmm.13117. Epub 2017 Mar 7. PMID: 28266128.
18. Shekhar S, Wang S, Mims PN, E Gonzalez-Fernandez, Zhang C, **He X**, Liu CY, Lv W, Wang Y, Huang J and Fan F. Impaired cerebral autoregulation-A common neuropathway in Diabetes may play a critical role in Diabetes-related Alzheimer's disease. *Curr Res Diabetes Obes J*. 2017 Jun;2(3). pii: 555587. Epub 2017 Jun 5. PMID: 28825056.
19. Tao YK, Zeng H, Zhang GQ, Chen ST, Xie XJ, **He X**, Wang S, Wen H, Chen JX. Notch3 deficiency impairs coronary microvascular maturation and reduces cardiac recovery after myocardial ischemia. *Int J Cardiol*. 2017 Jun 1;236:413-422. doi: 10.1016/j.ijcard.2017.01.096. Epub 2017 Jan 24. PMID: 28131704.
20. Shekhar S, Travis OK, **He X**, Roman RJ, Fan F. Menopause and Ischemic Stroke: A Brief Review. *MOJ Toxicol*. 2017;3(4). pii: 00059. doi: 10.15406/mojt.2017.03.00059. Epub 2017 Aug 10. PMID: 28936482.
21. Wang S, Zeng H, Xie XJ, Tao YK, **He X**, Roman RJ, Aschner JL, Chen JX. Loss of prolyl hydroxylase domain protein 2 in vascular endothelium increases pericyte coverage and promotes pulmonary arterial remodeling. *Oncotarget*. 2016 Sep 13;7(37):58848-58861. doi: 10.18632/oncotarget.11585. PMID: 27613846.
22. **He X**, Zeng H, Chen JX. Ablation of SIRT3 causes coronary microvascular dysfunction and impairs cardiac recovery post myocardial ischemia. *Int J Cardiol*. 2016 Jul 15;215:349-57. doi: 10.1016/j.ijcard.2016.04.092. Epub 2016 Apr 16. PMID: 27128560.
23. Zeng H, **He X**, Tuo QH, Liao DF, Zhang GQ, Chen JX. LPS causes pericyte loss and microvascular dysfunction via disruption of Sirt3/angiopoietins/Tie-2 and HIF-2 $\alpha$ /Notch3 pathways. *Sci Rep*. 2016 Feb 12;6:20931. doi: 10.1038/srep20931. PMID: 26868537.
24. Zeng H, Vaka VR, **He X**, Booz GW, Chen JX. High-fat diet induces cardiac remodelling and dysfunction: assessment of the role played by SIRT3 loss. *J Cell Mol Med*. 2015 Aug;19(8):1847-56. doi: 10.1111/jcmm.12556. Epub 2015 Mar 17. PMID: 25782072.
25. Hou X, Zeng H, **He X**, Chen JX. Sirt3 is essential for apelin-induced angiogenesis in post-myocardial infarction of diabetes. *J Cell Mol Med*. 2015 Jan;19(1):53-61. doi: 10.1111/jcmm.12453. Epub 2014 Oct 14. PMID: 25311234.
26. Zeng H, **He X**, Hou X, Li L, Chen JX. Apelin gene therapy increases myocardial vascular density and ameliorates diabetic cardiomyopathy via upregulation of sirtuin 3. *Am J Physiol Heart Circ Physiol*. 2014 Feb 15;306(4):H585-97. doi: 10.1152/ajpheart.00821.2013. Epub 2013 Dec 20. PMID: 24363305.
27. Li L, Zeng H, Hou X, **He X**, Chen JX. Myocardial injection of apelin-overexpressing bone marrow cells improves cardiac repair via upregulation of Sirt3 after myocardial infarction. *PLoS One*. 2013 Sep 6;8(9):e71041. doi: 10.1371/journal.pone.0071041. eCollection 2013. PMID: 24039710.

28. Kelsen S, **He X**, Chade AR. Early superoxide scavenging accelerates renal microvascular rarefaction and damage in the stenotic kidney. *Am J Physiol Renal Physiol.* 2012 Aug 15;303(4):F576-83. doi: 10.1152/ajprenal.00154.2012. Epub 2012 May 23. PMID: 22622460.

### **ABSTRACTS:**

1. Chen JX, **He X**, Worsham RA, Zeng H. Deficiency of Sirtuin3 Disrupts Endothelial Glucose Metabolism and Sensitizes Pressure Overload-Induced Heart Failure. Abstract in Hypertension 2019 Scientific Session, New Orleans, LA.
2. **He X**, Wang S, Guo Y, Gao W, Roman RJ, Fan F. Down Regulation of Gamma-Adducin Diminishes Glomerular Function and Promotes Hypertension Related Chronic Kidney Disease. Abstract in Hypertension 2019 Scientific Session, New Orleans, LA.
3. Guo Y, Wang S, Zhang H, Gao W, **He X**, Booz GW, Roman RJ, Fan F. High Glucose Induced Diabetic Dementia is Mediated by Mitochondria Dysfunction. Abstract in Hypertension 2019 Scientific Session, New Orleans, LA.
4. **He X**, Chen CC, Murphy SR, Booz GW, Roman RJ, Fan F. Hypertension-Induced Renal Injury is Associated with Impaired Glomerular Barrier Function Involving Podocyte Dysfunction. Abstract in 2019 Experimental Biology, Orlando, FL.
5. Zhang C, **He X**, Booz GW, Roman RJ, Fan F. Knockout of Dual-Specificity Protein Phosphatase 5 Protects Against Hypertension Induced Chronic Kidney Disease. 2018 HBPR, Chicago, IL.
6. Wang S, Feng J, **He X**, Booz G, Roman RJ and Fan F. Hyperglycemia induces impairment of cerebral autoregulation in association with cognitive deficits in diabetic rats. 2018 NIH, NIGMS Seveth Biennial Natioanal IDeA Symposium of Biomedical Research Excellence, Washington, D.C.
7. Wang S, Feng J, **He X**, Booz G, Roman RJ and Fan F. Disruption of Actin Cytoskeleton Contributes to Impairment of Cerebral Autoregulation in Association with Diabetes-related Cognitive Deficits. 2018, 11th World Congress for Microcirculation, Vancouver, BC, Canada.
8. Fan F, Wang S, **He X**, Booz G and Roman RJ. Down Regulation of Gamma-Adducin in the Cerebral Vasculature Promotes Blood-Brain Barrier Leakage and Contributes to Hypertension-related Cognitive Deficits. 2018, 11th World Congress for Microcirculation, Vancouver, BC, Canada.
9. Wang S, **He X**, Booz G, Roman RJ and Fan F. Hyperglycemia and Oxidative stress Contribute to Impaired Cerebral Autoregulation in Association with Dementia in Diabetes. 2018 Joint Hypertension 2018 Scientific Sessions, Chicago, IL.
10. Wang S, Travis O, Mims PN, He XC, Snell B, Fan F, Roman RJ. Down-Regulation of Gamma-Adducin Disrupts the Actin Cytoskeleton in FHH rats and May Contribute to the Development of Hypertension-induced Renal Injury. 2018 Experimental Biology, San Diego, CA.
11. Travis O, Wang S, **He X**, Roman RJ and Fan F. Down Regulation of Add3 in Astrocytes Disrupts the Actin Cytoskeleton in Association with Decreasing Small Molecule Uptake and May Contribute to Cognitive Deficits in FHH rats. 2018 Experimental Biology, San Diego, CA.
12. Fan F, Wang S, **He X**, Travis O, Do N, Amaral L, Cornelius DC, LaMarca BB. Role of Cerebral Vascular Dysfunction on Alzheimer-Like Cognitive Deficits in Diabetic T2DN rats. 2018 Experimental Biology, San Diego, CA.

13. **He X**, Zeng H and Chen JX. Treatment with Prolyl Hydroxylase Inhibitor Reverses Pre-Existing Diastolic Dysfunction in the Aged SIRT3 Knockout Mice. Abstract in 2017 Experimental Biology, Chicago, IL.
14. **He X**, Zeng H and Chen JX. Deletion of Endothelial Sirt3 Causes Diastolic Dysfunction. 2017 Council on Hypertension.
15. **He X**, Zhang C, Murphy S, Mims PN and Fan F. Role of Dusp5 in Hypertension Induced Chronic Renal Disease. 2017 Council on Hypertension.
16. **He X**, Wang S, Mims PN, Zhang C, Poudel B, Fan F, and Roman RJ. Down regulation of Gamma-adducin diminishes glomerular function and promotes hypertension related chronic kidney disease. 2017 ASN, Kidney Week, New Orleans, LA.
17. Wang S, Travis O, Mims PN, **He X**, Snell B, Fan F, and Roman RJ. Down Regulation of Gamma-Adducin Disrupts the Actin Cytoskeleton in FHH rats and May Contribute to the Development of Hypertension-induced Renal Injury. 2017 ASN, Kidney Week, New Orleans, LA.
18. **He X**, Zeng H and Chen JX. Deletion of Endothelial SIRT3 Causes Coronary Microvascular Dysfunction and HFpEF. Abstract in 2016 Experimental Biology, San Diego, CA.
19. **He X**, Zeng H and Chen JX. SIRT3 Deficiency Impairs Hypoxic Signaling, Reprograms Basal Glycolytic Metabolism and Exacerbates Myocardial Ischemic Injury. Abstract in 2015 Experimental Biology, Boston, MA.
20. **He X**, Zeng H, Hou X, and Chen JX. Sirt3 regulates oxygen sensors and blood vessel formation in the heart, Abstract in 2013 HBPR.