8/27/2021

Curriculum Vitae

Name: **JIAN-XIONG CHEN, M.D.**

Office Address: Department of Pharmacology and Toxicology

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Jackson, MS, 39232

Office Phone Number: 601-984-1731

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EDUCATION:

1980-1985	M.D., Hunan Medical University. P.R China
1987-1990	Master degree (M.S), Department of Pharmacology, Henan Medical University. P.R China
1996-1999	Joint PhD training of Southern Illinois University School of Medicine and Hunan Medical University
1998-2001	Postdoctoral fellow, Department of Pathology and Cardiology, Vanderbilt University Medical Center

Academic Appointments:

1985-1987	Assistant Professor of Pharmacology, Department of Pharmacology, Hengyang Medical College, China
1994-1996	Associate Professor of Pharmacology, Chairman of Department of Pharmacology, Hengyang Medical College, China
1998-2001	Postdoctoral Fellow, Departments of Pathology and Cardiology, Vanderbilt University School of Medicine, Nashville, Tennessee

2001-2002	Research Associate, Departments of Radiology and Oncology, Vanderbilt University School of Medicine, Nashville, Tennessee
2002-2006	Research Assistant Professor, Department of Pathology, Vanderbilt University School of Medicine, Nashville, Tennessee
2006-2010	Research Assistant Professor, Department of Pediatrics, Vanderbilt University School of Medicine, Nashville, Tennessee
2010-2011	Research Associate Professor, Department of Pediatrics, Vanderbilt University School of Medicine, Nashville, Tennessee
2011-2018	Associate Professor, Department of Pharmacology and Toxicology, University of Mississippi Medical Center, Jackson, Mississippi
2018-present	Professor with tenure, Department of Pharmacology and Toxicology, University of Mississippi Medical Center, Jackson, Mississippi
2011-present	Member, Graduate Faculty, The University of Mississippi Medical Center, School of Graduate Studies in the Health Sciences

Honors

1992	Recipient of Excellent Award in Teaching, Education Commissioner of Hunan province, P.R. China
1994	Recipient of Excellent Award in Teaching, Education Commissioner of P.R. China
1999	Achievement Award in Cardiovascular Research, Bureau of Medicine and Hygiene of Hunan Province, P.R. China
1999	Achievement Award in Science and Technology, Ministry of Science and Technology of Hunan Province, P.R. China
2011	Excellence in Research Award, University of Mississippi Medical Center (Bronze Level)
2012	Excellence in Research Award, University of Mississippi Medical Center (Silver Level)
2013	Excellence in Research Award, University of Mississippi Medical Center (Gold Level)

Professional Organizations:

Member of American Heart Association

Member of American Physiological Society

Editorial Boards:

Journal of cardiovascular pharmacology

Professional Activities

Reviewer for Acta Pharmacological Sin; American Journal of Pathology; European Journal of Pharmacology; Journal of Thrombosis and Heamostasis; Canadian Journal of Physiology and Pharmacology, Journal of Pediatric Endocrinology and Metabolism, Arterioscler Thromb Vasc Biol, Experimental Eye Research, Current Diabetes Reviews.
Diabetes & Metabolism, Acta Biochimica et Biophysica Sinica, PLoS One, Biochemical and Biophysical Research Communications, Journal cardiovascular pharmacology
2011-2013 Regular Reviewer for Vascular Wall Biology Committee of American Heart Association (Vas Wall Bio AAGI BSc2).
2011 Ad hoc reviewer for Medical Research Council (United Kingdom);
2012 Ad hoc reviewer for NIH-Cell, Molecular, and Computational Biology (11/08-11/09/2012)
2013 Ad hoc reviewer for NIH Special Emphasis Panel/Scientific Review (01/17-01/18/2013)
2013 Ad hoc reviewer for NIH Special Emphasis Panel/Scientific Review (05/28-05/29/2013)
2013 Ad hoc reviewer for NIH Special Emphasis Panel/Scientific Review (10/31-11/01/2013)
2014 Ad hoc reviewer for NIH Special Emphasis Panel/Scientific Review (02/04-02/05/2014)
2015 Ad hoc reviewer for NIH Special Emphasis Panel/Scientific Review (05/18-05/19/2015)
2015 Ad hoc reviewer for NIH Special Emphasis Panel/PPG Review (06/03/2015)
2017 Ad hoc reviewer for NIH Special Emphasis Panel/Scientific Review (11/06-11/07/2017)
2018 Ad hoc reviewer for NIH Special Emphasis Panel/Scientific Review (21/06-22/06/2018)
2019 UMMC pilot Grant review
2019 Chair of EB meeting section: Diabetes: A metabolic Karma
2020 Ad hoc reviewer for NIH Special Emphasis Panel/Scientific Review (07/24/2020)
Limited Competition: Small Grant Program for NHLBI K01/K08/K23 Recipients (R03 - Clinical Trial Optional)
2021 Ad hoc reviewer for NIH Special Emphasis Panel (SEP), ZRG1 CVRS B_02. (07/20/21)

Visiting Professorships and Invited Talks

2006: June-July; visiting Professor of University of South China, Hengyang, Hunan, PR. China. Lecture title “Angiogenesis and cardiovascular diseases”.

2008: June-July; visiting Professor of University of South China, Hengyang, Hunan, PR. China. Lecture title “Angiopoietins/Tie-2 in diabetic complications”.

2008: July 23; invited talk, Beijing University Medical Center, Beijing, PR China, Title: “NADPH oxidase and diabetic angiogenesis”.

2010: May 4, invited talk, University of Missouri, Department of Pharmacology and Physiology, Columbia, MO. Title “Angiopoietins/Tie-2 system and diabetic abnormal angiogenesis”.

2010: July 12, invited talk, University of Mississippi Health Center, Department of Pharmacology, Jackson, MS. Title “Angiopoietins/Tie-2 system in diabetic vascular complications”.

2011 March 16, invited talk, University of Mississippi Health Center, Department of Physiology& Biophysics, Jackson, MS. Title “Angiopoietins/Tie-2 in diabetic infarcted heart”.

2011 November 4, invited talk, University of Southern Mississippi, Department of Biological Science, Hattiesburg, MS. Title “Angiopoietins/Tie-2 system in diabetic complications”.

2012 December 11, invited talk, University of Mississippi Medical Center, Department of Biochemical Science, Jackson, MS. Title “Mechanisms of impairment of myocardial angiogenesis in type II diabetes”.

2014 September 11, invited talk, University of Beijing Medical Center, Department of Physiology and Physiopathology. Title “Mechanisms of impairment of myocardial angiogenesis in type II diabetes”.

2015 May 8, invited talk, Human University of Chinese Medicine, P.R. China. Title: New perspective of Angiopoietins/Tie-2 system in Sepsis”.

2015 Sept 11, invited talk, University of Southern Illinois, School of Medicine, Department of Microbiology and Biochemistry, Title: Emerging role of Sirtuin 3 in EC metabolism and angiogenesis”.

2016 Jan 25, University of Mississippi Medical Center, Department of Pharmacology and Toxicology, Jackson, MS. Title “Emerging role of Sirtuin 3 in EC metabolism and angiogenesis”.

2016 May 9, invited talk, Human University of Chinese Medicine, P.R. China. Title “Emerging role of Sirtuin 3 in EC metabolism and diastolic dysfunction”.

2016 May 13, invited talk, Fushan Hospital, Guang Dong, P.R. China. Title: New perspective of Angiopoietins/Tie-2 system in Sepsis”.

Teaching Activities:

2011 fall semester: PhD graduate student course: the mechanisms of drug action-angiogenesis (4 hours)

2012 fall semester: PhD graduate student course: the mechanisms of drug action-cardiovascular disease and angiogenesis (4 hours)

2013 fall semester: PhD graduate student course: the mechanisms of drug action-cardiovascular disease and angiogenesis (4 hours)

2013 fall semester: Medical pharmacology group studies (4 hours).

2013 Dental and medical pharmacology: Asthma therapeutic (1 hour)

Anti-histamine drugs (1 hour)

2014 Dental and medical pharmacology: Asthma therapeutic (1 hour)

Anti-histamine drugs (1 hour)

2014 Fall semester: Medical pharmacology group studies (8 hours).

2015 Dental and medical pharmacology: Asthma therapeutic (1 hour)

Anti-histamine drugs (1 hour)

2015 Fall semester: Medical pharmacology: Anti-histamine drugs (1 hour)

AAP section 1 hour

Asthma therapeutic (1 hour)

AAP section 1 hour

Small group 8 hours

2016 Dental and medical pharmacology: Asthma therapeutic (1 hour)

Anti-histamine drugs (1 hour)

AAP section 1 hour

AAP section 1 hour

Small group 8 hours

2017 Dental and medical pharmacology: Asthma therapeutic (1 hour)

Anti-histamine drugs (1 hour)

AAP section 1 hour

AAP section 1 hour

Small group 8 hours

2017 PhD graduate student course: Approaches to study Control of Angiogenesis

2017 PhD graduate student course: the mechanisms of drug action-cardiovascular disease and angiogenesis (4 hours)

2018 Dental pharmacology: Asthma therapeutic (1 hour)

Anti-histamine drugs (1 hour)

2018 PhD graduate student course: Approaches to study Control of Angiogenesis

2019 Dental Pharmacology, Antihistamine drugs, treatment of asthma, 2 hours.
Medical Pharmacology, Antihistamine Drugs, treatment of asthma, 2 hours.
Medical Pharmacology, autonomic drug responses, small group, 4 hours.
Medical Pharmacology, autonomic drug responses, cardiovascular case study, 4 hours.
PHD graduate course: angiogenesis & vessel rarefication II, 2 hours
PHD graduate course: Approaches to study Control of Angiogenesis, 4 hours

2020 Medical Pharmacology, Antihistamine Drugs, treatment of asthma, 2 hours.
Dental Pharmacology, Antihistamine drugs, treatment of asthma, 2 hours.
PHD graduate course: angiogenesis & vessel rarefication II, 4 hours
PHD graduate course: Approaches to study Control of Angiogenesis, 4 hours

2021 Dental Pharmacology, Antihistamine drugs, treatment of asthma, 2 hours.
PHD graduate course: angiogenesis & vessel rarefication II, 4 hours
PHD graduate course: Approaches to study Control of Angiogenesis, 4 hours

2006-2009: Dr. Qin-Hui Tuo. M.D. PhD completed her Ph.D. thesis in our lab. Current position: Associate Professor, Department of Pharmacology, Hengyang, Hunan, PR. China.

2008-2010: Dr. Aaron Milliage M.D. completed his fellowship research training in our lab.

2011-12-19 PhD graduate student course: the mechanisms of drug action-angiogenesis

2011- 2012 Ph.D. Advisory Committee for Carlos Zgheib.

2012- 2015 Ph.D. Advisory Committee for Fouad Zouein

2011-2013 Dr. Lanfang Li, M.D. PhD completed her postdoctoral training in our lab.

2012- 2014 Dr. Xuwei Hou, M.D. PhD, Postdoctoral fellow.

2015-2016 Dr. Shuo Wang, MD. PHD, Postdoctoral fellow.

2015-2016 Dr. Xue-Jiao Xie, MD. PHD, Postdoctoral fellow.

2015-2016 Dr. Yong-Kang Tao, MD., Postdoctoral fellow.

2016-2017 Dr. Liying Zhuo, MD., Postdoctoral fellow.

2016-2017 Dr. Jie Li, MD, PhD. Postdoctoral fellow.

2017-2018 Dr. Lanfang Li, MD, PhD, Postdoctoral fellow.

2018-2019 Dr. Bo Liu, MD, PhD, Postdoctoral fellow

2018- 2020 Dr. Su Han, MD, PHD candidate student

2019-2020 Dr. Yongzhen zhao, MD, PhD, Postdoctoral fellow

2019-2020 Dr. Xiaomeng Feng, MD, PhD, Postdoctoral fellow

Student training:

2014 Spring semester student lab rotation: Venkata Ramana Vaka
2017 Fall semester student lab rotation: Sumit Sontakke
2020 Spring semester student lab rotation: Nathan Campbell, Ubong Ekperikpe
2020 Fall semester student lab rotation: Aubrey C Cantrell
2020 Fall semester student lab rotation: Andrew Milner

Completed and ongoing training PhD students:

2012- 2017 Ph.D. Supervisor for Dr. Xiaochen He

2020-present Ph.D. Supervisor for Aubrey C Cantrell (Ph.D. Candidate)

Department, institutional and national Service:

Dental Pharmacology-Associate Director

Faculty promotion and tenure committee,

Strategic planning/COBRE/PPG committee;
Professional Education committee;
Graduate Program Committee;
Graduate Student Award Committee;
Department Faculty recruitment committee;
LCME review of pharmacology course committee;
Associate Editor of Diabetes Research Open Journal;
Editor of Journal of cardiovascular pharmacology
Echocardiography Core Director.
Reviewer of UMMC pilot grant

RESEARCH PROGRAM

Active:

1 R01 HL151536-A1 09/01/2021-08/30/2025
NIH/NHLBI
Total Budget: $1,550,000
Title: Endothelial PHD2 in hypertensive vascular remodeling
Principal Investigator: Jian-Xiong Chen
The objectives of this application are to explore the vascular endothelium oxygen sensor prolyl hydroxylase-2 (PHD2) and hypoxic signaling in the regulation of pericyte phenotype, pericyte-fibroblast transition, arterial stiffness and vascular calcification in hypertension and diabetes.

2R01HL102042-05 (No cost extension) 03/01/2017-02/28/2022
NIH/NHLBI
Total Budget: $1,550,000
Title: Coronary microvascular rarefaction in diabetes
Principal Investigator: Jian-Xiong Chen
The overall goal of this application is to explore whether diabetes shifts metabolic flexibility of EC and alters coronary microvascular phenotype/function by a mechanism involving disruption of endothelial Sirt3-PFKFB3 signaling pathway; whether these abnormalities lead to coronary microvascular rarefaction, thus promoting cardiomyocyte hypoxia and diastolic dysfunction in diabetes.

Pending

1. NHLBI 1 R01 HL162619 Title: Novel regulatory mechanisms on HIF-2α in diabetic heart, (Pending for review).
2. 2R01HL102042-09A1. Title: Coronary microvascular rarefaction in diabetes. (Unscored and preparation for revision).
3. NHLBI 1 R01 HL158522 Title: Altered Endothelial-Pericyte Interactions in Diabetes, (Unscored and preparation for revision).

Completed Research Support

Altered Endothelial-Pericyte Interactions in Diabetes

IRSP grant 10/01/2019-9/30/2020

Total budget; $30000

Principal Investigator: Jian-Xiong Chen

Regulation of vascular maturation/regression in diabetes

IRSP grant 10/01/2016-9/30/2017

Total budget; $30000

Principal Investigator: Jian-Xiong Chen

1R01HL102042-01 07/15/2010-03/31/2016

NIH/NHLBI

Title: Regulation of vascular maturation/regression in diabetes

Total Budget: $1,550,000

Principal Investigator: Jian-Xiong Chen (50% effort)

The overall goal of this application is to explore whether diabetes disrupts Ang-1/Tie-2 and apelin pathway by a mechanism involving Ang-2 and PHD2 activation; and contributes to abnormal vascular maturation and capillary regression in diabetic hearts.

0565196B (PI Dr. Jian-Xiong Chen) 07/01/05-06/30/07

American Heart Association

Total Budget: $110, 000

Title: Angiopoietins/Tie-2 and Diabetic Impaired Myocardial Angiogenesis

PI: Dr. Jian-Xiong Chen (25% effort)

The goals of this project are to determine whether hyperglycemia dysregulates angiopoietins/Tie-2 system and impairs myocardial angiogenesis in response to hypoxia.

1R21DK074995-01 **04/01/06-03/31/2010**

NIH/NIDDK

Title: Functional Role of Angiopoietin-2 in Diabetic Heart

Total Budget: $415,495

PI: Jian-Xiong Chen (65% effort)

This proposal investigated the mechanisms underlying impaired angiogenesis in the diabetic state

R01 HL075511-01 (PI Dr. Judy Aschner) **04/01/05-03/31/09**

NIH/NHLBI

Total Budget: $1,455,911

Title: Hsp90/Client Protein Interactions in the Newborn Lung

Role in Project: Co-investigator (25% effort).

The major goals of this project are to determine the role of Hsp90/client protein interactions in regulation of vascular responses in the normal newborn pulmonary circulation, and alterations in Hsp90/client protein interactions during chronic hypoxia.

R01 HL 49530 (PI, Meyrick) **06/01/00 - 05/31/05**

NIH/NHLBI

Total Budget: $1,550,000

Title: Effects of Hypoxia on the Coronary Microcirculation

Role in Project: Co-investigator (85% effort).

This work sought to a) define mechanisms of nitric oxide (NO) regulation of vascular tone in response to low partial pressures of oxygen, b) to understand mechanisms of reciprocal regulation of NO and prostanoids, and c) to elucidate the mechanisms whereby oxygen tension alters NO and prostanoid control of flow-mediated vasomotion.

PUBLICATIONS AND PRESENTATIONS

Peer-Reviewed Manuscripts

1. Liao DF, Yu L, Chen JX. A new method to study correlation between endothelium dmage and free rardicals-morphology change of endothelium under scanning electron microscopy. Journal of Hengyang Medical College. 1992; 20(4):341-343.
2. Chen JX, Yu L, Liao DF, Cao JG and Zhu BY. The effect of oxygen free radicals on airway of guinea pig and its mechanism. Journal of Hengyang Medical College. 1993; 21(4):360-362.

3. Chen JX, Yu L, Liao DF et al. Protective effect of gypenosides on free radical injury in isolated guinea pig heart. Journal of Hengyang Medical College. 1993; 21(3):243-245.
4. Wan Y, Weng SA, Chen JX, Wu HX, Cao YS. Effects of estradiol on asthma of guinea pigs and its relationship to beta-adrenergic receptors. Chinese Pharmacological Bulletin, 1993, 9(4):295-297.
5. Chen JX, Wu HX and Wan You. The role of endotoxin in the bronchial hyper-reactivity formation. National Medical Journal of China, 1994, 74(1):38-40.
6. Chen JX, Cao YS. Protection ammonium glycyrrhizanate against endotoxin-induced bronchial hyperreactivity. Chinese Journal of Pharmacology and Toxicology, 1994, 8(3):235-236.
7. Chen JX, Cao YS. Effect ammonium glycyrrhizanate against endotoxin-induced bronchial hyperreactivity-in relation to beta-cAMP system. Chinese Traditional and Herbal Drugs, 1994, 1(1):17-18.
8. Xiao GL, Liao DF, Chen JX, Yu L. Protective effect of gypenosides on OFR-induced damage of relaxing capacity of rabbit thoracic aortae in vitro. Chinese Pharmacological Bulletin, 1994, 10(2):136-138.
9. Chen JX, Tang XQ, Zhu BY, Liao DF. The mechanism of exogenous oxygen free radicals induced vasospasm of isolated basilar artery. Chinese Journal Arteriosclerosis, 1994, 2(2):88-91.
10. Liao DF, Chen JX, Huang HL, Tang XQ, Cao JG and Yu L. Correlation between the protection of probucol on injury of endothelial cells by free radicals and the activity of nitric oxide. Chinese Journal Arteriosclerosis, 1994, 2(2):67-71.
11. Chen JX, Liao DF, Yu L, Xiao GL, Zhu BY, Tang XQ. Protective effect of captopril on electrolyzed perfusion solution induced vasospasm of isolated basilar artery. Chinese Journal of Pharmacology and Toxicology, 1995, 9(1):44-46.
12. Li LX, Yu L, Chen JX, Liao DF, Cao JG, Chen LX, Huang HL and Zhu BY. Oxidized low density lipoprotein promotion of adhesion of monocytes to endothelial cells in vitro. Chinese Journal Arteriosclerosis, 1996, 4(4):272-275.
13. Chen JX, Liao DF, Tang XQ, Yu L, Zeng H, Cao JG. Protection of Gypenosides against oxygen free radical induced vasospasm of isolated rabbit basilar artery. Chinese Traditional and Herbal Drugs, 1997, 28(4):219-221.
14. Huang HL, Chen JX, Zeng H et al. Oxygen free radicals stimulates epithelial-leukocyte adhesion. Journal of Hengyang Medical College. 1996; 24(4):255-257.

15. Chen JX, Zeng H, Zhu BY. Effect of endotoxin on Endothelin-1, Thromboxane A2 and prostaglandin E2 secretion and role of oxygen free radicals. Journal of Hengyang Medical College, 1998, 26(8):121-123.

16. Liao DF, Lu N, Lei LS, Yu L, Chen JX. Effects of gypenosides on mouse splenic lymphocyte transformation and DNA polymerase II activity in vitro. Acta Pharmacological Sin. 16(4):322-4.1995

17. Chen JX, Chen WZ, Hung HL, Chen LX, Xie ZZ, Zhu PY. Protective effects of Ginkgo biloba extract against lysophosphatidylcholine induced endothelium cell damage. Acta Pharmacological Sin. 19(4):359-363,1998.

18. Li LX, Chen JX, Liao DF, Yu L. Probucol inhibits oxidized-low density lipoprotein induced adhesion of monocytes to endothelial cells by reducing P-selectin synthesis in vitro. Endothelium. 6:1-8, 1998.

19. Su CY, Chong KY, Chen JX, Ryter SW, Lai CC. A physiological relevant hyperthermia selectively activates constitutive Hsp70 in H9c2 cardiac myoblasts and confers oxidative protection. J Mol Cell Cardiol. 31:845-855, 1999. PMID: 10329212.

20. Chen JX, Zeng H, Chen X, Su CY, Lai CC. Induction of heme oxygenase-1 by Ginkgo biloba extract but not its tepernoids constituents partially mediated its protective effect against lysophosphatidylcholine-induced damage. Pharmacological Research. 43(1):63-69, 2001, PMID: 11207067.

21. Chen JX, Berry LC, Christman BW, Tanner M, Myers PR, Meyrick BO. NO regulates LPS-stimulated cyclooxygenase gene expression and activity in pulmonary artery endothelium. Am J Physiology. 280:L450-457, 2001, PMID: 11159028.

22. Chen JX, Berry LC, Tanner M, Myers PR, Meyrick BO. Nitric oxide donors regulate nitric oxide synthase in bovine pulmonary artery endothelium. J Cellular Physiology. 186:116-123, 2001, PMID: 11147806.

23. Chen JX, Berry LC, Meyrick BO. Glutathione mediates LPS-stimulated COX-2 expression via early transient P42/44 activation. J Cellular Physiology.197:86-93, 2003, PMID: 12942544.

24. Chen JX, Lawrence ML, Cunningham G, Christman BW, Meyrick B. Hsp90 and Akt Modulate Ang-1 Induced Angiogenesis via NO in Coronary Artery Endothelium. J Appl Physiol. 96: 612-620, 2004, PMID: 14555685.

25. Chen JX, Meyrick BO. Hypoxia Increases Hsp90 Binding to eNOS via a PI3Kinase-Akt Pathway in Porcine Coronary Artery Endothelium. Lab Invest. 84(2):182-190, 2004, PMID: 14661033.

26. Chen JX, Chen Y, DeBusk L, Lin W, Lin PC. Dual functional roles of Tie-2/angiopoietin in TNF-alpha-mediated angiogenesis. Am J Physiol Heart Circ Physiol. 287(1):H187-95, 2004, PMID: 15210451.

27. Pei J, Yan PK, Chen JX, Zhu BY, Lei XY, Yin WD, Liao DF. High-density lipoprotein 3 inhibits oxidized low- density lipoprotein-induced apoptosis via promoting cheolesterol efflux in RAW264.7 cells. Acta Pharmacological Sin. 27(2):151-7, 2006.

28. Chen JX, Zeng H, Lawrence ML, Sadikot RT, Blackwell TS, Meyrick B. Role of NADPH oxidase-derived reactive oxygen species (ROS) in angiopoietin-1-induced angiogenesis. Am J Physiol Heart Circ Physiol, 291:1563-1572, 2006, PMID: 16679392.

29. Chen JX, Zeng H, Qin-Hui Tuo, Heidi Yu, Meyrick B, Judy Aschner. NADPH oxidase mediates myocardial Akt, ERK1/2 activation and angiogenesis after hypoxia/reperfusion. Am J Physiol Heart Circ Physiol, 292:H1664-1674, 2007, PMID: 17220182. PMCID: PMC2383323.

30. Tuo QH, Zeng H, Stinnett A, Yu HD, Aschner JL, Chen JX. Critical role of angiopoietins/Tie-2 in hyperglycemic exacerbation of myocardial infarction and impaired angiogenesis. Am J Physiol Heart Circ Physiol, 294(6):H2547-57, 2008, PMID: 18408125.

31. Chen JX, Stinnett A. Disruption of Ang-1/Tie-2 signaling contributes to the impaired myocardial vascular maturation and angiogenesis in type II diabetic mice. Arterioscler Thromb Vasc Biol, 28:1606-1613, 2008. PMID: 18556567.

32. Chen JX, Stinnett A. Critical role of the NADPH oxidase subunit p47phox on vascular TLR expression and neointimal lesion formation in high fat diet-induced obesity. Lab Invest, 88:1316-1328; 2008. PMID: 18779779.

33. Chen JX, Stinnett A. Ang-1 gene therapy inhibits hypoxia-inducible factor-1alpha (HIF-1alpha)-prolyl-4-hydroxylase-2, stabilizes HIF-1alpha expression, and normalizes immature vasculature in db/db mice. Diabetes, 57(12):3335-43; 2008. PMID: 18835934. PMCID: PMC2584141.

34. Tuo QH, Xiong GZ, Zeng H, Yu HD, Sun SW, Ling HY, Zhu BY, Liao DF, Chen JX. Angiopoietin-1 protects myocardial endothelial cell function blunted by angiopoietin-2 and high glucose condition. Acta Pharmacol Sin,32(1):45-51. 2011. PMID: 21113176

35. Chen JX, Tuo QH, Liao DF, Zeng H. Inhibition of protein tyrosine phosphatase improves impaired angiogenesis via enhancing Ang-1/Tie-2 signaling in diabetes. Experimental Diabetes Research, 2012;2012:836759

36. Chen JX, Zeng H, Reese J, Aschner JL, Barbara Meyrick. Overexpression of angiopoietin-2 impairs myocardial angiogenesis and exacerbates cardiac fibrosis in the diabetic db/db mouse model. Am J Physiol Heart Circ Physiol 2012;302(4):H1003-12.

37. Zeng H, Li L, Chen JX. Overexpression of Angiopoietin-1 increases $CD133^{+}$/c-kit^{+} cells and reduces myocardial apoptosis in db/db mouse infarcted hearts. PLoS One. 2012;7(4):e35905.

38. Chen JX, O'Mara PW, Poole SD, Brown N, Ehinger NJ, Slaughter JC, Paria BC, Aschner JL, Reese J. Isoprostanes as physiological mediators of transition to newborn life: Novel mechanisms regulating patency of the term and preterm ductus arteriosus. Pediatric Research 72: 122-128, 2012.

39. Li L, Zeng H, Chen JX. Apelin-13 increases myocardial progenitor cells and improves repair of post-myocardial infarction. Am J Physiol Heart Circ Physiol, 2012:303 (5): H605-18.

40. 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; 8(9): e71041.

41. 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, 306: H585-H597

42. Zeng H, Li L, Chen JX. Loss of sirt3 limits bone marrow cell-mediated angiogenesis and cardiac repair in post-myocardial infarction. PLoS One. 2014;9(9):e107011. PMID:25192254

43. Hou X, Zeng H, He X, Chen JX. Sirt3 is essential for apelin-induced angiogenesis in post-myocardial infarction of diabetes. Journal of Cellular and Molecular Medicine 2015;19(1):53-61. doi: 10.1111/jcmm.12453

44. Zeng H, Chen JX. Conditional knockout of prolyl hydroxylase domain protein 2 attenuates high fat-diet-induced cardiac dysfunction in mice. PLoS One. 2014;9(12):e115974. doi: 10.1371/journal.pone.0115974. eCollection 2014

45. Zeng H, Vaka VR , He X,Booz WG, Chen JX. High Fat Diet Induces Cardiac Remodeling and Dysfunction: Assessment of the Role Played by SIRT3 Loss. Journal of Cellular and Molecular Medicine. J Cell Mol Med. 2015;19(8):1847-56. doi: 10.1111/jcmm.12556.

46. Zeng,H., He,X., Tuo,Q.H., Liao,D.F., Zhang,G.Q., and Chen,JX. LPS causes pericyte loss and microvascular dysfunction via disruption of SIRT3/angiopoietins/Tie-2 and HIF-2α/Notch3 pathways. Sci. Rep. 2016, Sci. Rep. 2016, 6:20931. doi: 10.1038/srep20931.

47. Zhang CP, Tian Y, Zhang M, Tuo QH, Chen JX, Liao DF. IDOL, inducible degrader of low-density lipoprotein receptor, serves as a potential therapeutic target for dyslipidemia. Med Hypotheses. 2016;86:138-42. doi: 10.1016/j.mehy.2015.11.010.

48. Qin L, Zhu N, Ao BX, Liu C, Shi YN, Du K, Chen JX, Zheng XL, Liao DF. Caveolae and Caveolin-1 Integrate Reverse Cholesterol Transport and Inflammation in Atherosclerosis. Int J Mol Sci. 2016 Mar 22;17(3). pii: E429. doi: 10.3390/ijms17030429.

49. He,X., Zeng,H., and Chen,JX. Ablation of SIRT3 causes coronary microvascular dysfunction and impairs cardiac recovery post myocardial ischemia. International Journal of Cardiology. 2016, 215:349-57.

50. Hou X, Zeng H, Tuo Q-H, Liao D-F, Chen J-X. Apelin gene therapy increases autophagy via activation of sirtuin 3 in diabetic heart. Diabetes Res Open J. 2015; 1(4): 84-91.

51. 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: 7(37):58848-58861. PMID: 27613846.

52. Sun S, Wen J, Qiu F, Yin Y, Xu G, Li T, Nie J, Xiong G, Zhang C, Liao D, Chen J, Tuo Q. Identification of the C-terminal domain of Daxx acts as a potential regulator of intracellular cholesterol synthesis in HepG2 cells. Biochem Biophys Res Commun. 2016 Nov 4;480(1):139-145. doi:10.1016/j.bbrc.2016.09.102.

53. Wang S, Zeng H, Chen ST, Zhou LY, Xie XJ, He X, Tao YK, Chen JX. Ablation of Endothelial Prolyl Hydroxylase Domain Protein 2 Promotes Renal Vascular Remodeling and Fibrosis in Mice. J Cell Mol Med. 2017 21(9):1967-1978. PMID: 28266128

54. Tao YK, Zeng H, Zhang GQ, Chen S, 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; 236:413-422. PMID:28131704

55. Sun SW, Tong WJ, Guo ZF, Tuo QH, Lei XY, Zhang CP, Liao DF, Chen JX. Curcumin enhances vascular contractility via induction of myocardin in mouse smooth muscle cells. Acta Pharmacol Sin. 2017;38(10):1329-1339.

56. He X; Zeng H; Chen ST; Roman RJ; Aschner JL; Didion S and Chen JX. Endothelial specific SIRT3 deletion impairs glycolysis and angiogenesis and causes diastolic dysfunction. Journal of Molecular and Cellular Cardiology. 2017;112:104-113

57. Tao YK, Zeng H, Zhang GQ, Chen S, 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; 236:413-422. PMID:28131704

58. Zhou LY, Zeng H, Wang S, Chen JX. Regulatory Role of Endothelial PHD2 in the Hepatic Steatosis.Cell Physiol Biochem. 2018 Jul 23; 48(3):1003-1011.

59. He X; Zeng H; Chen JX. Emerging role of SIRT3 in endothelial metabolism, angiogenesis and cardiovascular disease. J Cell Physiol. 2019; 234(3):2252-2265. Review. PMID:30132870

60. He X; Zeng H; Roman RJ and Chen JX. Inhibition of prolyl hydroxylases alters cell metabolism and reverses pre-existing diastolic dysfunction in mice. Int J Cardiol. 2018;272:281-287, PMID: 30177233

61. Zeng H, Chen JX. Microvascular rarefaction and heart failure with preserved ejection fraction. Front Cardiovasc Med. 2019 28;6:15.

62. Tang M, Huang Z, Luo X, Liu M, Wang L, Qi Z, Huang S, Zhong J, Chen J, Li L, Wu D, Chen L. Ferritinophagy activation and sideroflexin1-dependent mitochondria iron overload is involved in apelin-13-induced cardiomyocytes hypertrophy. Free Radic Biol Med.

2019;134:445-457.

63. Ning J, Zhao C, Chen JX, Liao DF. Oleate inhibits hepatic autophagy through p38 mitogen-activated protein kinase (MAPK). Biochem Biophys Res Commun. 2019 Jun 18;514(1):92-97.
64. He L, Zhou Q, Huang Z, Xu J, Zhou H, Lv D, Lu L, Huang S, Tang M, Zhong J, Chen JX, Luo X, Li L, Chen L. PINK1/Parkin-mediated mitophagy promotes apelin-13-induced vascular smooth muscle cell proliferation by AMPKα and exacerbates atherosclerotic lesions. J Cell Physiol. 2019 Jun; 234(6):8668-8682.
65. Zeng H, Chen JX. Sirtuin 3, endothelial metabolic reprogramming and heart failure with preserved ejection fraction. J Cardiovasc Pharmacol. 2019 Oct;74(4):315-323
66. Yang HX, Zhang M, Long SY, Tuo QH, Tian Y, Chen JX, Zhang CP, Liao DF. Cholesterol in LDL receptor recycling and degradation. Clin Chim Acta. 2020 Jan; 500:81-86.
67. Zeng H, He X, Chen JX, Endothelial sirtuin3 dictates glucose transport to cardiomyocyte and sensitizes pressure overload-induced heart failure. J Am Heart Assoc. 2020;9(11):e015895. doi: 10.1161/JAHA.120.015895..
68. Su H, Zeng H, Liu B, Chen JX. Sirtuin 3 is essential for hypertension-induced cardiac fibrosis via mediating pericyte transition. Journal of Cellular and Molecular Medicine, 2020 May 28. doi: 10.1111/jcmm.15437.
69. Zhao YZ, Zeng H, Liu B, Chen JX. Endothelial prolyl hydroxylase 2 is necessary for Angiotensin II-mediated renal fibrosis and injury. American Journal of Physiology: renal Physiology 2020 Aug 1;319(2):F345-F357.
70. Su H, Zeng H, He X, Zhu SH, Chen JX. Histone Acetyltransferase p300 inhibitor improves coronary flow reserve in SIRT3KO mice. J Am Heart Assoc. 2020;9(18):e017176. doi: 10.1161/JAHA.120.017176.
71. Li TP, Sun SW, Xiong GZ, Qiu F, Yang DM, Sun SY, Xie XJ, Liao DF, Chen JX, Tuo QH. Direct Interaction of Daxx and Androgen Receptor Is Required for Their Regulatory Activity in Cholesterol Biosynthesis, Pharmacology. 2020 Jul 21:1-8. doi: 10.1159/000506488.
72. Feng X, Su H, He X, Chen JX and Zeng H: SIRT3 Deficiency Sensitizes Angiotensin-II-Induced Renal Fibrosis. Cells 2020, 9, 2510; doi:10.3390/cells9112510
73. 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, 21, 9744; doi:10.3390/ijms21249744
74. Li L, Zeng H, MD, He X, Chen JX. SIRT3 alleviates diabetic cardiomyopathy by regulating TIGAR and cardiomyocyte metabolism. *J Am Heart Assoc.* 2021; 10:e018913. DOI: 10.1161/JAHA.120.018913.
75. Su H, Cantrell AC, Zeng H, Zhu SH, Chen JX. Emerging role of pericytes and their secretome in the heart. Review, Cells. 2021; 10(3): 548. doi: 10.3390/cells10030548
76. He X, Zeng H, Cantrell AC, Chen JX. Regulatory Role of TIGAR on Endothelial Metabolism and Angiogenesis. J Cell Physiol. 2021 Apr 30. doi: 10.1002/jcp.30401.

Book Chapters:

Chen JX, Zeng H, Chen X, Su CY, Lai CC. Heme oxygenase, Ginkgo biloba extract and its terpenoids protect myocytes against oxidative injury. In: Heme Oxygenase in Biology and Medicine. NG Abraham, ed., 2002, pp. 399-408.

Abstracts:

Title; Deletion of Endothelial Sirt3 Causes Coronary Microvascular Dysfunction and HfpEF. Experimental Biology Meeting**;** San Diego, 2016

Title: Sirt3 regulates oxygen sensors and blood vessel formation in the heart. High blood pressure Research Scientific sessions: 09/13/2014.

Title: Apelin-13 Increases Myocardial Progenitor Cells and Improves Myocardial Remodeling of Post-myocardial Hypertension. 2012;60:A327

Title: Regulation Of Sirt3 And Autophagy By Bone Marrow Cells Therapy Improves Cardiac Repair In Post-myocardial Infarction Mice. Circulation Research. 2012;111:e386

Title: Apelin Reduces Myocardial Infarction Size and Promotes Angiogenesis by Increasing SDF-1/CXCR4 and AKT/eNOS/VEGF pathways Circulation Research. 2012;111:A145

Title: Ang-1 reduces myocardial infarction via upregulation of SDF-1/CXCR4 and recruiting hematopoietic progenitor cells in the diabetic db/db mouse model. Circulation. 2011.

Title: Overexpression of angiopoietin-2 promotes myocardial fibrosis and rarefaction in diabetic db/db mouse model. FASEB JOURNAL 2011. (Platform Presentation)

Title:. Angiopoietin-1 protects ischemic heart exacerbated by hyperglycemia via increase of angiogenesis. JOURNAL OF PHARMACOLOGICAL SCIENCES; 260P-260P, 2010 (Poster)

Title: Inhibition of protein tyrosine phosphatase improves hyperglycemic impaired angiogenesis. CIRCULATION, 16: 25-25; 2007 (Poster)

Title: Leptin stimulates angiogenesis in myocardial endothelial cells: Involvement of p47phox NADPH oxidase. FASEB JOURNAL 21: A180-A180; 2007. (Platform Presentation)

Title: High glucose blunts angiopoietin-1 (Ang-1)-induced angiogenesis in myocardial endothelial cells via impairment of Akt and eNOS phosphorylation. FASEB JOURNAL 21: A130-A131; 2007. (Platform Presentation)

Title: Hypoxia/reoxygenation-induced myocardial angiogenesis: Role of NADPH oxidase derived reactive oxygen species (ROS)
CIRCULATION 114: 155-155; 2006. (Platform Presentation)

Title: Role of NADPH oxidase-derived reactive oxygen species (ROS) in angiopoietin-1-induced angiogenesis
FASEB JOURNAL 18: A385-A385; 2004. (Platform Presentation)

Title: Hypoxia increases heat shock protein 90 binding (Hsp90) to endothelial nitric oxide synthase (eNOS) via a P13-Akt pathway in porcine coronary artery endothelium (PCAEC) .
FASEB JOURNAL 17: A805-A805; 2003 (Platform Presentation)

Oral Presentations at National Scientific Meetings:

Title: Hypoxia increases heat shock protein 90 binding (Hsp90) to endothelial nitric oxide synthase (eNOS) via a P13-Akt pathway in porcine coronary artery endothelium (PCAEC). Experimental Biology Meeting; San Diego, 2003

Title: Role of NADPH oxidase-derived reactive oxygen species (ROS) in angiopoietin-1-induced angiogenesis. Experimental Biology Meeting; Washington DC, 2004

Title: Hypoxia/reoxygenation-induced myocardial angiogenesis: Role of NADPH oxidase derived reactive oxygen species (ROS)**;** American Heart Association Meeting, Chicago, 2006

Title: Leptin stimulates angiogenesis in myocardial endothelial cells: Involvement of p47phox NADPH oxidase. Experimental Biology Meeting; Washington DC, 2007

Title: High glucose blunts angiopoietin-1 (Ang-1)-induced angiogenesis in myocardial endothelial cells via impairment of Akt and eNOS phosphorylation. Experimental Biology Meeting**;** Washington DC, 2007

Title: Sirt3 regulates oxygen sensors and blood vessel formation in the heart. Poster Presentation, 2013 High Blood Pressure Research (HBPR) in New Orleans, LA Sep 11, 2013

Title: Sirt3 is essential for apelin-gene therapy mediated cardiac repair in post-myocardial infarction of diabetes. High blood pressure Research Scientific sessions: 09/14/2014.

Title: SIRT3 Deficiency Impairs Hypoxic Signaling, Reprograms Basal Glycolytic Metabolism and Exacerbates Myocardial Ischemic Injury. Oral/Poster Presentation, 2015 Experimental Biology in Boston, MA, Mar 31, 2015

Title: Deletion of Endothelial Sirt3 Causes Coronary Microvascular Dysfunction and HFpEF. Poster Presentation, 2016 Experimental Biology in San Diego, CA, Apr 6, 2016

Title: Treatment with Prolyl Hydroxylase Inhibitor Reverses Pre-Existing Diastolic Dysfunction in the Aged SIRT3 Knockout Mice. Poster Presentation, 2017 Experimental Biology in Chicago, IL, April 24, 2017

Title: Deletion of endothelial Sirt3 causes diastolic dysfunction. Poster Presentation, High blood pressure Research Scientific sessions in San Francisco, CA, 09/15/2017.

Title: Sirtuin 3 attenuates diabetic cardiomyopathy via suppression of p53 acetylation and regulating cardiomyocyte metabolism. Oral and Poster Presentation, 2018 Experimental Biology in San Diego, April 24, 2018

Title: regulatory role of endothelial sirt3 on blood pressure and diastolic dysfunction in a female mice. AHA council on hypertension, Chicago, IL, 09/2018 (Oral and poster Presentation).

Title: ablation of endothelial sirt3 exacerbates pressure overload-induced heart failure. AHA BCVS meeting in San Antonio, TX, 08/2018 (Poster Presentation).

Title: Sirtuin 3 attenuates diabetic cardiomyopathy via suppression of p53 acetylation and regulating cardiomyocyte metabolism. Experimental Biology in San Diego, 04/2018 (Oral Presentation).

Title: Deficiency of sirtuin 3 accentuates angiotensin II-induced arterail stiffness/myocardial fibrosis and hypertension. Experimental Biology in Orlando, Florida, 04/2019 (Poster Presentation)

Title: Role of p53 acetylation in mediating myocardial angiogenesis and diabetic cardiomyopathy. AHA BCVS meeting in Boston, MA, 08/2019 (Oral Presentation).

Title: Deficiency of Sirtuin 3 disrupts endothelial glucose metabolism and sensitizes pressure-overload induced heart failure. AHA Scientific Sessions, Philadelphia, PA 11/2019 (oral presentation).