

## CURRICULUM VITAE

### **Wei-Bin Shen, Ph.D.**

Assistant Professor  
Department of Obstetrics and Gynecology  
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#### **Contact Information**

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#### **Education**

1995 – PhD, Neuroendocrinology, State Key Laboratory of Reproductive Biology, Chinese Academy of Sciences, Beijing, China. Thesis Title: Regulation of adrenergic system and opioid peptides on hypothalamic GnRH secretion.  
1987 – MSc, Reproductive Physiology, Institute of Zoology, Chinese Academy of Sciences. Thesis Title: Opioid peptides participate in the negative feedback regulation of sex steroid hormone on hypothalamic GnRH secretion.  
1983 – BSc, Department of Biology, Hangzhou University, China.

#### **Employment History**

##### **Academic Appointments**

03/2020–present: Assistant Professor, Department of Obstetrics and Gynecology, University of Maryland (UMB) School of Medicine, Baltimore, Maryland  
11/2015–03/2020: Research Associate, Department of Obstetrics and Gynecology, University of Maryland (UMB) School of Medicine, Baltimore, Maryland  
08/2005–10/2015: Research Scientist, VA Maryland HealthCare System, Baltimore, Maryland; and Department of Pharmacology, UMB school of Medicine, Baltimore, Maryland  
04/2000–07/2005: Postdoctoral Fellow, Department of Anatomy & Neurobiology, UMB School of Medicine.  
10/1997–03/2000: Postdoctoral Fellow, Department of Physiology, UMB.  
04/1996–09/1997: Staff Scientist, Department of Medicine, and Department of Molecular Biology/Biochemistry, Royal Free Hospital School of Medicine, London, UK.  
09/1987–04/1996: Research assistant, Department of Endocrinology, and the State Key Laboratory for Reproductive Biology, Chinese Academy of Sciences, Beijing China.

##### **Professional Society Memberships**

2016-present Member, the Teratology Society  
2018-present Member, the American Diabetes Association

2000-present Member, the Society of Neuroscience  
2019-present Member, the Society for Maternal-Fetal Medicine

### **National Service**

2016 Reviewer, *Cell Transplantation*  
2017 Reviewer, *Cellular Signaling*  
2019, 2020 Reviewer, *Environmental Toxicology*  
2020 Reviewer, *Current Diabetes Reviews*  
2020 Reviewer, *Current Molecular Medicine*  
2021 Reviewer, *Current Medicinary Chemistry*  
2022 Reviewer, *Journal of Ethnopharmacology*  
2022 Grant reviewer, NIH Pregnancy and Neonatology study section  
2023 Reviewer, *Journal of Obstetrics and Gynaecology*

### **Institutional Service**

July 1, 2017 – present SOM Council member

### **Teaching and Mentoring Service**

2017-2018 Medical students Clinical Conference preceptor, Cell and Molecular Biology  
2017, 3 conferences  
2018, 3 conferences  
2017-2019 GPLS 701 Adv Molecular Biology (3 credits), discuss session only  
2017, 1 discussion session  
2018, 1 discussion session  
2019, 1 discussion session  
2021 GPLS 701 Adv Molecular Biology  
2022 GPLS 701 Adv Molecular Biology

### **Patents, Inventions and Copyrights**

1. US Patent Number: 12/779,935, U.S. Patent 2010-0291069-A1, November 18, 2010.  
UMB Docket Number: ER-2009-036, Methods of Treating a Diabetic Embryopathy.

### **Grant Support:**

#### **Ongoing Research Support**

1 R01 HD108705-01A1 (MPI: Yang and Shen) 12/21/2022 – 11/30/2027

#### **Intersection of the mTOR/p70S6K1 signaling and the HIPPO-Yap tissue organizer in neurulation and diabetic embryopathy**

The goal of this study is to determine the crosstalk between the mTOR-p70S6K1 signaling and the HIPPO kinase signaling and its role in maternal diabetes-induced embryopathy.

Role: MPI

1R01HL160727 (MPI: Yang, Shifa, and Shen) 9/15/2022 – 7/30/2026

#### **Heightened hypoxia and DNA methylation in heart defects of diabetic embryopathy**

The goal of this study is to explore the role of hypoxia-mediated DNA hypermethylation in maternal diabetes-induced CHDs. **This R01 has been scored 8%**

Role: MPI.

1R01 HD099843-01A1 (MPIs: Reece, Shen, and Yang) 9/21/2020 – 7/31/2025  
**Epitranscriptomic alteration and planar cell polarity signaling in diabetic embryopathy**  
The goal of this study is to reveal that hyperglycemia causes dysregulation of RNA methylation, subsequently the alteration of planar cell polarity which leads to neural tube defects.  
Role: MPI

1R01HL153141-01 (MPI: Yang/Reece) 07/01/2020 – 06/30/2025  
**Hyperglycemia of maternal diabetes induces cardiac Isl1 positive progenitor dysfunction leading to heart defects**  
The goal of this grant is to understand the oxidative stress-induced SHF progenitor dysfunction which leads to heart defects.  
Role: Co-Investigator

R01 HD100195 (MPI: Drs. Yang and Reece) 7/1/2019 – 6/30/2024  
NIH/NIDDK  
**Molecular signaling pathways and cellular stress in diabetic embryopathy**  
The goal of this study is to reveal the molecular signaling mediating maternal diabetes-induced premature senescence leading to neural tube defects.  
Role: Co-Investigator

### **Completed Research Support**

1 R01HL139060-01 (MPI: Drs. Yang and Kaushal) 8/1/2017 – 7/30/2021  
National Heart, Lung, and Blood Institute  
**The role of c-kit positive cardiac progenitors in maternal diabetes-induced heart defects and the therapeutic values of these cells.**  
The goal of this project is to investigate whether hyperglycemia in diabetes impacts c-kit<sup>+</sup> progenitor cell function through epigenetic mechanisms, leading to heart defects, and to explore the therapeutic intervention of c-kit<sup>+</sup> cells on congenital heart defects.  
Role: co-Investigator

Departmental D01 grant (Dept Ob/Gyn), PI: Sarah Crimmins and Wei-Bin Shen, 2016-2017  
**N-Acetylcysteine in Type 1 Diabetic Women to Reduce Oxidative Stress**  
The goal of this project is to prevent birth defects in the offspring of women with diabetes by using antioxidants N-acetylcysteine to reduce maternal hyperglycemia-induced oxidative stress and excessive programmed cell death.  
Role: MPI

MSCRFE (PI: Dr. Yarowsky) 06/01/11 – 12/29/13  
Maryland TEDCO  
Stem cell therapy for Traumatic Brain Injury  
The goal of this exploratory project is to investigate the use of genetically-engineered stem cells to aid migration of magnetically labeled human neural stem cells in an animal model of TBI.  
Role: Co-Investigator

MSCRFE (PI: Dr. Yarowsky) 07/01/08 – 08/31/10  
Maryland TEDCO  
Targeted Therapy for Neurodegenerative Diseases with Magnetically Labeled Stem Cells

The goal of this exploratory project is to investigate the magnetic directed migration of cells labeled with iron nanoparticles and its application in the therapy for neurodegenerative diseases..  
Role: Co-Investigator

### **Administrative/Management Experience**

- Lab management
- Administrative work
  - working closely with PI and assisted PI to prepare NIH grant applications
  - preparation of IACUC protocol and amendment
  - preparation of MTA documents including import and export MTAs
- Supervising and training the team members including postdoctoral fellows, graduate students, summer students, internship students

### **Technical Skills**

#### *Stem cell research*

- Mouse embryonic stem cells, human neural progenitor cells and amniotic fluid stem cells
- Stem cell differentiation *in vitro*

#### *Animal models for exploring therapeutic intervention for diseases*

- Mouse colony maintenance, breeding, genotyping, sampling

#### *Molecular biology*

- PCRs (including real-time PCR), DNA cloning and subcloning
- Southern/Northern blot and Western blot, immunoprecipitation
- CRISPR to knockout and siRNA to knock down gene expression

#### *Pathology analysis of tissues*

- Sectioning (vibrotome and cryostat sectioning)
- Histology staining (e.g. HE staining)
- Immunohistology and immunofluorescence labeling
- Microscopy (Confocal, bright field, and fluorescent microscopy)

#### *Computer skills:*

- Microsoft Windows and office
- Image processing, densitometry analysis, and graphing: photoshop, GraphPad Prism, Zeiss Axiovision, Nikon NIS-Element

### **Publications (Peer-reviewed Journal Articles):**

Complete list of published work in NCBI MyBibliography (45 publications):

<https://www.ncbi.nlm.nih.gov/myncbi/wei-bin.shen.1/bibliography/public/>

1. **Wei-Bin Shen**, Bingbing Wang, Ruofan Yao, Katherine R Goetzinger, Sheng Wu, Haijun Gao, and Peixin Yang. Obesity impacts placental function through activation of p-IRE1 $\alpha$ -XBP1s signaling. *Front Cell Dev Biol.* 2023; 11:1023327. doi: 10.3389/fcell.2023.1023327.
2. Bingbing Wang, **Wei-Bin Shen**, Peixin Yang, and Sifa Turan. SARS-CoV-2 infection induces activation of ferroptosis in human placenta. *Front Cell Dev Biol* 2022; 10:1022747. doi: 10.3389/fcell.2022.1022747

3. **Wei-Bin Shen**, Montasir Elahi, James Logue, Penghua Yang, Lauren Baracco, E Albert Reece, Bingbing Wang, Ling Li, Thomas G Blanchard, Zhe Han, Robert A Rissman, Matthew B Frieman, Peixin Yang. SARS-CoV-2 invades cognitive centers of the brain and induces Alzheimer's-like neuropathology. *bioRxiv*. 2022 Sep 6; doi: 10.1101/2022.01.31.478476. PubMed PMID: 35132414
4. **Shen WB**, Elahi M, Wang B, Zhang M, Yang P, Yang P. Oxidative stress kinase activation and impaired insulin receptor signaling precede overt Alzheimer's disease neuropathology. *Journal of Alzheimer's Disease*, 2022, 90(2):841-857. doi: 10.3233/JAD-215687.
5. **Wei-Bin Shen**, James Jiao Yang, Peixin Yang. RNA Hypomethylation and Unchanged DNA Methylation Levels in the Cortex of ApoE4 Carriers and Alzheimer's Disease Subjects. *Curr Alzheimer Res*. 2022;19(7):530-540. doi: 10.2174/1567205019666220831125142.
6. Songying Cao, Yanqing Wu, Albert Reece, Cheng Xu, **Shen W-B**, E. Sunjay Kaushal, Peixin Yang. Functional cargos of exosomes derived from Flk-1+ vascular progenitors enable neurulation and ameliorate embryonic anomalies in diabetic pregnancy. *Communications Biology* 2022, 5:648.
7. Ruofan Yao, Penghua Yang, Katherine R Goetzinger, Kristin L Atkins, **Wei-Bin Shen**, Bingbing Wang, Peixin Yang. Maternal obesity-associated disruption of polarized lactate transporter MCT4 expression in human placenta. *Reproductive Toxicology* 2022, 112:1-6
8. **Wei-Bin Shen**, Shifa Turan, Bingbing Wang, Liviu Cojocaru, Christopher Harman, James Logue, E. Albert Reece, Matthew B Frieman, Peixin Yang. A SARS-CoV-2 Delta Variant Case Manifesting as Extensive Placental Infection and Fetal Transmission. A Case Report, *Obstetrics & Gynecology Investigation* 2022, 87(2):165-172
9. **Wei-Bin Shen**, Jingxiang Ni, Penghua Yang, Ruofan Yao, Katherine R Goetzinger, Christopher Harman, E. Albert Reece, Bingbing Wang, Peixin Yang. Maternal obesity increases DNA methylation and decreases RNA methylation in the human placenta. *Reproductive Toxicology* 2022, 107:90-96
10. Cheng Xu, **Wei-Bin Shen**, E. Albert Reece, Hidetoshi Hasuwa, Christopher Harman, Sunjay Kaushal, Peixin Yang. Maternal diabetes induces senescence and neural tube defects sensitive to the senomorphic Rapamycin. *Sciences Advances* 2021, 30;7(27):eabf5089. doi: 10.1126/sciadv.abf5089
11. Cheng Xu, **Shen W-B**, E. Albert Reece, Hidetoshi Hasuwa, Christopher Harman, Sunjay Kaushal, Peixin Yang. Maternal diabetes induces senescence and neural tube defects sensitive to the senomorphic rapamycin. *EMBO Molecular Medicine* 2020, EMM-2020-13472. *BioRxiv* 2020, doi: <https://doi.org/10.1101/2020.09.18.303222>
12. Songying Cao, E. Albert Reece, **Wei-Bin Shen**, Peixin Yang. Restoring BMP4 expression in vascular endothelial progenitors ameliorates maternal diabetes-induced apoptosis and neural tube defects. *Cell Death Disease* 2020, 11(10):859. doi: 10.1038/s41419-020-03078-5
13. Songying Cao, **Wei-Bin Shen**, E. Albert Reece, Peixin Yang. Deficiency of the oxidative stress-responsive kinase p70S6K1 restores autophagy and ameliorates neural tube defects in diabetic embryopathy. *Am J Obstet Gynecol* 2020, 1.e1-e11; S0002-9378(20)30540-8. doi: 10.1016/j.ajog.2020.05.015
14. Xu C, Chen X, **Shen WB**, Yang P. Trehalose restores functional autophagy suppressed by high glucose. *Reprod Toxicol*. 2019, 85:51-58.
15. Chen X, **Shen W-B**, Yang P, Dong D, Sun W, Yang P. High Glucose Inhibits Neural Stem Cell Differentiation Through Oxidative Stress and Endoplasmic Reticulum Stress. *Stem Cells Dev* 2018, 27(11):745-755

16. Zhong J, Wang S, **Shen W-B**, Kaushal S, Yang P. The current status and future of cardiac stem/progenitor cell therapy for congenital heart defects from diabetic pregnancy. *Pediatric Res* 2018; 83:275-282
17. **Shen W-B**, Anastasiadis P, Nguyen B, Yarnell D, Yarowsky P, Frenkel V, Fishman PS. Magnetic Enhancement of Stem Cell-Targeted Delivery into the Brain Following MR-Guided Focused Ultrasound for Opening the Blood-Brain Barrier. *Cell Transplant*. 2017; 26(7):1235-1246
18. Yang P, Yang WW, Chen X, Kaushal S, Dong D, **Shen W-B\***. Maternal diabetes and high glucose in vitro trigger Sca1+ cardiac progenitor cell apoptosis through FoxO3a. *BBRC* 2017; 482:575-582. \*: *Corresponding author*
19. Wu Y, Reece EA, Zhong J, Dong D, **Shen WB**, Harman CR, Yang P. Type 2 diabetes mellitus induces congenital heart defects in murine embryos by increasing oxidative stress, endoplasmic reticulum stress and apoptosis. *Am J Obstet Gynecol*, 2016, 215(3):336e1-366
20. **Shen W-B**, Plachez C, Tsybalyuk O, Tsybalyuk N, Xu S, Smith AM, Michel SL, Yarnell D, Mullins R, Gullapalli RP, Puche A, Simard JM, Fishman PS, Yarowsky P. Cell-based therapy in TBI: Magnetic retention of neural stem cells *in vivo*. *Cell Transplantation*, 2016; 25(6):1085-1099
21. Yang P, **Shen WB**, Reece EA, Chen X, Yang P. High glucose suppresses embryonic stem cell differentiation into neural lineage cells. *BBRC* 2016; 472:306-312
22. **Shen WB**, Vaccaro DE, Fishman PS, Groman EV, Yarowsky P. SIRB, sans iron oxide rhodamine B, a novel cross-linked dextran nanoparticle, labels human neuroprogenitor and SH-SY5Y neuroblastoma cells and serves as a USPIO cell labeling control. *Contrast Media Mol Imaging* 2016, 11(3):222-228. doi: 10.1002/cmml.1684.
23. **Shen W-B**, Plachez C, Chan A, Puche A, Fishman PS, Yarowsky PJ. Human neural progenitor cells retain viability, proliferation, lineage differentiation, and migratory capability when labeled with novel iron oxide nanoparticle, Molday ION Rhodamine-B. *Intl J Nanomed* 2013, 8:4593-4600
24. \*Messmer K, \***Shen W-B**, Remington M, Fishman PS. Induction of neural differentiation by transcription factor neuroD2. *Int. J. Dev Neuroscience* 2012, 30:105-112. \*: *Contribute equally*
25. McDowell KA, **Shen W-B**, Siebert AA, Sarah MC, Jinnah H, Sztalryd C, Fishman PS, Shaw CA, Jafri MS, Yarowsky PJ. Washed cycad flour contains  $\beta$ -N-methyl amino-L-alanine and may explain parkinsonism symptoms. *Ann Neurol* 2011, 69(2):423-424.
26. **Shen WB**, McDowell KA, Siebert AA, Clark SM, Dugger NV, Valentino KM, Jinnah HA, Sztalryd C, Fishman PS, Shaw CA, Jafri MS, Yarowsky PJ. Environmental neurotoxin-induced progressive model of parkinsonism in rats. *Annual Neurol* 2010, 67(5):1-11
27. Ren T, Anderson A, **Shen WB**, Huang H, Plachez C, Zhang J, Mori S, Kinsman SL, Richards LJ. Imaging, anatomical, and molecular analysis of callosal formation in the developing human fetal brain. *Anat Rec ADiscovMol Cell Evol Biol*. 2006, 288:191-204
28. **Shen WB**, Plachez C, Mongi AS, Richards LJ. Identification of novel genes at the corticoseptal boundary during development. *Gene Expression Patterns* 2006, 6:471-481
29. Al-Damluji S, **Shen WB**, White S, Barnard EA.  $\alpha$ 1B adrenergic receptor in gonadotrophin releasing hormone neurons: relation to Transport P. *Br J Pharmacol* 2001, 132:336-344
30. Al-Damluji S, **Shen WB**. Release of amines from acidified stores following accumulation by Transport P. *Br J Pharmacol* 2001, 132:851-860
31. Shu T, **Shen WB**, Richards RJ. Development of the perforating pathway: an ipsilaterally projecting pathway between the medial septum/diagonal band of Broca and the cingulate cortex that intersects the corpus callosum. *J Comp Neurobiol* 2001, 6:411-422

32. Searles RV, Yoo MJ, He JR, **Shen WB**, Selmanoff M. Sex differences in GABA turnover and glutamic acid decarboxylase (GAD65 and GAD67) mRNA in the rat hypothalamus. *Brain Res* 2000, 878:11-19.
33. Yoo MJ, Searles RV, He JR, **Shen WB**, Grattan DR, Selmanoff M. Castration rapidly decreases hypothalamic gamma aminobutyric acidergic neuronal activity in both male and female rats. *Brain Res* 2000, 878:1-10.
34. **Shen WB**. Catecholamine regulation of hypothalamic gonadotropin-releasing hormone. *Sheng Li Ko Hsueh Chin Chan (Prog Physiol Sci)* 1996, 27:368-370
35. Tang MY, **Shen WB**, Zhang CL. Establishment of radioimmunoassay for corticotrophin-releasing hormone. *Chinese J Appl Physiol* 1995, 11:284-287
36. Yin H, Zhang CL, Wang H, **Shen WB**. Studies on amphioxus gonadotropin-releasing hormone (GnRH) during breeding season. *Acta Zoologica Sinica* 1994, 40:63-68
37. Zhang CL, Cheng LR, **Shen WB**, Yin H, Huang WQ. Existence and functions of neurotensin in human early placental villi. *Devel Reprod Biol* 1994, 3:25-33
38. Zhang CL, Yin H, **Shen WB**, Wang H. Two different forms of gonadotropin-releasing hormone in amphioxus. *Devel Reprod Biol* 1993, 2:33-37
39. Huang QH, Cai YP, Zhang CL, **Shen WB**. Effects of intraventricular injection of 6-hydroxydopamine on the levels of monoamine and  $\beta$ -endorphin in brain and serum TSH in the ground squirrel. *Acta Zoologica Sinica* 1993, 39:169-175
40. Zhang CL, Cheng LR, Yin H, **Shen WB**, Huang WQ. Luteinizing hormone-releasing hormone in human early placental villi. *Contraception* 1992, 46:159-160
41. Zhang CL, Yin H, Wang H, Jiao LH, **Shen WB**. Profile of neurotransmitters during the period of spawning/spermiation in amphioxus. *Chinese Sci Bull* 1991, 36:695-696
42. **Shen WB**, Yin H, Wang H, Zhang CL. Opioid peptides in amphioxus during the breeding season. *Chinese Sci Bull* 1991, 36:1481-1484
43. Huang WQ, **Shen WB**, Zhang CL. Distribution of  $\beta$ -endorphin in the gonad of amphioxus, *In Annual Report of Experimental Oceanographic Biology Laboratory (Chinese Academy of Sciences)*, 1990, pp. 9-11
44. **Shen WB**, Zhang CL. Opioid peptides and reproduction in amphioxus, *In Annual Report of Experimental Oceanographic Biology Laboratory (Chinese Acad of Sciences)*, 1990, pp. 1-8
45. **Shen WB**, Wang H, Zhang CL. Participation of  $\beta$ -endorphin in the negative feedback regulation of estrogen. *Acta Zoologica Sinica* 1990, 36:286-292

### **Book Chapters**

Yarowsky PJ, McDowell KA, **Shen W-B**, Wilson JMB, Cruz-Aguado R, Marler T, Shaw CA. Cycad-Induced Neurodegeneration is Different in Rat and Mouse Models of ALS-PDC. *Memoirs of the New York Botanical Garden*, 2012, volume 106.

### **Major Invited Speeches**

1. Environmental neurotoxin-induced progressive model of parkinsonism and sleep disturbance in rats. XIX World Congress on Parkinson's Disease and Related Disorders, Shanghai, China. Dec 11-14, 2011.
2. Cycad-Induced Neurodegeneration is Different in Rat and Mouse Models of ALS-PDC. In *Proceedings of Cycad 2008. The 8<sup>th</sup> International Conference on Cycad Biology*, Panama City, Panama, 13-15 January 2008. Pp 279-294

3. The presence and function of neurotransmitters in the human early placenta, In Proceedings of Beijing International Symposium on Fertility Regulation: Present and Future, 1997, pp. 70-88.
4. Existence and functions of neurotransmitters in human early placental villi. Special Lecture, In The 70th Anniversary Symposium of the Physiology Society of China, 1990, Beijing, China

### **Meetings (from 2018-present):**

1. Shicong Song, **Wei-Bin Shen**, Peixin Yang. RNA hypermethylation of planar cell polarity signaling induces neural tube defects in diabetic pregnancy. Society for Reproductive Investigation. The 71<sup>th</sup> Annual Scientific Meeting. March 21-25, 2023. Queensland, Australia
2. Guangei Wang, **Wei-Bin Shen**, Peixin Yang. Nox4 mediates maternal diabetes-induced oxidative stress and abnormal heart formation. Society for Reproductive Investigation. The 71<sup>th</sup> Annual Scientific Meeting. March 21-25, 2023. Queensland, Australia
3. Shicong Song, **Wei-Bin Shen**, E. Albert Reece, Peixin Yang. Reduced m<sup>6</sup>A is responsible for the dysregulation of planar cell polarity and neural tube defects in diabetic pregnancy. The International Conference on Neural Tube Defects, October 30 – November 2, 2022. Austin Texas
4. **Wei-Bin Shen**, Guangei Wang, E. Albert Reece, Peixin Yang. miR-322 inhibition by IRE1 $\alpha$  leads to birth defects by twisting glucose metabolism in diabetic pregnancy. The International Conference on Neural Tube Defects, October 30 – November 2, 2022. Austin Texas. Oral Presentation
5. Bingbing Wang, Liviu Cojocaro, **Wei-Bin Shen**, Hannah Shen, Peixin Yang, Shifa Turan. The severity of placental SARS-CoV-2 infection is associated with adverse pregnancy. Society for Reproductive Investigation. The 69<sup>th</sup> Annual Scientific Meeting. March 15-19, 2021. Denver, Colorado. Poster presentation, #F215
6. **Wei-Bin Shen**, Jingxiang Ni, Penghua Yang, Ruofang Yao, Christopher Harman, E. Albert Reece, Peixin Yang. Obesity-induced epigenetic changes associated with adverse perinatal outcomes. Society for Maternal-Fetal Medicine, The Pregnancy Meeting-40<sup>th</sup> Annual Meeting. Feb 2020, Grapevine Texas. Oral Presentation
7. Wenhui Lu, **Wei-Bin Shen**, E. Albert Reece, Peixin Yang. A novel epigenetic mechanism underlying maternal diabetes-suppressed mitochondrial fusion in congenital heart disease. Society for Maternal-Fetal Medicine, The Pregnancy Meeting-40<sup>th</sup> Annual Meeting. Feb 2020, Grapevine Texas. Oral Presentation
8. Penghua Yang, **Wei-Bin Shen**, E. Albert Reece, Peixin Yang. The newly determined role of miR17 and its target, Txnip, in the induction of diabetes-induced Congenital Malformations. Society for Maternal-Fetal Medicine, The Pregnancy Meeting-40<sup>th</sup> Annual Meeting. Feb 2020, Grapevine Texas. Poster Presentation
9. Songying Cao, **Wei-Bin Shen**, E. Albert Reece, Peixin Yang. Restoring BMP4 expression in vascular endothelial progenitors ameliorates maternal diabetes-induced vasculopathy and neural tube defects. Society for Maternal-Fetal Medicine, The Pregnancy Meeting-40<sup>th</sup> Annual Meeting. Feb 2020, Grapevine Texas. Poster Presentation
10. **Wei-Bin Shen**, Songying Cao, Wenting Luo, Peixin Yang. Activation of ASK1-P38MAPK/JNK signaling and insulin resistance in the pathogenesis of Alzheimer's disease. Society for Neuroscience, 2019 Annual Meeting, Chicago IL, 10/19-10/23, 2019. Poster presentation, #375.1
11. Songying Cao, **Wei-Bin Shen**, Peixin Yang. Survivin from Flk1+ Endothelial Progenitor Cells in the Developing Embryo Ameliorates Maternal Diabetes-Induced Neural Tube



Defects through Exosome. American Diabetes Association, 78<sup>th</sup> Scientific Session (ADA2018). June 22 - 26, 2018, Orlando, Florida. Oral Presentation. Diabetes 2018; 67(Suppl 1) <https://doi.org/10.2337/db18-229-OR>