

## WenFang Wang, PhD

Clinical Assistant Professor, Department of Clinical Laboratory Sciences  
School of Health Professions, The University of Kansas Medical Center  
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### Education:

- 1982-1986 B.S. Virology, Wuhan University, Wuhan, China  
1986-1989 M.S. Biochemistry, Shanghai Second Medical University, Shanghai, China  
Thesis title: Construction of a cDNA library of a gastric cancer model  
1990-1997 Ph.D. Microbiology and Molecular Genetics, The University of Texas at Austin  
Thesis title: Isolation and characterization of *E. coli fxsA*, a gene that can suppress F exclusion of bacteriophage T7

### Postdoctoral Training:

- 1997-2002 Research Fellow, Bone Development, Department of Cell Biology  
Harvard Medical School, Boston, MA

### Academic Appointments:

- 7/2012– present Clinical Assistant Professor, Department of Clinical Laboratory Science (CLS)  
School of Health Professions, The University of Kansas Medical Center (KUMC)  
12/2005–6/2012 Research Assistant Professor, Department of Physical Therapy and Rehabilitation  
Science (PTRS), School of Allied Health / Health Professions, KUMC  
2006 – present Adjunct Research Assistant Professor, Department of Internal Medicine (Dermatology)  
School of Medicine, KUMC  
2005 – present Adjunct Research Assistant Professor, Department of Pathology  
School of Medicine, KUMC  
2003-2005 Instructor, Department of Oral and Developmental Biology  
Harvard School of Dental Medicine, Boston, MA

### Awards and Honors:

- 2003-2004 50th Anniversary Harvard Scholar, Harvard School of Dental Medicine  
2001 Recipient of Hot Topic Presentation in the First International Conference in Growth Plate  
1999-2002 Recipient of Harvard-MIT NIDCR T32 training grant

### Research Grants – Active:

- 02/2013-02/2014 Co-Investigator, Lied Basic Science Award, KUMC Research Institute  
“Role of iron metabolism in the pathogenesis of diabetes”  
Principal Investigator: Hao Zhu, PhD  
07/2012-06/2013 Co-Investigator, Research Fund Award, KUMC School of Health Professions  
“Ncb5or-dependent iron homeostasis in beta-cell function and survival”  
Principal Investigator: Hao Zhu, PhD

### Research Grants – Completed:

- 1/2009-06/2012 Co-Investigator, RO1-DK067355, NIH  
“Role of Ncb5or in Insulin Production”  
Principal Investigator: Hao Zhu, PhD  
07/2007-06/2008 Principal Investigator, Research Fund Award, KUMC School of Allied Health  
“Chodrocyte Apoptosis in Endochondral Bone Formation”

**Teaching Experience:**

- 8/2015-present Instructor, Biochemistry (CLS600), Department of CLS, KUMC  
1/2013-present Instructor, Clinical Chemistry I (CLS 530), Department of CLS, KUMC  
8/2012-present Instructor, Clinical Chemistry II (CLS 540), Department of CLS, KUMC  
2007-present Guest Lecturer, “Bone Development and Diseases” for “Pathophysiology of Human Function I” (PTRS 862), PhD program, Department of PTRS, KUMC  
2008-2009 Co-Instructor, “Pathophysiology and Clinical Screening of General Medical Conditions” (PTRS 882), a core course for Doctor of Physical Therapy, Department of PTRS, KUMC

**Advisees and Trainees:**

- 9/2012-3/2013 Jie Dai, M.D., sabbatical visiting scholar  
Department of Dermatology, Nanjing First Hospital, Nanjing Medical University, China  
11/2011-9/2012 Haiping Wang, M.D., Associate Professor, sabbatical visiting scholar  
Plastic Surgery Division, Tongji Hospital  
Huazhong University of Science and Technology, Wuhan, China  
2006 – 2011 Ming Xu, PhD student, Department of PTRS, KUMC (Mentor)  
2006 – 2011 Bin Deng, PhD student, Department of PTRS, KUMC  
2007 – 2009 Yin Guo, M.D., exchange PhD student from Sun Yat-Sen University, China  
Supported by China Scholarship Council and School of Health Professions, KUMC  
2003-2005 Wei Huang, Graduate Student, Harvard School of Dental Medicine  
2002-2005 Bo Hou, Graduate student, Harvard School of Dental Medicine  
2002-2003 Ryan Kerney, Graduate student, Biology Department, Harvard University  
2002-2003 J-Y Lin, Department of Pediatric Dentistry, School of Dental Medicine,  
Tufts University, Boston, MA  
1999-2002 Dolrudee Jumlongras, Ph.D. Candidate, Harvard School of Dental Medicine  
1998-2002 William Mclean, Assistant Professor, University of Manchester, United Kingdom

**Academic Service – Committee:**

- 2006 – 2011 Han-Hung Huang, PhD student, Department of PTRS, KUMC  
2008 Lisa VanHoose, PhD student, Department of PTRS, KUMC  
2010 Lezi E, PhD student, Department of PTRS, KUMC

**Community Service Related to Professional Work:**

- 6/2011-5/2012 Co-mentor for Vivek Menon, a senior from the Blue Valley District CAPS program and a BioGENEius finalist at Greater Kansas City Area Research Competition (March 2012)  
The 2<sup>nd</sup> place winner at Kansas BioGENEius Research Competition (May 2012)  
Participant at U.S. National BioGENEius Challenge Research Competition (June 2012)  
06/2010 Co-mentor for Minghan Chang (summer intern), University of Massachusetts at Amherst  
06/2008 Co-mentor for Ren-How Harn (summer intern), University of Kansas at Lawrence  
2002 Tutor for students of Boston Public School  
Office for Diversity and Community Partnership, Harvard Medical School, Boston, MA

**Presentations:**

- 2009 Invited Talk, Liver Club, KUMC  
2008 Invited Talk, Kidney Institute, KUMC  
2008 Invited Talk, Liver Club, KUMC  
2007 Invited Talk, Kidney Institute, KUMC  
2006 Invited Talk, Kidney Institute, KUMC  
2003 Invited Talk, Orthopedic Research Program, Children’s Hospital, Boston  
2001 Hot Topic Presentation, The First International Conference on the Growth Plates, San Antonio, TX

1998 Invited Talk, Institute of Biological Engineering, Fudan University, Shanghai, China

**Editorial Experience - Ad hoc reviewer:**

1997-present *Development, Developmental Biology, Matrix Biology, Journal of Proteomics*

**Publications - Original Articles:**

- Guo Y, Xu M, Deng B, Frontera JR, Kover KL, Ding HL, Aires D, Carlson SE, Turk J, **Wang WF\***, Zhu H\*. Beta-cell injury in Ncb5or-null mice is exacerbated by consumption of a high-fat diet. *European J. Lipid Science and Technology*, 2012; 114:233–243. \*Co-senior author
- Aires D, Rockwell G, Wang T, Frontera JR, Wick J, **Wang WF**, Tonkovic-Capin M, Lu J, E L, Zhu H, Swerdlow RH. Potentiation of dietary restriction-induced lifespan extension by polyphenols. *Biochim Biophys Acta- Molecular Basis of Diseases*, 2012; 1822:522-526.
- Wang WF\***, Guo Y, Xu M, Huang H, Novikova L, Larade K, Jiang ZG, Thayer TC, Frontera JR, Aires D, Ding HL, Turk J, Mathews CE, Bunn HF, Stehno-Bittel L, Zhu H\*. Development of diabetes in lean Ncb5or-null mice is associated with manifestations of endoplasmic reticulum and oxidative stress in beta cells. *Biochim Biophys Acta- Molecular Basis of Diseases*, 2011; 1812:1532-41. \*Co-corresponding author
- Xu M\*, **Wang WF\***, Frontera JR, Neely MC, Lu J, Aires D, Hsu F, Turk J, Swerdlow RH, Carlson SE, Zhu H. Ncb5or deficiency increases fatty acid catabolism and oxidative stress. *J. Biol. Chem.* 2011; 286:11141-11154. \*Co-first author
- Lu J, E L, **Wang WF**, Frontera JR, Zhu H, Wang WT, Lee P, Choi IY, Brooks W, Burns J, Aires D, Swerdlow RH. Alternate Day Fasting Impacts the Brain Insulin Signaling Pathway of Young Adult Male C57BL/6 Mice. *J. Neurochemistry* 2011; 117:154-163.
- Deng B, Parthasarathy S, **Wang WF**, Gibney BR, Battaile KP, Lovell S, Benson DR, Zhu H. Study of the individual cytochrome b5 and cytochrome b5 reductase domains of Ncb5or reveals a unique heme pocket. *J. Biol. Chem.* 2010; 285:30181-30191.
- Zhang, YZ, Larade K, Jiang ZG, Ito S, **Wang WF**, Zhu H, Bunn HF. The flavoheme reductase Ncb5or protects cells against endoplasmic reticulum stress induced lipotoxicity. *J. Lipid Research* 2010; 51: 53-62.
- Galli C, Fu Q, **Wang WF**, Olsen BR, Manolagas SC, Jilka RL, O'Brien CA. Commitment to the osteoblast lineage is not required for rank gene expression. *J.Biol.Chem.* 2009; 284: 12654-62.
- Larade K, Jiang ZG, Zhang Y, **Wang WF**, Bonner-Weir S, Zhu H, and Bunn HF. Loss of Ncb5or results in impaired fatty acid desaturation, lipoatrophy and diabetes. *J.Biol.Chem.* 2008; 283: 29285-29291.
- Wang WF**, Wang YG, Reginato AM, Glotzer DJ, Fukai N, Plotkina S, Karsenty G, Olsen BR. Groucho homologue Grg5 interact with the transcription factor Runx2/Cbfa1 and modulates its activity during postnatal growth in mice. *Dev. Biol.* 2004; 270:364-81.
- Cheng X, **Wang WF**, and Molineux IJ. F exclusion of bacteriophage T7 occurs at the cell membrane. *Virology* 2004; 326: 340-52.
- Wang WF**, Wang YG, Reginato AM, Plotkina S, Gridley T, Olsen BR. Growth defect in Grg5 null mice is associated with reduced ihh signaling in growth plates. *Dev. Dyn.* 2002; 224:79-89.
- Thomas DM, Carty SA, Piscopo DM, Lee JS, **Wang WF**, Forrester WC, Hinds PW. The retinoblastoma protein acts as a transcriptional coactivator required for osteogenic differentiation. *Mol. Cell* 2001; 8:303-316.
- Jumlongras D, Bei M, Stimson JM, **Wang WF**, DePalma S, Seidman CE, Felbor U, Maas R, Seidman JG, Olsen BR. A premature stop codon in MSX1 causes Witkop syndrome. *Am. J. Hum. Genet.* 2001; 69:67-74.
- Wang WF**, Margolin W, Molineux IJ. Increased synthesis of an Escherichia coli membrane protein suppresses F exclusion bacteriophage T7. *J. Mol. Biol.* 1999; 292:501-512.
- Wang WF**, Chang X, Molineux IJ. Isolation and identification of fxsA, an Escherichia coli gene that can suppress F exclusion of bacteriophage T7. *J. Mol. Biol.* 1999; 292:485-499.

Tung HYL, **Wang WF**, Chan CSM. Regulation of chromosome segregation by Glc8p, a structural homolog of mammalian inhibitor 2 that functions as both an activator and inhibitor of yeast protein phosphatase 1, *Mol. Cell. Biol.* 1995; 15:6064-6074.

Francisco L, **Wang WF**, and Chan CSM. Type 1 protein phosphatase acts in opposition to Ipl1 protein kinase in regulating yeast chromosome segregation, *Mol. Cell. Biol.* 1994; 14:4731-4740.

**Publications - Reviews:**

Olsen BR, Reginato AM, **Wang WF**. Bone development. *Ann. Rev. Cell Dev Biol.* 2000;16:191-220.

Reginato AM, **Wang WF**, Olsen BR. Developmental biology of bone. In: *Osteoporosis.* (Marcus, R., Kelsey, J. and D. Feldman eds). Academic Press, San Diego, CA., 2001; Vol. 1, pp.189-212.

**Posters and Abstracts (since 2006):**

10/2011 8th Annual Great Plains Pediatric Endocrine Symposium, Overland Park, Kansas  
“Ncb5or is involved in iron metabolism”

7/2011 Liver Symposium, University of Kansas Medical Center  
“NADH deficiency increases fatty acid catabolism and oxidative stress”

10/2010 7th Annual Great Plains Pediatric Endocrine Symposium, Overland Park, Kansas  
“ER stress mediates beta-cell demise in Ncb5or null diabetes mouse model”

6/2009 69th Annual Meeting of American Diabetes Association Scientific session, New Orleans  
“Impaired desaturation for dietary long-chain saturated fatty acids leads to ER-stress and beta-cell loss”

4/2009 Liver Symposium, University of Kansas Medical Center  
“NADH cytochrome b5 oxidoreductase is required for the desaturation of dietary saturated fatty acids and the deficiency leads to mitochondrial overproliferation, futile fatty acid cycling and lipoatrophy”

11/2008 Faculty Research Day, University of Kansas Medical Center  
“Altered monounsaturated fatty acid metabolism in Ncb5or knockout mice”

11/2007 Faculty Research Day, University of Kansas Medical Center  
“Lack of Ncb5or enzyme leads to loss of adiposity and diabetes in mice”

7/2007 FASEB Summer Research Conferences on Lipid Droplets - Metabolic Consequences of the Storage of Neutral Lipids, Vermont  
“Lack of Ncb5or enzyme leads to loss of adiposity and diabetes in mice”

1/2007 The Fifth Annual K-INBRE Symposium, Kansas City  
“Loss of adipose tissues in Ncb5or null mice”

11/2006 Faculty Research Day, University of Kansas Medical Center  
“Loss of adipose tissues in Ncb5or null mice”

3/2006 Kansas City Area Life Sciences Research Day  
“Lack of a soluble NAD(P)H reductase, NCB5OR, causes diabetes in mice with decreased insulin production and altered glutathione redox status”