

Wu Xiaohao



Current position: Postdoctoral Fellow at Stanford University

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Education

- 09/2019 – 06/2023 **Ph.D.**, advised by Prof. Guozhi Xiao (086-0755-88018488)
School of Medicine, Southern University of Science and Technology,
Xueyuan Road 1088, Shenzhen, China
Major: Biology, GPA: 3.79
- 08/2014 – 11/2015 **M.Sc.**, advised by Prof. Ge Zhang
School of Chinese Medicine, Hong Kong Baptist University, Hong Kong
- 09/2009 – 06/2014 **B.Med.**
Tianjin University of Traditional Chinese Medicine, Tianjin, China.

Working experiences

- 08/2023 – now **Postdoctoral Fellow**, advised by Prof. William Robinson (650-465-8051)
Immunology and Rheumatology, School of Medicine, Stanford University
269 Campus Drive, Palo Alto, CA 94305, U.S.
- 12/2018 – 09/2019 **Teaching & Research Assistant**
Department of Biology, SUSTech, China
- 11/2015 – 12/2018 **Senior Research Assistant**
Law Sau Fai Institute for Advancing Translational Medicine in Bone &
Joint Diseases, Hong Kong Baptist University, Hong Kong SAR.

Research interests

Osteoarthritis; Osteoporosis; Intervertebral disc degeneration; Aging; Pathogenic mechanisms;
Autoimmune diseases; Translational medicine.

Technical expertise

Breeding of transgenic mice; Genotyping; Tamoxifen injection; Mouse models; Quantitative histological analyses; Immunofluorescence; Leica SP8 confocal microscopy; Micro computerized tomography (μ CT) analyses; Isolation and primary culture of adult mouse articular chondrocytes; 3D culture of chondrocytes; Western blot; Real-time PCR; Flow cytometry, Co-IP assay; Cell culture; Tissue culture; In vivo mechanical loading assay.

Publications (# co-first author; * co-corresponding author)

Xiaohao Wu^{#*}, Mingjue Chen[#], Sixiong Lin[#], Sheng Chen[#], Jingliang Gu, Yuchen Wu, Minghao Qu, Weiyuan Gong, Qing Yao, Huiping Li, Xuenong Zou, Di Chen, Guozhi Xiao*. Loss of Pinch Proteins Causes Severe Degenerative Disc Disease-Like Lesions in Mice. *Aging Dis* 2023; Online ahead of print.

Xiaohao Wu^{#*}, Sixiong Lin[#], Rongdong Liao, Qing Yao, Lijun Lin, Xuenong Zou, Guozhi Xiao*. Brief research report: Effects of Pinch deficiency on cartilage homeostasis in adult mice. *Front Cell Dev Biol* 2023; 11: 1116128.

Qing Yao^{#*}, **Xiaohao Wu**[#], Chu Tao[#], Weiyuan Gong[#], Mingjue Chen, Minghao Qu, Yiming Zhong, Tailin He, Sheng Chen, Guozhi Xiao*. Osteoarthritis: pathogenic signaling pathways and therapeutic targets. *Sig Transduct Target Ther* 2023; 8, 56.

Xiaohao Wu[#], Yumei Lai[#], Sheng Chen[#], Chunlei Zhou, Chu Tao, Xuekun Fu, Jun Li, Wei Tong, Hongtao Tian, Zengwu Shao, Chuanju Liu, Di Chen, Xiaochun Bai*, Huiling Cao* & Guozhi Xiao*. Kindlin-2 preserves integrity of the articular cartilage to protect against osteoarthritis. *Nat Aging* 2022; 2: 332–347.

Jin Liu^{#*}, **Xiaohao Wu**[#], Jun Lu[#], Guangxin Huang[#], Lei Dang[#], Huarui Zhang[#], Chuanxin Zhong[#], Zongkang Zhang, Dijie Li, Fangfei Li, Chao Liang, Yuanyuan Yu, Bao-Ting Zhang, Lin Chen, Aiping Lu* & Ge Zhang*. Exosomal transfer of osteoclast-derived miRNAs to chondrocytes contributes to osteoarthritis progression. *Nat Aging* 2021; 1:368–384.

Minghao Qu[#], Mingjue Chen[#], Weiyuan Gong^{1#}, Shaochuan Huo, Qinnan Yan, Qing Yao, Yumei Lai, Di Chen, **Xiaohao Wu**^{*}, Guozhi Xiao*. Pip5k1c loss in chondrocytes causes spontaneous osteoarthritic lesions in aged mice. *Aging Dis* 2022; 14: 502-514.

Yumei Lai[#], Wei Zheng[#], Minghao Qu[#], Christopher C. Xiao, Sheng Chen, Qing Yao, Weiyuan Gong, Chu Tao, Qinnan Yan, Peijun Zhang, **Xiaohao Wu***, Guozhi Xiao*. Kindlin-2 loss in condylar chondrocytes causes spontaneous osteoarthritic lesions in the temporomandibular joint in mice. *Int J Oral Sci* 2022; 14(1):33.

Sheng Chen[#], **Xiaohao Wu***, Yumei Lai, Di Chen, Xiaochun Bai, Sheng Liu, Yongchao Wu, Mingjue Chen, Yuxiao Lai, Huiling Cao*, Zengwu Shao* & Guozhi Xiao*. Kindlin-2 inhibits Nlrp3 inflammasome activation in nucleus pulposus to maintain homeostasis of the intervertebral disc. *Bone Res* 2022; 10(1):5.

Xiaohao Wu*, Minghao Qu[#], Weiyuan Gong[#], Chunlei Zhou, Yumei Lai, Guozhi Xiao*. Kindlin-2 deletion in osteoprogenitors causes severe chondrodysplasia and low-turnover osteopenia in mice. *J Orthop Translat* 2021; 32:41-48.

Lei Dang[#], Nanxi Li[#], **Xiaohao Wu***, Dijie Li[#], Zongkang Zhang, Bao-Ting Zhang, Aiping Lyu, Lin Chen, Ge Zhang*, Jin Liu*. A Rapid Protocol for Direct Isolation of Osteoclast Lineage Cells from Mouse Bone Marrow. *Bio Protoc* 2022; 12(5): e4338.

Sheng Chen[#], Mingjue Chen[#], **Xiaohao Wu***, Sixiong Lin, Chu Tao, Huiling Cao*, Zengwu Shao*, Guozhi Xiao*. Global, regional and national burden of low back pain 1990–2019: A systematic analysis of the Global Burden of Disease study 2019. *J Orthop Translat* 2021; 32:49-58.

Jin Liu[#], Chao Liang[#], Baosheng Guo[#], **Xiaohao Wu***, Defang Li, Zongkang Zhang, Kang Zheng, Lei Dang, Xiaojuan He, Changwei Lu, Songlin Peng, Xiaohua Pan, Bao-Ting Zhang*, Aiping Lu*, Ge Zhang*. Increased PLEKHO1 within osteoblasts suppresses Smad-dependent BMP signaling to inhibit bone formation during aging. *Aging Cell* 2017;16(2):360-376.

Jin Liu[#], Changwei Lu[#], **Xiaohao Wu***, Zongkang Zhang, Jie Li, Baosheng Guo, Defang Li, Chao Liang, Lei Dang, Xiaohua Pan, Songlin Peng, Aiping Lu*, Baoting Zhang*, Ge Zhang*. Targeting osteoblastic casein kinase-2 interacting protein-1 to enhance Smad-dependent BMP signaling and reverse bone formation reduction in glucocorticoid-induced osteoporosis. *Sci Rep* 2017; 7:41295.

Xiaohao Wu[#], Bing He[#], Jin Liu[#], Hui Feng[#], Yinghui Ma, Defang Li, Baosheng Guo, Chao Liang, Lei Dang, Luyao Wang, Jing Tian, Hailong Zhu, Lianbo Xiao*, Cheng Lu*, Aiping Lu*, Ge Zhang*. Molecular Insight into Gut Microbiota and Rheumatoid Arthritis. *Int J Mol Sci* 2016;17(3):431.

Jin Liu[#], Defang Li, **Xiaohao Wu**, Lei Dang, Aiping Lu, Ge Zhang. Bone-derived exosomes. *Curr Opin Pharmacol* 2017; 34:64-69.

Luyao Wang[#], Fangfei Li[#], Lei Dang[#], Chao Liang, Chao Wang, Bing He, Jin Liu, Defang Li, **Xiaohao Wu**, Xuegong Xu, Aiping Lu, Ge Zhang. In Vivo Delivery Systems for Therapeutic Genome Editing. *Int J Mol Sci* 2016; 17(5):626.

Chao Liang[#], Fangfei Li[#], Luyao Wang[#], Zong-Kang Zhang, Chao Wang, Bing He Jie Li, Zhihao Chen, Atik Badshah Shaikh, Jin Liu, **Xiaohao Wu**, Songlin Peng, Lei Dang, Baosheng Guo, Xiaojuan He, D W T Au, Cheng Lu, Hailong Zhu, Bao-Ting Zhang, Aiping Lu, Ge Zhang. Tumor cell-targeted delivery of CRISPR/Cas9 by aptamer-functionalized lipopolymer for therapeutic genome editing of VEGFA in osteosarcoma. *Biomaterials* 2017; 147:68-85.

Zhenjian Zhuo[#], Yuanyuan Yu[#], Maolin Wang, Jie Li, Zongkang Zhang, Jin Liu, **Xiaohao Wu**, Aiping Lu, Ge Zhang, Baoting Zhang. Recent Advances in SELEX Technology and Aptamer Applications in Biomedicine. *Int J Mol Sci* 2017; 18(10):2142.

Fangfei Li[#], Jun Lu[#], Jin Liu[#], Chao Liang[#], Maolin Wang, Luyao Wang, Defang Li, Houzong Yao, Qiulong Zhang, Jia Wen, Zong-Kang Zhang, Jie Li, Quanxia Lv, Xiaojuan He, Baosheng Guo, Daogang Guan, Yuanyuan Yu, Lei Dang, **Xiaohao Wu**, Yongshu Li, Guofen Chen, Feng Jiang, Shiguo Sun, Bao-Ting Zhang, Aiping Lu, Ge Zhang. A water-soluble nucleolin aptamer-paclitaxel conjugate for tumor-specific targeting in ovarian cancer. *Nat Commun* 2017; 8(1):1390.

Chao Liang[#], Jie Li[#], Cheng Lu[#], Duoli Xie, Jin Liu, Chuanxin Zhong, **Xiaohao Wu**, Rongchen Dai, Huarui Zhang, Daogang Guan, Baosheng Guo, Bing He, Fangfei Li, Xiaojuan He, Wandong Zhang, Bao-Ting Zhang, Ge Zhang, Aiping Lu. HIF1 α inhibition facilitates Leflunomide-AHR-CRP signaling to attenuate bone erosion in CRP-aberrant rheumatoid arthritis. *Nat Commun* 2019; 10(1):4579.

Jin Liu[#], Lei Dang[#], **Xiaohao Wu**, Dijie Li, Qing Ren, Aiping Lu, Ge Zhang. microRNA-Mediated Regulation of Bone Remodeling: A Brief Review. *JBMR Plus* 2019; 3(9): e10213.

Awards

Summa Cum Laude Graduate

Southern University of Science and Technology, 2023, Shenzhen, China

Felix Bronner Young Investigator Award (highest ranking abstract)

The American Society for Bone and Mineral Research, 2021, Austin, TX, USA

Webster Jee Young Investigator Award

The International Chinese Musculoskeletal Research Society, 2021, Webinar

Young Investigator Travel Grant

The American Society for Bone and Mineral Research, 2018, Montreal, Quebec, Canada

Webster Jee Travel Awardee

International Conference on Osteoporosis and Bone Research, 2018, Suzhou, China

Webster Jee Travel Awardee

International Conference on Osteoporosis and Bone Research, 2016, Chongqing, China