

ZILI ZHANG

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EDUCATION

Tongji Medical College, Huazhong University of Science & Technology (HUST), Wuhan, China <i>Master of Medicine (Research Master), Integrated Traditional Chinese and Western Medicine GPA: 3.78/4</i>	Sept. 2020 - Jun. 2023
Tongji Medical College, HUST, Wuhan, China <i>Bachelor of Medicine, Integrated Traditional Chinese and Western Medicine GPA: 3.88/4</i> <ul style="list-style-type: none">Ranked 1st in the class	Sept. 2015 - May. 2020
Foreign Language School, HUST, Wuhan, China <i>Bachelor of Arts, Translation & Interpretation (English)</i>	Feb. 2017 - Jun. 2019

CLINICAL EXPERIENCE

Medizinische Hochschule Hannover, Hannover, Germany Clinical Internship	Jul. 2019 - Aug. 2019
Tongji Hospital, HUST, Wuhan, China Clinical Rotation	Sept. 2019 - Jun. 2020

RESEARCH

Master Student Mentor, Desheng Hu, M.D., Dr.rer.nat Department of Chinese Medicine, Union Hospital, Wuhan, China <ul style="list-style-type: none">Retrospective study of clinical data from COVID-19 patients in Wuhan Union HospitalNeuro-invasiveness of SARS-CoV-2: RNA sequencing and proteomics of the cerebrospinal fluidScreening of natural compounds inhibiting cGAS-STING pathway and the effects on acute kidney injurySingle cell landscape of CD45+ immune cells in acute myocardial infarctionEstablishment of cardiac-specific STING knockout mice: Interferon-independent function of STING in cardiomyocytes	Jul. 2020 - Jun. 2023
Research Associate Mentor, Yilong Zou, Ph.D. Laboratory of Functional Lipidomics, Westlake University, Hangzhou, China <ul style="list-style-type: none">Ferroptosis susceptibility of smooth muscle cells in murine atherosclerosis modelAnalysis of single cell sequencing data of murine atherosclerosis plaque	Jul. 2023 - Aug. 2023

EXPERIMENTAL SKILLS

Cell Experiments and Bioinformatics

- Basic molecular biology experiments (WB, ELISA, qPCR, IF, etc)
- Isolation and culture of primary cardiomyocytes
- Isolation and induction of bone marrow derived macrophages (BMDM)
- Flow cytometry and magnetic-activated cell sorting (MASC)
- Preparation of single cell suspension of murine myocardial tissue
- Construction of sequencing library based on BD microwell platform
- R based bulk RNA-seq and proteomics data analyses
- Trajectory inference, Cell interaction, and other downstream single-cell analyses
- Software: PyMol (protein structure analysis); AutoDockTools (molecular docking); R studio; Image J; Graph Pad Prism; EndNote; Adobe Illustrator

Animal Experiments

- Skilled in the management of genetic engineering mice (breeding, crossing, genotyping)

- Blood collection from the orbital sinus and mouse tail vein injection
- Atherosclerosis model (intact aorta isolation, fixation, staining, and photograph)
- Acute myocardial infarction model (murine left anterior descending coronary artery ligation)
- Cisplatin-induced acute kidney injury

PUBLICATIONS

First authorship

- **Zhang Z***, Zhou H*, Ouyang X, Dong Y, Sarapultsev A, Luo S, and Hu D. Multifaceted functions of STING in human health and disease: from molecular mechanism to targeted strategy. *Signal Transduct Target Ther.* 2022;7:394. (Co-first author)
- **Zhang Z***, Shen Y*, Wang H, Zhao L and Hu D. High-resolution computed tomographic imaging disclosing COVID-19 pneumonia: A powerful tool in diagnosis. *The Journal of infection.* 2020;81:318-356. (Co-first author)
- Wang H*, **Zhang Z***, Zhou J, Han S, Kang Z, Chuang H, Fan H, Zhao H, Wang L, Ning Y, Sarapultsev A, Li WX, Li J, Lin Z, Luo S, Xiong N and Hu D. Next-Generation Sequencing and Proteomics of Cerebrospinal Fluid From COVID-19 Patients With Neurological Manifestations. *Front Immunol.* 2021;12:782731. (Co-first author)
- Zhou H*, **Zhang Z***, Dobrinina M, Dong Y, Kang Z, Chereshev V, Hu D, Zhang Z, Zhang J and Sarapultsev A. Urinalysis, but Not Blood Biochemistry, Detects the Early Renal Impairment in Patients with COVID-19. *Diagnostics (Basel, Switzerland).* 2022;12. (Co-first author)

Manuscript In preparation

- Dong Y*, **Zhang Z***, Kang Z*, Zhou H, Li J, Fan H, Jiang F, Lin Z, Jin K, Sarapultsev A, Li F, Zhang G, Xie T, Cheng X, Liu Y, Luo S, Hu D. Single-cell landscape of cardiac immune cells identifying cardio-protective Ym-1hi neutrophils in myocardial ischemia-reperfusion injury.

Co-authorship

- Zhou C*, Yu T*, Zhu R*, Lu J, Ouyang X, **Zhang Z**, Chen Q, Li J, Cui J, Jiang F, Jin KY, Sarapultsev A, Li F, Zhang G, Luo S, Hu D. Timosaponin AIII promotes non-small-cell lung cancer ferroptosis through targeting and facilitating HSP90 mediated GPX4 ubiquitination and degradation. *Int J Biol Sci.* 2023 Feb 27;19(5):1471-1489.
- Li M*, Guo W*, Dong Y*, Wang X, Dai D, Liu X, Wu Y, Li M, Zhang W, Zhou H, **Zhang Z**, Lin L, Kang Z, Yu T, Tian C, Qin R, Gui Y, Jiang F, Fan H, Heissmeyer V, Sarapultsev A, Wang L, Luo S, Hu D. Elevated Exhaustion Levels of NK and CD8+ T Cells as Indicators for Progression and Prognosis of COVID-19 Disease. *Front Immunol.* 2020 Oct 14;11:580237.
- Dong Y*, Fan H*, Zhang Z*, Jiang F*, Li M, Zhou H, Guo W, **Zhang Z**, Kang Z, Gui Y, Shou Z, Li J, Zhu R, Fu Y, Sarapultsev A, Wang H, Luo S, Zhang G, Hu D. Berberine ameliorates DSS-induced intestinal mucosal barrier dysfunction through microbiota-dependence and Wnt/ β -catenin pathway. *Int J Biol Sci.* 2022 Jan 16;18(4):1381-1397.
- Tian C*, Li M*, Shuai X, Jiang F, Dong Y, Gui Y, **Zhang Z**, Qin R, Kang Z, Lin L, Sarapultsev A, Wu B, Luo S, Hu D. Berberine plays a cardioprotective role by inhibiting macrophage Wnt5a/ β -catenin pathway in the myocardium of mice after myocardial infarction. *Phytother Res.* 2023 Jan;37(1):50-61.

HONORS AND AWARDS

Special Freshman Scholarship

Oct. 2020

Tongji Medical College, Wuhan, China

- Awarded to students who excelled in their undergraduate merit and academic performance

Academic Scholarship

Oct. 2021

Tongji Medical College, Wuhan, China

- Awarded to the top graduate students based on academic performance

National Encouragement Scholarship

Oct. 2017

HUST, Wuhan, China

Self-discipline Scholarship

Dec. 2018

HUST, Wuhan, China

Merit Student Scholarship

Dec. 2016; Dec. 2017; Nov. 2021

HUST, Wuhan, China

CONFERENCE ATTENDANCES

Epigenetics and Chromatin Biology Conference	Aug. 2023
Wuhan, China	
Held by Genetics Society of China and Chinese Society for Cell Biology	
Advanced Imaging for Cell Discovery	May. 2023
Hefei, China	
Jointly held by Chinese Society for Cell Biology and Cell Discovery Journal	
The 1st Annual Meeting of the Death Research Branch Society	May. 2021
Hangzhou, China	
Held by Chinese Society for Cell Biology	