Lily (Shi-tao) Zhang

Shitao.zhang@case.edu

Postdoctoral fellow

Department of Nutrition, School of Medicine, Case Western Reserve University
Cleveland, Ohio, U.S.
Advisor: Prof. Sichun Yang
03/2022 – 07/2025

Education

Master Department of Population and Quantitative Health Sciences, Case Western Reserve University
Major: Biostatistics
Cleveland, Ohio, U.S.
08/2025 – now

Ph.D. School of Life Science, Jilin University
Major: Biochemistry and Molecular Biology
Changchun, China
Advisor: Prof. Xueqi Fu
09/2015 – 12/2021

Bachelor of Science in School of Life Science, Jilin University
Major: Life Science
Changchun, China
09/2011 – 06/2015

Research Interests

Drug discovery. Cell signaling pathways. Cellular and molecular mechanisms.
Molecular dynamics simulations. Data analysis.
Large health data analysis.

Research Experience

Exploring binding of Human Estrogen Receptor alpha CDE with nucleic acid.
Exploring the binding mode of key enzymes and ligands in major diseases based on molecular dynamics simulation.
Study of therapeutic mechanism of small peptide extracted from sunflower on mice model of high uric acid.
Inhibitors based on mutation of tyrosine kinase FLT3D835.
Effects of Shenqijiangtang Tablets on GLP-1 Secretion of human L-cells.

Skills

Protein expression and purification. FPLC. Western blotting. Single particle Cryo-Electron Microscopy. Molecular dynamics simulations.
Cell culturing.
Data analysis and visualization with R, Python, Originlab and Excel.
Linear regression and generalized linear models. Logistic regression. Principal Component Analysis. Machine learning. Data mining.

Publications

Journal articles:

Zhang S, Zuo C, Li W, Fu X, Xing S, Zhang X. Identification of key genes associated with the effect of estrogen on ovarian cancer using microarray analysis. Arch Gynecol Obstet. 2016 Feb;293(2):421-7. doi: 10.1007/s00404-015-3833-8. Epub 2015 Aug 12. PMID: 26264810.

Zhang S, Zhang X, Fu X, Li W, Xing S, Yang Y. Identification of common differentially-expressed miRNAs in ovarian cancer cells and their exosomes compared with normal ovarian surface epithelial cell cells. Oncol Lett. 2018 Aug;16(2):2391-2401. doi: 10.3892/ol.2018.8954. Epub 2018 Jun 12. PMID: 30013629; PMCID: PMC6036573.

Zhang S, Wang Y, Han L, Fu X, Wang S, Li W, Han W. Targeting N-Terminal Human Maltase-Glucoamylase to Unravel Possible Inhibitors Using Molecular Docking, Molecular Dynamics Simulations,

and Adaptive Steered Molecular Dynamics Simulations. Front Chem. 2021 Aug 30;9:711242. doi: 10.3389/fchem.2021.711242. PMID: 34527658; PMCID: PMC8435576.
Zhang S, Lv S, Fu X, Han L, Han W, Li W. Molecular Dynamics Simulations Study of the Interactions between Human Dipeptidyl-Peptidase III and Two Substrates. Molecules. 2021; 26(21):6492. https://doi.org/10.3390/molecules26216492