Tao Li

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SUMMARY

Experienced biomedical researcher with a strong background in bioinformatics, spatial transcriptomics, single-cell RNA sequencing, molecular biology, animal experiments, and image processing. Proficient in spatial transcriptomics data analysis, RNAseq assay, CHIP-seq, CLASH, and essential bioinformatics tools like R and Linux. Skilled in confocal, TIRF, and fluorescence microscopy, as well as flow cytometry and image processing software. Additional expertise in molecular biology techniques, animal experiments, and hardware/software troubleshooting. Actively engaged in postdoctoral research at UCSF with a primary focus on Uveal melanoma research.

SKILLS

- Spatial transcriptomics (10x visium) and data analysis.
- Single cell RNA seq analysis.
- Confocal Microscope and software (Zeiss, Leica, Nikon).
- Nikon TIRF Microscope and software.
- Fluorescence Microscope.
- Image processing software Imaris, ImageJ, Mimics.
- BD Flow cytometer and software Diva (Aria2, LSR2, Accuri C6).
- Flow cytometry software Flowjo, Modfit.
- Molecular cell biology experiments(PCR, qPCR, Western, transfection, viral packaging, cell culture, library build for sequence, Crispr, shRNA design. cell cycle, apoptosis analysis, proliferation assay. etc)
- Animal experiment (mouse)
- Cross-linking, ligation, and sequencing of hybrids
- Chip-seq
- RNA aptamer design and modification.
- Basic Bioinformatics skills.(RNAseq Assay, CLASH, R, linux.)
- Build linux and MAC system for Bioinformatics analysis
- PC and MAC hardware and software trouble shooting.
- Philips MRI
- VisualSonics VEVO

EXPERIENCE

Postdoctoral Researcher, UCSF, August 2023 – Present, San Francisco, CA

- Conducting research on Uveal melanoma metastasis
- Exploring the significance of hepatocytes in the context of liver metastasis in Uveal melanoma

Postdoctoral Researcher, Baylor College of Medicine, April 2022 – April 2023, Houston, TX

- Focusing on NKT therapeutics research
- Building a research station for spatial transcriptomics that includes experiments and bioinformatics analysis systems
- Performing single RNA seq data analysis
- Utilizing Partek Flow analysis solution

PhD Student and Research Assistant, University of Florida, College of Medicine, August 2017-December 2021, Gainesville, FL

- Conducted research on Ovarian Cancer and microRNA
- Published several co-author papers and one first-author paper
- Acquired bioinformatics skills through self-study
- Trained other graduate students in the use of Flow Cytometry and Confocal Microscopy
- Provided assistance with image processing, data analysis, troubleshooting, and experiment design

Research Assistant, Department of Radiology, Zhong Nan Hospital, July 2015-July 2016, Wu Han, Hubei, China

- Assisted other researchers in completing a project on treating Osteoarthritis with Autologous Fat Stem Cells
- Learned how to operate the Philips MRI system
- Developed a method for estimating the volume of knee cartilage
- Acquired experience using the Mimics software

Director of the Bioimaging Core, Translational Medicine Center, Oriental Hospital, January 2013-June 2015, Shanghai, China

- Operated and maintained advanced imaging equipment such as the Leica super-resolution Confocal Microscope, Leica live-cell imaging systems, and Philip animal sonic system
- Trained other researchers and graduate students in the use of these instruments
- Collaborated with Professor Xinxiao Zheng on two projects (Treating Osteoarthritis with Autologous Fat Stem Cells and Bone Allograft in Monkey

Director of Biomedical Equipment Core, West China Developmental & Stem Cell Institute, November 2008-December 2012 ,Cheng Du, Sichuan , China

- Operated and maintained Zeiss 510 Confocal Microscope, Mutiplephoto Confocal Microscope, BD Aria 2 Flow Cytometry, Nikon TIRF Microscope.
- Trained other researchers and graduate students in using the microscope and flow cytometer.
- Helped graduate students with the image process, data analysis, troubleshooting, and experiment design.
- Learned how to Use Imaris, imageJ, flowjo, and modifit softwares.

EDUCATION

Bachelor of Science

- Forensic Medicine, Sichuan University, Chengdu, Sichuan, China, July 2008.

Ph.D.

- Medical Sciences, University of Florida, Gainesville, FL, December 2021.

PUBLICATION

- Rehmani H, Li Y, **Li T**, Padia R, Calbay O, Jin L Chen H, and Huang S. (2020). Addiction to protein kinase Cι due to *PRKCI* gene amplification can be exploited for an aptamer-based targeted therapy in ovarian cancer. *Signal Transduct Target Ther*, 5:140.
- Chen H, Padia R, **Li T**, Li Y, Li B, Jin L, Huang S. Signaling of MK2 sustains robust AP1 activity for triple negative breast cancer tumorigenesis through direct phosphorylation of JAB1. NPJ Breast Cancer. 2021 Jul 9;7(1):91. doi: 10.1038/s41523-021-00300-1. PMID: 34244488; PMCID: PMC8270897.

- **Li T.** Attenuated miR-203b-3p is critical for ovarian cancer progression and aptamer/miR-203b-3p chimera can be explored as a therapeutic, Advances in Cancer Biology - Metastasis, 2022, 100031, ISSN 2667-3940.
- Chen ZQ, Zhou Y, Chen F, Huang JW, Li HL, **Li T**, Li L. miR-200a-3p Attenuates Coronary Microembolization-Induced Myocardial Injury in Rats by Inhibiting TXNIP/NLRP3-Mediated Cardiomyocyte Pyroptosis. Front Cardiovasc Med. 2021 Aug 5;8:693257. doi: 10.3389/fcvm.2021.693257. PMID: 34422922; PMCID: PMC8374895.
- Li, B., Ding, Z., **Li T**,Calbay, O. et al. FAP is critical for ovarian cancer cell survival by sustaining NF-κB activation through recruitment of PRKDC in lipid rafts. Cancer Gene Ther (2022). https://doi.org/10.1038/s41417-022-00575-x
- Bin Ren, **Li T**. et al. Clinical phase I/II trial of SVF therapy for cartilage regeneration: a cellular therapy with novel 3D MRI imaging for evaluating chondral defect of knee osteoarthritis. Front. Cell Dev. Biol. Sec. Cell Adhesion and Migration doi: 10.3389/fcell.2023.1106279
- Jiang, Y., Song, L., **Li T**, Lin, Y. et al. ROS-mediated SRMS activation confers platinum resistance in ovarian cancer. Oncogene 42, 1672–1684 (2023). https://doi.org/10.1038/s41388-023-02679-6