LISHA MA

Master student
Bachelor of Science

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PERSONAL STATEMENT

As a postgraduate student at **Southern University of Science and Technology**, my scientific journey is deeply rooted in the intricate world of stem cell research. Interested in the lineage bias of stem cell and its molecular mechanisms, my curiosity propels me to unravel the complexities of this dynamic field. This journey has solidified my commitment to contributing significantly to our understanding of fundamental biological processes. Now, as I seek a Ph.D. position, I am excited to align my expertise with a research field that promises to not only build upon my existing knowledge but also open new horizons for continuous growth and exploration.

MAJOR RESEARCH INTERESTS

- Stem cell biology and molecular mechanisms;
- Roles of BAF-complex proteins in regulating stem cell fate decisions;
- Utilizing stem cells to explore innovative medical therapies;
- Bridging the gap between stem cell research and clinical applications.

EDUCATION

2017.09-2021.07: Bachelor of Science in Bioscience

GPA: 3.2 / 4.0
Southwest University **(SWU)**, Chongqing, China
Department of Life Science

2021.09-Present: Master of Biology

GPA: 3.4 / 4.0
Southern University of Science and Technology **(SUSTech)**, Shenzhen, China
Department of Life Science
Expected Graduation: June 2024

SKILLS

- **Molecular biology practices:** molecular cloning, Western blot, polymerase chain reaction (PCR), quantitative real time polymerase chain reaction (qPCR) etc.
- **Histological research techniques:** such as immunohistochemistry (IHC), Hematoxylin-Eosin (HE) staining, Masson's trichrome staining etc.
- **Cellular experiment:** cell culture, fluorescence activated cell sorting, transfection, lentiviral packaging etc.
- **Animal experiments and breeding.**

PUBLICATIONS

- Zhang S, Yang L, **Ma L**, Tian X, Li R, Zhou C, & Cao M. Virome of Camellia japonica: Discovery of and Molecular Characterization of New Viruses of Different Taxa in Camellias. ***Frontiers in microbiology***, 2020,11, 945.

- Ma L, Tian Y, Qian T, Li W, Liu C, Chu B, Kong Q, Cai R, Bai P, **Ma L**, Deng Y, Tian R, Wu C and Sun Y. Kindlin-2 promotes Src-mediated tyrosine phosphorylation of androgen receptor and contributes to breast cancer progression. ***Cell Death Dis.*** 2022, 20, 482.

Manuscripts in preparation:

- Ma G, Fu X, Zhou L, Isaac Babarinde, Shi L, Yang W, Chen J, Xiao Z, Qiao Y, **Ma L**, Ou Y, Li Y, Chang C, Deng B, Sun L, Tong G, Li D, Li Y, Andrew Hutchins. Disrupting the nuclear matrix reverts pluripotent stem cells to an earlier embryonic state. ***Cell Stem Cell***, 2023 (Submitted).

RESEARCH EXPERIENCE

Postgraduate Researcher Experience

2023.05 – Present: SUSTech, Department of Life Science

Full-Time Researcher

Supervisor: Professor **Andrew P. Hutchins**

- Actively leading a research project focused on unraveling the nuanced dynamics of the **BAF (mammalian SWI/SNF chromatin remodeling) complex and its influence on stem cell fate decisions.**

- Utilizing a diverse range of techniques, including human pluripotent stem cells (hPSCs), 62 shRNAs, and various biological methods researching on hypothesis centered around the undiscovered roles of other BAF complex members in hPSC differentiation.

- Investigating lineage biases in cell fate determination and differentiation.

- Conducting in-depth RNA sequencing data analysis across different stem cell lines to unveil previously unknown roles of BAF complex members in hPSC lineage commitment.

Postgraduate Researcher Experience

2021.09 - 2023.02: SUSTech, Department of Life Science

Full-Time Researcher

Supervisor: Professor **Ying Sun**

- Investigated the **role of P3H1 (prolyl-3-hydroxylase 1) in podocytes** responsible for the partial filtration function of the glomerulus. Utilized the Cre-loxP system to knock out *P3h1* in C57 mice podocytes. Bred and collected data from more than 6 pairs of littermates.
- Conducted HE and Masson staining, revealing no serious glomerulosclerosis in C57 mice of different ages. Employed IHC staining, which indicated no significant difference in the expression level of collagen I, a reported target of P3H1 and an important marker of glomerulosclerosis.
- Concluded that the knockout of P3H1 protein in podocytes does not lead to serious damage in mice glomerulus function under basal conditions.
- Conducted both long-term and acute models with parallel in-vitro treatments. Analyzed outcomes from more than 8 pairs of C57 littermates, revealing no significant differences in histological and molecular outcomes.

Undergraduate Research Experience

2019.9-2020.5: Chinese Academy of Agricultural Sciences (CAAS)-Citrus Research Institute

Supervisor: Professor **Mengji Cao**

- Participated in studies to understand the *Camellia* virus and their biological characteristics.
- Contributed to writing of the introduction, sample collection, treatment and molecular biology experiments in the paper published on Frontiers of Microbiology (*see Publication).

2018.03 - 2019.09: **SWU, Department of Life Science**

Supervisor: Professor **Zhisheng Zhang**

- Actively participated in the revision of the classification of spiders in the family Crabidae.
- Identified three new spider species using comprehensive evidence from morphology, molecular biology, and bioinformatic methods.

LANGUAGE PROFICIENCY

- **IELTS:** 8 / 9
- **TOEFL:** 102 / 120

HONORS AND AWARDS

- Outstanding Volunteers of the Year in Southwest University (2018);
- Excellent Minister of SWU Society of Biology (2019);
- 2nd in National English Translation Competition for College Students (2020).

Reference

You may need the following information about my academic referee:

Prof. Andrew P. Hutchins
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Principle Investigator,
Department of Biology,
Southern University of Science and Technology, 1088 Xueyuan Avenue, Shenzhen 518055, P.R. China.
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