

# Weining Li

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## Education

September 2023–Present

**MSc, Biochemistry and Molecular Biology (Expected)**, Sun Yat-sen University, China

- **Relevant coursework:**

Cellular and Molecular Immunology (90/100), Topics in Cell Signaling (97/100), Physiology of Epithelial Cells (97/100), Experimental Design and Statistical Analysis (94/100), etc.

September 2019–July 2023

**BSc, Biotechnology**, Sun Yat-sen University, China

- Graduated with **First Class Honors (GPA 3.9/4.0)**

- **Dissertation:** “Functional Screening and Mechanistic Studies of the Palmitoyl Transferase zDHHC Family in Regulating Autophagy”

- **Relevant coursework:**

Cell Biology (93/100), Biochemistry (95/100), Principles of Immunology (96/100), Experiments of Cell Biology (94/100), Experiments of Biochemistry (94/100), Experimental Skills in Molecular Biology (94/100), Experiments of Immunology (97/100), Experiments of Biotechnology (95/100), etc.

## Research Experience

July 2019–Present, Postgraduate and Undergraduate Student Researcher, Sun Yat-sen University

**Research theme:** The function and mechanism of palmitoylation in regulating autophagy

**Supervisor:** Professor Jun Cui

**Key Responsibilities:**

- Functional screening of the palmitoyl transferase zDHHC family in autophagy regulation
- Identified zDHHCX as a positive regulator of autophagy that functions in the initial stage
- Screened target ATG proteins of zDHHCX and found that zDHHCX palmitoylates ATGY at two key cysteine residues
- Investigated the function of ATGY palmitoylation (stability, complex assembly, localization, etc.) and indicated that palmitoylation influences its PI3P binding ability via conformational changes, as well as its trafficking by affecting its binding with the AP complex (that mediates its transportation between different cellular compartments)
- Found that ATGY palmitoylation mutant loses its function in autophagy and confirmed that ATGY palmitoylation is crucial for its function in membrane expansion during autophagy initiation
- Investigated the psychological role of zDHHCX-mediated palmitoylation of ATGY (autophagy-related disease, virus or bacterial infection, etc.)

## Publications

### **S-palmitoylation coordinates lipid-binding and trafficking of ATG9A to mediate autophagy initiation**

- Contribution: co-first author, listed second
- Expected Submission: EMBO J/Autophagy, September 2024

### **Palmitoylation of GPX4 determines ferroptosis sensitivity and anti-tumor immunity**

- Contribution: sixth author
- *Nature Cancer*, in submission

## Awards and Honors

### **iGEM Awards**

- Gold Prize, International Genetically Engineered Machine Competition, 2020
- Silver Prize, International Genetically Engineered Machine Competition, 2021

### **Scholarships**

- First-Class Scholarship for Outstanding Students, Sun Yat-sen University, 2020-2021
- Second-Class Scholarship for Outstanding Students, Sun Yat-sen University, 2019-2020
- Master's Graduate First Prize Scholarship, Sun Yat-sen University, 2023-2024

## Skills

### **Laboratory Skills**

- **Molecular biology techniques:** DNA cloning and plasmid construction, gene editing (utilizing CRISPR/Cas9 system), qPCR, Western blot, immunoprecipitation, subcellular fractionation, ELISA, etc.
- **Cellular biology techniques:** cell culture, cell line construction, transfection, immunofluorescence, confocal/super-resolution fluorescence microscopy, electron microscopy, flow cytometry, etc.
- **Animal experimentation and procedures:** genotyping, breeding, injections, blood collection, BMDM extraction, induction of DSS colitis model, etc.

### **IT skills and Data Analysis**

- Office, SPSS, Graphpad Prism, ImageJ, Snapgene, Illustrator, Photoshop and R for data analysis.

### **Communication and Presentation Skills**

- Experienced in presentation and communication skills demonstrated through iGEM and lab study.

### **Language**

- Mandarin (Native), Cantonese (Native), English (Fluent, IELTS 7.5).

## Personal

### **Characteristics**

- Warm-hearted and optimistic, adept at interpersonal skills and collaboration with different people.

### **Miscellaneous**

- Love to play the piano and chess (such as Go).
- Enjoy playing crafts like building the Lego bricks and solving jigsaw puzzles.