

# LU CHEN

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## EDUCATION

**Columbia University Mailman School of Public Health, NY, U.S**

08/2018~present

**Major:** Biostatistics (Master), **GPA:** N/A

**University of California, San Diego, CA, U.S.**

**Major:** Cognitive and Behavioral Neuroscience (Bachelor), **GPA:** 3.797/4.0, **Major GPA:** 3.68/4.0 09/2015~06/2018

## RESEARCH EXPERIENCE

**Nitration of TRPM2 as a Molecular Switch Induces Autophagy,**

06/2017-09/2017

Location: *College of Pharmaceutical Science, Zhejiang University, China,*

Supervisor: *Prof. Feng Han*

- The aim of this project is that Dysfunction of neurovascular pericytes underlies breakdown of the blood-brain barrier, but the molecular mechanisms are largely unknown. In this study, we evaluated the role of the transient receptor potential melastatin-related 2 (TRPM2) channel and autophagy during brain pericyte injury both *in vitro* and *in vivo*.
- Conducted basic experiments and collected data in preparation for higher level experiments, e.g., Western Blot, Sectioning;
- Analyzed data gaining from experiments, used Matlab to organize information for further application.

**Cholinergic Grb2-Associated-Binding Protein 1 Regulate Cognitive Function**

06/2017-09/2017

Location: *College of Pharmaceutical Science, Zhejiang University, China,*

Supervisor: *Prof. Feng Han*

- Grb2-associated-binding protein 1 (Gab1) is a docking/scaffolding molecule known to play an important role in cell growth and survival. Here, we report that Gab1 is decreased in cholinergic neurons in Alzheimer's disease (AD) patients and in a mouse model of AD. In mice, selective ablation of Gab1 in cholinergic neurons in the medial septum impaired learning and memory and hippocampal long-term potentiation. Gab1 ablation also inhibited SK channels, leading to an increase in firing in septal cholinergic neurons. Gab1 overexpression, on the other hand, improved cognitive function and restored hippocampal CaMKII autorphosphorylation in AD mice. These results suggest that Gab1 plays an important role in the pathophysiology of AD and may represent a novel therapeutic target for diseases involving cholinergic dysfunction.
- Ran data analyses and revised the manuscript;
- Drafted the manuscript, helped in figure preparation.

**Functional Genomic Analyses Identify Pathways Dysregulated in Animal Model of Autism**

06/2017-09/2017

Location: *College of Pharmaceutical Science, Zhejiang University, China,*

Supervisor: *Prof. Feng Han*

- The project highlights the advantages of gene microarrays to uncover co-expression modules associated with autism and suggests that *Taars* and related gene regulation networks may play a significant role in autism.
- Assisted in animal cares and autism rat model.
- Drafted the manuscript, helped in figure preparation.

## INTERNSHIP

**Xiaoshan Rural Commercial Bank, Hangzhou, China, Assistant Minster**

08/2016-09/2016

- Assisted clients in personal business management using mobile application RCB-Bank;
- Opened accounts for new customers and entered and proofread transaction turnover.

- New Oriental Education & Technology Group**, Hangzhou, China, *Teaching Assistant* 12/2015-01/2016
- Prepared materials and hosted discussion sections in American History Class;
  - Checked attendances and graded assignments from students.

#### EXTRACURRICULAR ACTIVITIES

**Public Relations Group in Cognitive Science Students Association ( CSSA )** , UCSD, Member 09/2016~present

**Public Relations Group in Chinese Union**, UCSD, *Member* 06/2015-08/2017

#### PROFESSIONAL SKILLS

**Software:** Matlab (basic); Microsoft Office;

**Programming Languages:** Java (basic); SAS; R(basic);

**Others:** Adobe Photoshop;