Jiaxin Li (Chelsy), B.S.

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Education

Tufts University | Boston, MD 08/2020 - Present
PhD Candidate in Mammalian Genetics at JAX track | Bar Harbor, ME
Courses: Graduate Biochemistry, Gene Expression, Mammalian & Exp. Genetics
Thesis Area: Disease mechanism of inherited neuromuscular disease

Pennsylvania State University | State College, PA 09/2014 - 05/2018
Bachelor of Science in Biology
Dean's list: 2015-2016

Research Experience

The Jackson Laboratory | Bar Harbor, ME 06/2021 - Current
Graduate Researcher, PI: Robert Burgess
Research area: Neuromuscular disorders; Disease modeling
· Developed disease model for Charcot-Marie-Tooth disease (CMT) with hiPSCs
· Characterized a novel mutation identified in CMT patients in a mouse model
· Presented results at departmental seminars and retreats

Johns Hopkins University | Baltimore, MD 08/2018 - 05/2020
Research Technologist, PI: Vasiliki Macharaki
Research area: Neurological disorders, Genome editing, Disease modeling
· Constructed multiple donor plasmid vectors for genome editing
· Generated isogenic cell lines with CRISPR/Cas9 system
· Generated iPSC cell lines from mononuclear cells (reprogramming)
· Differentiated several types of neuronal cells from hiPSCs
· Collected and purified extracellular vesicles (EV) from hiPSCs and neuronal cells

Brigham and Women's Hospital | Boston, MA 07/2017 - 08/2017
Summer Research Intern, PI: Duane Wesemann
Research area: B cell development and allergy
· Contributed and acknowledged in project *IgH isotype-specific B cell receptor expression influences B cell fate*, published 2017 on PNAS
· In charge of immunodeficient mice genotyping
· Used flow cytometry to examine multiple cell surface markers

Chinese Academy of Sciences | Beijing, China 07/2016 - 08/2016
Summer Research Intern, PI: Qianhua Shen
Research area: Plant pathology, Gene regulation
· Executed virus transformation to tobacco plants
· Examined post-transformation protein expression with western blotting

Johns Hopkins University | Baltimore, MD 06/2016 - 07/2016
Summer Research Intern, PI: Linzhao Cheng
Research area: Hematology, Genome editing
· Learned techniques of molecular biology such as PCR and DNA extraction
· Studied CRISPR/Cas9 genome editing followed by single cell cloning

Johns Hopkins University | Baltimore, MD 06/2015 - 08/2015

Summer Research Intern, PI: Honggang Cui

Research area: Nanotherapeutic systems for local treatment of brain tumors

· Trained for drug-carrier peptide synthesis
· Used high-performance liquid chromatography to purify synthesized peptide
· Cultured brain tumor cell lines and examined peptide cytotoxicity on cells

Undergraduate Academic Project

· Differential expression analysis under West Nile Virus infection in zebra finch
Penn State University, Instructor: Michael Axtell, Ph.D. 01/2018 – 05/2018
· Aligned and counted RNA-seq data of zebra finch with Galaxy platform
· Used R to analyze differential expression and found possible genes related to virus infection

Publications

· Human forebrain organoids from induced pluripotent stem cells: A novel approach to model repair of ionizing radiation-induced DNA damage in human neurons. D. Das, **J. Li**, L. Cheng, S. Franco, V. Machairaki. Radiat Res. (2020 Jun 04), 10.1667/RR15567.1

· Highly purified human extracellular vesicles produced by stem cells alleviate aging cellular phenotypes of senescent human cells. S. Liu, V. Machairaki, H. Bai, Z. Ding, **J. Li**, K.W. Witwer, L. Cheng. Stem Cells. (2019 Feb 27), 10.1002/stem.2996

Review Article

· Regulation of NLR stability in plant immunity. T. Wang, **J. Li**, Q. Shen. Front. Agr. Sci. Eng. , (2019 Jan 28). 6(2): 97-104.

Skills

Laboratory technology:

· Mouse handling and colony management, dissection and tissue collection.
· Molecular techniques: PCR and qPCR; Western blotting; Vector construction; Transfection, RNA/DNA/protein extraction and purification; EV collection. · Cell Culture: Maintenance of various types of cells such as human iPSCs, mononuclear cells and neuronal cells; Differentiation of stem cells to neuronal cells.
· Other techniques: Flow cytometry; HPLC; IF staining; Virus production.

Foreign language: Chinese (native); Japanese (proficient).

Visual Art: Professional skills in digital design and figure drawing.