RUOYU CHEN

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EDUCATION

University of Edinburgh **2023-2024**

- Degree: Master of science | School of Biological Science | 2:1 (Merit)
- Program: Drug Discovery and Translational Biology
- Courses: Bioinformatics Programming and System Management (68%), Functional Genomic Technologies (61%), Quantitating drug binding (66%), Introduction to web site and database design for drug discovery (67%)

Shandong University (985 Project), China **2018-2022**

- Degree: Bachelor of Science | School of Pharmaceutical Sciences | GPA: 83.37
- Program: Pharmacy
- Courses: Biochemistry (91/100), Molecular Biology (85/100), Biochemistry and Molecular Biology Experiment (91/100), Physical Chemistry (84/100), Medical Microbiology Experiment (96/100)

RESEARCH EXPERIENCE

Computational prediction of optimal protein tagging sites **06/2024-08/2024**

- Description: Graduate dissertation project | R & Python

1) In-house computational prediction method TagScore was assessed through benchmarking using DMS data and human clinial insertion data by correlation analysis and ROC/PR analysis, comparing with existing used tolerance metrics pLDDT and RSA.

2) Properties of the proteins predicted by TagScore to prefer N-terminal, C-terminal or internal tagging were explored by the gene enrichment analysis. GTPase-associated proteins were found to possibly prefer internal tagging.

Screening of the Protein Phosphatase PPM1B Inhibitors **2021-2022**

- Description: Dissertation project & comprehensive experiment | PCR & western blot &cell culture & inhibitor screening

1) Plasmids containting 2p8e mutant were extracted and subjected to PCR validation. Phosphatase PPM1B protein was extracted and purified.

2) 39 compunds with preliminary inhibitory effects on PPM1B were confirmed

3) Compound h3-41f1 with relatively effective inhibition was screened and identified with an IC_{50} value of 0.38 μM.

PUBILICATION

A comprehensive overview of PPM1B: From biological functions to diseases

Corresponding Author: Prof. Zhiyuan Lu

Co-Author: Zhongyao Li[a1]; **Ruoyu Chen**[b1]; Yanxia Li; Qian Zhou; Huanxin Zhao; Kewu Zeng; Baobing Zhao

Li, Z., et al. (2023). "A comprehensive overview of PPM1B: From biological functions to diseases." European Journal of Pharmacology **947**: 175633.

Exploration of the Computational Predicted Internal Tagging Preferred Protein Properties

Co-Author: Ruoyu Chen*[1], Lukas Gerasimavicius[2]

Chen, R., & Gerasimavicius, L. (2024). Exploration of the Computational Predicted Internal Tagging Preferred Protein Properties. *Edinburgh Student Journal of Science*, *1*(2), 30-34.

PROFESSIONAL EXPERIENCE

Lecturer (Part-time), AI-Driven Protein Design Course, China **04/2025-Now**

- Delivered lectures on machine learning fundamentals, protein structure prediction (e.g., AlphaFold), and generative models (e.g., RFdiffusion, ProteinMPNN) with applications in enzyme engineering and drug design.

Drug Inspection (Intern), Comprehensive Business Department and Chemical Office **07/2022-09/2022**

- Assisted in the re-evaluation of the qualification of inspection and testing institutions and completed 25 reports of adverse reactions.
- Participated in the quality testing of 20 batches of chemicals and antibiotics.

Clinical Pharmacists (Intern), Jinan Central Hospital **31/07/2021-31/08/2021**

- Developed a certain understanding of common skin and respiratory diseases and their symptomatic drugs.
- Worked one-on-one with over 15 patients to help them optimise their medication regimen.

COMMUNITY ACTIVITIES

Member, Volunteer Service Team, School of Pharmaceutical Sciences **2018-2022**

- Went to the sanatorium to accompany the elderly, organized lectures and held knowledge contests on traditional Chinese medicine.

Core Member, Social Practice Team for Residents' Medication Health **09/2019**

- Popularized the hazards of expired drugs and carried out publicity campaigns on the recycling of expired drugs.

Member, the Fourth National Survey of Traditional Chinese Medicine Resources **05/2019-06/2019**

- Took charge of the general survey of traditional Chinese medicine resources in Liaocheng County.

SKILLS

Programming and Scripting Languages: R, Python, Bash, HTML, JavaScript, SQL

Biotechnological and Chemical Techniques: Western blot, PCR, Basic anatomy and drug administration in mice and rabbits, Organic synthesis, HPLC, Column Chromatography, Thin Layer Chromatography (TLC)

Software: PyMol, Chem Draw, Alphafold2/3, ESM-fold, RFdiffusion, GraphPad Prism

Language: Mandarin (Native), English (IELTS 7.0 overall, Listening 7.5, Speaking 7.5, Reading 7.5)

Awards

- Third Class of Academic Scholarship, Shandong University
- Second Class of Artistic Expertise Scholarship, Shandong University
- Excellence Award of "Internet +" Innovation & Entrepreneurship Competition, Shandong U
- First Prize of National College Student Career Development Competition, Shandong University