

BIOGRAPHICAL SKETCH

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NAME: Changping,Zhou

eRA COMMONS USER NAME (credential, e.g., agency login): CHANGPING

POSITION TITLE: Postdoctoral scholar

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	Start Date MM/YYYY	Completion Date MM/YYYY	FIELD OF STUDY
Agricultural University of Heilong Jiang	BS	09/2010	05/2014	Veterinary Pharmacy
Chinese Academy of Agricultural Sciences Harbin Veterinary Research Institute	MS	09/2014	05/2017	Preventive Veterinary Medicine
Chinese Academy of Sciences Institute of Biophysics	Ph.D	09/2017	05/2021	Cryo-EM and Biochemistry

A. Personal Statement

My Ph.D training focused on using cryo-EM and biochemistry approaches to elucidate the function of the lipid ABC transporter, which is involved in transporting lipids across the membrane of Gram-negative bacteria. The maintenance of lipid asymmetry (Mla) pathway is known to be involved in PL transportation and contributes to the lipid homeostasis of the OM, yet the underlying molecular mechanism and the directionality of PL transport in this pathway remains elusive. The MlaFEBD complex, an ABC transporter, plays a core role in the Mla pathway. We have determined high-resolution cryo-EM structures of the MlaFEBD complex in different conformations and uncovered the mechanism of lipid transportation across the membrane. I received extensive training in membrane expression, purification, grid freezing and imaging during my Ph.D studies. After finishing my Ph.D degree, I continued to do studies in the cryo-EM field, and was attracted by Dr. Nami Tajima's projects. Kainate receptors (KARs) reside at the presynapse to regulate transmitter release, but can also appear at the postsynapse to modulate excitatory transmission in the brain. Lack of the active KAR conformation makes the KARs activation mechanism remain mysterious. Consequently, we will employ cryo-EM and electrophysiology techniques to investigate the activation mechanism of KARs and provide structural information for the development of drugs for disease treatment.

Citations:

Changping Zhou, Huigang Shi, Manfeng, Zhang et al(2021) **Structural Insight into Phospholipid Transport by the MlaFEBD Complex from *P. aeruginosa*** *J Mol Biol* 2021 Jun 25;433(13):166986. doi: 10.1016/j.jmb.2021.166986. Epub 2021 May 11

B. Positions, Scientific Appointments and Honors

Positions

2021 – Present Postdoctoral scholar, Department of Physiology and Biophysics, Case Western Reserve University, Cleveland, OH