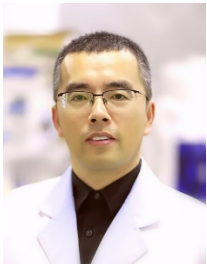


Dr. Li Yi

**“Yeast ER functional studies guiding a better yeast host cell
for protein engineering and production”**

The endoplasmic reticulum (ER) serves many general functions in eukaryotic cells, ranging from protein modification, folding, to secretion. As a single-celled eukaryotic microorganism, yeast, especially *Saccharomyces cerevisiae*, has firmly proven itself as a good host cell for the biological mechanism exploration, protein engineering, and protein/chemicals production. Therefore, studying the ER function and protein secretory pathway of post-translational modifications, folding, and secretion of proteins in yeast cells could guide the yeast engineering and expand the applications of yeast as host cells for protein engineering as well as protein production. In here, I will discuss our recent studies of the protein ER retention, protein chaperon interactions, and endogenous proteases characterization in the yeast secretory pathway through combinational methods of integrating the yeast surface display, flow cytometry-mediated single cell sorting, split-TEV protease, and Next-generation sequencing technologies. Furthermore, how these fundamental studies are applied to engineer the yeast cells for effective protease engineering and protein production will also be addressed.

Dr. Li Yi is currently a professor in the Department of Bioengineering and Department of Biochemistry at the engineering, Hubei University. He received the Ph.D. degree in Biological Chemistry at the



University of Michigan at Ann Arbor in 2010. Then he performed his Post-doc work on protein engineering at the University of Texas at Austin. At there, he was promoted to Research associate and Research fellow before he joined the Hubei University in 2015. Currently, his research group is focusing on developing and conducting the cutting-edge technologies to investigate the fundamental scientific questions and solve the real-world problems, including exploration the protein folding & secretion mechanisms in eukaryotic cells, systematic characterization of protein-protein

interactions, protease and antibody engineering for industrial and therapeutic applications, and proteins production in microbial systems. So far, he has 26 papers published, and 1 US patent authorized.

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