
# Chng Shu Sin, Ph.D.

Assistant Professor
Department of Chemistry
3 Science Drive 3, Singapore 117543
Centre for Life Sciences
28 Medical Drive, #03-02, Singapore 117456
Tel: 66013270
Email: chmchngs@nus.edu.sg


## QUALIFICATIONS AND PROFESSIONAL EXPERIENCES

Postdoctoral fellow, Harvard Medical School, 2010-2011
Ph.D., Harvard University, 2004-2010
B.Sc. (Hons), National University of Singapore, 2000-2003

## MAJOR RESEARCH INTERESTS

Membrane assembly and lipid trafficking in Gram-negative bacteria and mycobacteria
Membrane protein biochemistry
Chemical biology

## SELECTED PUBLICATIONS


1. Thong SH, Ercan B, Torta F, Fong ZY, Wong HYA, Wenk MR, Chng SS[#] (2016) Defining key roles for auxiliary proteins in an ABC transporter that maintains bacterial outer membrane lipid asymmetry. *eLife* 5:e19042. ([#]corresponding author)

2. Chong ZS, Woo WF, Chng SS[#] (2015) Osmoporin OmpC forms a complex with MlaA to maintain outer membrane lipid asymmetry in *Escherichia coli*. *Mol Micobiol* 98:1133-1146. ([#]corresponding author)

3. Chng SS,* Xue M,* Garner RA, Kadokura H, Boyd D, Beckwith J, Kahne D (2011) Disulfide rearrangement triggered by translocon assembly controls lipopolysaccharide export. *Science* 337:1665-1668. (*These authors contributed equally.)

4. Chng SS, Dutton, RJ, Denoncin K, Vertommen D, Collet JF, Kadokura H, Beckwith J (2012) Overexpression of the rhodanese PspE, a single cysteine-containing protein, restores disulfide bond formation to an *Escherichia coli* strain lacking DsbA. *Mol Microbiol* 85:996-1006.

5. Chimalakonda G, Ruiz N, Chng SS, Garner RA, Kahne D, Silhavy TJ (2011) Lipoprotein LptE is required for the assembly of LptD by the β-barrel assembly machine in the outer membrane of *Escherichia coli*. *Proc Natl Acad Sci* USA 108:2492-2497.

6. Freinkman E, Chng SS, Kahne D (2011) The complex that inserts lipopolysaccharide into the bacterial outer membrane forms a two-protein plug-and-barrel. *Proc Natl Acad Sci* USA 108:2486-2491.

7. Ruiz N, Chng SS, Hiniker A, Kahne D, Silhavy TJ (2010) Non-consecutive disulfide bond formation in an essential integral outer membrane protein. *Proc Natl Acad Sci* USA 107:12245-12250.

8. Chng SS,* Gronenberg LS,* Kahne D (2010) Proteins required for lipopolysaccharide assembly in *Escherichia coli* form a trans-envelope complex. *Biochemistry* 49:4565-4567. (* These authors contributed equally.)

9. Chng SS, Ruiz N, Chimalakonda G, Silhavy TJ, Kahne D (2010) Characterization of the two-protein complex in *Escherichia coli* responsible for lipopolysaccharide assembly at the outer membrane. *Proc Natl Acad Sci* USA 107:5363-5368.

10. Wu T, McCandlish AC, Gronenberg LS, Chng SS, Silhavy TJ, Kahne D (2006) Identification of a protein complex that assembles lipopolysaccharide in the outer membrane of *Escherichia coli*. *Proc Natl Acad Sci* USA 103:11754-11759.