



## Channing Microbiome Seminar

October 20 (Friday), 2017, 11am @ 5th-floor conference room



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Eisai Inc.

### **Mechanistic studies of SRR adhesin biogenesis pathway of *Streptococcus gordonii***

Adhesins are molecules that are localized on the cell surface of bacteria and mediate its attachment to host cells, other bacteria, and extracellular components, playing vital roles in colonization and infection. The SRR (serine-rich-repeats) family of adhesin proteins is glycosylated by a set of specific cytosolic glycosyltransferases after synthesis, and secreted by a dedicated accessory secretion system including an ATPase SecA2, a protein-conducting channel SecY2 complex, and chaperon proteins Asp1-3. All proteins play essential roles in the biogenesis of SRR adhesins, but are only poorly characterized. Here, we took combinatory approaches of protein biochemistry and biophysics to study the mechanism of SRR glycosylation, intracellular transfer, and translocation targeting in *Streptococcus gordonii*. Our results provide effective solutions for ultimate in vitro reconstitution of accessory secretion process, and facilitate mechanistic studies of bacterial adhesin biogenesis.

*Bio: Yu earned her B.Sc. from Tsinghua University, China, and received her Ph.D. in Molecular Biology from Princeton University. She conducted her postdoc research in the Department of Cell Biology at Harvard Medical School, where she was primarily interested in understanding the biogenesis of bacterial adhesin proteins by a combination of structural biology, biochemistry, and bacterial genetics. Yu is currently a Scientist at Eisai Inc.*

Hosted by Yang-Yu Liu