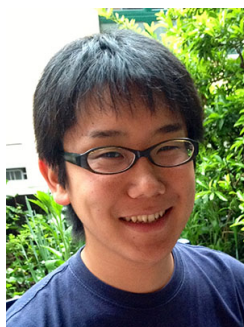


- Technology Presentation (3) -



Shunsuke Oishi, Ph.D.

Chemical Peptide/Protein Synthesis and Cyclic Peptide Library for Phenotypic Screening

Abstract:

Phenotypic screening with chemical library is a powerful tool to find novel bioactive compounds. Many small molecules have been discovered by this approach, some of which eventually have been developed into first-in-class drugs with new molecular mechanism of actions. Although the success of this strategy in small-molecule-based drug discovery, access to peptide-based chemical library for phenotypic screening is very limited and effective design of library have not developed enough.

We have synthesized over 200 cyclic peptides based on the genome information of *Arabidopsis thaliana* and conducted phenotypic screening. Several hit compounds with unique phenotypes are discovered. We also established an efficient immobilization method of the synthetic cyclic peptides onto agarose gels for affinity purification of target proteins. Human genome based cyclic peptide library is now under constructions toward drug discovery study.

Biography:

Shunsuke OISHI studied Chemistry and worked in the research group of Prof. Susumu Saito and Prof. Ryoji Noyori at Nagoya University, Japan where he received BS, MS, and PhD. Then, he spent one year in Germany as a postdoctoral fellow with Prof. Peter Seeberger at the Max Planck Institute of Colloids and Interfaces. In 2013, he moved to Institute of Transformative bio-Molecules (ITbM) at Nagoya University and is in charge of satellite laboratory of Prof. Jeffrey Bode (ETH Zürich) as a Co-Principal Investigator. Since 2015, he is also a Center Chief at the Peptide and Protein Center of ITbM.