



Seminar Announcement

- All Are Welcome -

- Speaker :** Sunghoon Kim, Professor and Director
Medicinal Bioconvergence Research Center Department of Molecular
Medicine and Biopharmaceutical Sciences
Seoul National University College of Pharmacy
- Title :** “New Biology and Medicine Derived from Aminoacyl-tRNA Synthetases”
- Date :** 24 July 2014 (Thursday)
- Time :** 11:00am – 12:00pm
- Venue :** Aspiration @ MATRIX Level 2M, Biopolis
- Host :** Dr Lim Sai Kiang
(Tel: 64070161; e-mail: saikiang.lim@imb.a-star.edu.sg)

Abstract of the Seminar:

Aminoacyl-tRNA synthetases (ARSs) have been typically known as the enzymes essential for protein synthesis. However, recently, their functional significance is more expanded as poly-functional hub proteins coordinating metabolism and signal pathways for system-level coordination of living organisms [1, 2]. In human, nine different ARSs and three auxiliary factors (AIMP1-3) form an intriguing macromolecular complex that serve as molecular depot for translation and cell regulation. Among the components, leucyl-tRNA synthetase senses amino acids to control mTOR signal pathway [3] while lysyl-tRNA synthetase controls transcription in nucleus [4] or cell migration in plasma membrane [5]. Besides, many ARSs are secreted out of the cells to mediate diverse cell-cell communications. The pleiotrophy of ARSs appears to result from their structural flexibility via new domain acquisition, alternative splicing and post-translational modification etc. This lecture will introduce emerging biology and therapeutic potential of ARSs.

About the Speaker:

Professor Kim is the Director of Medicinal Bioconvergence Research Center (Biocon) which was created to solve the increasing difficulties in new drug discovery. The main focus of Biocon is on discovery and validation of novel therapeutic targets as it forsee the lack of novel therapeutic targets and biomarkers that accurately reflects human diseases as being the biggest bottleneck in drug discovery. Although its primary interest is on the pathological network mediated by ARSs, Biocon will expand its interest to other targets. To facilitate and expand target discovery and validation, Biocon integrates diverse cutting-edge technologies not only from bioscience area such as bioinformatics, genomics, proteomics, cellomics and animal models, but also from other area such as chemical-, nano-, microfluidic and biochip-technologies.