Miyeko Mana

Sackler Institute of Graduate Biomedical Sciences
Developmental Genetics Program
Center for Genomics and Systems Biology
New York University
New York, USA

Friday, July 3

15:00 ～ 16:00 A6F Seminar Room

Developing a subcellular localization network for *Caenorhabditis elegans* early embryo

Summary

Embryogenesis requires the coordination of a multitude of complex cellular processes. Each one of these processes involves numerous molecular components. In order to understand the organization and coordination of these components, a critical parameter is their subcellular localization during each cell division. Systems-level approaches have accumulated phenotype, expression, and protein interaction data on a genomic scale, however, the integrated network models remain a static representation of molecular events. Localization data contributes spatial and temporal dimensions to these network models, further resolving molecular relationships during different embryonic states. In an effort to generate a localization network, I initiated a study to localize proteins selected by their connection to a core set of seven proteins required to establish anterior-posterior polarity in the one-cell embryo of *C.elegans*. I generated ~100 GFP fusion strains in order to capture their localization patterns with live-imaging during the first two rounds of mitotic cell division. I am currently analyzing the localization pattern of these gene products, of both known and unknown proteins, to generate and test hypotheses about molecular relationships that may contribute greatly to our understanding of the dynamic cellular processes that participate in establishing the anterior-posterior axis in early embryogenesis.

*Miyeko Mana is a graduate student of Prof. Fabio Piano's laboratory at NYU. She stays in Laboratory for Developmental Genomics for two months as a JSPS Summer Program Fellow.

Host:
Asako Sugimoto
Developmental Genomics, CDB
sugimoto@cdb.riken.jp
Tel: 078-306-3256 (ext: 1733)