QBiC SEMINAR

Speaker

Richard Wong

Faculty of Natural System, Institute of Science and Technology, Kanazawa University

Date & Location

Friday, September 27, 2013
13:00 - 13:30

OLABB 1F Lounge (6-2-3, Furuedai, Suita, Osaka)
***There will be a video broadcast in CDB Bldg.D, E-206**

Title

Nucleoporins mitotic functions and carcinogenesis

Abstract

Intracellular trafficking between the nucleus and the cytoplasm is accomplished through the nuclear pore complex (NPC), which are thousands of cylindrical holes, at sites where inner and outer nuclear membranes join. Several NPC that mediate transport of RNA or macromolecules into and out of the nucleus have been implicated in mitosis. The NPCs are made of ~30 different proteins named nucleoporins (Nups). Nucleoporins are designated "Nup" followed by their predicted molecular weight; they are modular in their frequent use of the same structural motifs (coiled-coils, a solenoids and b propellers). Approximately a third of nucleoporins contain domains of phenylalanine-glycine (FG) motifs interspersed with spacer sequences. These repeat domains are natively unstructured and serve as interaction sites for transport receptors (karyopherins), which escort cargo through the pores. We and others discovered that several nucleoporins are involved in a variety of mitotic processes, including chromosome condensation, sister chromatid cohesion, kinetochore assembly, spindle polarity and centrosome formation during mitosis. In this talk, I will discuss this sprouting area and their potential roles in tumorigenesis.

Host

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