



88th CRC Seminar

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Dr. Takashi Ueda of The University of Tokyo, is the speaker of 88th CRC seminar. Dr. Ueda is one of the leading experts in plant protein trafficking research. He has published numerous articles in high impact journals like Nature, Cell, Nature Cell biology, EMBO Journal, PNAS, The Plant Cell etc. He will talk about the plant unique RAB5 GTPase, ARA6 and its intracellular localization, functional significance in regulating plant development. Dr. Ueda will also introduce the recent work of his group on ARA6 in a new model liverwort, *Marchantia polymorpha*.

"Mechanisms and functions of plant-unique membrane trafficking pathways"

時間：2013年11月15日（金）16:30～17:30

場所：総合教育研究棟（生命系）1階 遠隔講義室

Membrane trafficking between single membrane-bounded organelles plays pivotal roles in various cell activities in eukaryotic cells, which are also critical in many aspects of higher-ordered functions of multicellular organisms. RAB GTPase and SNARE proteins are evolutionarily conserved key regulators acting in this system. Although the basic framework of membrane trafficking is well conserved among eukaryotic lineages, recent comparative genomics has also suggested that each lineage has acquired unique membrane trafficking pathways during evolution. ARA6 is a RAB5-related RAB GTPase of Arabidopsis, whose close relatives have been found only in the plant lineage. Recently, we have demonstrated that ARA6 functions in a distinct trafficking pathway from conventional RAB5, which regulates multiple steps in endosomal trafficking in plant, animal, and yeast cells. ARA6 is localized on the endosome at the steady state, and mediates membrane fusion between the endosome and plasma membrane, which also involves a plant-unique SNARE molecule, VAMP727 (Ebine et al., 2011). For information on functional diversification of this plant-unique RAB GTPase group among land plant lineages, we are now studying the function of an ARA6 homolog in the liverwort, *Marchantia polymorpha*. Our recent findings are unraveling amazing diversity of the membrane trafficking system involving the ARA6 group among land plants.

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