



POZVÁNKA

Ústav experimentální botaniky AV ČR, v. v. i.
pořádá

v pondělí 11. ledna 2010 ve 13.00 hod.

v čítárně ÚEB v Lysolajích, Rozvojová 263, 165 02 Praha 6
seminář:

Dr. Jan MARC

Associate Professor, University of Sydney

Plant phospholipase D - cytoskeleton signalling

Plants respond to a variety of environmental signals as well as hormonal regulatory networks. The superfamily of phospholipases including isoforms of phospholipases A, C, and D have been established as key enzymes in the signalling networks. Interestingly, the cytoskeletal elements microtubules and actin microfilaments, which likewise respond to both environmental and hormonal signals, have also been shown to be involved in phospholipase-based signalling. My research has focused on the interaction between phospholipase D (PLD) and microtubules. We found that a 90-kD from tobacco membranes binds tubulin and microtubules and is immunologically related to *Arabidopsis* PLDdelta, which associates almost exclusively with the plasma membrane. An *AtPLDdelta*-null mutant is abnormally sensitive to salt stress, being hampered in the re-establishment of cortical arrays of microtubules following salt-induced depolymerization. A pull-down experiment using transgenic *Arabidopsis* cell culture expressing GFP-*AtPLDdelta* as a bait followed by mass spectrometry revealed a set of co-purifying proteins including tubulin, actin, HSP70, clathrin and a homologue of the membrane raft marker protein, flotillin. Thus *AtPLDdelta* is likely to play a role in signalling to fundamental physiological process such as vesicular traffic and cell division. Our aim is to elucidate the molecular details of *AtPLDdelta*-microtubule interaction and cross-modulation.

Hosté jsou vítáni !

Doc. RNDr. Eva Zažímalová, CSc., v.r.