UNIVERSITÄT BONN

Die Pflanzenwissenschaftlichen Institute

Einladung zum Pflanzenwissenschaftlichen Kolloquium

Freitag, den 8. Dezember 2023, 12 c.t.

Nussallee 4, Hörsaal Botanik

Referent: Dr. Markus Wirtz

Molecular Biology of Plants, Centre for Organismal Studies Heidelberg, Heidelberg University

Thema: „First things first – How N-terminal protein acetylation controls stress resilience of plants“

N-terminal acetylation (NTA) is an ancient protein modification conserved throughout all domains of life. N-terminally acetylated proteins are present in the cytosol, the nucleus, the plastids, and the plasma membrane of plants. The frequency of NTA differs significantly between these subcellular compartments. While up to 80% of cytosolic and 20-30% of plastidic proteins are subject to NTA, NTA of mitochondrial proteins is rare. Cytosolic proteins are acetylated by five ribosome-tethered N-terminal acetyltransferases (NatA-NatE), of which NatA acetylates ~40% of the proteome in Arabidopsis thaliana. We recently demonstrated that the NatA complex is a critical regulator of global proteostasis by facilitating the masking of a novel N-degron. This N-degron targets many nonacetylated NatA substrates for degradation by the ubiquitin-proteasome system. In this talk, we discuss the impact of NatA and its regulator HYPK on proteome plasticity and stress resilience.

Diskussionsleitung: Prof. Dr. Andreas Meyer, INRES - Chemical Signalling, Universität Bonn

Zu diesem Vortrag und zu einer evtl. Nachsitzung sind Sie herzlich eingeladen