UNIVERSITÄT BONN

Die Pflanzenwissenschaftlichen Institute

Einladung zum Pflanzenwissenschaftlichen Kolloquium

Freitag, den 23. Januar 2026, 12 c.t.

Nussallee 9, Hörsaal X

Referent: Prof. Dr. Erich Glawischnig

Microbial Biotechnology, TU München

Thema: ***„CYP71B: Function of a highly diversified cytochrome P450 subfamily in Arabidopsis metabolism“***

The expansion of gene families via duplication is a characteristic feature of plant genomes and presents a major challenge for assigning biological functions using single-gene knockouts. Here, we present a strategy for analyzing the biological functions of highly expanded enzyme families in *A. thaliana*, using the cytochrome P450 subfamily 71B as an example. This subfamily contains 32 expressed genes, and only a few are functionally characterized, such as CYP71B15 (PAD3), an essential component of a camalexin biosynthetic complex. Aiming for generation of a complete 32x knockout, we have deleted four *CYP71B* clusters (up to 83 kb in size) using CRISPR/Cas9-based gene editing. Metabolite compositions are being systematically analyzed via UHPLC/Q-TOF-MS suggesting functions contributing to defense and/or communication. Here, a *cyp71b11-cyp71b13* deletion mutant is impaired in the formation of hydroxycamalexin glycosides, which results in enhanced camalexin autotoxicity.

Diskussionsleitung: Prof. Dr. Andreas Meyer, INRES – Chemical Signalling

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