Universität Basel

Research Project

THE ROLE OF DRB3 AND DRB5 PROTEINS IN RNA PROCESSING IN ARABIDOPSIS THALIANA

Third-party funded project

Project title THE ROLE OF DRB3 AND DRB5 PROTEINS IN RNA PROCESSING IN ARABIDOPSIS THALIANA
Principal Investigator(s) Vazquez, Franck ;
Project Members Bielewicz, Dawid ;
Organisation / Research unit
Departement Umweltwissenschaften / Pflanzenphysiologie Pathogenabwehr (Boller)
Department
Project start 01.10.2012
Probable end 31.03.2012
Status Completed

DsRNA binding proteins are crucial proteins involved in RNA processing in Higher Eukaryotes including Human. The genome of Arabidopsis thaliana encodes five proteins belonging to the simplest DRB family of proteins (DRB1-5). DRB1 (originally named HYL1) is crucial for proper development and microRNA biogenesis and interacts physically with DICER-LIKE 1 (DCL1). DRB2 and DRB4 were recently identified to have a role in the biogenesis of small RNA arising from PolIV transcripts. DBR4, which interacts with DCL4, is also involed in the biogenesis of ta-siRNAs and of virus-derived siRNAs. The aim of the proposed project is to determine the exact role of these DRBs, especially of DRB3 and DRB5 for which only fewădata is available. The propose project will use an immunoprecitation strategy followed by deep sequencing of the purified RNAs. This will allow determining the repertoire of RNAs associated with each protein, and consequently to deermine their role. In addition, we would like to determine the tissue-specific expression profiles of immunoprecipitated RNAs to further elucidate the role and function of these proteins in RNA processing in plants.

Financed by
Swiss Government (Research Cooperations)