Universität Basel

Research Project

Simultaneous Function of RNA Silencing and RNA Decay Create a Unique Mechanism to Regulate Auxin Signaling

Third-party funded project

Project title Simultaneous Function of RNA Silencing and RNA Decay Create a Unique Mechanism to Regulate Auxin Signaling
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Organisation / Research unit
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Department
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Status Completed
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Our work during the Ambizione project has provided pioneer insights into the regulation of signaling by the major plant hormone Auxin and its impact on plant development. We were the first to show that, during leaf development, the expression of *TIR1/AFB2 Auxin Receptor (TAAR) genes is* regulated by the miRNA miR393 and by secondary siRNAs, which we termed siTAARs. In another work, we have established that the levels of *TAAR* transcripts, the homeostasis of Auxin signaling and plant development are also regulated by the RNA decay pathway. The simultaneous regulation of transcript levels by RNA Silencing and by RNA decay has never been reported for natural regulatory system so far. Thus, the regulatory network that we have unraveledăis unique. One major aim of the follow-up project will be toă**ch**

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aracterize *in planta* the modus operandi of this unique combination of pathways and to determine its biological significance.

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Follow-up project of 65994 Regulation of Endogenous RNA Silencing Pathways of Plants

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