

## **Translational regulation of plant hormone responses.**

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Survival of plants greatly depends on the ability of these sessile organisms to tune their hardwired developmental programs to the constant changes in their environment. Although it is clear that plant hormones play a central role in this signal integration process, the exact molecular mechanisms involved are still largely unknown. Until recently, most studies have approached this question by examining the effects of different plant hormone regimens on transcript levels. Our recent work has taken advantage of the development of genome-wide translation profiling (the Ribo-seq) to uncover a novel level of regulation in the plant response to the hormone ethylene. Specifically, we have found that the signaling molecule EIN2 and the nonsense-mediated decay proteins UPFs play a central role in a previously uncharacterized ethylene-induced translational response. Currently, we are investigating the role of other plant hormones in gene-specific translational regulation. Our studies are uncovering new nodes of interaction between hormones, as well as the role of 3'UTRs and 5'uORFs in the regulation of plant responses to these key growth regulators.