

Biological Information Processing

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Auxin-regulated transcription plays a role in almost every aspect of plant growth, including diverse environmentally-triggered adaptations. Recent structural studies of domains from auxin-activated transcription factors (TFs) and auxin-degraded Aux/IAA co-repressors/co-receptors have raised fundamental questions about the protein complexes required for auxin response. In our recent work, we have leveraged the power of a synthetic auxin response system in yeast to identify and analyze a range of features of auxin response. By juxtaposing the analysis of engineered and natural variation, we hope to learn more about the function of auxin signaling components in plants, as well as discovering new strategies for synthetic design of plants and other organisms.