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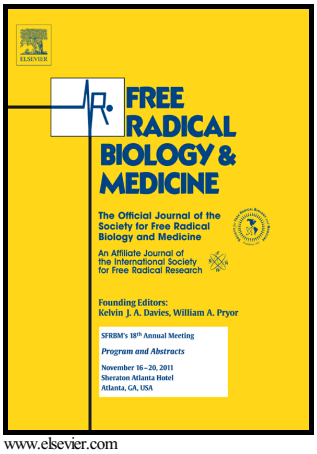

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Stress responsive mitochondrial proteins in *Arabidopsis thaliana*

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Abstract

In the last decade plant mitochondria have emerged as a target, sensor and initiator of signalling cascades to a variety of stress and adverse growth conditions. A combination of various 'omic profiling approaches combined with forward and reverse genetic studies have defined how mitochondria respond to stress and the signalling pathways and regulators of these responses. Reactive oxygen species (ROS)-dependent and -independent pathways, specific metabolites, complex I dysfunction, and the mitochondrial unfolded protein response (UPR) pathway have been proposed to date. These pathways are regulated by kinases (sucrose non-fermenting response like kinase; cyclin dependent protein kinase E 1) and transcription factors from the abscisic acid-related, WRKY and NAC families. A number of independent studies have revealed that these mitochondrial signalling pathways interact with a variety of phytohormone signalling

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