

O14 MITOCHONDRIAL *AtTRXo1*: ITS TRANSCRIPTIONAL REGULATION AND ROLE UNDER SALT-STRESS.

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Thioredoxins (Trxs) are ubiquitous small proteins involved in the reduction of disulfide bonds of other proteins in different cell compartments. Among them, mitochondrial Trxo has been described to have a response in plants grown under salinity but there is scarce information about its functional role in abiotic stress or its gene regulation. In this work, the transcriptional regulation of the mitochondrial *AtTrxo1* gene has been studied for the first time, by producing several *AtTrxo1::GUS* transgenic *Arabidopsis* plants containing conserved domains chosen comparing Brassicacea *Trxo1* promoters. Three motifs were found as possible positive regulators and one as negative of *AtTrxo1* expression. Using an arrayed yeast library from *A. thaliana*, a set of transcription factors were shown as prey of *AtTrxo1* promoter, and among them, we underlined Bzip9 and AZF2, both strongly related with biotic and abiotic stress, respectively. We have also studied the response of mutant *AtTrxo1* plants to salinity, in order to gain insight on its functional role under stress. For it, a physiological characterization of the mutant and the study on its germination pattern was carried out. Results indicated that the lack of *AtTrxo1* produced phenotypic changes and influenced the time to 50% germination under salinity, without affecting the final germination percentage. Results are discussed in relation to *Trxo1* expression pattern and its regulation.