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Salt stress causes a shift in the localization pattern of germin gene expression

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ABSTRACT. The response of plants to biotic and abiotic stress factors involves biochemical, physiological, morphological, and developmental changes. Salt stress has been the subject of extensive studies due to the low salt tolerance of many crop plants. Germin and germin-like gene products are known to be involved in various aspects of plant development, such as defense, embryonic development and response to biotic as well as abiotic stress, including salt. The responses of germin and germin-like genes to salt stress vary in different plants. RT-PCR and *in situ* RNA hybridization methods were employed to analyze quantitative changes and to detect the localization pattern of germin gene products in salt-stressed and water-grown wheat embryos. Salt stress caused no quantitative changes in the synthesis of germin gene products. However, *in situ* RNA hybridization revealed changes in the expression site of germin gene products. Coleorhiza cells were found to be the site of germin accumulation in water-grown embryos; however, in salt-stressed embryos, germin mRNA accumulated in coleoptile cells instead of coleorhiza tissue.

Key words: Germin; *In situ* hybridization; RT-PCR; Salt stress; Wheat development

