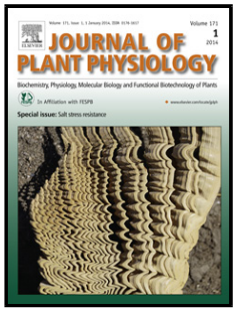

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Short Communication

Arabidopsis group XIV ubiquitin-conjugating enzymes AtUBC32, AtUBC33, and AtUBC34 play negative roles in drought stress response

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Abstract

AtUBC32, AtUBC33, and AtUBC34 comprise *Arabidopsis* group XIV E2 ubiquitin-conjugating enzymes. Yeast two-hybrid, *in vitro* pull-down, and bimolecular fluorescence complementation assays revealed that group XIV E2s are interacting partners of the U-box-type E3 ligase PUB19, a negative regulator of drought stress response. These three AtUBCs are co-localized with PUB19 to the punctae-like structures, most of which reside on the endoplasmic reticulum membrane of tobacco leaf cells. Suppression of *AtUBC32*, *AtUBC33*, and *AtUBC34* resulted in increased abscisic acid-mediated stomatal closure and tolerance to drought stress. These results indicate that *Arabidopsis* group XIV E2s play negative roles in drought stress response.