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ELUCIDATING NOVEL AUXIN REGULATORY PATHWAYS: ARABIDILLO-1 IS A PUTATIVE SUPPRESSOR OF *IBR5-1* IN *ARABIDOPSIS THALIANA*

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Auxins are hormones vital to plant growth and development. Though the regulation of auxin-response in *Arabidopsis thaliana* is beginning to be understood, the discovery of mutants, such as *indole-3-butyric acid response 5-1 (ibr5-1)*, has indicated the existence of auxin regulatory pathways that have yet to be characterized. The *ibr5-1* mutant is resistant to the suppressive effects of auxins, abscisic acid, and ethylene on root elongation. Previously identified ethyl methanesulfonate (EMS)-generated suppressors of *ibr5-1* mutants display restored sensitivity to the exogenous auxins. Whole genome sequencing of one of these mutant isolates, MS16, revealed mutations in genes that may be responsible for suppression of the *ibr5-1* phenotype. Analysis of SALK lines containing T-DNA insertion alleles in these genes of interest has pointed to ARABIDILLO-1 as potentially causative in restoring the auxin sensitivity of *ibr5-1*. ARABIDILLO-1 is one of two F-box containing ARM-repeat proteins in *Arabidopsis thaliana*. Whereas recent studies have established a pathway by which ARABIDILLO-1 promotes lateral root development in plants, its ability to suppress the auxin resistance phenotype of *ibr5-1* suggests that it may also function in a novel auxin signaling pathway. Confirmation of ARABIDILLO-1 as the gene responsible for *ibr5-1* suppression and subsequent characterization of its functionality may shed some light on the molecular underpinnings of a non-canonical auxin-response pathway in plants.