

Characterization of Elicitor-Induced Defense-Related Genes in Cotton.

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Plants can acquire enhanced resistance in response to pathogen attack by prior application of elicitors. The potential to use elicitors as an alternative option for plant disease control has prompted extensive research in understanding the processes involved in plant disease resistance. The objective of this study was to characterize certain defense-related genes up-regulated by elicitation with DL- β -aminobutyric acid (BABA) and cell-wall fragments from *Verticillium dahliae*. Specific primers were designed based on partial sequence information from two selected differentially induced putative transcripts homologous to a receptor kinase, and an armadillo protein. Nested polymerase chain reaction (PCR) and cloning were performed, followed by genome walking to sequence the clones. From the results obtained so far the putative protein kinase transcript shows homology to a putative lectin protein kinase (E-score 5e-5) and the putative armadillo gene had shared homology with armadillo \ β -catenin mRNA from *Arabidopsis thaliana* (E-score 2e-9). Once the full sequences of the genes are obtained the genes will be fully characterized and expression studies will be done to determine their induction capacity in response to BABA and *V. dahliae* elicitor. This study will contribute to the current knowledge of plant perception, signaling and response to pathogen attack and the augmentation of these responses by elicitors.