

Construction of Genome Walker Libraries and Cloning of Promoter For ARID/BRIGHT Gene in Chickpea

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ABSTRACT

The ARID (AT-rich interaction domain) is a billion year old DNA-binding domain that has been identified in all sequenced higher eukaryotic genomes. The ARID consensus sequence spans about 100 amino acid residues, and structural studies identified the major groove contact site as a modified helix-turn-helix motif. In green plants 187 ARID genes are identified out of which 13 are present in Arabidopsis and 21 in Rice, one each in Lotus and Medicago etc. ARID containing genes are also present in grape, castor, soybean, maize, sorghum, populus and barley. In Chickpea, ARID gene was isolated, cloned and found to be single copy gene and ARID protein is nuclear localized. Promoter cloning and characterization will greatly help in understanding gene regulation and its involvement in plant immunity against Fusarium wilt of Chickpea. So in the present study promoter region corresponding to ARID gene was cloned from Wilt resistant genotype i.e., and was found to be 2044 bp long.

Key words: ARID/BRIGHT, Chickpea, Fusarium, Promoter.