

Cloning, recombinant expression in *Escherichia coli* and DNA binding properties of *Datura metel* L. Myb transcription factor

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MYB proteins are a superfamily of transcription factors that play significant roles in developmental and defense-related processes in plants. The MYB family is characterized by the presence of a conserved DNA-binding domain called the MYB domain, which normally contains two or three imperfect repeat sequences. In the present study, we report the cloning, expression and DNA binding properties of Myb transcription factor from *Datura metel* L. An open reading frame of 856 bp was detected which could encode a protein of 278 amino acid residues. The cDNA encoding DmMyb was cloned in pRSETA expression vector and heterologously expressed in *E.coli*. The DmMyb expressed as histidine-tagged fusion protein was purified using Ni-NTA affinity chromatography. In addition, the ability of partially purified recombinant DmMYB protein to bind MBCE (Myb binding cis-elements) was evaluated with five known Myb specific cis-acting elements (MSCE 1, MSCE 2, MSCE 3, MSCE 4 and MSCE 5) using the electrophoretic mobility shift assay (EMSA). The binding assay indicated that the partially purified recombinant DmMyb interacts with three Myb-specific cis-acting elements (MBCE 3, MBCE 4 and MBCE 5). Further studies are required for providing deep insights into transcriptional regulation of *Datura metel* genes/gene networks which is associated with the DmMyb transcription factor.

Biography

Priya Arora is working as a Post-doctorate fellow at Indian Institute of Science, Bangalore. She is recipient of the prestigious UGC Dr. D.S. Kothari Post-doc Fellowship. She finished her Ph.D. from Guru Nanak Dev University, Punjab. She has published more than 10 research papers in reputed journals. Also, she received Young Scientist Award for her Post-graduation research work titled "Understanding and Evaluation of Intrinsic Factors Associated with Seed Development in *Withania somnifera* (L.) Dunal". She is a member of 3 prominent science societies.

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