

عنوان مقاله:

4Pattern of DNA cytosine methylation in Aeluropus littoralis during temperature stress

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نویسندگان:

S.H Hashemi - *Genetics and Agricultural Biotechnology Institute of Tabarestan, Sari Agricultural Sciences and Natural Resources University, PO Box 578, Sari, Iran*

G Nematzadeh - *Genetics and Agricultural Biotechnology Institute of Tabarestan, Sari Agricultural Sciences and Natural Resources University, PO Box 578, Sari, Iran*

H Askari - *Department of Biotechnology, Faculty of New Technologies and Energy Engineering, Shahid Beheshti University, Tehran, Iran*

Y Ghasemi - *Genetics and Agricultural Biotechnology Institute of Tabarestan, Sari Agricultural Sciences and Natural Resources University, PO Box 578, Sari, Iran*

خلاصه مقاله:

DNA methylation as an epigenetic mediator plays the important role in spatial and temporal gene regulation and ensures the stability and the plasticity of organism. In this investigation, methylation sensitive amplification polymorphism (MSAP) were assessed in CCGG sites on a halophytic plant, Aeluropus littoralis in response to different temperature stresses including freezing, low and high temperatures. A combination of 13 primers were able to produce 500 bands, of which 74%, 20.8% and 5.2% were of type I (non methylated fragments), type II (CpG methylated fragments) and type III (CpCpG methylated fragments), respectively. Among these bands, 130 bands were methylated fragments with the highest occurrence of methylation at CpG internal cytosine. The results showed that up to 2% of all methylated bands were polymorphic, which belonged to types II and III. Highest levels of methylation alternations were detected under high and freezing temperatures. The results suggest that apart from cis regulatory logic plant response to the environmental temperatures may be regulated by methylation of CCGG sites of stress-related loci.

کلمات کلیدی:

DNA methylation, MSAP, temperature stresses, halophyte, Aeluropus littoralis

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