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Cold stress induced increase in transcripts of CBF2 in two contrasting cold tolerance M. *aculeata* populations

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Algeria, records a serious deficit in cereal production, meat and dairy products because of inadequate intakes of phosphate fertilizers and the deficit of forage crops production. The annuals species of *Medicago* may be involved to overcome this deficit. Cold stress and frost are the main limiting factors for *Medicago* species periodically report significant losses in productivity. To ensure a good winter survival, these plants establish an adaptation mechanism known as cold acclimation. This mechanism induces the expression of many genes necessary to protect against the effects caused by the low temperatures. In the present study, we selected two ecotypes with contrasting cold tolerance (Ac 15678, tolerant and Ac 14821, sensible) of *M. aculeata* to analyzing the *MtCBF2* genes expression in response to the cold stress. The applied cold stress (4 °C) was performed at different durations (1/2 hour, 4 hours and 24 hours) in comparison with the controls for each ecotype. After RNA extraction for the different samples with extraction kit and synthesis of a cDNA library, the cDNAs obtained were submitted to q-RT-PCR. Expression study was performed using CBF2 specific primers. Amplification tests were performed with electrophoresis on agarose gel (1.2%), different amplification was visualized on the agarose gel for all treatments.

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