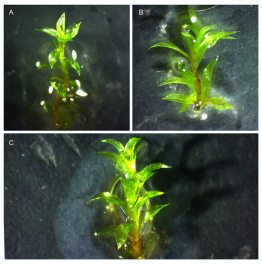
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The role of multiprotein bridging factor 1 (MBF1c) in Funariaceae species under salt stress



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Maria Victória Magalhães de Vargas[1,2], Guilherme Afonso Kessler de Andrade[1,2], Sara Navarrete Bohi Goulart[1,2], Bruna Mota Bernardes[1,2], Filipe Victoria[1,2]

[1]Núcleo de Estudos da Vegetação Antártica (NEVA), Universidade Federal do Pampa (UNIPAMPA), São Gabriel, RS, Brazil;
[2]neva@unipampa.edu.br



Filipe Victoria

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Protocol status: Other
We attempted this protocol, but could not get it to work in our group

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Keywords: Abiotic Stress, expression factors, Funaria hygrometrica, Physcomitrella patens, Physcomitrium acutifolium, qPCR, funariaceae species under salt stress bryophyte, salt stress bryophyte, saline stress response in this plant, plants to nacl concentration, pambf1c under saline stress, saline stress response, moss species, species of moss, physcomitrium acutifolium, saline stress, such as saline stress, funariaceae species, regulation of mbf1c expression, andphyscomitrella, successful plants in nature, moss, mbf1c gene, inphyscomitrella, plant, successful plant, increasing nacl concentration, nacl concentration, expression profile of mbf1c, transcription factor,

Abstract

Bryophytes are one of the most successful plants in nature and can tolerate several environmental stresses, such as saline stress. MBF1 is a transcription factor that may be involved in reprogramming transcription, which in turn may confer tolerance to stress conditions. The objective of this study was to quantify PaMBF1c under saline stress in three species of moss:*Funaria hygrometrica*,*Physcomitrium acutifolium*, and*Physcomitrella patens*. All moss species underwent 12 h and 24 h treatment with salt at different concentrations, followed by qRT-PCR experiments.
In *F. hygrometrica*, the MBF1c gene was up-regulated when subjected to 12 h salt treatment at a medium concentration, and may be an important factor for the tolerance of plants to NaCl concentrations. In*P. acutifolium,*24 h NaCl treatment at of 400, 600, and 800 mM resulted in a gradual up-regulation of MBF1c expression, reflective of the increasing NaCl concentration. In*Physcomitrella,*the expression profile of MBF1c showed a down-regulation when treated with 200, 400, and 800 mM NaCl, suggesting that MBF1c may not interfere with the saline stress response in this plant.
The diversity of these expression profiles demonstrate that the MBF1c response is not universal neither among plants nor between species of the same family, as shown in the mosses studied.

Attachments

DOCX

Methods_Protocol.doc...

14KB

Materials

MATERIALS

- Qubit™ dsDNA HS Assay Kit **Invitrogen - Thermo Fisher Catalog #**Q32851
- GoTaq(R) Hot Start Polymerase, 2500u **Promega Catalog #**M5006
- Qubit RNA HS Assay Kit **Thermo Fisher Scientific Catalog #**Q32852
- PureLink™ RNA Mini Kit **Thermo Fisher Scientific Catalog #**12183020
- High-Capacity RNA-to-cDNA™ Kit **Thermo Fisher Catalog #**4387406