

Accepted Manuscript

Title: Molecular Cloning and Expression Analysis of
Aquaporin Genes in Pearl Millet [*Pennisetum glaucum* (L) R.
Br.] Genotypes Contrasting In their Transpiration Response to
High Vapour Pressure Deficits

Authors: Palakolanu Sudhakar Reddy, Murugesan Tharanya,
Kaliamoorthy Sivasakthi, Mallayee Srikanth, C. Tom Hash,
Jana Kholova, Kiran K. Sharma, Vincent Vadez



PII: S0168-9452(17)30530-7
DOI: <https://doi.org/10.1016/j.plantsci.2017.10.005>
Reference: PSL 9683

To appear in: *Plant Science*

Received date: 9-6-2017
Revised date: 7-10-2017
Accepted date: 9-10-2017

Please cite this article as: Palakolanu Sudhakar Reddy, Murugesan Tharanya, Kaliamoorthy Sivasakthi, Mallayee Srikanth, C.Tom Hash, Jana Kholova, Kiran K.Sharma, Vincent Vadez, Molecular Cloning and Expression Analysis of *Aquaporin* Genes in Pearl Millet [*Pennisetum glaucum* (L) R.Br.] Genotypes Contrasting In their Transpiration Response to High Vapour Pressure Deficits, *Plant Science* <https://doi.org/10.1016/j.plantsci.2017.10.005>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Molecular Cloning and Expression Analysis of *Aquaporin* Genes in Pearl Millet [*Pennisetum glaucum* (L) R. Br.] Genotypes Contrasting In their Transpiration Response to High Vapour Pressure Deficits

Running title: Role of *aquaporin* genes in pearl millet

Palakolanu Sudhakar Reddy¹, Murugesan Tharanya^{1&2}, Kaliamoorthy Sivasakthi^{1&2}, Mallayee Srikanth¹, C. Tom Hash¹, Jana Kholova¹, Kiran K. Sharma¹, Vincent Vadez^{1*}

¹International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Patancheru, Hyderabad-502324, Telangana, India.

²Department of Industrial Biotechnology, Bharathidasan University, Tiruchirappalli, India

Corresponding author

Dr. Vincent Vadez

Crop Physiology Laboratory,

International Crops Research Institute for the Semi-Arid Tropics (ICRISAT),

Patancheru, Hyderabad 502 324,

Telangana, India. Tel.: +91-40-30713463.

E-mail address: v.vadez@cgiar.org

Highlights

- Identified pearl millet genotypes showing contrasting transpiration response to high vapor pressure deficit (VPD).
- Cloned seven *PgAQP* genes using homology based gene identification.
- *PgAQP* proteins were found to be evolutionarily closer to maize than rice.
- *PgAQPs* were induced in VPD-insensitive genotypes under low and high VPD conditions.
- *PgPIP2;1*, *PgPIP1;2*, *PgTIP2;2* and *PgPIP2;6* genes followed a diurnal rhythm of expression.

Download English Version:

<https://daneshyari.com/en/article/8356955>

Download Persian Version:

<https://daneshyari.com/article/8356955>

[Daneshyari.com](https://daneshyari.com)