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## Functional analysis of AISAP domains “A20/AN1” in abiotic stress tolerance mechanism

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Overexpression of AISAP in transgenic tobacco, rice and wheat plants conferred tolerance to various abiotic stresses under both green house and open field conditions. Stress associated proteins (SAPs), encoding proteins containing A20/AN1 zinc-finger domains with N-terminal A20 and/or C-terminal AN1 domain. In previous work we deciphered the role of AISAP in enhancing abiotic stress tolerance. We generated two mutations AISAP $\Delta$ AN1 (AISAP minus AN1 domain), and AISAP $\Delta$ A20/AN1 (AISAP minus A20 and AN1 domains) beside full length gene AISAP, and studied the contribution of each domain to the enhanced tolerance of the full length gene. The integration and expression of AISAP was ascertained by PCR and RT-PCR respectively. T1 seeds were obtained, and statistical analysis of segregation model was done using the  $\chi^2$  test in which observed values were compared to theoretical values corresponding to the integration of one or more copies of the transgene. A three T2 homozygote plants from each construct were selected for evaluation of their tolerance to salt and osmotic stresses. Here we found that overexpression of A20 domain has a good contribution to the enhanced tolerance to salt and osmotic stresses, as the generated AISAP $\Delta$ AN1 lines showed the same level of tolerance to the full length lines.

### Biography

Omar Moustafa Azab has his expertise in plant molecular biology and transformation through his work with a collaborative team from France, Tunisia, Saudi Arabia and Egypt. He is working on plant Abiotic stress tolerance through AISAP gene isolated by Afif Hassairi, and study function of the gene. Mr Omar finished his MSc in King Saud University on this topic, and he is continuing his study in the same field.

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