



Expression pattern analysis of Na⁺/H⁺ antiporter from cotton in response to salt stress

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Abstract:

Salinity is one of the most important abiotic stresses that decrease crop production. Cotton has a relative tolerance to salinity. NHX1 gene encoded a Na⁺/H⁺ vacuole antiporter that this antiporter has important roles in cellular pH and Na⁺, K⁺ homeostasis. To investigate NHX1 expression pattern, RNA extracted by modified LiCl procedure and Real Time PCR performed. Split-factorial design of time based on randomized complete block design with 3 replications was used. The real-time PCR results for, root, stem, and leaves of 14-day cotton seedlings of tolerant (Sepid) and sensitive (Thermus14) cotton cultivars with salinity levels from 0 to 16 ds.m⁻¹ were analyzed at three time points, namely 0, 7 and 14 days after salinity stress. Results showed that expression pattern NHX1 gene has positively responded to salinity stress and their expression in the root was higher than in stem and leaf and there was significant difference between short-time and long-time of stress. Also, the expression of tolerant genotype (Sepid) was higher than the sensitive cultivar (Thermus 14) one.

Biography:

Mohammadreza Ramazani Moghaddam has completed his



PhD at the age of 33 years from Tehran science and research University. He is the head of cotton department of KRAN-RREC and senior scientist (cotton geneticist and breeder) of AREEO of Iran.

Recent Publications:

1. Ramazani Moghaddam et. al. A.B. 2015.
2. Ramazani Moghaddam et. al. 2018.
3. Ramazani Moghaddam et. al. Biochem. 2014.
4. Ramazani Moghaddam et. al. Physiol. 2014