

(05-1-14)

## T-DNA Insertional Mutations in AtENH3, Enhancer of *sos3* NaCl Hypersensitivity, Increase the Salt Sensitive Phenotype of *sos3*

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A protein kinase complex consisting of the myristoylated calcium-binding protein SOS3 and the serine/threonine protein kinase SOS2 is activated by a salt-stress-elicited calcium signal. The protein kinase complex phosphorylates and activates various ion transporters, such as the plasma membrane  $\text{Na}^+/\text{H}^+$  antiporter SOS1. We screened enhancer mutants of *sos3-1* that increase NaCl sensitivity from a T-DNA insertion population in *Arabidopsis* Col-0 *gll sos3* genetic background. Analysis of the genomic fragment in the flanking region of T-DNA left border of mutant plants was isolated by thermal asymmetric interlaced PCR (TAIL-PCR) and was sequenced it. Database searches revealed that the T-DNA tag was inserted on *Arabidopsis* chromosome 4, the first exon of unknown protein (At4g30996). So we named the AtENH3 (Enhancer of *sos3* NaCl Hypersensitivity). Root growth of *sos3-1 ENH3* mutant was shorter than *sos3-1* mutant in 50 mM NaCl. We determined that *sos3-1 ENH3* T<sub>3</sub> progenies were homozygous for the respective mutant by analysis of diagnostic PCR. The protein of AtENH3 has two phosphorylation sites and two glycosylation sites. Expression of AtENH3 mRNA was induced by various stresses, such as NaCl, temperature, GA<sub>3</sub> and cytokinin. Our results suggest that AtENH3 enhance of *sos3-1* salt sensitivity by the mutations and is implicated in an important Na<sup>+</sup> influx or efflux system in plant roots.