Supplementary Materials

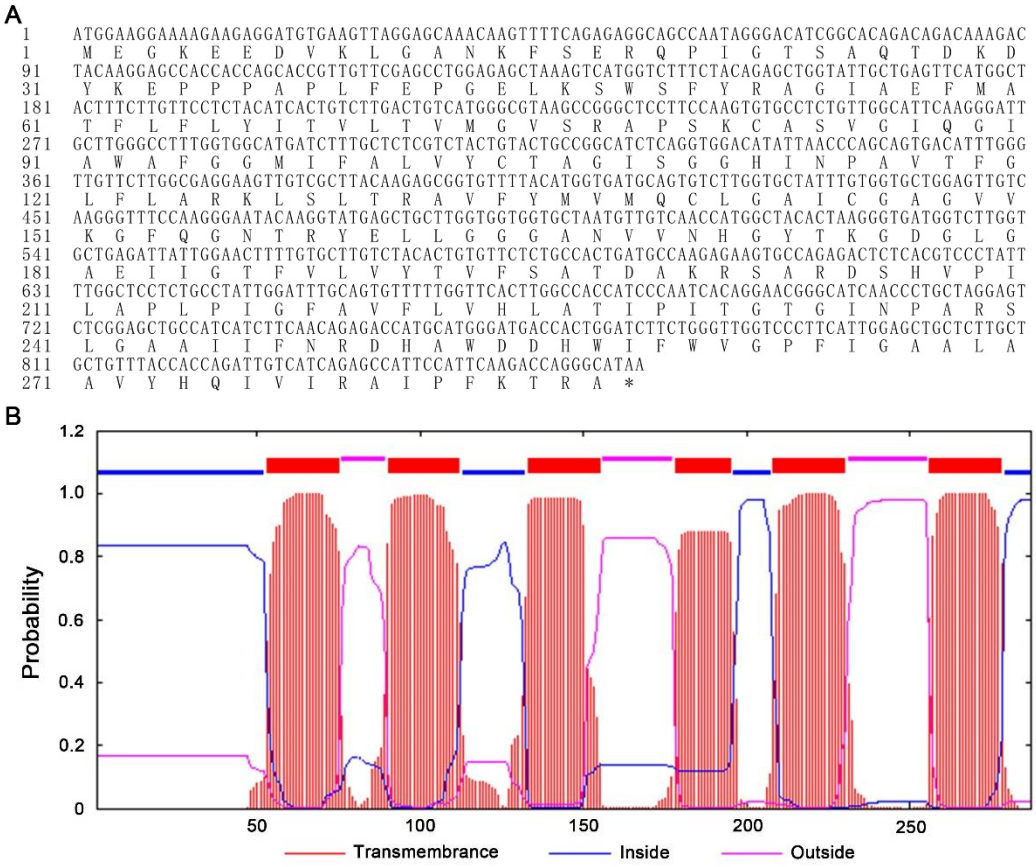

Figure S1. Coding sequence and transmembrane helices predication of *ZxPIP1;3*. **(A)** Full length of *ZxPIP1;3* coding sequence is 864 bp, encoding 287 amino acids. **(B)** ZxPIP1;3 protein contains 6 putative transmembrane domains.

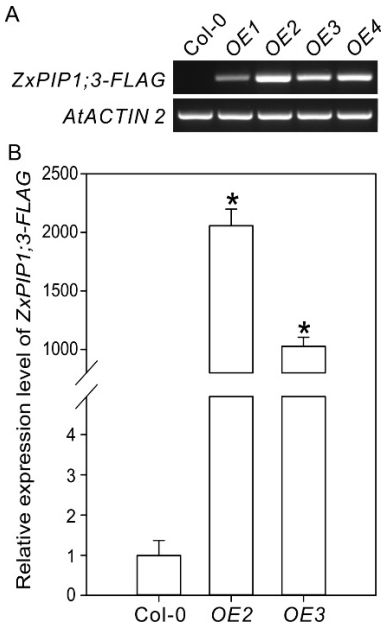

Figure S2. Generation of transgenic Arabidopsis plants. **(A)** Expression levels of *ZxPIP1;3-FLAG* in wild-type (Col-0) and transgenic plants (*OE1-4*) were evaluated via semi-quantitative RT-PCR.

(B) Relative expression levels of *ZxPIP1;3-FLAG* in Col-0 and *OE2*, *OE3* were evaluated via qRT-PCR. *AtACTIN 2* was used as the internal control. Primers used are listed in Table S1. For **(B)**, asterisks indicate significant differences from Col-0. Data shown are means of three independent biological replicates (**P*<0.05, one way ANOVA).

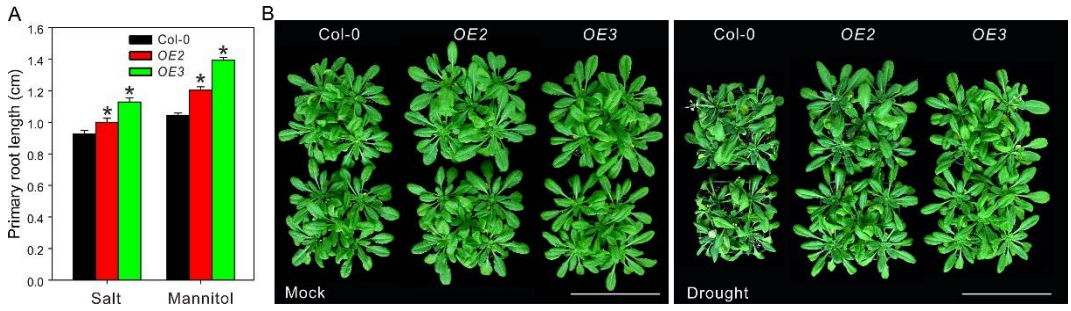

Figure S3. *ZxPIP1;3* overexpression improves salt and drought tolerance. **(A)** Primary root length of wild type (Col-0) and *ZxPIP1;3* overexpression lines (*OE2* and *OE3*) on 1/2 MS solid medium with 150 mM NaCl (Salt) or 300 mM mannitol (Mannitol). **(B)** Phenotypes of 5-week-old Col-0 and *OE2*, *OE3* under well-watered condition (Mock) and 7-day drought treatment (Drought). Bar = 10 cm. For **(A)**, asterisks indicate significant differences from Col-0 (n = 13 per column. **P* < 0.05, one way ANOVA).

Table S1. Primers used in current study.

Primers	Sequences
ZxPIP1;3-3'Fw	CACAAGGTATGAGCTTCTTG
ZxPIP1;3-3'Fn	ACTGTGTTCGCTGCCACTG
ZxPIP1;3-5'Rw	GTTGAAGATGATGGCAGCTC
ZxPIP1;3-5'Rn	CAGCGCCAATGAATGGTCCGA
ZxPIP1;3-FULL-F	AAAAAGCAGGCTtcATGGAAGGAAAAGAAGAGGATGTG
ZxPIP1;3-FULL-R	AGAAAGCTGGGTtTGCCCTGGTCTTGAATGGAATG
ZxPIP1;3-QF	CCAGCAGTGACATTTGGGTTG
ZxPIP1;3-QR	GCACCAAGACACTGCATCAC
ZxPIP1;3-FLAG-semiQF	CACTAAGGGTGATGGTCTTGGTG
ZxPIP1;3-FLAG-semiQR	CTTATCGTCGTCATCCTTGT
ZxPIP1;3-FLAG-QF	ATGACCACTGGATCTTCTGG
ZxPIP1;3-FLAG-QR	CTTATCGTCGTCATCCTTGT
AtP5CS1-QF	ATCCCTGTGCTAGGTCATGC
AtP5CS1-QR	CTATGCGCTTTGCCATATCCG
AtRD29A-QF	GATGGAAGATTCTGTCTCAACGAT
AtRD29A-QR	GTTTCTCCTTCACTATCTCCTCCG
AtDREB1A-QF	GAGATGTGTGATGCGACGAC
AtDREB1A-QR	CTCAAACATCGCCTCATCGTG
ZxACTIN-QF	TTTTCCAGCCATCCCTTGTT
ZxACTIN-QR	TGCAGTGATCTCCTTGCTCATAC
AtACTIN 2-QF	TCAGATGCCCAGAAGTGTTGTTCC
AtACTIN 2-QR	CCGTACAGATCCTTCCTGATATCC
AtACTIN 2-semiQF	TCAGATGCCCAGAAGTCTTGTT
AtACTIN 2-semiQR	GAGATCCACATCTGCTGGAATG