Table S1. Gene-specific primer pairs used in PCR.

Gene	Primer
PIP1;3	Forward: 5’-GCTGTGGATGATCTGGTTTTATCG-3’
	Reverse: 5’- ATTTGTACCGAACCAAACCAGAAG-3’
PIP1;5	Forward: 5’- CTTCTTGTTTCCTATGTCATGTG -3’
	Reverse: 5’-GTACACAATGTATTCTTCCATTGAC-3’
PIP2;1	Forward: 5’ - CAGTCACTTGCAGTTTTCATTTCC-3’
	Reverse: 5’ - GTAAACACAACGCATAAGAACCTC-3’
PIP2;3	Forward: 5’-CTTTTCCACTCGTATCTTAGCTTC-3’
	Reverse : 5’-ATACACCAAACTTACATACGTTGC-3’
PIP2;7	Forward: 5’-TGTAATGAGAGAGATGGTGGATTG-3’
	Reverse: 5’-ACTAAGAGAAACCAAAGGCAAACG-3’

Table S2. Effects on cell elasticity (ε) of 5 mM $Ca(NO_3)_2$ and 5 mM KF treatments in the wild-type *Arabidopsis* plants and in plants overexpressing PIP2;5. Different letters in each column for wild-type and transgenic plants indicate significant differences (ANOVA, Turkey, p = 0.05). Values are means ± SE (n = 7 plants).

Plants	ε (MPa)			
	- $Ca(NO_3)_2$	+$Ca(NO_3)_2$	- KF	+ KF
Wild-type	4.1 ± 0.7[a]	3.8 ± 0.6 [a]	3.7 ± 0.8 [b]	4.6 ± 1.2 [b]
Overexpressing PIP2;5-1	3.6 ± 0.9 [a]	3.9 ± 0.9 [a]	4.5 ± 0.8 [b]	4.6 ± 1.1 [b]

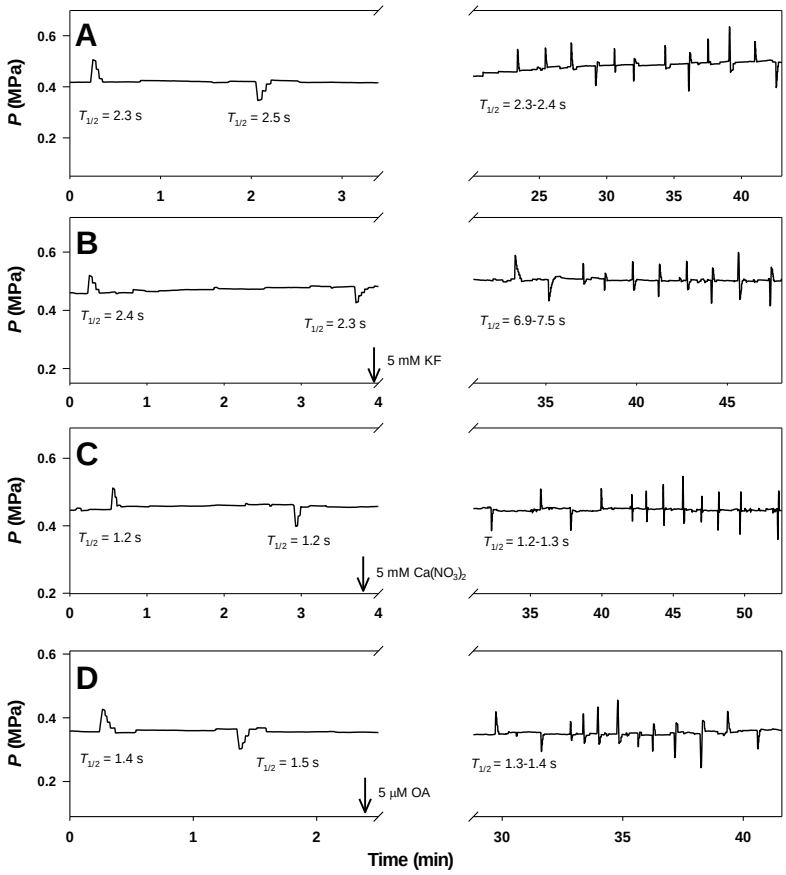

Figure S1. Typical responses of half-times for water exchange ($T_{1/2}$) and elastic modulus (ε) in cortical cells of *Arabidopsis* roots. $T_{1/2}$ is shown at about 0-20 min (A, D) and 0-35 min (B, C), and ε measured at about 30-40 min (A, D), 40-50 min (B, C) is shown on the right side of the traces in the control (A), KF (B), $Ca(NO_3)_2$ (C) and OA (D) treatments.

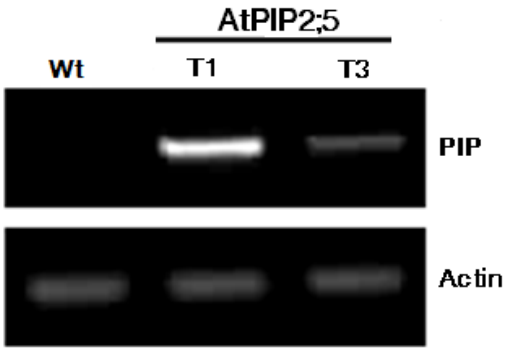

Figure S2 Confirmation of the transgenic lines. RT-PCR analyses of the expression of PIP2;5 in the wild-type (Wt) plants and independent transgenic lines (T1 and T3) in 21-day old *Arabidopsis* plants grown in hydroponic culture.