International Journal of
Molecular Sciences

MDPI

Supplementary

The kinase CIPK11 functions as a negative regulator in drought stress response in Arabidopsis

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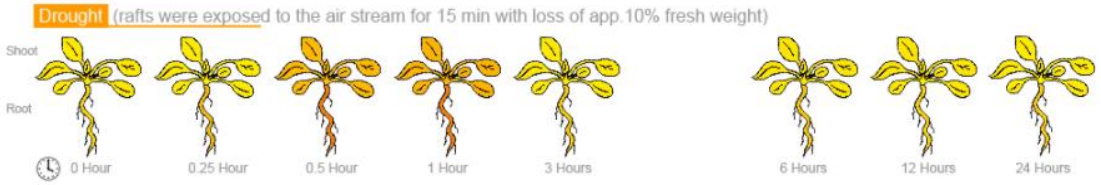

Figure S1. Inducible expression of *CIPK11* by drought stress obtained from the Electronic Fluorescent Pictograph (e-FP) browser.

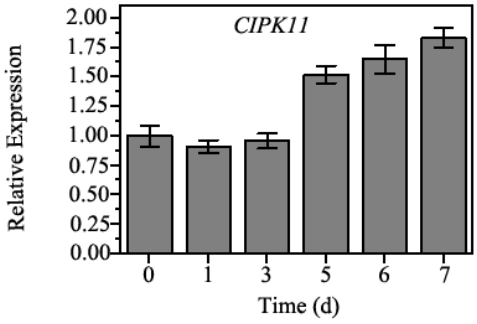

Figure S2. Quantitative measurement of the *CIPK11* transcript levels in 28-day-old Col-0 plants after drought stress for 0, 1, 3, 5, 6, or 7 days for qRT-PCR. Actin 2 was used as internal control. Values are means ±SD (n = 3).

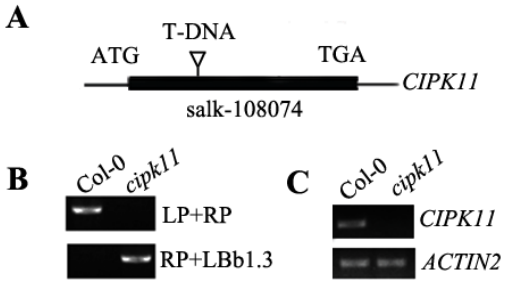

Figure S3. Identification of Arabidopsis *cipk11* mutant. (A) Structure of Arabidopsis *CIPK11* and T-DNA insertion site in *cipk11* mutant (Salk_108074). (B) Molecular analysis of *cipk11* and Col-0, primers LP, RP and LBb1.3 were used to target the flanking sequences of the T-DNA. (C) Semi-quantitative RT-PCR analysis of *CIPK11* expression in Col-0 and *cipk11* plants.

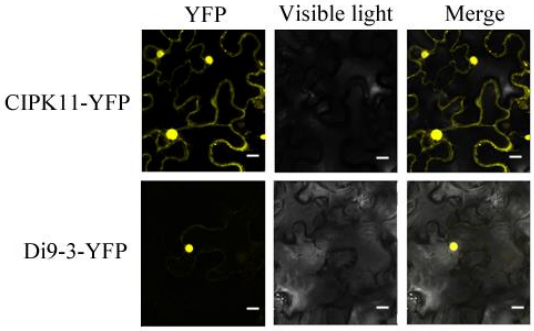

Figure S4. Subcellular localization of CIPK11 and Di19-3 proteins in the epidermal peel cells of *Nicotiana benthamiana*. All the constructs showed cytoplasmic and nucleoplasmic localization when they were transiently expressed in *Nicotiana benthamiana* epidermal cells.

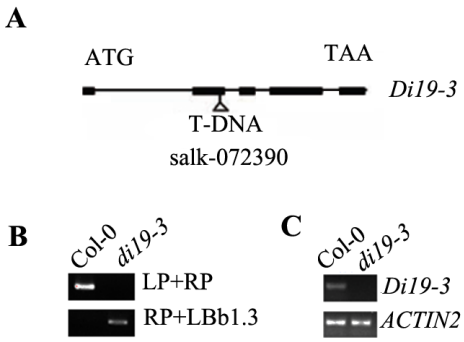

Figure S5. Identification of Arabidopsis *di19-3* mutant. (A) Structure of Arabidopsis *Di19-3* and T-DNA insertion site in *di19-3* mutant (Salk_072390). (B) Molecular analysis of *di19-3* and Col-0, primers LP, RP and LBb1.3 were used to target the flanking sequences of the T-DNA. (C) Semi-quantitative RT-PCR analysis of *Di19-3* expression in Col-0 and *di19-3* plants.

39 **Table S1. List of primers used in the current study.**

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S.N.	Name of primer	Sequence of primers
1	SALK_108074(*cipk11*)-LP	5'-CGCGTTTAAACTCTTCACAGC-3'
2	SALK_108074(*cipk11*)-RP	5'-ATCTTTTTAAAAGCTTCCGCG-3'
3	SALK_072390(*di19-3*)-LP	5'-TCATATAACCCTTCAGCACGC-3'
4	SALK_072390(*di19-3*)-RP	5'-TGATTAGTTTGGGGATACCCC-3'
5	CIPK11-F	5'-CGGAATTCATGCCAGAGATCGAGATTGC-3'
6	CIPK11-R	5'-CGGGATCCAATAGCCGCGTTTGTTGACGAC-3'
7	LBb1.3	5'-ATTTTGCCGATTTCGGAAC-3'
8	ACT2 RT-F	5'-TCAGATGCCCAGAAGTCTTGTTC-3'
9	ACT2 RT-R	5'-GTGGATTCCAGCAGCTTCCA-3'
10	35S-F	5'-CAAACGAATCTCAAGCAATC-3'
11	FLAG-R	5'-TGTCGTCATCGTCTTTGTAGTC-3'
12	DI19-3-GST-F	5'-CGGGATCCATGGATTCCGATTCATGGAGT-3'
13	DI19-3-GST-R	5'-CGGAATTCTTATAAGCTGTCATCAAGAATCGT-3'
14	CIPK11-KD-GST-F	5'-CGGGATCCATGCCAGAGATCGAGATTGC-3'
15	CIPK11-KD-GST-R	5'-CGGAATTCTTATCCTCTAACAAACCAAGGATC-3'
16	pUC-SPYCE-CIPK11-F	5'-ACGGATCCATGCCAGAGATCGAGATTGC-3'
17	pUC-SPYCE-CIPK11-R	5'-CGGTCGACAATAGCCGCGTTTGTTGACGAC-3'
18	pUC-SPYCE-CIPK11-KD-F	5'-ACGGATCCATGCCAGAGATCGAGATTGC-3'
19	pUC-SPYCE-CIPK11-KD-R	5'-CGGTCGACTCCTCTAACAAACCAAGGATCT-3'
20	pUC-SPYNE-DI19-3-F	5'-CGGGATCCATGGATTCCGATTCATGGAGT-3'
21	pUC-SPYNE-DI19-3-R	5'-CGGAATTCTAAGCTGTCATCAAGAATCGT-3'
22	pGBKT7-CIPK11-F	5′-CGGGATCCGTATGCCAGAGATCGAGATTG-3'
23	pGBKT7-CIPK11-R	5′-ACGCGTCGACAAATAGCCGCGTTTGTTGAC-3'
24	pGBKT7-CIPK11-KD-F	5'-CGGGATCCATGCCAGAGATCGAGATTGC-3'
25	pGBKT7-CIPK11-KD-R	5'-ACGCGTCGACTTATCCTCTAACAAACCAAG-3'
26	pGADT7-DI19-3-F	5'-CGGGATCCATGGATTCCGATTCATGGAGT-3'
27	pGADT7-DI19-3-R	5'-CGGAATTCTTATAAGCTGTCATCAAGAATCGT-3'
28	RD29A-real time-F	5′-CAGAGGAACCACCACTCAACACA-3′
29	RD29A-real time-R	5'-CTCTAGGTTTACCTGTTACGCCTG-3'
30	RD29B-real time-F	5'-ATGGAGTCACAGTTGACACGTCCT-3'
31	RD29B-real time-R	5'-CTTCTGGGTCTTGCTCGTCATACT-3'
32	RAB18-real time-F	5'-ATGGCGTCTTACCAGAACCGTCCA-3'
33	RAB18-real time -R	5'-ACCACCACTTTCCTTGTGGAGTTG-3'
34	DREB2A-real time-F	5'-GAATGGTGCGGAAGAGATGAAG-3'
35	DREB2A-real time -R	5'-GTTCAAACTCGCTCAGCCAAT-3'
36	CIPK11-real time-F	5'-GTCGGGATTGTTTGCTGGTTGT-3'
37	CIPK11-real time-R	5'-TTCCCATTTTGCCCCTCCATCT-3'
38	DI19-3-real time-F	5'-TTGTCTCTCTCTGCTGCCACAT-3′
39	DI19-3-real time-R	5'-TCTTGGTTTTCTCTTGCGGTGC-3′

40	ACTIN2-real time-F	5'-TTGACTACGAGCAGGAGATGG-3′
41	ACTIN2-real time-R	5'-ACAAACGAGGGCTGGAACAAG-3′

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