

Supplementary Material

Infection with an asymptomatic virus in rice results in a delayed drought response

Jaymee R. Encabo^{A,B,C}, Reena Jesusa A. Macalalad-Cabral^A, Jerlie Mhay K. Matres^A, Sapphire Charlene Thea P. Coronejo^A, Gilda B. Jonson^A, Yuji Kishima^B, Amelia Henry^{D,E} and Il-Ryong Choi^{A,E}

^ARice Breeding Platform, International Rice Research Institute, Pili Drive, Los Baños, Laguna, 4031 Philippines.

^BLaboratory of Plant Breeding, Research Faculty of Agriculture, Hokkaido University, Sapporo, 060-8589, Japan.

^CMicrobiology Division, Institute of Biological Sciences, University of the Philippines Los Baños, Los Baños, Laguna, 4031, Philippines.

^DStrategic Innovation Platform, International Rice Research Institute, Pili Drive, Los Baños, Laguna, 4031, Philippines.

^ECorresponding authors. Email: a.henry@irri.org; ichoi51@hotmail.com

Table S1. Information on primers1 used for RTSV quantification by RT-qPCR.

Table S2. Information on primers used for expression analysis of transcription factor genes.

Table S3. Growth and physiological traits of uninfected and RTSV-infected rice plants (Taichung Native 1) under well-watered and drought stress conditions.

Table S1. Information on primers¹ used for RTSV quantification by RT-qPCR.

Primer Name	Genomic Position	Sequence (5' – 3')
RTSV 5F	6469–6487	GCTTCAGGGAATTAACG
RTSV 5R	8090–8110	AGTGGCCTTAACCTTATCTTG
RTSV RT F	7845–7863	GCCGAGAAGTCGCGTAAGC
RTSV RT R	7889–7907	GCCTGGCGACAAGCCTAAA

¹Sharma and Dasgupta 2012.

Table S2. Information on primers used for expression analysis of transcription factor genes.

TIGR Locus ID	Gene Symbol	Description	Sequence (5'-3')
LOC_Os01g07120	<i>OsDREB2A</i>	Dehydration-responsive element-binding protein 2A	F - GTCATGCTGCGGGTCAAT R - ACAAAGCTTCAGGTTGCAGAT
LOC_Os01g66120	<i>OsNAC6</i>	NAC domain containing protein 6	F - AATTGCATCGGGTGGCAT R - CCCTGTATACCGAATCAATCACC
LOC_Os02g45420	<i>OsERF20</i>	Ethylene response factor 20/AP2 domain containing protein	F - GGAGCTACCGTGATCCCTA R - ATATGATTAATTCGGGCCGCTA
LOC_Os02g52780	<i>OsZIP23</i>	b-ZIP transcription factor 23	F - CGCTCTCGCTGGGAAAT R - CATCTTGCCGAAGCCATTG
LOC_Os03g60080.1	<i>OsSNAC1</i>	Stress-induced transcription factor NAC1	F - ATGGTCCCCTTCTGAGGT R - CAGCCGGCGCTGTATATTT
LOC_Os04g40950	<i>GAPDH</i>	Glyceraldehyde-3-phosphate dehydrogenase	F - AAGCCAGCATCCTATGATCAGAT R - CGTAACCCAGAATACCCTTGAGTTT

Table S3. Growth and physiological traits of uninfected and RTSV-infected rice plants (Taichung Native 1) under well-watered and drought stress conditions. ND: not determined

Trial	Infection status	Plant height		Shoot mass		Leaf water potential		Leaf osmotic potential		Water uptake rate		Water use efficiency	
		(cm)		(g)		(-MPa)		(-MPa)		(kg day ⁻¹ cm ⁻²)		(g kg ⁻¹)	
		Well-watered	Drought	Well-watered	Drought	Well-watered	Drought	Well-watered	Drought	Well-watered	Drought	Well-watered	Drought
1 (Non-shaded)	Mock	83.0 ± 0.90	66.0 ± 0.94	4.6 ± 0.33	1.9 ± 0.11	0.7 ± 0.10	3.1 ± 0.10 b	1.10 ± 0.10	2.30 ± 0.30 b	0.40 ± 0.03	0.40 ± 0.03	2.00 ± 0.10	2.60 ± 0.15
	RTSV	81.8 ± 3.54	67.3 ± 1.87	4.1 ± 0.16	1.9 ± 0.11	1.1 ± 0.10	1.9 ± 0.30 a	1.00 ± 0.10	1.70 ± 0.20 a	0.40 ± 0.05	0.30 ± 0.03	1.90 ± 0.19	3.20 ± 0.50
2 (Non-shaded)	Mock	78.3 ± 2.00	60.5 ± 3.30	3.8 ± 0.58	1.5 ± 0.20	1.9 ± 0.20	2.9 ± 0.10 b	1.20 ± 0.04	2.00 ± 0.10	0.30 ± 0.02	0.30 ± 0.01	2.40 ± 0.06	2.40 ± 0.12
	RTSV	79.0 ± 3.30	59.9 ± 0.90	4.4 ± 0.38	1.7 ± 0.12	1.9 ± 0.10	2.2 ± 0.20 a	1.10 ± 0.01	2.10 ± 0.20	0.30 ± 0.01	0.20 ± 0.01	2.30 ± 0.22	2.30 ± 0.06
3 (Non-shaded)	Mock	72.1 ± 1.2	57.3 ± 2.3	6.0 ± 0.49	2.0 ± 0.25	2.4 ± 0.30	2.5 ± 0.10 b	0.90 ± 0.02	2.30 ± 0.30	0.50 ± 0.02	0.30 ± 0.02	2.20 ± 0.13	1.80 ± 0.16
	RTSV	73.3 ± 2.5	53.4 ± 1.4	5.4 ± 0.64	1.9 ± 0.05	1.9 ± 0.10	1.9 ± 0.10 a	0.90 ± 0.05	2.00 ± 0.02	0.50 ± 0.01	0.30 ± 0.01	2.50 ± 0.04	1.90 ± 0.08
4 (Non-shaded)	Mock	ND	ND	6.1 ± 0.60	2.0 ± 0.1	2.4 ± 0.20	2.3 ± 0.10 b	ND	ND	ND	ND	ND	ND
	RTSV			6.0 ± 0.50	2.0 ± 0.2	2.4 ± 0.20	1.8 ± 0.10 a						

5 (Non-shaded)	Mock	ND	ND	5.3 ± 0.2	1.7 ± 0.2	2.9 ± 0.40	2.5 ± 0.10 b	ND	ND	ND	ND	ND	ND
	RTSV			4.8 ± 0.1	2.0 ± 0.1	2.2 ± 0.30	1.9 ± 0.10 a						
6 (Shaded)	Mock	ND	ND	ND	ND	0.95 ± 0.10	2.37 ± 0.12	1.35 ± 0.08	2.00 ± 0.08 b	ND	ND	ND	ND
	RTSV					0.99 ± 0.07	2.17 ± 0.10	1.27 ± 0.07	1.68 ± 0.07 a				
7 (Shaded)	Mock	ND	ND	ND	ND	0.76 ± 0.04	2.99 ± 0.14 b	1.03 ± 0.10	1.73 ± 0.10	ND	ND	ND	ND
	RTSV					0.61 ± 0.05	2.07 ± 0.12 a	0.99 ± 0.12	1.58 ± 0.12				
8 (Shaded)	Mock	ND	ND	ND	ND	0.96 ± 0.08	3.30 ± 0.19 b	1.26 ± 0.21	2.91 ± 0.30 b	ND	ND	ND	ND
	RTSV					0.95 ± 0.03	2.63 ± 0.01 a	1.33 ± 0.14	2.30 ± 0.14 a				