

Supplementary Information

OsRDR6* plays role in host defense against double-stranded RNA virus, *Rice Dwarf Phytoreovirus

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Figure S1. Genomic view of RDV vsRNAs from RDV-infected rice plants. The vsRNAs per million of the total sequenced small RNAs were plotted against the (+)-(top) or (-)-(bottom) strands of RDV genomic RNAs (S1-S12) using a single-nucleotide window.

Figure S2. Southern blot assay of *OsRDR6*-over-expression lines. Probes were amplified with the Hyg-specific primers Hyg-F/R (Table S1) which are specific to hygromycin-resistance gene, hygromycin phosphotransferase (Hyg) and labeled by DIG DNA labeling mix. Except line 9, other five transgenic lines are single copy T-DNA inserted. WT, Zhonghua 11 wild type rice; EV empty vector transformed Zhonghua 11; *OsRDR6* OE, *OsRDR6*-over-expression lines; M, DNA marker.

Figure S3. RT-PCR screening of transgenic *A. thaliana* lines. (a) Detection of *OsRDR6* transcript expression in transgenic *rdr6 A. thaliana (rdr6-11)* lines over-expressing *OsRDR6*. Lines 14 and 15 are two independent lines. (b) Detection of *OsRDR2* transcript expression in transgenic *rdr6 A. thaliana (rdr6-11)* lines over-expressing *OsRDR2*. Lines 11 and 22 are two independent lines. (c) Detection of *AtRDR6* transcript expression in transgenic *rdr6 A. thaliana (rdr6-11)* lines over-expressing *AtRDR6*. Lines 1 and 8 are two independent lines. WT, Columbia (Col) wild type *A. thaliana* plants. EV, *A. thaliana* plant lines transformed with pWM101 plasmid vector. +RT, the RNA sample treated with reverse transcriptase. -RT, the RNA sample that did not treated with reverse transcriptase for exclusion of the possibility of genomic DNA contamination. *AteIF4A* was used as an internal control.

Figure S1

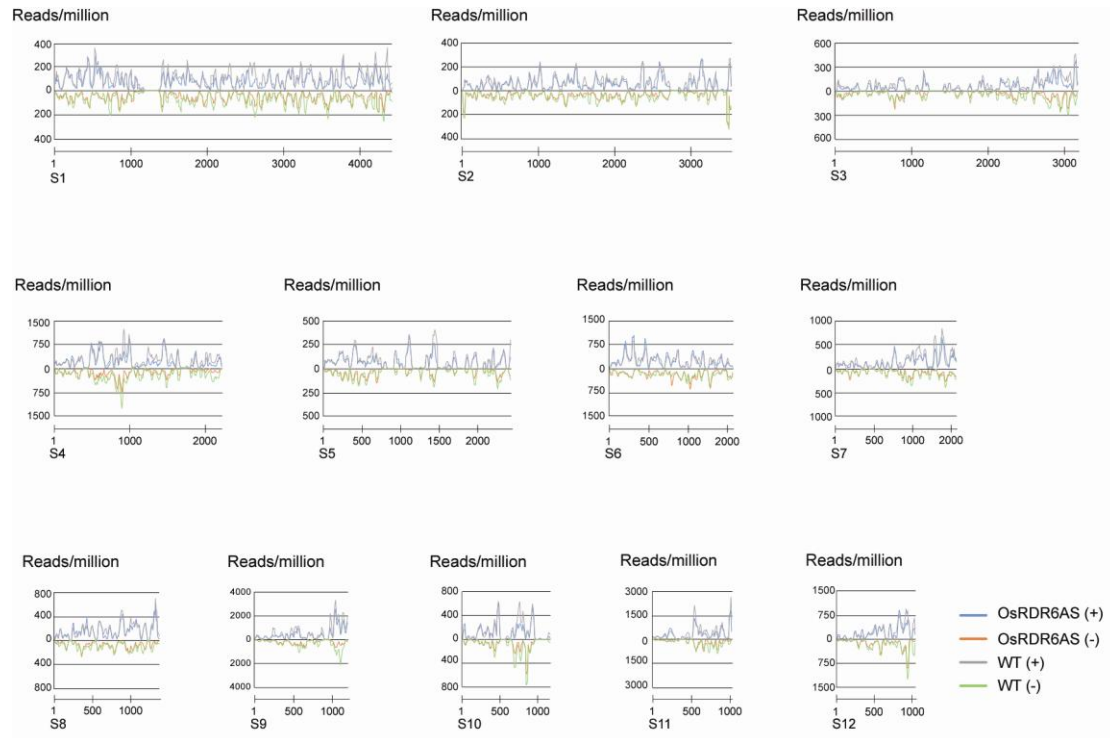


Figure S2

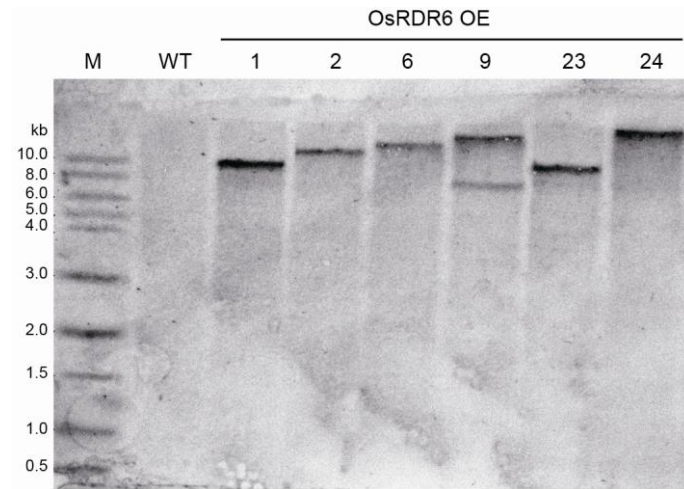


Figure S3

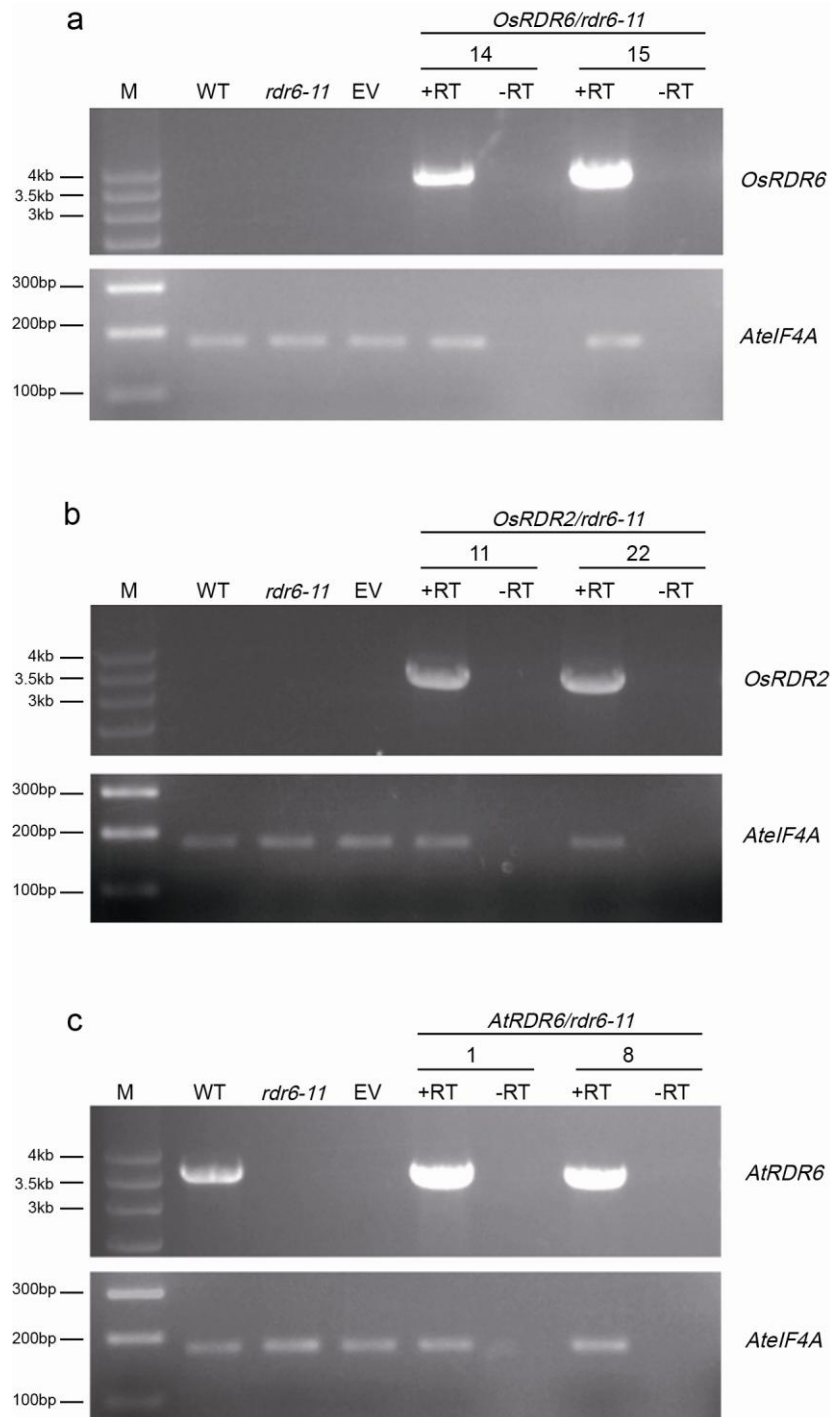


Table S1 Specific primers used in this study

Primers for OsRDR6 polyclonal antibody production	
OsRDR6F3-3	5'-GAGCTCTTGAATAGTTATTTTGTTAAGCATG-3'
OsRDR6R3-3	5'-AAGCTTTCATATCCTCTCGGAGATGTATG-3'

Primers for amplifying probes for Southern blot	
Hyg-F	5'-CTTCTGCGGGCGATTTGT -3'
Hyg-R	5'-ATTGACTGGAGCGAGGCG-3'

Primers for amplifying viral genomic RNA as DNA probes for Northern blot	
S2-F1	5'-GGCAAACCTCGCCATGGCT-3'
S2-R1	5'-AAAGCAAGCAGGGTGAATAGGTAG-3'
S11-F1	5'-TTTGAGTTCTGACAGTGATGCCAATAC-3'
S11-R1	5'-ATCATATATGAGTGGGTGTTTTTGGCTT-3'

Primers for quantitative real-time PCR	
OsRDR6 P13	5'-TAAGAACAGCAGCAAGAAGCAAG-3'
OsRDR6 P14	5'-ATAGACAGCCCTCAACTGAAACG-3'
OsEF1a-F	5'-ACATTGCCGTC AAGTTTGCTG-3'
OsEF1a-R	5'-AACAGCCACCGTTTGCCTC-3'

Primers for RT-PCR screening for transgenic <i>A. thaliana</i> lines	
AteIF4A-RT-F	5'-GCGCATCCTCCAAGCTGGTGTCC-3'
AteIF4A-RT-F	5'-GGTGGAAGAAGCTGGAATATGTCAT-3'
AtRDR6-RT-F	5'-CCGGAATTCATGGGGTCAGAGGGAAATATGAAG-3'
AtRDR6-RT-R	5'-CGGGGTACCGCGAGACGCTGAGCAAGAACTTAGCC-3'
OsRDR6-RT-F	5'-GAATTCGATCACCCAAGCCAT-3'
OsRDR6-RT-R	5'-TCATATCCTCTCGGAGATGTATG-3'
OsRDR2-RT-F	5'-AGTCCCCAAACCTCCCATAC-3'
OsRDR2-RT-R	5'-TCAGGCGCTGCAGTCCATCTGCA-3'

Table S2 Probes for small RNA Northern blot in *OsRDR6* and *AtRDR6* functional complementation assay

miRNA173	5'-GTGATTTCTCTCTGCAAGCGAA-3'
miRNA390	5'-GGCGCTATCCCTCCTGAGCTT-3'
miRNA391	5'-TGGCGCTATCTCTCCTGCGAA-3'
TAS1 siR255	5'-TACGCTATGTTGGACTTAGAA-3'
TAS2 siR1511	5'-AAGTATCATCATTGCTTGGA-3'
TAS3a D7 (+)	5'-GGGGTCTTACAAGGTCAAGAA-3'
TAS3a D8 (+)	5'-AAGGCCTTACAAGGTCAAGAA-3'
