Supporting Information Figs S1–S8, Tables S1–S4

Fig. S1

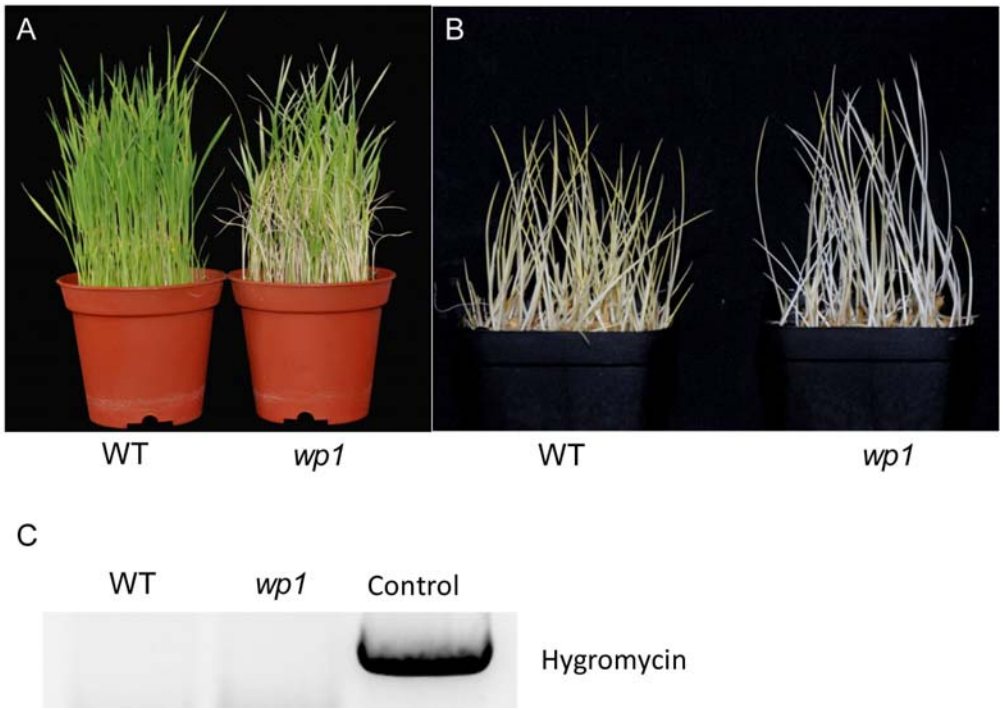

Fig. S1 Phenotypes of wild type and *wp1*

A, 20-day-old seedlings of wild type and *wp1*

B, 5-day-old seedlings of wild type and *wp1* grown in the dark..

C，PCR detection of wp1. 0.9 kb product could be amplified from positive sample using primers of hygromycin resistant gene

Fig. S2

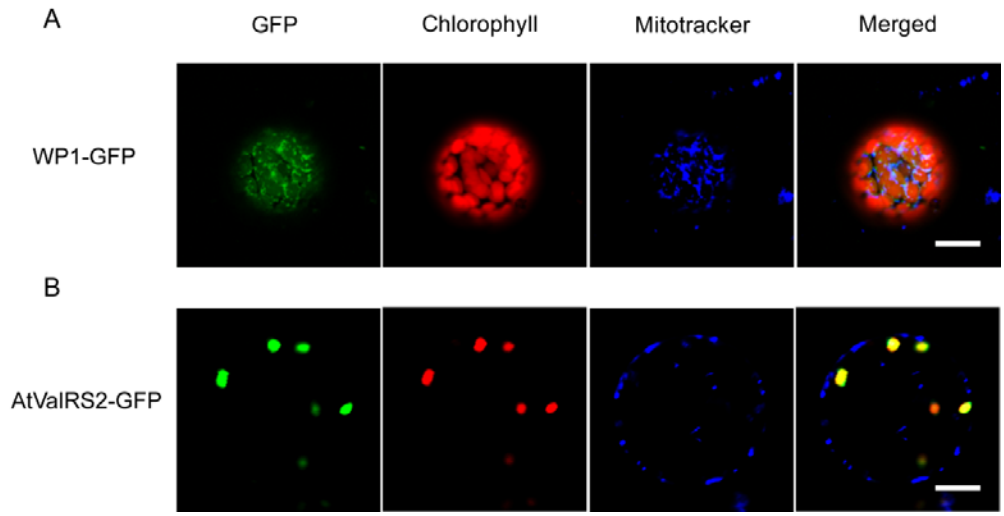

Fig S2 Subcellular localization of ValRS2

A, Subcellular localization of OsValRS2 in Nicotiana protoplasts. Bar = 20 μm.

B, Subcellular localization of AtValRS2 in rice protoplasts. Bar = 10 μm.

Fig S3

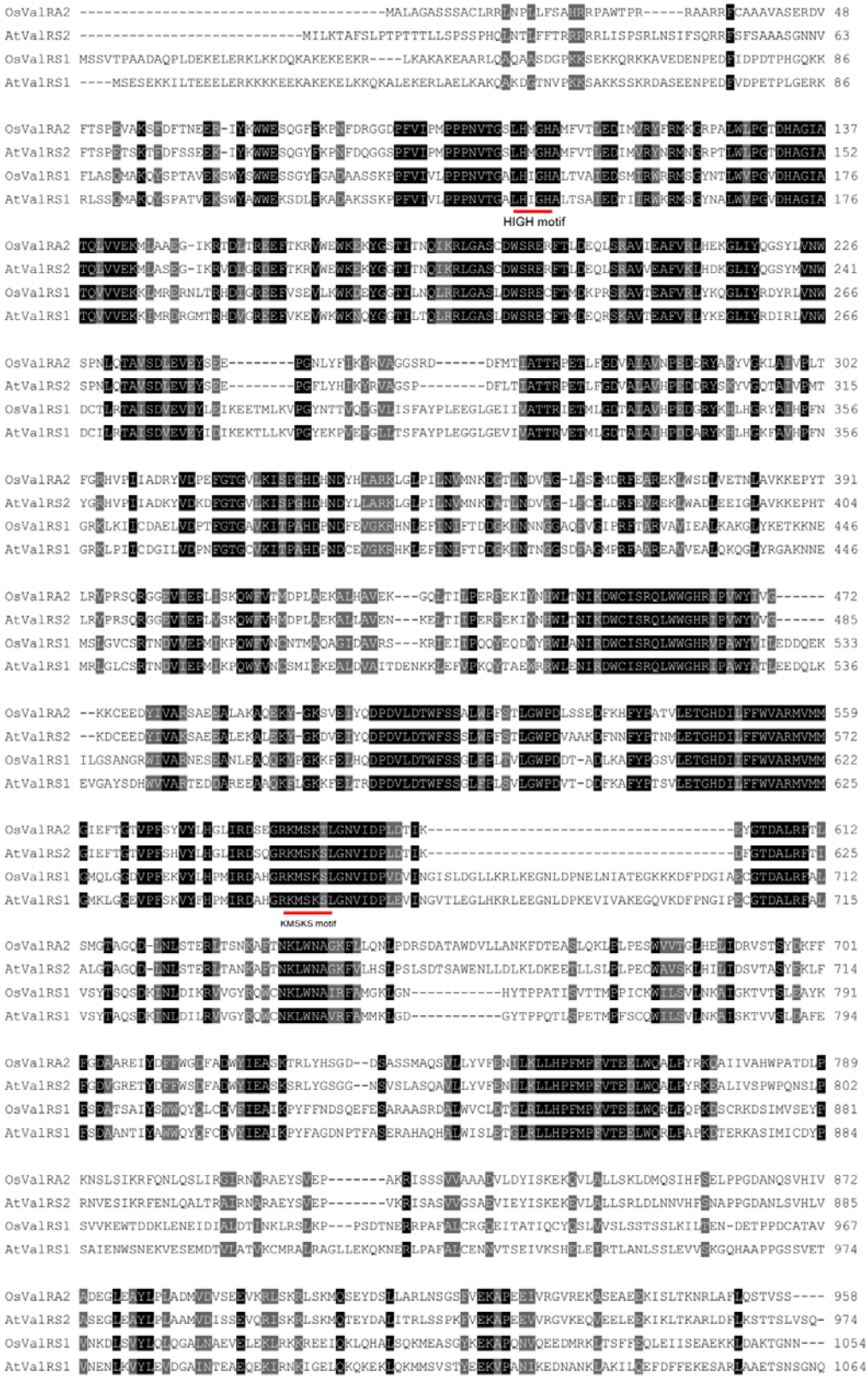

Fig. S3 Alignment of OsValRS1, OsValRS2（WP1）, AtValRS1, AtValRS2

Fig. S4

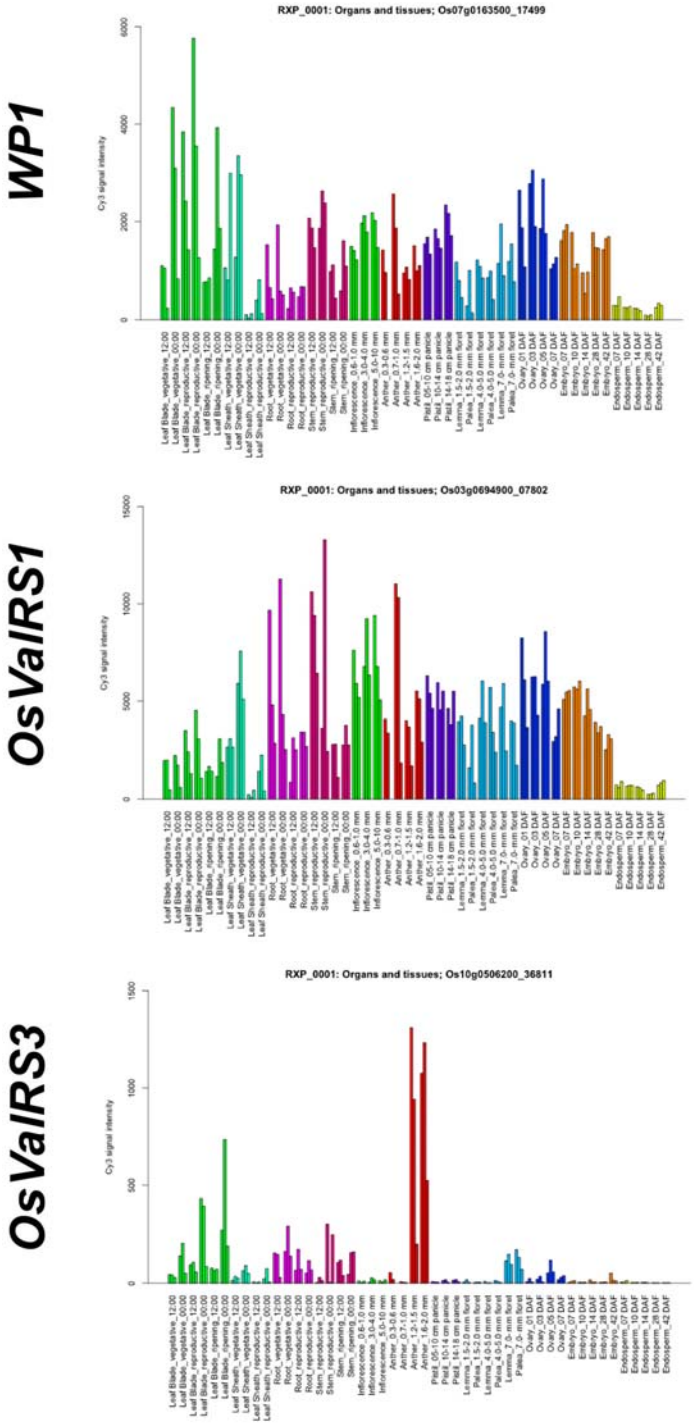

Fig. S4 Expression profiles of *WP1, OsValRS1* and *OsValRS3* from http://ricexpro.dna.affrc.go.jp/

Fig S5

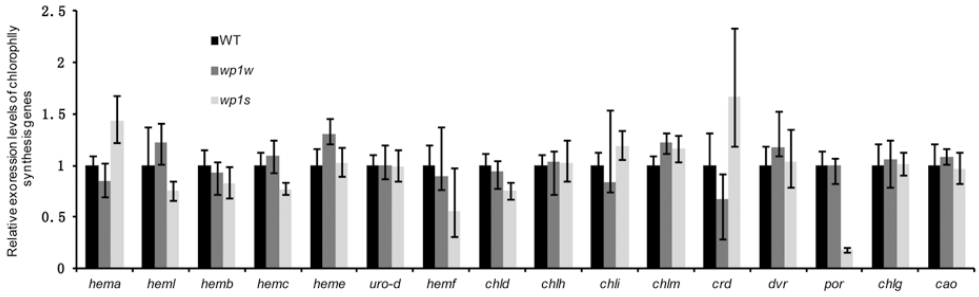

Fig. S5 Expression levels of chlorophyll synthesis genes in wild type and *wp1*

Fig. S6

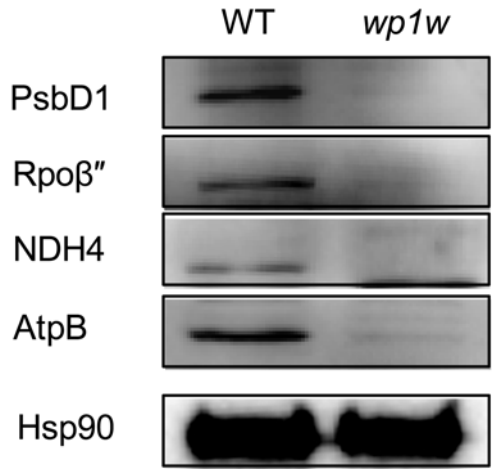

Fig. S6 Western-blot analysis of chloroplast proteins in wild type and *wp1w* glumes.

Fig. S7

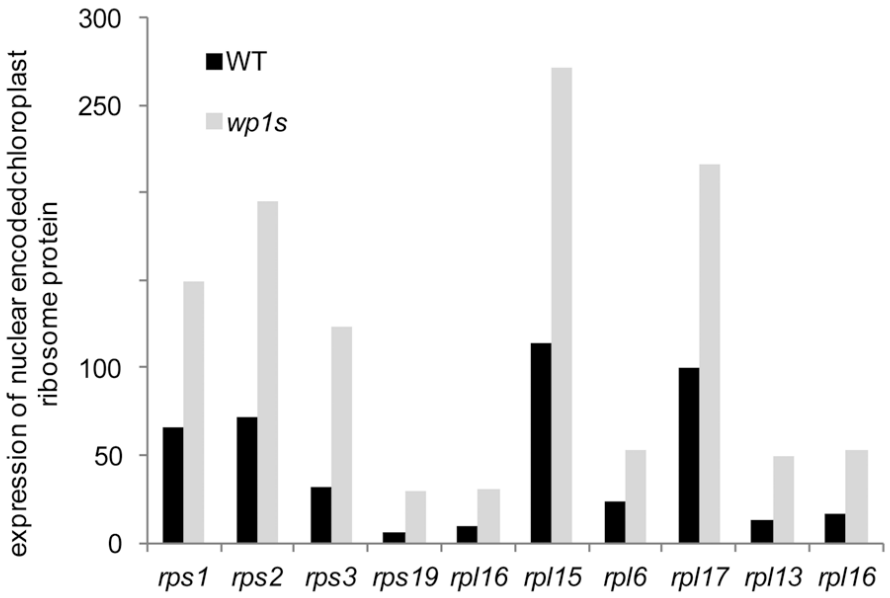

Fig. S7 Expression of nuclear-encoded chloroplast ribosomal protein genes in seedlings

Fig. S8

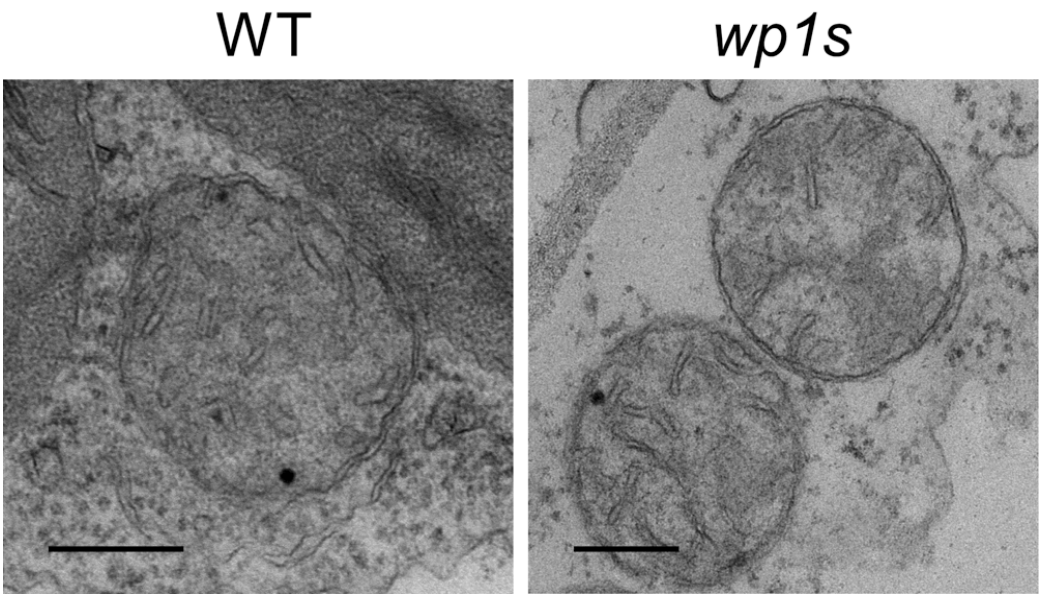

Fig S8 TEM observation of mitochondria of wild type and *wp1s*. Bars = 200 nm.

Fig. S9

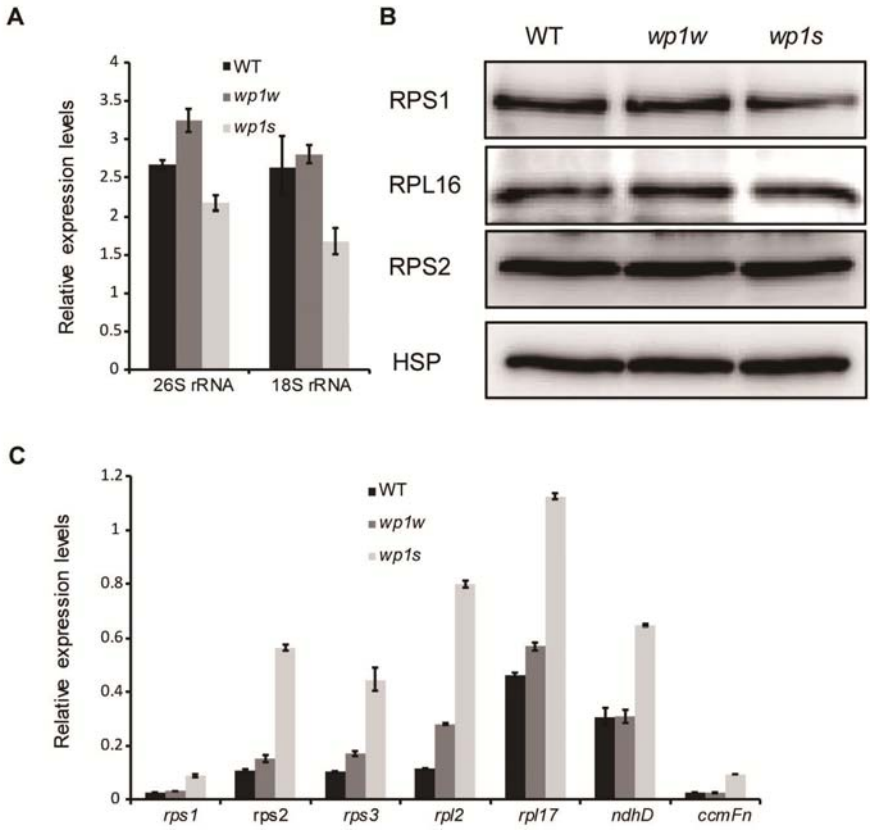

Fig. S9 Analysis mitochondrial ribosomes and mRNA levels of some mitochondrial genes.

A, Relative expression levels of mitochondrial 26S and 18S rRNAs in *wp1* and wild type.

B, Western-blot analyses of mitochondrial ribosomal proteins in *wp1* and wild type.

C, Relative expression levels of some mitochondrial genes in *wp1* and wild type. Error bars indicate SD (n = 3).

Table S1 Agronomic characteristics of WT and *wp1w*

	plant height (cm)	thousand kernel weight (g)	flag leaf length (cm)	flag leaf width (cm)	tiller number	spike length (cm)
WT	77.4 ± 3.4	23.58 ± 0.34	30.5 ± 2.6	1.26 ± 0.08	5.4 ± 0.9	20.9 ±1.1
wp1w	76.6 ± 3.2	23.96 ± 0.26	29.7 ± 2.6	1.31 ± 0.05	5.4 ± 1.1	19.9 ± 0.9

Table S2 Primers used in mapping

primer name	Forward sequence	Reverse sequence
RM82	TGCTTCTTGTCAATTCGCC	CGACTCGTGGAGGTACGG
Bs1	GAGTGAACCCTGCTCCAG	GAACACCACCTTATTTCTATTT
Bs2	CTGTGGAAAAGGACGCATAAA	ATTGAATAGTGGCGGTGGATT
Bs8	GCTACTGTCTGCCTCCTTCG	GGTTCAAAATGAGACGCTTG
Bs12	GGGCATTCTGTGCATTTT	TGTCATTGTTTTGCCTTCTTA
Bs15	GCTTGTTGCTGCTGCTCT	ACAGAATTATGTAGGGACTGC
Bs17	AGGGCATGTATCTAAACAAAGG	AGCTACTCGAAGCATCCACTAA
Jc-1	GAAGTGATGCCACTCCATG	TACCAATCAGCAAAGTCCC

276 **Table S3** Primers used in Real-time PCR

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Primer name	Forward sequence	Reverse sequence
ACTIN	TGGTCGTACCACAGGTATTG	CCACATCTGCTGGAATGTGCTG
HEMA	GATGCAATCACTGCTGGAAAGCGT	CCATCTTGCCAGCACCAATCAACA
HEML	AGAACAAAGGGCAGATTGCTGCTG	TGTTTCGTCAAGTCACGGAGAGCA
HEMB	TGGCATTGTCAGGGAAGATGGAGT	CCAAAGCAGCACGTATTGCTCCAA
HEMC	TCATTCCGAGGGCTATTGGCTTCA	ACACTCTAGTTGGCCAATGGTGGA
HEME	AATGGAGGCTTGCTTGAGCGAATG	TTGTTACCAAGGCGTCTCCTTCCA
URO-D	AGGCTTCCACTGACAGGTGTTGAT	AAAGAACGCCAGGGTCAACATTCC
HEMF	ACTGACTGCACGATGGCAGTATGA	AGAGATCGAGCCATTCCTTTGGGT
CHLD	TAGCACAGCTGTCAGAGTGGGTTT	TTGCCAGCCACCTCAAGTATCTCA
CHLH	GCACGGGAACTTGGCGTTTCATTA	ACATGTCCTGGAGCTGCTTCTCAT
CHLI	AGGGATGCTGAACTCAGGGTGAAA	AAGTAGGACTCACGGAACGCCTTT
CHLM	GCTTCATCTCCACGCAGTTCTACT	GCAATGACGAATCGAAGACGCACA
CRD	TGGATCTAACATGACACGCACCCA	ACTGTAACGGCATTCTTCTCCGGT
DVR	TTCTTCGAGAGGGTGATCAGGGAA	GAAACTGGCAATGGCAGCCAAGAA
POR	TCGTCGGCCTCGTCTGAGTTTATT	AGGCCTCTCTCACTGAAAGCTGAA
CHLG	CCAGCCACTGATGAAAGCAGCAAT	AGAGCGCTAATACACTCGCGAACA
CAO	ACACCTTCATCTGGGCTTCAAGGA	AGATGCGTCGAACATTGCTTGGTG
DL-2	TCAGAAACTACCACTGCCAGAATC	AGTCCCCCCAAAAGAAATCG
PsaA1	GGGAGGTGGCGAGTTAGTAG	AATGCGTGAATGTGATGGAC

PsaA2	TTATCTTCAACGAGCGGT	TATCTCCAGGTCCTATTGTT
PsbD1	CTGCTACTGCTGTTTTCT	GATGTTATGCTCTGCCTG
Rpoα	GCGTCTTTATTATGGTCG	TGTTCCTTCTGTTTCTCC
Rpoβ	GTGGGGAACTTGCTTTAGG	GCTTGTTGTATCCGTCTGA
Rpoβ'	CATAGATTAGGCATACAGGC	AATAGCGGGAGATAGGAG
Rpoβ''	AAAAGAGGAGGCTCGTGC	GATGTTGGCTAAGTGATTGA
NADH2	ATCACTGTAGGACTTGGGTT	TTTCCAGAAGAAGATGCC
NADH4	TCCTTATTGCTTATGCTGTC	CCGTATGCTCCCATCTTTA
ATPα	TCAAAAAGGGCAAGATGT	TTGTAATGTAGCAGGGGAAT
ATPβ	TTATTGGACCCGTGCTGG	TTGCTTACCGTCAGTGTCTCG
RCA	CTCTTCGTGCCCGTGTTTAC	TCGGAGTTAGCGTCACCAAG
RbcL	CAACTGTTTGGACTGATG	GTTACCCACAATGGAAGT
Rps1	GGAAACGCCTCACAATCT	TCCCACCTTATTCTCAAACC
Rps2	TTCGATTCCCTTTATACGC	TTCCCGAGATACTGGTGG
Rps3	CCATCTCGCTCTTTCCTT	CAATTTGCCTATCCTACCT
Rpl2	TCGTCTATTGGCATTGTGG	GGTGGATTCGAGGATCTTAC
Rpl17	CGTCTTTCATATCGAGCCA	GAGCAATCCAACCCGTAG
Ndh4(mt)	ACAGGAACCACCGATTTA	ACCATAGGCACTTTGACG
ccmFn	CTTCATTCTTGGACCTCG	AAATCTTCCTCGTGTATCG
26S rRNA	ACAACGACCAATCCTGAA	AGGCAGGCTTATACCATTAC
18SrRNA	AAGACCGAAACTCAAAGGA	TGTCAAGGGCTGGTAAGG

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279 **Table S4** Primers used in vector construction

Primer name		Sequence	Used for
1390-WP1	Forward	TTCTGCACTAGGTACCTGCAGATGGCGCTCGCGGGCGC	Ubi-WP1
	Reverse	TCTTAGAATTCCCGGGGATCCCTAATCAAAATTGTTATTTA	
pA7-WP1-GFP	Forward	CCGCTCGAGATGGCGCTCGCGGGCGC	Subcellular localization
	Reverse	GGACTAGTGCATCAAAATTGTTATTTA	
pA7-WP1$_{1\text{-}100}$-GFP	Forward	CCGCTCGAGATGGCGCTCGCGGGCGC	Subcellular localization
	Reverse	GGACTAGTGCCAGCGATCCGGTAACATTC	
1305-WP1-GFP	Forward	AAGTCCGGAGCTAGCTCTAGA ATGGCGCTCGCGGGCGC	Subcellular localization
	Reverse	GCCCTTGCTCACCATGGATCCATCAAAATTGTTATTTA	
pA7-AtVaLRS2-GFP	Forward	AAGTCCGGAGCTAGCTCTAGAATGATTCTCAAAACGGCTT	Subcellular localization
	Reverse	GCCCTTGCTCACCATGGATCCCTGAGACACTAAAGAAGTA	
pA7-OsValRS1-GFP	Forward	CCGGACGTCATGTCCAGCGTTACCCCTGCTGCC	Subcellular localization
	Reverse	TCCCCCGGGATTATTGCCAGTTTTTGCATCTAG	

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