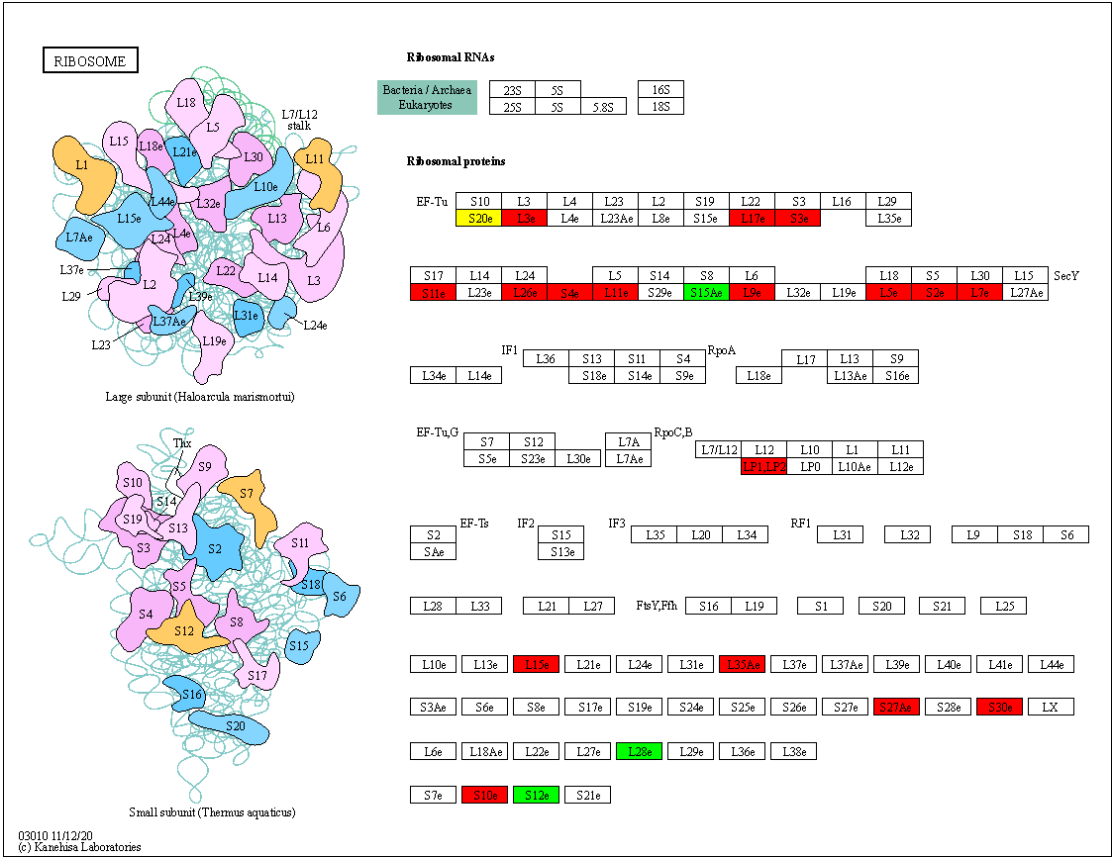# Supplemental Materials:

Figure S1. Proteins with up regulated Kub sites were significantly enriched in the ribosome pathway. Red square frame means the protein possesses up regulated Kub site. Green square frame means the protein possesses down regulated Kub site. Yellow square frame means the protein both have up- and down-regulated Kub sites.
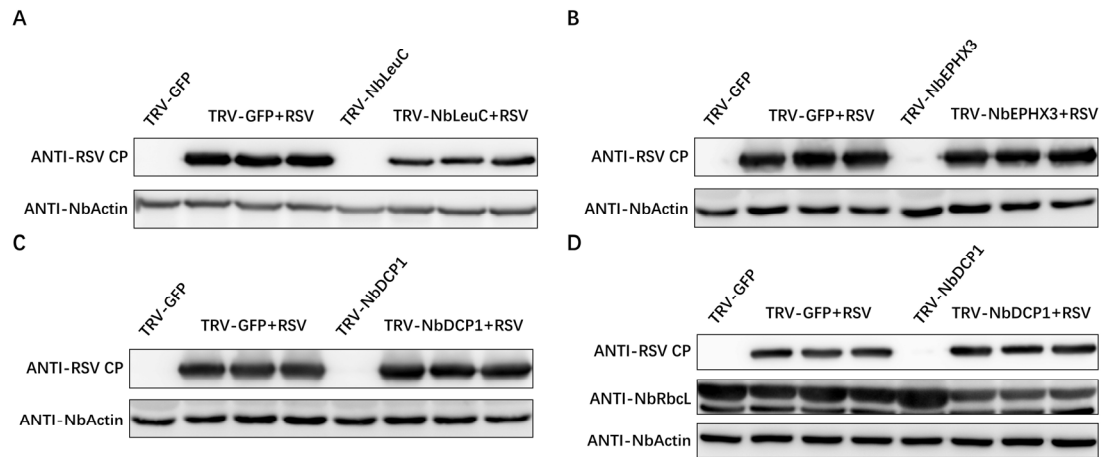
Figure S2. Western blotting analysis of RSV CP accumulation. The RSV CP accumulation comparison between *N. benthamiana* plants pre-inoculated with (A) TRV-GFP (control) and TRV-NbLeuC or (B) TRV-GFP (control) and TRV-NbEPHX3 or (C) TRV-GFP (control) and TRV-NbDCP1 at 15 dpi. NbActin was used as a loading control. (D) The RSV CP and NbRbcL accumulation comparison between *N. benthamiana* plants pre-inoculated with TRV-GFP (control) and TRV-NbDCP1 at 30 dpi. NbActin was used as a loading control.

Table S1. Primes and genes used for plasmid construction and RT-qPCR.

	Primer	Sequence	Annealing temperature	Amplification product (accession number)
Expression vector	RSV NS2-F	CGATAGGGATCCTGGCTCGAGATGGCATTACTCCTTTTCAATG	54℃	RSV NS2 CDS (GenBank: DQ333943.1 81-680 nt)
	RSV NS2-R	GTGGTCCTTATAGTCGAGCTCCATTAGAATAGGGCACTCATGT		
	RSV NS3-F	CGATAGGGATCCTGGCTCGAGATGAACGTGTTCACATCGTC	55℃	RSV NS3 CDS (GenBank: DQ333944.1 66-701 nt)
	RSV NS3-R	GTGGTCCTTATAGTCGAGCTCCAGCACAGCTGGAGAGCTG		
	RSV CP-F	CGATAGGGATCCTGGCTCGAGATGGGCACCAACAAGCCAG	59℃	RSV CP CDS (GenBank: DQ333944.1 1416-2384 nt)
	RSV CP-R	GTGGTCCTTATAGTCGAGCTCGTCATCTGCACCTTCTGCCT		
VIGS vector	VIGS NbLeuC-F	TCTAGACCCCCCATATCTTCCTTCTGT	57℃	NbLeuC segment (Sol genomics: Niben101Scf00859g01014)
	VIGS NbLeuC-R	CTCGAGAGCAGCAGCAGAAGAGGAAG		
	VIGS NbEPHX3-F	TCTAGAGTATTTCAGCTTGTTTCGTCC	55℃	NbEPHX3 segment (Sol genomics: Niben101Scf10737g00028)
	VIGS NbEPHX3-R	CTCGAGATCCATGAGGGTAATGTTGCTG		
	VIGS NbDCP1-F	TCTAGAATCTGGAGCAATCCTAGGGT	58℃	NbDCP1 segment (Sol genomics: Niben101Scf01750g14030)
	VIGS NbDCP1-R	CTCGAGGCGGTTGATAACTCCTGCAAC		
RT-qPCR	QPCR NbLeuC-F	CACTTGCACAGTGCGGTTC	60℃	NbLeuC segment (Sol genomics: Niben101Scf00859g01014)
	QPCR NbLeuC-R	TCTTCCCGCAATTAAGCAGCTCG		
	QPCR NbEPHX3-F	GGCCTTAGCTAAGTCACCAGC	60℃	NbEPHX3 segment (Sol genomics: Niben101Scf10737g00028)
	QPCR NbEPHX3-R	CGTCCAGATCACCCACGAC		
	QPCR NbDCP1-F	TACAGTTCCAGGGCAGCCAT	60℃	NbDCP1 segment (Sol genomics: Niben101Scf01750g14030)
	QPCR NbDCP1-R	GATGCATCAAGGAGGGGCCT		
	QPCR NbActin-F	AAGCTGCAGGTATCCATGAGACTA	60℃	NbActin segment (Sol genomics: Niben101Scf06954g00015)
	QPCR NbActin-R	CAATCCAGACACTGTACTTTCTCTC		

Table S3. Detailed information of the ubiquitination motifs.

Motif	Motif Score	Foreground		Background		Fold Increase
		Matches	**Size**	**Matches**	**Size**	
.........KG.........	16.00	366	2508	52460	904646	2.5
........AKK..........	23.65	48	2142	4152	852186	4.6
.........GK..........	16.00	310	2094	55079	848034	2.3
.........RK..........	16.00	307	1784	52308	792955	2.6
..E......KK..........	24.13	55	1477	5483	740647	5.0
.........KK..........	16.00	235	1422	60514	735164	2.0
.........SK..........	16.00	221	1187	69198	674650	1.8
.........K.G........	9.82	110	966	36260	605452	1.9
.........AK..........	9.23	131	856	50188	569192	1.7
.........K.A........	6.03	83	725	34182	519004	1.7
.......E..K..........	6.03	96	642	43864	484822	1.7