

Figure S1. Relative mRNA accumulation of *NbATG5* and *NbATG7* following silencing using TRV-VIGS. Total RNAs were extracted from the upper leaves at 10 dpi. qRT-PCR was carried out using primer sets specific for *NbATG5*, *NbATG7* and *N. benthamiana* 18S rRNA as an internal control standard. The TRV-GFP sample was set to a value of 1.0. The asterisk indicates a significant difference ($P < 0.05$, Student's *t*test).

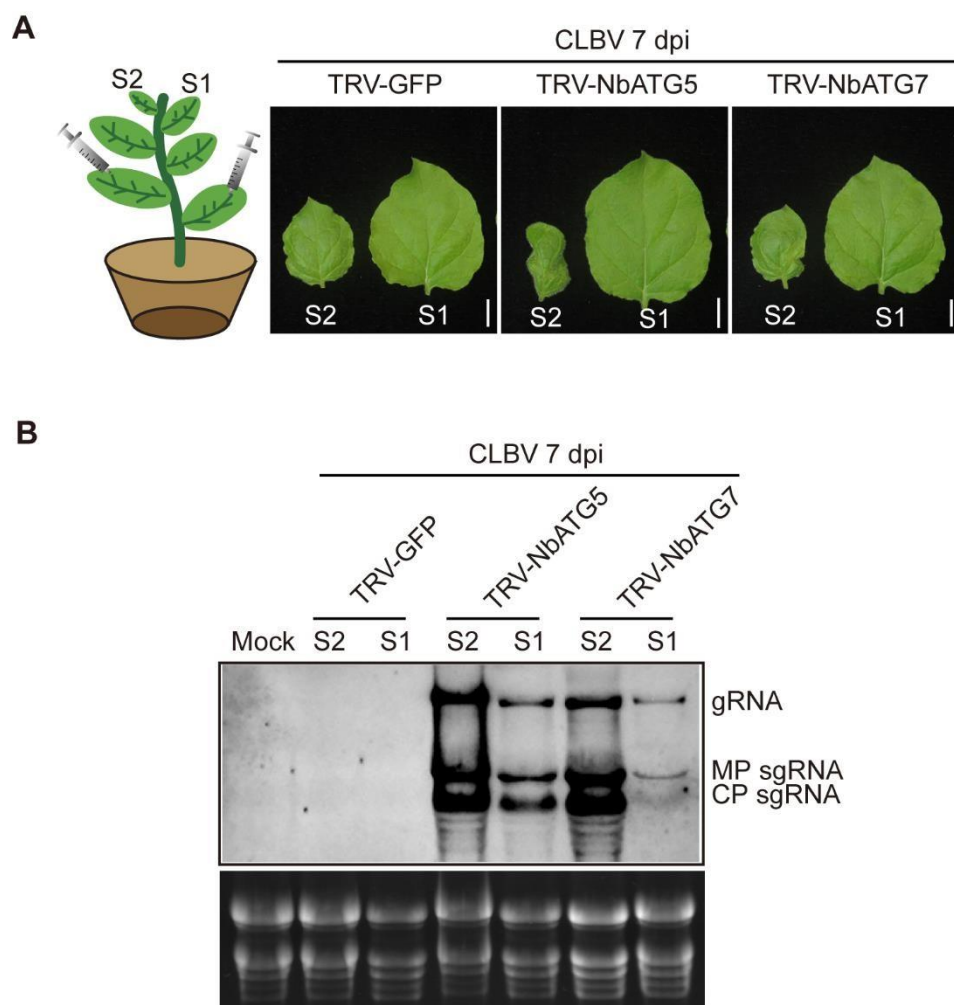


Figure S2. Effect of autophagy on CLBV systemic infection in *N. benthamiana*. **(A)** CLBV symptom expressions at 7 dpi on leaves of plants with *NbATG5* and *NbATG7* genes had been silenced using TRV-VIGS. Plants were inoculated with TRV-NbATG5 and TRV-NbATG7 or TRV-GFP as a control, and 10 days later, plants were inoculated with CLBV. The photographs show the upper two leaves as illustrated in the cartoon image in the left side of the panel. Scale bars, 1 cm. **(B)** CLBV RNA accumulation in infected plant at 7 dpi. Total RNAs were extracted from upper leaves

described in (A) and subjected to RNA blotting with a probe specific for CLBV genome. Ethidium bromide-stained 28S rRNA is shown as a loading control.

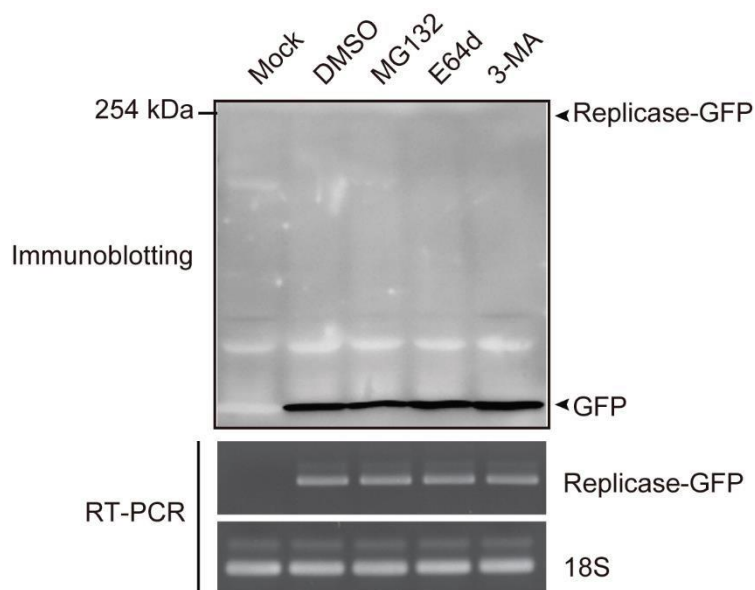


Figure S3. Protein and mRNA accumulations of transiently expressed. Replicase-GFP upon treatment with MG132, E64d and 3-MA.

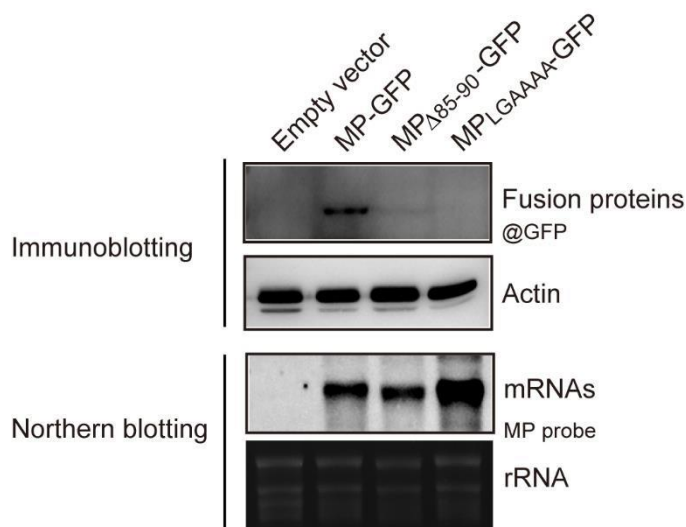


Figure S4. Protein and mRNA accumulations of transiently expressed CLBV MP with mutation in the AIM sequence fused with GFP.

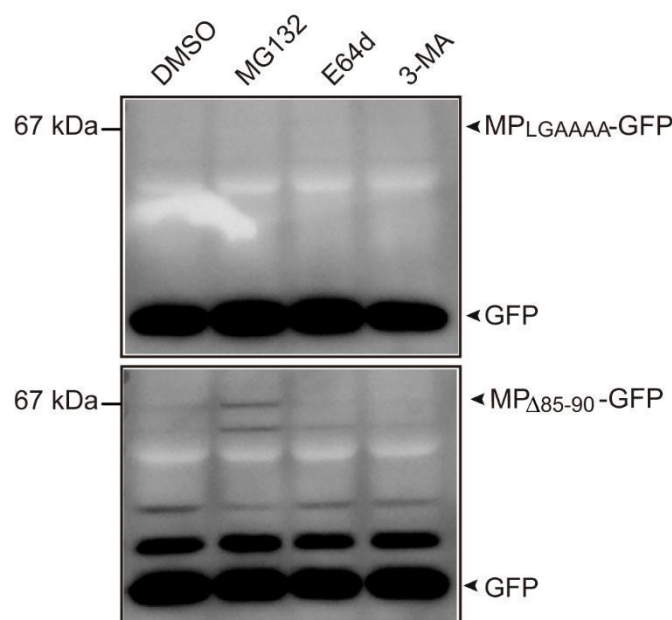


Figure S5. Protein accumulation of transiently expressed CLBVP MP with mutation in the AIM sequence fused with GFP upon treatment with MG132, E64d and 3-MA.

Supplementary Table S1. A list of primers used in this study.

Primers used for construction of clbv infectious clone.

Clone Name	Primer Name	Oligonucleotide Sequence (5'–3')
pCLBV	F-pCass-CLBV	agaggcctgggtaccGAAAACGAAAGAAACCTACA GGTCGGACCGCGAGGAGGTGGA- GATGCCATGCCGACCTTTTTTTT TTTTTTTTTTTTTTTTTTTTTTC
	R-CLBV	accgaattcgagctcCTTAGCCATCCGAGTGGAC- GTCCTCCTTCGGATGCC CAGGTCGGACCGCGAG- GAGGT
	R-pCass-RZ	cttgaattacatggagtcgacCTTAGGGAGGAGCGCTCTG- TAG
pCLBV-GFP	F-pCass-CLBV6526	CTTAACATGGGACACATAATCCTTCTTACATCTC- TATGAGCTTAGC TTTATTTTT GAAGGAT-
	R-pCass-CLBV8261	TATGTGTCCCATGTTAAGTCTGAAACTGCGTCTTT GAA
	F-CLBV-GFP	AAGAAGTCAGAGTGGAAGAGATTGGGG- CAATGATCGATTAAGAA AGTATGGTGAGCAAGGGCGAGGAGCTG GGCCCGCCCTTCCACCCACGCCAGTTCATT- GTACAGCTCGTCCA TGCCG
	R-CLBV-GFP	ACTGGCGTGGGTGGAAGGGCGGGCC tgtcaaacactgatagtttaaacTGAAGGCGGGAAAC- GACAATCTGA
	F-pCass-CLBV-3T	
	R-pCass-CLBV-3T	

Primers used for transient expression in *N. benthamiana*

pCambia1302-Replicase -GFP	F _{spel} -Replicase	accatggtagatctgactagtATGGCTTT- GATGAGCAACAAAACCTGC
	R _{spel} -Replicase	gctcaccatcctaggactagtAA- TATCTTCGTCTGAAGACTGTTC

pCambia1302-MP-GFP	F _{speI} -MP	accatggtagatctgactag- tATGGCTTCCCTCATCAATGTGA GC
	R _{speI} -MP	gctcaccatcctaggactagtCTT- GGTCCCAGTGTGCTGGC
pCambia1302-MP-dAIM-GFP	F _{speI} -MP	accatggtagatctgactag- tATGGCTTCCCTCATCAATGTGA GC
	R-MP _{dAIM}	GTGCAAGTAAGCAGCCTCTTTTC GAAAAGAGGCTGCTTACTT- GCACATAGCAATTAGATCATT- GCTGC
	F-MP _{dAIM}	CG
	R _{speI} -MP	gctcaccatcctaggactagtCTT- GGTCCCAGTGTGCTGGC
pCambia1302-MP- <i>aim</i> -GFP	F _{speI} -MP	accatggtagatctgactag- tATGGCTTCCCTCATCAATGTGAG C
	R-MP- <i>aim</i>	ATCTAATTGC- TATTATTATTATTATAAGGTG- CAAGTAAGCAGCCTC TTTT
	F-MP- <i>aim</i>	CACCTTATAATAATAATAA- TAGCAATTAGATCATTGCTGCCG
	R _{speI} -MP	gctcaccatcctaggactagtCTT- GGTCCCAGTGTGCTGGC
pCambia1302-CP-GFP	F _{speI} -CP	accatggtagatctgactag- tATGAAAATCAC- CAATGACAATGCC
	R _{speI} -CP	gctcaccatcctaggactagtCATCTC- TATGAGCTTAGCTTTATTTTT
pBin41-MP-HA	F _{Bam} HI-MP	agcttcgactctagaggatccAC- CATGGCTTCCCTCATCAATGTGA GC
	R _{Bam} HI-MP-HA	ttcgagctcgcccggggatccTCAAGCG- TAATCTGGAACATCGTATGGG- TACT TGGTCCCAGTGTGCTGGC
pBin41-CP-HA	F _{Bam} HI-CP	agcttcgactctagaggatccAC- CATGAAAATCAC- CAATGACAATGCC
	R _{Bam} HI-CP-HA	ttcgagctcgcccggggatccTCAAGCG- TAATCTGGAACATCGTATGGG- TACA TCTC- TATGAGCTTAGCTTTATTTTT

pBI121-MP-mCherry	F _{Bam} HI-MP	cacgggggactctagag-gatccATGGCTTCCCTCATCAATGTGAGC
	R _{Bam} HI-MP	tcaccatggtacccggggatccCTT-GGTCCCAGTGTCTGCTGGC
pBI121-CP-mCherry	F _{Bam} HI-CP	cacgggggactctagag-gatccATGAAAATCAC-CAATGACAATGCC
	R _{Bam} HI-CP	tcaccatggtacccggggatccCATCTC-TATGAGCTTAGCTTTATTTTT
pBin61-GFP-NbATG8c1	F _{Bam} HI-NbATG8c1	acccccgggggtcgacggatccATGGCGAA-GAGTTCTTTCAAACCTT
	R _{Bam} HI-NbATG8c1	tctagttcatctagaggatccTTAATT-GCCGAGCTCAAGAAACC
pBin61-GFP-NbATG8d	F _{Bam} HI-NbATG8d	acccccgggggtcgac-ggatccATGGCCGAAGCTGCTCGT
	R _{Bam} HI-NbATG8d	tctagttcatctagaggatccTCAAGATTT-GCAGAGAGAAAGCTG
pBin61-GFP-NbATG8f	F _{Bam} HI-NbATG8f	acccccgggggtcgacggatccATGGCAAAGAGTTCAATCAAGCA
	R _{Bam} HI-NbATG8f	tctagttcatctagaggatccTCACAC-CAAGTTAAAGTCCCCAAATG
pBin61-GFP-NbATG8i	F _{Bam} HI-NbATG8i	acccccgggggtcgacggatccATGGG-GAAGGCTTTCAAAAAA
	R _{Bam} HI-NbATG8i	tctagttcatctagaggatccTCAACTATTT-GCACGACCAAAGG
pBin61-eYFP-N-NbATG8c1	F _{Bam} HI-NbATG8c1	cgccacaacatcgaggatccAC-CATGGCGAAGAG-TTCTTTCAAACCTT
	R _{Sma} I-NbATG8c1	gaattcgagctctatccgggTTAATT-GCCGAGCTCAAGAAACC
pBin61-eYFP-N-NbATG8d	F _{Bam} HI-NbATG8d	acccccgggggtcgac-ggatccATGGCCGAAGCTGCTCGT
	R _{Sma} I-NbATG8d	tctagttcatctagaggatccTCAAGATTT-GCAGAGAGAAAGCTG
pBin61-eYFP-N-NbATG8f	F _{Bam} HI-NbATG8f	acccccgggggtcgacggatccATGGCAAAGAGTTCAATCAAGCA
	R _{Sma} I-NbATG8f	tctagttcatctagaggatccTCACAC-CAAGTTAAAGTCCCCAAATG
pBin61-eYFP-N-NbATG8i	F _{Bam} HI-NbATG8i	acccccgggggtcgacggatccATGGG-GAAGGCTTTCAAAAAA
	R _{Sma} I-NbATG8i	tctagttcatctagaggatccTCAACTATTT-GCACGACCAAAGG

pBin61-eYFP-C-MP	F _{Bam} HI-MP/-N/-N84/-N90	gacgagctgtacaagggatccAC-CATGGCTTCCCTCATCAATGTGAGC
	R _{Sma} I-MP/-C	gaattcgagctctatcccgggTCACTT-GGTCCCAGTGTCTGCTGGC
pBin61-eYFP-C-MP-N	R _{Sma} I-MP-N	gaattcgagctctatcccgggTCATAGAC-CTGTAATTATGGCAGCTACAGA
pBin61-eYFP-C-MP-C	F _{Bam} HI-MP-C	gacgagctgtacaagggatccACCATGAC-CTGTACACCCACCAACAAAAT
pBin61-eYFP-C-MP-N84	R _{Sma} I-MP-N84	gaattcgagctctatcccgggTCAGTG-CAAGTAAGCAGCCTCTTTTCCG
pBin61-eYFP-C-MP-N90	R _{Sma} I-MP-N90	gaattcgagctc-tatcccgggTCATATTGGAACAAATC CAAGGTGCAAGTAA
Primers used for bacterial expression		
pMAL-MBP-MP	F _{Xba} I-MP/-N	tcagaattcggatcctcta-gaATGGCTTCCCTCATCAATGTGAGC
	R _{Hind} III-MP/-C	acgacggccagtgcgaagcttTCACTT-GGTCCCAGTGTCTGCTGGC
pMAL-MBP-MP-N	R _{Hind} III-MP-N	acgacggccagtgcgaagcttTCATAGAC-CTGTAATTATGGCAGCTACAGA
pMAL-MBP-MP-C	F _{Xba} I-MP-C	tcagaattcggatcctctagaATGACCTG-TACACCCACCAACAAAAT
Primers used for VIGs		
pTRV-ATG5	F _{Bam} HI-NbATG5	gtgagctcgggtaccgatccATGG-GAAGTAAAGGGGCAGGAG
	R _{Eco} RI-NbATG5	tgagtaagggtaccgaattcAC-GTTCAGGTTCTGCACAAAGAAG
pTRV-ATG7	F _{Bam} HI-NbATG7	gtgagctcgggtaccgatccATGGCGGA-TAGTGGAAGAGGAAC
	R _{Eco} RI-NbATG7	tgagtaagggtaccgaattcCAACGTGTTT-GTATTGAGAAGA
Primers used for RT-PCR		
	F-CLBV CP-RT	ATGAAAATCAC-CAATGACAATGCC
	R-CLBV CP-RT	TTACATCTCTATGAGCTTAGC
	F-TRV CP-RT	GGTCCGATACGTCCTAATCCC
	R-TRV CP-RT	CCTAAGTAATTCGTGCATTGCG
Primers used for RT-qPCR		
	F-NbATG5-RT	GAA-GCTTATCTCCGAATCTCGTCTAAGC

	R-NbATG5-RT	CCAAC TTTCAACTGCAGGTG- CATCTTG
	F-NbATG7-RT	AGGTCTCGATGTCTAATCCTC- TACGCCAG
	R-NbATG7-RT	AATCAAATCAGACAAATGTCTG- CAATCCTG
	F-CLBV-RT	AGCTGAGGCAGAGGATTTGA
	R-CLBV-RT	GAACTGCTGCAAATCGTTCA
	F-18SrRNA-RT	CGGCTACCACATCCAAGGAAGG
	R-18SrRNA-RT	GAGCTGGAATTACCGCGGCTG
Primers used for Northern blot		
	F-MP	ACCTGTACACCCACCAACAA
	R-MP	TTGCCCCAATCTCTTCCACT
	F-CWMV-3T	GCAGGGATTGACTCGTTGAT
	R-CWMV-3T	CGACTGCTTGACTAACACCC