

**Supplementary Table 1.** The primers used in this study.

Primer name	Sequence(5'-3')	Use
CMVF	GCCACTAGTTAGTTATTAATAGTAATCAATT	Replace the T7 promoter with the CMV promoter by overlap extension PCR
NgoR	AAGTTGAAGGCTGCATTGCGAGCA	
CMV23R	CCGGACTCTTTTGGAAGTTCACTAAACCAGCT	
Ngo23F	AGCTGGTTTACTGAACTTCCAAAAGAGTCCGG	
F3F	AGCTCGAGGCATGCATTCTCA	Introduction of the ribozyme elements at the 3' end of the virus genome
P1	GGAGGTGGAGATGCCATGCCGACCCTTTTTTTTTTTTTTTT	
P2	TTTTTTTTTTTTTTTTTTTTTTTTTTTGCTTCTAATT	
P2	GAGTGGACGTGCGTCCTCCTTCGGATGCCAGGTCGGA	
P3	CCGCGAGGAGGTGGAGATGCCATGCCGACCC	
	CCGCGGGCGCCCTCCCTTAGCCATCCGAGTGGACGTGC	
	GTCCCTCCTC	
ORF1a-1606-F	TTGTTAACGACGACATTGTGGTCTCAAC	Construction of transposon plasmid
ORF1a-2575-R	CTAAGCTTCTGAATCTTACTCCCAAG	
CC-His-F	CCAATCTTACAACCCTAATcatcatcaccatcaccatGAGATTGT TGAACTCATT	Introduction of epitope tags in the CC domain
CC-His-R	GAATGAGTTCAACAATCTCatggtgatggtgatgatgATTAGGG TTGTAAGATTGG	
CC-Flag-F	CCAATCTTACAACCCTAATgattacaaggatgacgacgataagGAG ATTGTTGAACTCATT	
CC-Flag-R	GAATGAGTTCAACAATCTCcttatcgtcgtcatccttgaatcATTAG GGTTGTAAGATTGG	
CC-HA-F	CCAATCTTACAACCCTAATtaccatacgcgtcccagactacgctGA GATTGTTGAACTCATT	
CC-HA-R	GAATGAGTTCAACAATCTCagcgtagtctgggacgtcgtatgggtaA TTAGGGTTGTAAGATTGG	
VPg-A-His-F	CAAGACCAAGCGTGGGcatcatcaccatcaccatCGCACTGGGC AGCGGACCAATC	Introduction of epitope tags in the VPg domain
VPg-A-His-R	GATTGGTCCGCTGCCAGTGCCGatggtgatggtgatgatgCCCA CGCTTGGTCTTG	
VPg-A-Flag-F	CAAGACCAAGCGTGGGgattacaaggatgacgacgataagCGCAC TGGCAGCGGACC	
VPg-A-Flag-R	GGTCCGCTGCCAGTGCCGcttatcgtcgtcatccttgaatcCCCACG CTTGGTCTTG	
VPg-A-HA-F	CAAGACCAAGCGTGGGtaccatacgcgtcccagactacgctCGCA CTGGGCAGCGGACCAATC	
VPg-A-HA-R	GATTGGTCCGCTGCCAGTGCCGagcgtagtctgggacgtcgtatgg gtaCCCACGCTTGGTCTTG	
VPg-B-His-F	GTGGGCGCACTGGGCAGCGGACTcatcatcaccatcaccatCGG ACCAATCTCCGAAAGGAGCTCG	
VPg-B-His-R	CGAGCTCCTTTCCGGAGATTGGTCCGatggtgatggtgatgatg	

	AGTCCGCTGCCCAGTGCGCCCAC	
VPg-B-Flag-F	GTGGGCGCACTGGGCAGCGGACTgattacaaggatgacgacgata agCGGACCAATCTCCGGAAAGGAGCTCG	
VPg-B-Flag-R	CGAGCTCCTTTCCGGAGATTGGTCCGcttatcgtcgtcatccttgta atcAGTCCGCTGCCCAGTGCGCCCAC	
VPg-B-HA-F	GTGGGCGCACTGGGCAGCGGACTtaccatacagctcccagacta cgctCGGACCAATCTCCGGAAAGGAGCTCG	
VPg-B-HA-R	CGAGCTCCTTTCCGGAGATTGGTCCGagcgtagtctgggacgtc gtatgggtaAGTCCGCTGCCCAGTGCGCCCAC	
VPg-C-His-F	CTACGAGTACGAACGCAATcatcatcaccatcacatGAGGAGG TGGATTACGAC	
VPg-C-His-R	GTCGTAATCCACCTCCTCatggtgatggtgatgatgATTGCGTTC GTACTCGTAG	
VPg-C-Flag-F	CTACGAGTACGAACGCAATgattacaaggatgacgacgataagGA GGAGGTGGATTACGAC	
VPg-C-Flag-R	GTCGTAATCCACCTCCTCttatcgtcgtcatccttgtaatcATTGCG TTCGTACTCGTAG	
VPg-C-HA-F	CTACGAGTACGAACGCAATtaccatacagctcccagactacgtG AGGAGGTGGATTACGAC	
VPg-C-HA-R	GTCGTAATCCACCTCCTCagcgtagtctgggacgtcgtatgggtaATT GCGTTCGTACTCGTAG	
HVR-His-F	GTCAAAGCCCAGAAGCCCATTcatcatcaccatcacatCCCAT CCCTGCACCGCGCTCCCGGAAAG	
HVR-His-R	CTTTCCGGGAGCGCGGTGCAGGGATGGGatggtgatggtgat gatgAATGGGCTTCTGGGCTTTGAC	
HVR-Flag-F	GTCAAAGCCCAGAAGCCCATTgattacaaggatgacgacgataag CCCATCCCTGCACCGCGCTCCCGGAAAG	Introduction of epitope tags
HVR-Flag-R	CTTTCCGGGAGCGCGGTGCAGGGATGGGcttatcgtcgtcatcc ttgtaatcAATGGGCTTCTGGGCTTTGAC	in the HVR domain
HVR-HA-F	GTCAAAGCCCAGAAGCCCATTtaccatacagctcccagactacgc tCCCATCCCTGCACCGCGCTCCCGGAAAG	
HVR-HA-R	CTTTCCGGGAGCGCGGTGCAGGGATGGGagcgtagtctggga cgtcgtatgggtaAATGGGCTTCTGGGCTTTGAC	
HVR-AfIII-F	GTCAAAGCCCAGAAGCCCATTCTTAAGGCCGTCGACCC CATCCCTGCACCGCGCTCCCGGAAAG	Introduction of restriction sites in the HVR domain
HVR-SalI-R	CTTTCCGGGAGCGCGGTGCAGGGATGGGGTTCGACGGCC TTAAGAATGGGCTTCTGGGCTTTGAC	
iLOV-AfIII-F	GCCTTAAGATGATAGAGAAGAATTCGTC	Amplification of iLOV
iLOV-SalI-R	GCGTCGACTACATGATCACTTCCATCGAGC	sequence

<sup>1</sup> Epitope tags are shown as lower case letters.

<sup>2</sup> Restriction sites are shown as italics.