

Table 1 Suppl. Designed primers to construct the plant expression vectors.

Sequence site	Fragment	Primer	Restriction enzyme
PVY CP 502-801	F1	P1: 5'-GC <u>AAGCTT</u> GAAGCGTATATAGAAATGCG-3'	<i>Hind</i> III
		P2: 5'-GCCTGCAGCATGTTCTTCCACTCCAAGTA-3'	<i>Pst</i> I
CMV CP 355-654	F2	P3: 5'-GCCTGCAGTCTACCGTGTGGGTGACA-3'	<i>Pst</i> I
		P4: 5'-GCGAATTCAACTGGGAGCACCCCAGA-3'	<i>Eco</i> R I
PVY CP 502-801 and	F3	P5: 5'-GCTCTAGAGAAGCGTATATAGAAATGCG-3'	<i>Xba</i> I
CMV CP 355-654		P6: 5'-GCGGATCCAACTGGGAGCACCCCAGA-3'	<i>Bam</i> H I
PVY CP 502-801 and	F4	P7: 5'-GCGAGCTCGAAGCGTATATAGAAATGCG-3'	<i>Sac</i> I
CMV CP 355-654		P8: 5'-GCGGTACCAACTGGGAGCACCCCAGA-3'	<i>Kpn</i> I
PVY HC 1069-1368	F5	P9: 5'-GCAAGCTTGAAGATGCAAAGGATTTAC-3'	<i>Hind</i> III
		P10: 5'-GCCTGCAGACCAACTCTATAGTGCTTAA-3'	<i>Pst</i> I
CMV 2b 34-333	F6	P11: 5'-GCCTGCAGGAACCTCCAACCTGGCTCGT-3'	<i>Pst</i> I
		P12: 5'-GCGAATTCGAACGACCCTTCCGCCCA-3'	<i>Eco</i> R I
PVY HC 1069-1368	F7	P13: 5'-GCTCTAGAGAAGATGCAAAGGATTTAC-3'	<i>Xba</i> I
and CMV 2b 34-333		P14: 5'-GCGGATCCGAACGACCCTTCCGCCCA-3'	<i>Bam</i> H I
PVY HC 1069-1368	F8	P15: 5'-GCGAGCTCGAAGATGCAAAGGATTTAC-3'	<i>Sac</i> I
and CMV 2b 34-333		P16: 5'-GCGGTACCGAACGACCCTTCCGCCCA-3'	<i>Kpn</i> I
POD Intron	F9	P17: 5'-GCGGATCCGTTAATGTAATAACCTGACC-3'	<i>Bam</i> H I
		P18: 5'-GCGGTACCCTGTGCAAATATATATATACGG-3'	<i>Kpn</i> I
PVY CP 502-801	F10	P19: 5'-GCTCTAGAGAAGCGTATATAGAAATGCG-3'	<i>Xba</i> I
		P20: 5'-GCCTCGAGCATGTTCTTCCACTCCAAGTA-3'	<i>Xho</i> I
PVY CP 502-801	F11	P21: 5'-GCGGATCCGAAGCGTATATAGAAATGCG-3'	<i>Bam</i> H I
		P22: 5'-GCGATATGCATGTTCTTCCACTCCAAGTA-3'	<i>Eco</i> R V
CMV CP 355-654	F12	P25: 5'-GCGGTACCTCTACCGTGTGGGTGACA-3'	<i>Kpn</i> I
		P26: 5'-GCAAGCTTAACTGGGAGCACCCCAGA-3'	<i>Hind</i> III
CMV CP 355-654	F13	P27: 5'-GCGAGCTCTCTACCGTGTGGGTGACA-3'	<i>Sac</i> I
		P28: 5'-GCGATATCAACTGGGAGCACCCCAGA-3'	<i>Eco</i> R V
POD Intron	F14	P23: 5'-GCCTCGAGGTTAATGTAATAACCTGACC-3'	<i>Xho</i> I
		P24: 5'-GCGATATGCTGTGCAAATATATATATACGG-3'	<i>Eco</i> R V
PVY HC 1069-1368	F15	P31: 5'-GCTCTAGAGAAGATGCAAAGGATTTAC-3'	<i>Xba</i> I
		P32: 5'-GCCTCGAGACCAACTCTATAGTGCTTAA-3'	<i>Xho</i> I
PVY HC 1069-1368	F16	P33: 5'-GCGGATCCGAAGATGCAAAGGATTTAC-3'	<i>Bam</i> H I
		P34: 5'-GCGATATGACCAACTCTATAGTGCTTAA-3'	<i>Eco</i> R V
CMV 2b 34-333	F17	P35: 5'-GCGGTACCGAACCTCCAACCTGGCTCGT-3'	<i>Kpn</i> I
		P36: 5'-GCAAGCTTGAACGACCCTTCCGCCCA-3'	<i>Hind</i> III
CMV 2b 34-333	F18	P37: 5'-GCGAGCTCGAACCTCCAACCTGGCTCGT-3'	<i>Sac</i> I
		P38: 5'-GCGATATCGAACGACCCTTCCGCCCA-3'	<i>Eco</i> R V
POD Intron	F19	P29: 5'-GCAAGCTTGTTAATGTAATAACCTGACC-3'	<i>Hind</i> III
		P30: 5'-GCGATATG CTGTGCAAATATATATATACGG-3'	<i>Eco</i> R V

Table 2 Suppl. Designed Primers for qRT-PCR.

Target gene		Primer
PVY CP	forward	5'-GAAGCGTATATAGAAATGCG-3'
	reverse	5'-CATGTTCTTCCACTCCAAGTA-3'
CMV 2b	forward	5'-GAACTCCAACCTGGCTCGT-3'
	reverse	5'-GAACGACCCTTCCGCCCA-3''
<i>N. benthamiana</i> EF1 α	forward	5'-TGGTGCCTCAAGCCTGGTATGGTTG-3'
	reverse	5'-ACGCTTGAGATCCTTAACCGCAACATTCTT-3'