

Supplementary Table S1. List of primers used in this study.

Primer name	Primer sequences (5'-3')	Usage
NoMV-925R	CAAATCCACTTGATCCAGGTTCCAAC	5' Race
NoMV-840F	CATGTGAAGTTGCTGAAGAGTATGC	
NoMV-2240R	CAAGTAGCATGATGTGGCCACATC	
NoMV-2150F	GAACTTTACTAAGATGGCAAGGGATATTG	
NoMV-3610R	CTCTAGTGTGCCAGTTAGTGACTTCAAC	
NoMV-3540F	GATGCAGATAAGAGTGATTGTGTCTATAG	
NoMV-4965R	GGCTTCAGCACCCGGTTAATTTCC	
NoMV-4910F	CACATGGTTCGGTTTGACGGAAGTG	Complete genome
NoMV-6415R	CCATTGTTCTGTCTCATGATATGTTGA	cloning
NoMV-6360F	GTTGGGTTTGGCCCTACATAATCAC	
NoMV-7780R	GACTGCGTTGATCAGAAATGGTG	
NoMV-7730F	GCCGACGGCTCTCAGTTTGAC	
NoMV-9125R	GACTCATATCCGTTAAGTTTCTCTGAAG	
NoMV-9090F	GAGGAATTCTGAAAAACCATATATGCCAAG	
Poly-T	GTTTTCCCAGTCACGACTTTTTTTTTTTTTTTTTT	
NoMV-F	GGATCGTGCTGACTTACCTGAGC	RT-PCR detection
NoMV-R	GGATATGGGCCTCTCGGGCTC	

Supplementary Table S2. The sequence identity of NoMV and other potyviruses based on polyprotein and CP amino acids

Virus	Accession nos.	Polyprotein	CP
NoMV	MN158696.1	1.00	1.00
<i>Jasmine virus T</i> (JaVT)	APZ75429.1	0.506	0.61
<i>Turnip mosaic virus</i> (TuMV)	BBA07429.1	0.49	0.62
<i>Scallion mosaic virus</i> (ScaMV)	NP_570725.1	0.505	0.64
<i>Narcissus yellow stripe virus</i> (NYSV)	AFJ92907.2	0.50	0.63
<i>Narcissus virus 1</i> (NV-1)	BBE01240.1	0.49	0.63
<i>Japanese yam mosaic virus</i> (JYMV)	AJD23399.1	0.49	0.59
<i>Wild onion symptomless virus</i> (WOSV)	YP_009259366.1	0.49	0.62
<i>Narcissus late season yellows virus</i> (NLSYV)	AFQ95552.1	0.50	0.62
<i>Lily mottle virus</i> (LMoV)	ADO34171.1	0.49	0.59
<i>Celery mosaic virus</i> (CeMV)	YP_004376199.1	0.47	0.56
<i>Panax virus Y</i> (PnVY)	YP_003725718.1	0.50	0.55
<i>Apium virus Y</i> (ApVY)	QAA06935.1	0.47	0.54
<i>Asparagus virus 1</i> (AV-1)	AIY55493.1	0.48	0.59
<i>Yam mosaic virus</i> (YaMV)	AYD60113.1	0.49	0.53
<i>Potato virus A</i> (PoVA)	ADA57721.1	0.48	0.55
<i>Sweet potato latent virus</i> (SPLV)	AJS10748.1	0.47	0.53
<i>Tobacco vein banding mosaic virus</i> (TVBMV)	AEB66864.1	0.507	0.67
<i>Carrot thin leaf virus</i> (CTLV)	AGH25889.1	0.48	0.62
<i>Pokeweed mosaic virus</i> (PkMV)	AFS28881.1	0.49	0.59
<i>Potato virus Y</i> (PVY)	ASI37712.1	0.48	0.58

Supplementary Table S3. The sequence identity of NoMV and other potyviruses based on P1, HC-Pro, P3, 6K1, CI, 6K2, VPg, Nia-Pro, Nib amino acids

Length	P1	HC-Pro	P3	6K1	CI	6K2	VPg	Nia-Pro	Nib
NoMV	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
JaVT	0.14	0.57	0.35	0.48	0.59	0.51	0.54	0.52	0.61
TuMV	0.11	0.55	0.28	0.52	0.57	0.43	0.63	0.55	0.63
ScaMV	0.12	0.57	0.30	0.48	0.55	0.53	0.57	0.55	0.62
NYSV	0.11	0.55	0.32	0.50	0.56	0.51	0.59	0.53	0.66
NV-1	0.11	0.53	0.31	0.42	0.57	0.42	0.57	0.53	0.62
JYMV	0.13	0.54	0.28	0.44	0.57	0.36	0.53	0.54	0.61
WOSV	0.11	0.53	0.30	0.44	0.55	0.38	0.56	0.53	0.63
NLSYV	0.11	0.54	0.30	0.48	0.56	0.47	0.56	0.54	0.63
LMoV	0.14	0.54	0.31	0.43	0.56	0.35	0.51	0.51	0.63
CeMV	0.09	0.56	0.32	0.52	0.56	0.38	0.48	0.54	0.59
PnVY	0.11	0.56	0.36	0.52	0.56	0.51	0.53	0.53	0.62
ApVY	0.09	0.56	0.32	0.50	0.54	0.43	0.47	0.56	0.62
AV-1	0.13	0.53	0.31	0.55	0.54	0.51	0.56	0.52	0.61
YaMV	0.13	0.54	0.33	0.52	0.56	0.49	0.49	0.51	0.62
PoVA	0.14	0.57	0.31	0.50	0.56	0.43	0.51	0.50	0.58
SPLV	0.10	0.57	0.23	0.52	0.56	0.49	0.59	0.56	0.60
TVBMV	0.13	0.56	0.28	0.45	0.56	0.47	0.54	0.49	0.63
CTLV	0.13	0.54	0.30	0.46	0.55	0.43	0.46	0.51	0.60
PkMV	0.14	0.54	0.28	0.46	0.56	0.45	0.48	0.51	0.61
PVY	0.14	0.51	0.33	0.43	0.52	0.38	0.53	0.52	0.63