

**Table S5.** The reference viruses of families *Hypoviridae*, *Mitoviridae*, *Narnaviridae*, *Partitiviridae*, *Megabinaviridae*, and *Totiviridae*, and proposed families *Fusariviridae* and *Bipartitiviridae*, which were retrieved from GenBank and used to conduct phylogenetic analysis.

Family	Name of the Reference Viruses	Abbreviation	Host	GenBank Accession Numbers
<i>Fusariviridae</i>	<i>Neurospora crassa</i> fusarivirus 1-JW222	NcFV1-JW222	<i>Neurospora crassa</i>	BCL64190.1
	<i>Neurospora intermedia</i> fusarivirus 1	NiFV1	<i>Neurospora intermedia</i>	BCB17077.1
	<i>Neurospora crassa</i> fusarivirus 1-JW45	NcFV1-JW45	<i>Neurospora crassa</i>	LC586023
	<i>Neurospora crassa</i> fusarivirus 1- JW164	NcFV1-JW164	<i>Neurospora crassa</i>	LC586023
	<i>Neurospora discreta</i> fusarivirus 2-W683	NdFV2-W683	<i>Neurospora discreta</i>	BCL64194.1
	<i>Nigrospora oryzae</i> fusarivirus 1	NoFV1	<i>Nigrospora oryzae</i>	KU980909
	<i>Sclerotinia sclerotiorum</i> fusarivirus 1	SsFV1	<i>Sclerotinia sclerotiorum</i>	YP_009143301.1
	<i>Alternaria brassicicola</i> fusarivirus 1	AbFV1	<i>Alternaria brassicicola</i>	YP_009222009.1
	<i>Alternaria alternata</i> fusarivirus 1	AaFV1	<i>Alternaria alternata</i>	BBD71147.1
	<i>Botrytis cinerea</i> fusarivirus 1	BcFV1	<i>Botrytis cinerea</i>	YP_009480678.1
	<i>Rhizoctonia solani</i> fusarivirus virus 2	RsFV2	<i>Rhizoctonia solani</i>	MK558256.1
	<i>Rhizoctonia solani</i> fusarivirus virus 1	RsFV1	<i>Rhizoctonia solani</i>	QDW92695.1
	<i>Rhizoctonia solani</i> fusarivirus virus 3	RsFV3	<i>Rhizoctonia solani</i>	MK558258.1
	<i>Macrophomina phaseolina</i> single-stranded RNA virus 1	MpRV1	<i>Macrophomina phaseolina</i>	KP900890
	<i>Penicillium aurantiogriseum</i> fusarivirus 1	PaFV1	<i>Penicillium aurantiogriseum</i>	NC_028467
	<i>Penicillium roqueforti</i> ssRNA mycovirus 1	PrMV1	<i>Penicillium roqueforti</i>	NC_024699
	<i>Fusarium graminearum</i> dsRNA mycovirus 1	FgV1	<i>Fusarium graminearum</i>	NC_006937
	<i>Pleospora typhicola</i> fusarivirus 1	PtFV1	<i>Pleospora typhicola</i>	NC_028470
	<i>Rosellinia necatrix</i> fusarivirus 1	RnFV1	<i>Rosellinia necatrix</i>	YP_009047147.1
	<i>Fusarium poae</i> fusarivirus 1	FpFV1	<i>Fusarium poae</i>	YP_009272906.1
	<i>Neurospora discreta</i> fusarivirus 1-W683	NdFV1-W683	<i>Neurospora discreta</i>	BCL64192.1
<i>Hypoviridae</i>	<i>Cryphonectria hypovirus</i> 1	CHV1	<i>Cryphonectria parasitica</i>	NP_041091.1

	Cryphonectria hypovirus 2	CHV2	<i>Cryphonectria parasitica</i>	AAA20137.1
	Rhizoctonia solani mitovirus 11	RsMV11	Rhizoctonia solani	ALD89116.1
	Rhizoctonia solani mitovirus 34	RsMV34	Rhizoctonia solani	QDW65424.1
	Soybean leaf-associated mitovirus 1	SlaMV1	Soybean phyllosphere fungi	ALM62241.1
	Rhizoctonia solani mitovirus 2	RsMV2	Rhizoctonia solani	ALD89121.1
	Botryosphaeria dothidea mitovirus 1	BdMV1	Botryosphaeria dothidea	QMU24933.1
	Buergenerula spartinae mitovirus 1	BsMV1	Buergenerula spartinae	AHY03257.1
	Setosphaeria turcica mitovirus 1	StMV1	Setosphaeria turcica	AZT88625.1
	Plasmopara viticola lesion associated mitovirus 43	PvaMV43	Plasmopara viticola	QIR30266.1
	Plasmopara viticola lesion associated mitovirus 46	PvaMV46	Plasmopara viticola	QIR30269.1
	Sclerotinia sclerotiorum mitovirus 7-A	SsMV7-A	Sclerotinia sclerotiorum	AWY10969.1
	Fusarium poae mitovirus 4	FpMV4	Fusarium poae	YP_009272901.1
	Botrytis cinerea mitovirus 1	BcMV1	Botrytis cinerea	CEZ26300.1
<i>Mitoviridae</i>	Bremia lactucae associated mitovirus 1	BlaMV1	Bremia lactucae	QIP68024.1
	Sclerotinia sclerotiorum mitovirus 3-NZ1	SsMV3/NZ1	Sclerotinia sclerotiorum	AGC24232
	Sclerotinia sclerotiorum mitovirus 12	SsMV12	Sclerotinia sclerotiorum	AHF48628.1
	Macrophomina phaseolina mitovirus 1	MpMV1	Macrophomina phaseolina	ALD89100.1
	Sclerotinia sclerotiorum mitovirus 6-14563	SsMV6/14563	Sclerotinia sclerotiorum	AHX84133
	Rhizoctonia solani mitovirus 35	RsMV35	Rhizoctonia solani	QDW80891.1
	Fusarium boothii mitovirus 1	FbMV1	Fusarium boothii	BBG56022.1
	Fusarium poae mitovirus 3	FpMV3	Fusarium poae	YP_009272900.1
	Alternaria alternata mitovirus 1	AaMV1	Alternaria alternata	QDB74990.1
	Rhizoctonia solani mitovirus 38	RsMV38	Rhizoctonia solani	QDW65426.1
	Epicoccum nigrum mitovirus 1	EnMV1	Epicoccum nigrum	QDB74989.1
	Rhizoctonia solani mitovirus 22	RsMV22	Rhizoctonia solani	QDW80890.1
	Ophiostoma mitovirus 7	OnuMV7	Ophiostoma novo-ulmi	KF031943.1

	Rhizoctonia mitovirus 1	RsMV1	Rhizoctonia solani	AHL25281
	Tuber excavatum mitovirus	TeMV	Tuber excavatum	AEP83726
	Sclerotinia sclerotiorum mitovirus 2-KL-1	SsMV2/KL-1	Sclerotinia sclerotiorum	AEX91879
	Sclerotinia sclerotiorum mitovirus 4-NZ1	SsMV4/NZ1	Sclerotinia sclerotiorum	AGC24233
	Sclerotinia sclerotiorum mitovirus 1-KL-1	SsMV1/KL-1	Sclerotinia sclerotiorum	AEX91878
	Sclerotinia sclerotiorum mitovirus 5-11691	SsMV5/11691	Sclerotinia sclerotiorum	AHX84130
<i>Narnaviridae</i>	Saccharomyces 23S RNA narnavirus	ScNV23s	Saccharomyces cerevisiae	NP_660177
	Saccharomyces 20S RNA narnavirus	ScNV20s	Saccharomyces cerevisiae	NP_660178
Proposed Bipartitiviridae	Cryphonectria parasitica bipartite mycovirus 1	CpBV1	Cryphonectria parasitica	YP_007985675.1
	Botryosphaeria dothidea bipartite mycovirus 1	BdBMV1	Botryosphaeria dothidea	QUP79399.1
	Curvularia virus 2	CuV2	Curvularia	ALO61392.1
	Corynespora cassiicola bipartite mycovirus 1	CcBMV1	Corynespora cassiicola	QNC69629.1
	Trichoderma harzianum bipartite mycovirus 1	ThBV1	Trichoderma harzianum	YP_009553330.1
	Trichoderma harzianum bipartite mycovirus 1	ThBMV1	Trichoderma harzianum	AXU24203.1
	Curvularia thermal tolerance virus	CtTV	Curvularia	YP_001976143.1
	Myriodontium keratinophilum bipartite virus 1	MkBV1	Myriodontium keratinophilum	AYP71809.1
	Penicillium aurantiogriseum bipartite virus 1	PaBV1	Penicillium aurantiogriseum	YP_009182335.1
	Sclerotium hydrophilum virus 1	ShV1	Sclerotium hydrophilum	YP_009273017.1
	Lactarius tabidus RNA virus 1	LtRV1	Lactarius tabidus	AMK47915.3
	Gremmeniella abietina RNA virus 6	GaRV6	Gremmeniella abietina	AIU98624.1
	Fusarium graminearum dsRNA mycovirus 5	FgRV5	Fusarium graminearum	APP91269.1
	Fusarium graminearum dsRNA mycovirus 4	FgRV4	Fusarium graminearum	YP_003288790.1
	Heterobasidion RNA virus 6	HeRV6	Heterobasidion annosum	ADW82833.1
	Sclerotium rolfsii unassigned dsRNA virus 2	SrRV2	Sclerotium rolfsii	AZF86116.1
	Sclerotium rolfsii unassigned dsRNA virus 1	SrRV1	Sclerotium rolfsii	AZF86115.1
	Rhizoctonia fumigata mycovirus	RfMV	Rhizoctonia fumigata	YP_009134757.1

	Rhizoctonia solani dsRNA virus 1	RsRV1	Rhizoctonia solani	AFZ85210.1
	Rhizoctonia solani mycovirus 2	RsMV2	Rhizoctonia solani	ANR02696.1
	Rhizoctonia solani bipartite-like virus 1	RsBLV1	Rhizoctonia solani	QDW81299.1
	Ceratobasidium mycovirus-like	CeMVL	Ceratobasidium sp.	AOX47586.1
<i>Partitiviridae</i>	Ustilaginoidea virens partitivirus 3	UvPV3	Ustilaginoidea virens	YP_008327312.1
	Ustilaginoidea virens partitivirus 2	UvPV2	Ustilaginoidea virens	YP_008327313.1
	Fusarium solani virus 1	FsV1	Fusarium solani	BAA09520.1
	Gremmeniella abietina RNA virus MS1	GaRVMS1	Gremmeniella abietina	AAM12240.1
	Penicillium stoloniferum virus S	PsVS	Penicillium stoloniferum	CAJ01909.1
	Aspergillus fumigatus partitivirus 1	AfPV1	Aspergillus fumigatus	CAY25801.2
	Fusarium poae virus 1	FpV1	Fusarium poae	AAC98734.1
	Rhizoctonia solani virus 717	RsV717	Rhizoctonia solani	AAF22160.1
	Sclerotinia sclerotiorum partitivirus 1	SsPV1	Sclerotinia sclerotiorum	AFR78160.1
	Rosellinia necatrix partitivirus 3	RnPV3	Rosellinia necatrix	BAM36401.1
	Rosellinia necatrix partitivirus 4	RnPV4	Rosellinia necatrix	BAM36402.1
	Heterobasidion partitivirus 2	HePV2	Heterobasidion parviporum	ADL66905.1
	Rosellinia necatrix partitivirus 2	RnPV2	Rosellinia necatrix	BAM78602.1
	Vicia faba partitivirus 1	VfPV1	Vicia faba	ABJ99996.1
	Sclerotinia sclerotiorum partitivirus S	SsPVS	Sclerotinia sclerotiorum	YP_003082248.1
	Heterobasidion partitivirus 3	HePV3	Heterobasidion ecrustosum	ACO37245.1
	Heterobasidion partitivirus 1	HePV1	Heterobasidion abietinum	ADV15441.1
	Rhizoctonia fumigata partitivirus	RfPV	Rhizoctonia fumigata	AJE25830.1
	Gaeumannomyces tritici partitivirus 2	GtPV2	Gaeumannomyces tritici	AZT88604.1
	Raphanus sativus cryptic virus 4	RsCV4	Raphanus sativus	ATG29853.1
	Vicia cryptic virus	VCV	Vicia faba	ABN71239.1
	Beet cryptic virus 1	BCV1	Beta vulgaris	ACA81389.1

	White clover cryptic virus 1	WCCV1	white clover	AAU14888.1
	Red clover cryptic virus 1	RccV1	Red clover	YP_008719882.1
	Fig cryptic virus	FcV	Fig	CBW77436.1
	Beet cryptic virus 3	BcV3	Beet	AAB27624.1
	Pepper cryptic virus 2	PcV2	Pepper	AEJ07892.1
	Beet cryptic virus 2	BcV2	Beet	ADP24757.1
	Pepper cryptic virus 1	PcV1	Pepper	AEJ07890.1
<i>Megabinaviridae</i>	Botrytis porri botybirnavirus 1	BpBV1	Botrytis porri	AFD04798.1
	Rosellinia necatrix megabirnavirus 1	RnMBV1	Rosellinia necatrix	BAI48016.1
	Pleosporales megabirnavirus 1	PmBV1	Pleosporales sp.	ALO50147.1
	Sclerotinia sclerotiorum megabirnavirus 1	SsMBV1	Sclerotinia sclerotiorum	YP_009143529.1
<i>Totiviridae</i>	Botryotinia fuckeliana totivirus 1	BfTV1	Botryotinia fuckeliana	YP_001109580.1
	Gremmeniella abietina RNA virus L1	GaRvL1	Gremmeniella abietina	NP_624332.2
	Gremmeniella abietina RNA virus L2	GaRvL2	Gremmeniella abietina	YP_044807.1
	Aspergillus mycovirus 178	AsMV178	Aspergillus nidulans	ABX79995.1
	Penicillium aurantiogriseum totivirus 1	PaTV1	Penicillium aurantiogriseum	YP_009212848.1
	Magnaporthe oryzae virus 2	MoV2	Magnaporthe oryzae	YP_001649206.1
	Sphaeropsis sapinea RNA virus 2	SsRV2	Sphaeropsis sapinea	NP_047560.1