

Supplementary Table S2. Primer pairs designed based on the results from metatranscriptome sequencing to validate less assembled region with obscure N bases and fragments/gaps of the sixteen mycoviruses (Rhizoctonia zeae hypovirus 1, Rhizoctonia zeae hypovirus 2, Rhizoctonia zeae yadokarivirus 1, Rhizoctonia zeae yadokarivirus 2, Rhizoctonia zeae ourmia-like virus 1, Rhizoctonia zeae ourmia-like virus 2, Rhizoctonia zeae gammaflexivirus 1, Rhizoctonia zeae dsRNA virus 1, Rhizoctonia zeae dsRNA virus 2, Rhizoctonia zeae megabirnavirus 1, Rhizoctonia zeae megatotivirus 1, Rhizoctonia zeae megatotivirus 2, Rhizoctonia zeae yadonushivirus 1, Rhizoctonia zeae yadonushivirus 2, Rhizoctonia zeae bunyavirus 1, and Rhizoctonia zeae bunyavirus 2) present in *Rhizoctonia zeae* strain D40 by reverse transcript-polymerase chain reaction (RT-PCR).

Virus name	Primer name	Sequence (5'-3')	Contig ID	Region of RT-PCR product at viral genome (nt)	Annealing temperature (°C)
Rhizoctonia zeae hypovirus 1	201-1F	TAAGTAACCCTGACGAGCCA	contig201	118-640	55
	201-1R	GATGCGAAACGCCAACAC			55
	201-2F	TAGCAGGGTATGGCAACG		402-1179	55
	201-2R	AAAGGCGAAGAGTGGGAG			55
	201-3F	CTCTTCGCCTTTGGACTA		1168-1849	53
	201-3R	TACCAGGACGGCTGTGAT			55
	201-4F	AGAGCGAGCCGAAGATG		1266-4923	55
	201-4R	CAATGGCGAGCAGAGGT			55
	201-5F	GTCTATCACAAGGCGGGAGT		3674-6654	57
	201-5R	GCTGGCAGATGGGAAAA			52
	201-9F	GGTGGAAACCCTGACAGCGTGAT		1811-2695	61
	201-9R	CCTAGCATCCTCCCAGCATTCG			61
	201-10F	GGGAAGTGGCTGATGCGTTGTA		2640-3533	60
	201-10R	TTGATTGATTTGCGTCGAAGGTG			56
	201-11F	ATGGAGTTCACCTTCGACGCAAAT		3503-4443	58
	201-11R	TCAAGCCTCGTCAACACCCACA			60
	201-12F	GTTTGCCGCCCGAGTTCGT		4258-5086	60

Rhizoctonia zeae hypovirus 2	201-12R	TTTAGCCGCAGCATCAATCCC	4910-5926	58
	201-13F	TCTGCTCGCCATTGGTTACTACTTCC		62
	201-13R	CCAGTTGCCATCATAGACTTCATCGT		60
	201-14F	TTGAGGTCCTTTGGGTGTTGCG	5841-6835	60
	201-14R	CCTTCGTGGGAGGGAGGCTATG		63
	201-16F	CCGTTTCGGGTCCCTTAGTG	7351-8423	61
	201-16R	TGATCTTCCGGTATTCAGTTCTTGTC		60
	201-17F	GCGATCCGACCTTGAGCAG	8214-9210	62
	201-17R	TTCCCGATTGGTAAGAAAGATGTTGT		56
	201-18F	GGGGCAACGGCACATTCATT	9071-10,105	57
	201-18R	TTTGGACTIONGGAGCCTCATTTTCAG		58
	201-19F	ACTGAAATGAGGCTCCAAGTCCAAA	10,081-11,083	58
	201-19R	ACTTCCTCCGTCTTCAAGCAATAACTC		60
	201-20F	AGGAGTTATTGCTTGAAGACGGAGGA	11,057-11,967	60
	201-20R	GAGGCGGTGTAGTCTGTCGTGAAA		61
	201-21F	ATCACTATCTGAGCCAGTAACACCCG	11,734-12,440	61
	201-21R	ACGCGAATTGCGACAAACCC		57
	1743-1F	TAAAGACTTGGACGGCGGATGG	226-1304	60
	1743-1R	GGTTTGCGTGAAGAAGGGAGGA		60
	1743-2F	TTTGAGGCAGTCTGAGATGGA	1140-1901	58
	1743-2R	GCCCTTGGTGTAATGTAGCGAAT		58
	1743-3F	CCCGAGTTTGGCTTCCATTTGT	contig1743 1708-2695	58
	1743-3R	GGACCGCAGACTGTTGTTGACC		61
	1743-5F	CAGCACGAAGAAGAACCTA		55
	1743-5R	TCTCCACCAGGACAGTATAAATC		56
	1743-6F	CTAGTGCAGAACACCCACCTC	3954-4896	60

	1743-6R	GCTCCAATGCCAACCTTTT		53
	1743-10F	CCGACGCAACTACACCACA		57
	1743-10R	GTTTAGCATTATCGCCACATT	6578-7580	52
	1743-13F	AGGCGCACTACAACCAGC		57
	1743-13R	CGTAATCGTCTTCCGACTCAA	8841-9647	56
	1743-14F	GGGGATAACCCAACCAGG		57
	1743-14R	TGAGACTCCAGCCATTTTCG	9497-10,380	55
	1743-16F	TCACATCTTTCTTTGGCATTG		52
	1734-16R	TTGTTGGTGTGCGCTTGGA	11,127-12,167	53
	1743-18F	ATCCTCCTCGGTAATCCTTTC		56
	1743-18R	TGACGCATTATTGAGTCTTGG	12,757-13,356	54
	764-1F	TTGCGTCAGCAGTGTTCT		53
	764-1R	AGGCGTTATGAGGTAGGG	269-1217	55
	764-2F	TCACTAATCCTACCCTACCTCATAACGC		61
	764-2R	TCTGATTCAAGCGAAGTGCCAAG	1188-1932	58
	764-4F	CCACTTTGACTCCCGATACCCTT		60
	764-4R	CATTTGGTCGTGGCAGTGAGGT	2811-3717	60
Rhizoctonia zeae yadokarivirus 1	764-5F	CCGCAATACCGTCTTAGGAGGA	contig764	60
	764-5R	GGATCGTATCTGTCTGTAGAAAGTGGC	3604-4482	61
	764-7F	ACAGGAATGTTAGCCGACAAGCG		60
	764-7R	CCAATGAAGGCGGTCAGCAC	5096-5956	60
	764-8F	TTCTCGCAAACGTCGGTTGAA		56
	764-8R	TCGGACCTAAATAAGGTGGTCACTAAA	5784-6561	58
	351-1F	GCCCTGATTTGAGGTTCG		55
Rhizoctonia zeae yadokarivirus 2	351-1R	GAGGAGCATCGGGACATT	contig351	166-926
	351-2F	ACGACGGACCCATCACCA	722-1799	57

	351-2R	GAAGCAAACCGACGGAAGT			55
	351-3F	GACTTCCGTCGGTTTGCTT			55
	351-3R	GGTGGCGGTCCTTGAGATA		1780-2755	57
	351-4F	CACGAGCCTGCCTTCCTT			57
	351-4R	TTCGGTTGCGACGGTTTT		2524-3561	53
	351-5F	ATCGGATTCACGACTCAGCG			57
	351-5R	GGCGGGAGAAGAAGGACAG		3416-4242	59
	351-6F	CGCCTCCTCCTACCACTTC			55
	351-6R	CTTGTTGCGGATACCTTCG		4061-4950	55
	351-7F	CCAACGGCTGAAGGTGAT			55
	351-7R	GAAGGGAGGTGCTGGAGAC		4762-5701	60
	351-8F	TGGAAACCACCGTCATCTATT			54
	351-8R	CAGCCTTTACACTGCGAACTA		5615-6531	56
	351-9F	GAGGATACGCCGACTGCA			57
	351-9R	CGAAGGGATTGAGATAAGGAAG		6299-7006	56
	69-1F	CCTGCCCATTTCAGTTTAA			51
	69-1R	GCTGTGAGGCTCGGATT		35-653	55
Rhizoctonia zeae ourmia-like virus 1	69-2F	AAGTCCAGGTAGCCATTCA	contig69		53
	69-2R	AGGGTTTCCACCGTTTT		440-1983	50
	69-3F	TGTGCTGGAGAAATAGGGA			53
	69-3R	AGGAAGTCTGGTTTGAGGG		1930-2887	55
	132-1F	TGTGGGATGAGCAGTATGAT			53
Rhizoctonia zeae ourmia-like virus 2	132-1R	CCTCGCAGCAAGGTTAGT	contig132	133-954	55
	132-4F	TGGAATCCTTTTGTCTGC			50
	132-4R	CATTTATTATGAACCCCGTAG		3877-4200	52

Rhizoctonia zeae gammaflexivirus 1	132-5F	CGAAAGATGCGTAGTGTCATACTCGTAC TGT	744-1683	62
	132-5R	CAAGATAAACGAAGACTCGGCTCCAGAT		61
	132-6F	ATCTGGAGCCGAGTCTTCGTTTATCTTG	1656-2527	61
	132-6R	GCTTGACGCTTGCCACCTGTTGA		61
	132-7F	GCTCAACAGGTGGCAAGCGTCAA	2503-3543	61
	132-7R	GGGAGGTCAATATGGGCTGGGAT		61
	132-8F	CCTGCGGAATCCTGGCTCG	3384-3981	62
	132-8R	GAACATCTTCGCTGGGGAAATCAT		58
	797-2F	CCCCATCTGTCCAATCAAACCC	128-433	60
	797-2R	TGCAGGGACCATAGATCCGAGAA		60
	797-3F	CTTTCCCGCCTCCCTGACCT	994-1578	53
	797-3R	GTCGTTCTCGTCCGTTGCCTC		55
	797-4F	CGAGGCAACGGACGAGAACG	1557-2327	60
	797-4R	TGGCTGAACGAGCGGAGGAG		60
	797-5F	GTCGTGGTCCAGCACCTTCG	2050-3117	62
	797-5R	AGCGGGTGTCGGCTTGGTA		62
	797-6F	CACTTCGATGCGGAGCCAGAG	2943-3981	62
	797-6R	GGCGGTTGATGACCAGGAGG		60
	797-7F	ACTACAAGCACTCGGCCAGCAA	3720-4698	60
	797-7R	TCAGGAAGGCGTCGAACAGGA		60
	797-8F	CTTCGCAAAGCGGATCAAGC	4601-5629	57
	797-8R	TCGGCACCACCGTCAAACAA		57
	797-9F	TACGAGGAGTTGCTTCCGTTGTTT	5592-6113	58
	797-9R	AGAAGAGGTGGAGAACCGTG		61
	797-10F	CTCTTTCTCCTTCCTCCTCACCTTTC	404-1169	61

Rhizoctonia zeae RNA virus 1	797-10R	CGACCTGCGTCATTCTTCGTGT			60	
	75YZ-F	ATGAACGGTGACATAGCGAAGAAACA	contig75	7488-8451	61	
	75YZ-R	TCCTCCTCCGAATGAACCAGCA			61	
Rhizoctonia zeae RNA virus 2	620YZ-F	TGGACCGAATCTAACAGGTTGAAGCA		6900-7394	62	
	620YZ-R	GACCACAACTGGCACC GAACGAC	contig620		62	
	620YZ-2F	GGTCCACGATGCCCCGAAAGG			60	
	620YZ-2R	GAACCCGCCGAAGAACCACAGA		4342-5218	61	
	7030-4F	GTTCCACGAGCGGTACTCCTCATCACTG		1480-2208	65	
	7030-4R	CAGCCCGACGTACACCTCCTCAACC			66	
	7030-5F	CGCTGTTGCTCGGGCTTCTGGTA		2114-3223	65	
7030-5R	GATGGGCCGCATGATGCTGTTGG		63			
Rhizoctonia zeae megabirnavirus 1	RzMBV1-gap3-1F	CCGCAGGCATGGCGACATCA			63	
	RzMBV1-gap3-1R	TCCGTCAGCTCAGTTATCCGCAGGTT		3262-3921		
	9486-2F	CGTCATCACCCAGGTCTCACTCGTC	contig7030		66	
	9486-2R	CGCTCGGGTCATAAACC ACTCTGC	+	4378-5154	65	
	9486-3F	ATCCCTCACTCGTCCCTTCCACT	contig9453		63	
	9486-3R	CCGAACTCCGAACCCGAACCTG	+	5010-5844	63	
	RzMBV1-gap2F	TTCCGAGCACCGCTTCACCG	contig4186		63	
	RzMBV1-gap2R	ACTGATTCAACAGCCCAATGCGAGA		5655-6020	62	
	9486-4F	CAGGTTCTGGGTTCTGGAGTTCGG		5822-6568	60	
	9486-4R	GCGGCAGCATTCCACAATCAAGG			63	
	9486-5F	TGGCGATCAATCAGTGGAGTGGC			61	
					6563-7578	61

Rhizoctonia zeae megatotivirus 1	9486-5R	AAGCGCATCAGTTAGGCGTGGC	contig6273	110-774	61
	6273-1F	AGGCTCGCATCATTTCA			50
	6273-1R	AGGTCAGTCCTGGTGGC			57
	6273-6F	CCACCTGGCTTACCTTAG			55
	6273-6R	TATCAATCCTGGCACCC		3462-4624	52
Rhizoctonia zeae megatotivirus 2	496-2F	GGCACATTCACCTTCAATAATCAACTTCG	contig496	8260-8802	61
	496-2R	CAGCGGTTCGTACCTGTACTCTTTCA			63
	3587-1F	CGAACCCGTCCCGCTCATA			60
	3587-1R	AGGGCGTCGGCTCGAACAA		53-545	60
	3587-2F	TGACACGGCTAACGAACT		411-915	53
	3587-2R	GAAAGGGAAGGAAGAAGG			53
	3587-3F	CACCTCCACTCCCATCCA		15-413	57
	3587-3R	AGTTCGTTAGCCGTGTCATT			53
	3587-4F	CTTCCCTTCTTCCTTCCCTT		819-1792	55
	3587-4R	CAATCGTGTAGCAGTAGTGGC			57
Rhizoctonia zeae yadonushi virus 1	3587-5F	TGGTCCGCCACTACTGCT	contig3587	1766-2720	57
	3587-5R	TCTTGCTGCGTGTTGTTGA			53
	3587-6F	CCAGCGACATTGACGACC		2564-3453	57
	3587-6R	GAGCAGGAAGGCAGAAGTG			57
	3587-7F	AGTTCACCTTCTGCCTTCCTG		3431-4101	55
	3587-7R	ATACCGCCTCAAAGACACC			55
	3587-8F	CCCAAATTGCCCTAGAAA		3836-4404	50
	3587-8R	GAGCGTGAAAGTGAGATGAG			55
	3588-3F	CGCCACATCATCAAGAACA		1226-2172	53
	3588-3R	CCGTAAGCGACAGCAGAG			57
Rhizoctonia zeae yadonushi virus 2	3588-5F	TTTTCTGAGTTCCTACGCTACG	contig3588	2957-3681	56

	3588-5R	ACACGGGCATCATTCTGG			55
	3588-6F	CAAGGAGAAGACCGTTGAGA			55
	3588-6R	GAGCGTGAAAGTGAGGAATG		3457-4436	55
Rhizoctonia zeae bunyavirus 1	900YZ-1F	TCTGCGGCTCGTAAGGAA	contig900	4560-5280	57
	900YZ-1R	TGTCAGGAGTGAAAGATGGGAT			56
Rhizoctonia zeae bunyavirus 2	3951YZ-1F	AGACTGTTACATCCCTGAGCC	contig3951	2104-2824	57
	3951YZ-1R	TTTCCGCATCTGAGGTTTC			54
