TABLE S3: Oligonucleotide primers used to amplify and sequence viral genome fragments.

1a Reverse Transcription primers

Oligonucleotide	Sequence	AF009606 position
5' UTR	Random Decamers	NA
5' half genome		
1aNS3-R2v2	GGTGCTCGTGACGACCTCGAGGTC	R: 5295←5318
3' half genome		
1aNS5B.R2	TCGGTTGGGGAGGAGGTAGATGCCTA	R: 9349←9374
Poly-U/UC Tract		
U3tailR3	CATGCGGCTCACGGACCTT	R: 9587←9605
3' UTR		
3termi-R2	AGCGAGCACAGATGGACTACAGACG	NA

1a Amplification Primers

Oligonucleotide	Sequence	AF009606 position
5' UTR		
Ambion FirstChoice		
5' adaptor	GGCGATGAATGAACACTGCGTTTGCTGGCTTTGATGAAA	NA
5UTR-F1	GCTGATGGCGATGAAT	NA
5UTR-F2	GCTGGCTTTGATGAA	NA
1aU5UTR_R2	AAGATTCCCTGTTGCATAGTTCA	R: 826←848
1aU5UTR_R1	TACTCGAGTTAGGGCAATCATT	R: 954←975
5' half genome		
1aCORE-F1-342	ATGAGCACGAATCCTAAACCTCAAAGA	F: 342→368
1aCORE-F2-362	TCAAAGAAAAACCAAACGTAACACCAACCG	F: 362→391
1aNS4A-R1	GCACTCTTCCATCTCATCGAACTC	R: 5451←5474
1aNS3-R2v2	GGTGCTCGTGACGACCTCGAGGTC	R: 5295←5318
3' half genome		
1aNS3.F1	ACTCATATAGACGCCCACTTTCTATCCCA	F: 5037→5065
1aNS3.F2	CATCGTGGGACCAGATGTGGAAG	F: 5146→5168
1aNS5B.R1	TCATCGGTTGGGGAGGAGGTAGAT	R: 9354←9377
1aNS5B.R2	TCGGTTGGGGAGGAGGTAGATGCCTA	R: 9349←9374
Poly-U/UC Tract		
1aNTRF1	ATCTACGGAGCCTGCTACTCCATAG	F: 8940→8964
1aNTRF2	AATAGGGTGGCCGCATGCCTCAGAAAACTTG	F: 9048→9078
U3tailR3	CATGCGGCTCACGGACCTT	R: 9587←9605
U3tailR4	CGGCTCACGGACCTTTCACA	R: 9582←9601
3' UTR		
3'RACE Adaptor	/5Phos/ rCrGrUrCrUrGrUrArGrUrCrCrArUrCrUrGrUrGrCrUrCrGrCrU/3ddC/	NA
1a3'raceF1	TTCTTCTTTAATGGTGGCTCCAT	F: 9537→9559
1a3'raceF2	TTAATGGTGGCTCCATCTTA	F: 9544→9563
3termi-R1	AGAGTCATGTCACTAGCGAGCACAGATGG	NA
3termi-R2	AGCGAGCACAGATGGACTACAGACG	NA

1a Sequencing Primers

Oligonucleotide	Sequence
Ambion FirstChoice	GGCGATGAATGAACACTGCGTTTGCTGGCTTTGATGAAA
5' adaptor	
5UTR-F1	GCTGATGGCGATGAAT
5UTR-F2	GCTGGCTTTGATGAA
1aCore-R2-2v2	GATGACCTTACCCAAATTGCG
1aCore-R2-3	CCTTACCCAAATTGCGCGACCTAC
1aCORE-F1-342	ATGAGCACGAATCCTAAACCTCAAAGA
1aCORE-F2-362	TCAAAGAAAAACCAAACGTAACACCAACCG
1aNS4A-R1	GCACTCTTCCATCTCATCGAACTC
1aNS3-R2v2	GGTGCTCGTGACGACCTCGAGGTC
1.F1	GTACTGCCTGATAGGGTGCTTGCGA
R2	TTGGTTTTTCTTTGAGGTTTAGGA
R4	CGACCTACGCCGGGGGTC
F2.2	GGGTAAGGTCATCGATACCCT
F4	TCCATGGTGGGGAACTGGG
F6.1a	GTGGTGGTGGGAACGACCGA
R6	CGAGAGTATGTGGCTTCCGGATG
F8	CTCCTGCTTGTGGATGATG
F9	CTGTGGGTTCCCCCCCTCA
1.F10	CGTCTTCTCCCGAATGGAGAC
10025.F9	GTATGGGTCCCCCCCCTCA
10025.F10	CGTCTTTTCCCAGATGGAGAC
10025.F12	GTCATTCCCGTACGCCG
110069.F10	CGTCTTCTCCCAGATGGAGAC
1.F12	GTCATTCCCGTGCGCCG
1.F14	CGTACTCCACCTACGGCAAGTTC
1.F16	CACGTGTGTCACCCAGACAG
1aF17	CTCTACCRGGAGTTCGATGAGATGGA
10025.F17	CTCTACCGGGAGTTCGATGAAATGGA
110069.F17	CTCTACAAAGAATTCGATGAGATGGA
110069.F19	CGTGGCATTTAAGATCATGAGCGG
10021.F19	TTGTAGCATTCAAGATCATGGGCGG
10025.F19	TCGTGGCATTCAAGATCATGAGCGG
10025.F22	AACGGGACGATGAGGCT
1aF21	GACATCTGGGACTGGATATGCGA
1aF22	AACGGGACGATGAGGAT
1aF24	GAGTCAGAGAACAAAGTGGT
1aF25	TTTGGCAGCTCCTCAACTTC
10025.F25	TTTGGCAGCTCTTCCACTTC
1aF26	AGAAGAAAGTCACATTTGACAGACTGC
110069.F26	AGAAGAAAGTCACATTTGACAGACTAC
1aF28	GAYATCCGTACGGAGGAGGCAA
1aF30	GCCTGCTACTCCATAGAACC
pBR322.F	CCTGACGTCTAAGAAACCATTATTATCATGACATT
pBR322.R	GGTGCCTGACTGCGTTAGCAA

1b Reverse Transcription Primers

Oligonucleotide	Sequence	AF009606 position
5’ UTR	Random Decamers	NA
5’ half genome		
1bNS3-R2	GGTGCTCGTGACGACCTCCAGGTC	R: 5295←5318
3’ half genome		
1bNS5B.R1	TCATCGATTGGGGAGCAGGTAGAT	R: 9354←9377
Poly-U/UC Tract		
U3tailR3	CATGCGGCTCACGGACCTT	R: 9587←9605
3’ UTR		
3termi-R2	AGCGAGCACAGATGGACTACAGACG	NA

1b Amplification Primers

Oligonucleotide	Sequence	AF009606 position
5’ UTR		
Ambion FirstChoice		
5’ adaptor	GGCGATGAATGAACACTGCGTTTGCTGGCTTTGATGAAA	NA
5UTR-F1	GCTGATGGCGATGAAT	NA
5UTR-F2	GCTGGCTTTGATGAA	NA
1bU5UTR_R2	AGCGGAAACTGGGATGGTCAAACA	R: 891←914
1bU5UTR_R3	CAAACAGGACAGCAAAGCCAAAAG	R: 873←896
5’ half genome		
1bCORE-F1-342	ATGAGCACGAATCCTAAACCTCAAAGA	F: 342→368
1bCORE-F2-362	TCAAAGAAAAACCAAACGTAACACCAACCG	F: 362→391
1bNS4A-R1	GCACTCTTCCATCTCATCGAACTC	R: 5451←5474
1bNS3-R2	GGTGCTCGTGACGACCTCCAGGTC	R: 5295←5318
3’ half genome		
1bNS3.F1	CCTTCGGGCATGTTCGATTCCTC	F: 4841→4861
1bNS3.F2	TCCTCGGTCCTGTGTGAGTGCTATGA	F: 4878→4899
1bNS5B.R1	TCATCGATTGGGGAGCAGGTAGAT	R: 9354←9377
1bNS5B.R2	TACAGAAAGTAGGAGTAGGC	R: 9325←9344
Poly-U/UC Tract		
1bNTRF1	ATCTACGGGGCTACCTACTCCATTG	F: 8940→8964
1bNTRF2	AATAGGGTGGCTTCATGCCTCAGAAAACTTG	F: 9048→9078
U3tailR3	CATGCGGCTCACGGACCTT	R: 9587←9605
U3tailR4	CGGCTCACGGACCTTTCACA	R: 9582←9601
3’ UTR		
3’RACE Adaptor	/5Phos/ rCrGrUrCrUrGrUrArGrUrCrCrArUrCrUrGrUrGrCrUrCrGrCrU/3ddC/	NA
1b3'raceF1	TTCTTCTTTGGTGGCTCCAT	F: 9540→9559
1b3'raceF2	TCTTTGGTGGCTCCATCTTA	F: 9541→9563
3termi-R1	AGAGTCATGTCACTAGCGAGCACAGATGG	NA
3termi-R2	AGCGAGCACAGATGGACTACAGACG	NA

1b Sequencing Primers

Oligonucleotide	Sequence
1.F1	GTACTGCCTGATAGGGTGCTTGCGA
R2	TTGGTTTTTCTTTGAGGTTTAGGA
F2.2	GGGTAAGGTCATCGATACCCT
F3.1b	GTCGATTTGCTCGTTGGGG
F4	TCCATGGTGGGGAACTGGG
10051.F16b	GTTGTGGTGGGGACGACCGA
F8	CTCCTGCTTGTGGATGATG
1bR2	CACRTGAGGAGGATGATGGC
1bF10	GGTCATTATGTCCAAATGG
10051.F13	ATCAACGGCGTGTGTTGGACT
10051.F14	TATGGAAACTACCATGCGGT
1.F14	CGTACTCCACCTACGGCAAGTTC
10051.F15	AACATTGGAGAGATCCCCTTCTA
1.F16	CACGTGTGTCACCCAGACAG
1bF17	CCATCGTGGGATCAAATGTGGAA
1b.F19	TTCTGGGCGAAGCATATGTGGAA
10051.F21	GGGCCGTCCAGTGGATGAA
1b.F23	GACATGTCAAAAACGGTTCCATGA
1b.F25	GTGCTCACTTCCATGCT
1b.F26	TTGAGTCGTACTCCTCCATG
1b.F27	AACATGGTCTATGCCACAAC
1b.F28	CACTCGGCCAAATCCAAATTTGGCTA
1b.F29	TGGGGGTTCGTGTGTGCGAGAA
10051.F30	AAGGCCGCTGCGGCCTGTCGAGC
1b.F31	TCCAATGTGTCGGTCGCGCACGA
1b.F32	CCACTTGACCTACCTCAGATCAT
pBR322.R	GGTGCCTGACTGCGTTAGCAA
pBR322.F	CCTGACGTCTAAGAAACCATTATTATCATGACATT

3a Reverse Transcription Primers

Oligonucleotide	Sequence	AF009606 position
5’ UTR	Random Decamers	NA
5’ half genome		
3aNS3-R2v2-5287	TTACTTCCAGATCAGCTGACA	R: 5287←5307
3’ half genome		
3aNS5B-R-9055	GTACCCCAAGTTTCCTGAGG	R: 9055←9074
Poly-U/UC Tract		
XR9582	ATGCGGCTCACGGACCTTTCACA	R: 9582←9604
3’ UTR		
3’RACE-R2	GTAGTTTCGGTCGTTTGCGTCACAAGTAAG	NA

3a Amplification Primers

Oligonucleotide	Sequence	AF009606 position
5’ UTR		
Ambion FirstChoice		
5’ adaptor	GGCGATGAATGAACACTGCGTTTGCTGGCTTTGATGAAA	NA
5’RACE-F1	GCTGATGGCGATGAATGAACACTG	NA
5’RACE-F2	CGCGGATCCGAACACTGCGTTTGCTGGCTTTGATG	NA
3a5'-R1-841	GAGCAACCGGGCAAGTTC	R: 842←859
3a5'-R2-803	CCCGTCTTCAAGGGCCCTCAC	R: 802←824
5’ half genome		
3aCOR-F1-342	ATGAGCACACTTCCTAAACCTCAAAGA	F: 342→368
3aCOR-F2-362	TCAAAGAAAAACCAAAAGAAACACCATCCG	F: 362→391
3aNS3-R2v2-5287	TTACTTCCAGATCAGCTGACA	R: 5287←5307
3’ half genome		
3aNS3-F1-4642	TTTGCGCTACTGACGCCCTCAT	F: 4642→4663
3aNS3-F2-4651	CTGACGCCCTCATGACTGGAT	F: 4651→4671
3aNS5B-R-9055	GTACCCCAAGTTTCCTGAGG	R: 9055←9074
Poly-U/UC Tract		
3aF8769	GTACTATTACCTCACCCGTGATGC	F: 8742→8764
3aF8817	AACTCCTGGTTGGGCAACATCATCA	F: 8790→8810
XR9582	ATGCGGCTCACGGACCTTTCACA	R: 9582←9604
3’ UTR		
3’RACE Adaptor	/5Phos/rArArArGrUrArGrUrUrUrCrGrGrUrCrGrUrUrUrGrCGTCACAAGTAAGT AGCGGTAGTCG/3ddC/	NA
XF9550-22	GTGGCTCCATCTTAGCCCTAGT	Rev:9550→9571
3’RACE-R1	GTCACAAGTAAGTAGCGGTAGTCG	NA
3’RACE-R2	GTAGTTTCGGTCGTTTGCGTCACAAGTAAG	NA

3a Sequencing Primers

Oligonucleotide	Sequence
5’RACE-R2	CGCGGATCCGAACACTGCGTTTGCTGGCTTTGATG
3aCOR-F1-342	ATGAGCACACTTCCTAAACCTCAAAGA
3a5'-R2-803	CCCGTCTTCAAGGGCCCTCAC
3aR2-1a	GAGGTCGGCGAATCCGCA
3a5'-R1-841	GAGCAACCGGGCAAGTTC
3aCOR-F2-362	TCAAAGAAAAACCAAAAGAAACACCATCCG
3aF2-2	GTAAAGTCATCGATACCC
3aF4	TCCATGCAGGGCAACTGGG
3aF5	CAATGGCTCGTGGCACATCA
3aF8	CGTTGCCCTTTGGCTGATG
3aF9v2	TGTGGGTCCCCCCCCTAC
3aR11	CAGTCCCGCAAGTGCATGGCTCAA
3aR11-2	TGCGCCGAGCAGGAATGACAT
3aF10	AATATTTAGTCCCATGGAAAT
3aF11	GGCAGGGATAAGAACGT
3aF13	CCGGCAGTGGTAAGAGCAC
3aF15	GGGTACACCGGAGACTT
3aR18	TGGACAAGTAAGCTCTCA
3aF17	ACTGCTCCCCAAGACGCGGTTTCC
3aF19	CACACCCCATCACAAAATAC
3aF21	ATAGGCCTGGGCAGGGTCTT
3aR25b	CTTGAAACACTCTGCAGCCACCGAGAG
3aF24	GATGTTTCTGTGCTGACCTCGAT
3aF25	ATGGGCAGCAACATTACACG
3aF27	TGATAACACCATGTAGTGCTGAGG
3aR8997	TGGAGTCTTTCAATGATTGCTGGTA
3aF31	GTACTATTACCTCACCCGTGATGC
3aF8817	AACTCCTGGTTGGGCAACATCATCA
M13F-20	CGTTGTAAAACGACGGCCAG
M13R-20	TCACACAGGAAACAGCTATGAC

4a Reverse Transcription Primers

Oligonucleotide	Sequence	AF009606 position
5' UTR	Random Decamers	
5' half genome		
4aNS3-R2v2-5299	ACGTGCTCGTCACTACCTCGA	R: 5299←5319
3' half genome		
4aNS5B-R-9337	AGTAGGAGTAGGCACAGGAGTAAATA	R: 9312←9337
Poly-U/UC Tract		
XR9582	ATGCGGCTCACGGACCTTTCACA	R: 9582←9604
3' UTR		
3'RACE-R2	GTAGTTTCGGTCGTTTGCGTCACAAGTAAG	NA

4a Amplification Primers

Oligonucleotide	Sequence	AF009606 position
5' UTR		
Ambion FirstChoice		NA
5' adaptor	GGCGATGAATGAACACTGCGTTTGCTGGCTTTGATGAAA	
5'RACE-F1	GCTGATGGCGATGAATGAACACTG	NA
5'RACE-F2	CGCGGATCCGAACACTGCGTTTGCTGGCTTTGATG	NA
4aR4-2-732	GATGTATCCCATGAGGTCGGC	R: 732←752
4aR4-670	CCTCCGCCGGGGATCAT	R: 670←686
5' half genome		
4aCOR-F1-342	ATGAGCACACTTCCTAAACCTCAAAGA	F: 342→368
4aCOR-F2-362	TCAAAGAAAAACCAAACGTAACACCAACCG	F: 362→391
4aNS3-R2v2-5299	ACGTGCTCGTCACTACCTCGA	R: 5299←5319
3' half genome		
4aNS3-F1-4642	TCTGCGCCACGGACGCCCTCAT	F: 4642→4663
4aNS3-F2-F4681	ACTTTGACTCAGTGATAGACTGCAA	F: 4681→4707
4aNS5B-R-9337	AGTAGGAGTAGGCACAGGAGTAAATA	R: 9312←9337
Poly-U/UC Tract		
4aF8790	TGGGAGACAGTCCGACACACT	F: 8790→8810
4aF9090	TTGAGAGCGTGGAGACATCG	F: 9090→9109
XR9582	ATGCGGCTCACGGACCTTTCACA	R: 9582←9604
3' UTR		
3'RACE Adaptor	/5Phos/rArArArGrUrArGrUrUrUrCrGrGrUrCrGrUrUrUrGrCGTCACAAGTAAGT AGCGGTAGTCG/3ddC/	NA
XF9550-22	GTGGCTCCATCTTAGCCCTAGT	R: 9550→9571
3'RACE-R1	GTCACAAGTAAGTAGCGGTAGTCG	NA
3'RACE-R2	GTAGTTTCGGTCGTTTGCGTCACAAGTAAG	NA

4a Sequencing Primers

Oligonucleotide	Sequence
4aR4	CCTCCGCCGGGGATCAT
5'RACE-R2	CGCGGATCCGAACACTGCGTTTGCTGGCTTTGATG
4aCOR-F1-342	ATGAGCACACTTCCTAAACCTCAAAGA
4aF1a	ACTTCGGAGCGGTCGCAAC
4aR4b	CCCAATTAGCTTGCATG
4aR6	TTGGAGTAGGTAGTCTCCGGATG
4aF4	CATGCAAGCTAATTGGG
4aR9	CGAAGGATGGAACATAGAC
4aR10b	TTTCTCCATGGCCGTGAACAC
4aF9	GTCTATGTTCCATCCTTCG
4aF10b	GTGTTCACGGCCATGGAGAAA
4aR16b	AGTCAACGGTCTGTATTAC
4aF14	GTACTCCACGTATGGTAAGTTC
4aF16b	GTAATACAGACCGTTGACT
4aR18	TAGGCTTGAGGCGGATTAGGCACTTCCA
4aF17	GCTGACACCGGCTGAGACAA
4aR21	ACTACCAGTGCTCCAGGCGATA
4aF19	TCGACGAAATGGAGGAGTG
4aF22	GACGCCTCCACAAGTGGATCAA
4aF23	TGGCATGGGACCTTCCCCATCAA
4aR27	GTCCATGAATATGACATTGAGC
4aF26	GAGTCCGTCGTTTCTACCGCTTT
4aR30	GATAGCACGTCAGTGTGTT
4aF28	CTGCCAGATCAAAATTTGGCTA
4aF31	TGGGAGACAGTCCGACACACT
4aR32	CGATGTCTCCACGCTCTCAA
M13F-20	CGTTGTAAAACGACGGCCAG
M13R-20	TCACACAGGAAACAGCTATGAC