

# Clustal Omega

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## Service Retirement

We remind you that it is not long until the EBI's [Wise2DBA \(https://www.ebi.ac.uk/Tools/psa/wise2dba/\)](https://www.ebi.ac.uk/Tools/psa/wise2dba/) and [Promoterwise \(https://www.ebi.ac.uk/Tools/psa/promoterwise/\)](https://www.ebi.ac.uk/Tools/psa/promoterwise/) services are retired on 15th April 2018. Alternatives can be found at [Exonerate \(https://www.ebi.ac.uk/about/vertebrate-genomics/software/exonerate\)](https://www.ebi.ac.uk/about/vertebrate-genomics/software/exonerate), [BWA \(http://bio-bwa.sourceforge.net\)](http://bio-bwa.sourceforge.net) or [BLAT \(http://genome.ucsc.edu/FAQ/FAQblat\)](http://genome.ucsc.edu/FAQ/FAQblat). If you have any concerns, please contact us via [support \(https://www.ebi.ac.uk/support/sequence-alignment\)](https://www.ebi.ac.uk/support/sequence-alignment).

Results for job clustalo-l20180205-084704-0016-90365492-pg

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## CLUSTAL 0(1.2.4) multiple sequence alignment

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Ebola_virus_unknown_strain  CAGACATAGAATAAGAA-- -ATCGGTTTATATATTTTCTTGGGCCACTGACGATGGAGC
Marburg                     -AGACACACAAAAACAAGAGATGAT-----GATTTTGTGTATCATATAAAATAAGAAGA
Zaire                       CGGACACACAAAAAGAAGAAGAAATTTTAGGATCTTTTGTGTGCGAATAACTATGAGGA
Bundibugyo                  CGGACACACAAAAAGAATGAAGGATTTTGAATCTTTATTGTGTGCGAGTAACACGAGGA
Tai                          CGGACACACAAAAAGAAGAAGGTTTTTTGATCTTTATTGTGTGCGAATAACTATGAGGA
Reston                       CGGACACACAAAAAGAAAAAGGTTTTTAAGACTTTTGTGTGCGAGTAACATGAGGA
Sudan                        CGGACACACAAAAAGAAAAAGTTTTTATACTTTTGTGTGCGAATAACTATGAGGA
                               **** * ** ** * * *
Ebola_virus_unknown_strain  ATAATAATTTGAGATCCTTGCCCGTTGCATGATAATTATGTCCTTATTATCTGTCACTTA
Marburg                     ATATTAAC-----
Zaire                       AGATTAAT-----
Bundibugyo                  AGATTAAT-----
Tai                          AGATTAAT-----
Reston                       AGATTAAC-----
Sudan                       AGATTAAT-----
                               * * ***
Ebola_virus_unknown_strain  CCGGCGCCAAATATGTGACGTCAGAGTACCGATACCCCAATTGGGCAATGTCTTCACTAT
Marburg                     -----
Zaire                       -----
Bundibugyo                  -----
Tai                          -----
Reston                       -----
Sudan                       -----
Ebola_virus_unknown_strain  GCCTCAGCTTCGCTCTACATCTGATTCGTTGCGTTTAGATATTCGAATTGTGACGTACC
Marburg                     -----
Zaire                       -----
Bundibugyo                  -----
Tai                          -----
Reston                       -----
Sudan                       -----
Ebola_virus_unknown_strain  CAAGTTCTGGAGCTAATACAAGGCCTAGACTGGACCTAGGGTATCCTAGCGATGTAACAA
Marburg                     -----
Zaire                       -----
Bundibugyo                  -----
Tai                          -----
Reston                       -----
Sudan                       -----
Ebola_virus_unknown_strain  TTTCACCTTGAACACCTATCAAGCTTTAGTTTTCTGTTTTGACGAGCTATTAGAAGTAT
Marburg                     -----ATTGACATTAAGACTAGTCATTTTGTTAATAT
Zaire                       -----AATTTTCCTCTCATTGAAATTTATATCGGAAT
Bundibugyo                  -----GATTTTCCTCTCATTGAAATTGAAATTGAGAT
Tai                          -----AATTTTCCTCTCATTGACACTTACATTAAGAT
Reston                       -----AGTTTTCCTCAGTTAAGATATACACTGAAAT
Sudan                       -----CATTTTCCTCAAACCTCAAACCTAATATTAACAT
                               * **
Ebola_virus_unknown_strain  TGCCTGGTATATAGCCGTTTCGGCAAGACA-----
Marburg                     TCTTTAAAGATGGATTACATAGTTTGCT-----
Zaire                       TTAAATTGAAATTGTTACTGTAATCACACCTGGTTTGTTCAGAGCCACATCACAAAGAT
Bundibugyo                  TCTAATCTCGACGGATCGATCCCCAATACC-----AACACTGAGAATTGGCCT
Tai                          TAAGATTCTCATTGATCTGTTACTTACTCT-----GAGGATAAATAATTGGTGT
Reston                       TGAGATTGAGATTCTCCTCTTTGCTATTCT-----GTAACTTTCCTGTTGT
Sudan                       TGAGATTGATCTCATCATTTACCAATTGGA-----GACAATTTAACTAGT---
                               *
Ebola_virus_unknown_strain  -----
Marburg                     -----AGAATTAGGTA-----
Zaire                       AGAGAACAACCTAGGTCTCGAAGGGAGCAAGGGCATCAGTGTGCTCAG-----TTGAA
Bundibugyo                  GAAGAAGTCATCTGCTCCTTGCAAAACCAAGAGCAGGCCCAAAGGCC-----ATTAG
Tai                          TCAGAAGTACCCATTCCCAAGTGGGGGCAAGAGAGTCCAAAGAGCTC-----AACTT
Reston                       GACAATTGAATCAGTTTTATCTATTACCAATTACCATCAACATGGTATGTCTAGTGATCT
Sudan                       ---CAATCCCCCATTTGGGGGCATTCTAAAGTGTTGCAAGGTATGTGGGTGCTATTGC
Ebola_virus_unknown_strain  -----
Marburg                     -----CAAAACCCACAGCCCCTCA-----
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Zaire	AATCGCTTGTCAACACCTAGGTCCTTATCACATCACAAGTTCCACCT
Bundibugyo	CCACATCTGCTGAGCTG-----CAGAAACAGGAGGACTTAC
Tai	GTCCTATTCAACTAATCTGTTTGTCTCAGTAGTTCCATATTGAT-----
Reston	TGGGACTCTTCTTCATCTGGTTTTCTAGAGCTCTGAATCCATTTTGCGAGAAGTTCAT
Sudan	TTTGCCTTTTCTAACCTGGCTCCTCTACAATTCTAACCTGCTTGATAAGTGTGATTAC

Ebola_virus_unknown_strain	-----
Marburg	-----
Zaire	-----
Bundibugyo	-----
Tai	-----
Reston	C-----
Sudan	CTGAGTAATAGACTAATTTCTGCTCGGTAATTAGCATTTTCTAGTAAACCAATACTATC

Ebola_virus_unknown_strain	-----
Marburg	-----
Zaire	-----CAGACTCTGCAGGGTGATC-----CAACAACCTTAATAGAAACATTATTGTAA
Bundibugyo	-----TTAGCAGAAGAGAGCGGTGCCGAAACAGCCAACAAATTGACACAGCTGCTCA
Tai	-----CATACCCAGGAGTTGGACCTAATTCCAAAGCTTAGAGTGGGACCTAGTGTATCC
Reston	-----CAAACGACCCAGTGTCTGAAAATACAAAAGGTTCCCTTTCCGTCAAGTTTAAG
Sudan	TCAAGTCTTAAGAGAAGGTGAGAAGAGGGTCCCGAGGTATCCCTCCAGTCCACAAAATCT

Ebola_virus_unknown_strain	-----
Marburg	-----
Zaire	AGGACAGCATTAGTTACAGTCAAA-----CAAGCAAGATTGAGAATTAACCT
Bundibugyo	CTCTGACCCTGAATTCATAAACAATATTAAGTTGACAACAGAGATACTAATCCAATATTT
Tai	TCGGGGCTGTAATATAATCAGCCAT-TTAACACATAACAAGCCCTACTGTTTTCTTGTTT
Reston	GGGTTGTTTTGATTGTGTGTGATTTTATAATCCTAGAGTGCCAAGGAGTTGCGTGTCTAT
Sudan	AGCTAATTTTAGCTGAGTGGACTGATTACTCTCATCACGCTAACTACTAAGG-----

Ebola_virus_unknown_strain	-----
Marburg	-----
Zaire	TGGTTTTGAACCTTGAACACTTAGGGGATTGAAGATTCAACAACCCTAAAGCTTGGGGTAA
Bundibugyo	GGATCAAGAATCAAAATAGTGAAACGACTGACTATCCCTCCTTAGAATTAGCAAAGATC-
Tai	TGCCGTGCATTTAGAATAA-GAGACAACCTTAACCTCCGATTCCGGCAACACAGGGAATA-
Reston	CATTGATTGGGAAGATCAAGGAAACAATTTGTTCCAATAATATCGTACATCTTGACTAA-
Sudan	-----

Ebola_virus_unknown_strain	-----TGATGATTACACAGCCGAGTTGTCCGTCTAAAAATCCGCAAGACAGAAGT
Marburg	-----
Zaire	AACATTGGAAATAGTTAAAAGACAAATTGCTCGGAATCACAAAATCCGAGTATGGATTTC
Bundibugyo	-----CTTTGTAGACTATTGTGCTACATTCTCTATCCAAGACCTCAAATGGATCC
Tai	-----ATCTCACCAGACCCGGCAGTGTCTTCAGGCTTCATAGCCCAAGATGGAGAG
Reston	-----GTCGAACAAGGGGAAGTCGATATGGATCG
Sudan	-----GTTTACCTGAGAGCCTACAACATGGATAA

Ebola_virus_unknown_strain	CGGGACATAGCG--CTTCGTAACGCATATCTCCGCAAGGTGTGGAAACCT-TTGCTAGAA
Marburg	-----
Zaire	TCGTCCTCAGAAAACTGGATGGCGCCGAGTCTCACTGAATCTGACATGGATTACCACAA
Bundibugyo	TCGTCCAATCAGAACCCTGGATGATGCATAACACATCTGAAGTTGAAGCAGACTACCATAA
Tai	TCGGGCCACAAAGCATGGATGACGCACACCCGCATCAGGTTTCGAAACAGATTACCATAA
Reston	TGGGACCAGAAGAATCTGGGTGTCGCAAAATCAAGGTGATACTGATTAGATTATCATAA
Sudan	ACGGGTGAGAGGTTTCATGGGCCTGGGAGGACAATCTGAAGTTGATCTTGACTACCACAA

Ebola_virus_unknown_strain	GATTT-----ACTTATGTGTGACACCATGAAGTACGTGAACAACGGATAATTCAGT
Marburg	-----TGTTTCGTAATAAGAAGGTGATATT
Zaire	GATCTTGACAGCAGGTCTGTCCGTTCAACAGGGGATTGTTTCGGCAAAGAGTCATCCCAGT
Bundibugyo	GATTCTAACTGCCGATTGTCCGTCCAGCAAGGCATTGTGAGACAAAGAATCATTCTGT
Tai	GATTTTAACAGCAGGATTGTGAGTCCAACAAGGCATTGTGAGACAACGGGTCAATCAAGT
Reston	AATTTTGACAGCTGGCCTTACTGTTTCAACAGGGAATTGTGAGGCAAGAAATATTTCTGT
Sudan	AATATTAACAGCCGGGCTTTCCGTTCCAACAAGGGATTGTGCGACAAGAGTCATCCCGGT
	* * *

Ebola_virus_unknown_strain	GCACAGGTTTCGAAGCCCAAGAAATGTGACCAAGATGACTTA-----ACCGGTGAAGC
Marburg	GTTTGATACAAACCATCAGGTTAGTATCTGTAACCAGATAATAGATGCAATAAACTCAGG
Zaire	GTATCAAGTAACAATCTTGAAGAAATTTGCCAATTATCATACAGGCCTTTGAAGCAGG
Bundibugyo	TTACCAAATCTCAAACCTGGAGGAAGTATGTCAACTCATCATACAGGCATTGAGGCTGG
Tai	CCACCAGGTTACAAACCTAGAAGAAATATGCCAATTGATCATTCAAGCCTTTGAAGCTGG
Reston	ATATCTTGTTGATAACTTGGAGGCTATGTGTCATTGGTAATACAAGCCTTTGAGGCCGG
Sudan	ATATGTTGTGAGTGATCTTGAGGGTATTTGTCAACATATCATTGAGGCCTTTGAAGCAGG
	* * *

Ebola_virus_unknown_strain	TGTATAGTTTCAGGAGCGTGCAAAACAATATCTTGCGGAAGCTAAGGTTACAGCATGCTGT
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Marburg	GATCGATTAGGAGATCTTTTGAAGGCGGCTTGTTGACATTATGTGTTGAACATTATTA
Zaire	TTTCGATTTCGAAGAGAGTGC GGACAGTTTCTTTCATGCTTGTGTTTCATCATGGA
Bundibugyo	CGTCGACTTCCAGGATAGTGCAGATAGCTTTTTGTTAATGCTATGCTGTCATCATGCCTA
Tai	TGTTGATTTTCAAGAGAGTGCAGACAGTTTCTTGCTGATGCTATGTTTACATCATGCTTA
Reston	AATTGATTTTCCAAGAAAATGCCGACAGCTTCTCTCTGATGCTTTGCCATACATCATGCTTA
Sudan	CGTAGATTTCCAAGATAATGCTGACAGCTTCTTTTACTTTTATGTTTACATCATGCTTA
	* * ** ** *
Ebola_virus_unknown_strain	CAAAGTACCTCAAGCATCCTGTACAGCAAACGGT - - - - -AATTACTTTGAGGATCAGGG
Marburg	CAATTCTGACAAAGATAAATTCAAATCAAGTCCTATTGCAAAATATCTGCGGGACGCGGG
Zaire	CCAGGGAGATTACAAACTTTTTCTTGAAAAGTGGCGCAGTCAAGTATTTGGAAGGGCACGG
Bundibugyo	TCAAGGGGATTATAACAATTTTTGGAAGTAATGCGGTAAAATACCTTGAAGGTGTCATGG
Tai	TCAGGGTGACTACAAGCAATTCCTTGAAAGCAATGCAAGTCAAGTACCTTGAGGGTCATGG
Reston	CCAAGGTGACTATAAATTTGTTCTTGAGAGCAATGCTGTACAGTATTTGGAAGGTGTCATGG
Sudan	CCAAGGAGATCATAGGCTCTTCTCAAAGTGATGCAGTTCAATACTTAGAGGGCCATGG
	* * * *
Ebola_virus_unknown_strain	CTACGCTCGGGGG - - - - CGGAAAGGGGAGAATGAAAGCACTCGAAGAATGATTGCCCT
Marburg	CTATGAGTTTTGATGTCATCAAGAATCCTGATGCAACTCGCTTTCTAGAGGTTATTCCTCA
Zaire	GTTCCGTTTTGAAGTCAAGAAGCGTGATGGAGTGAAGCGCCTTGAGGAATTCGTCAGC
Bundibugyo	ATTCGGTTTTGAGATGAAGAAAAAGGAAGGTGTAAGCGCTGAGGAACTACTCCTGTC
Tai	CTTTCGCTTTGAGGTGAGGAAAAAGGAAGGAGTCAAGCGACTCGAAGAATTGCTTCTGTC
Reston	ATTCAAATTTGAGCTCCGGAAGAAGGACGGTGTAATCGGCTCGAGGAATTGCTTCTGTC
Sudan	TTTCAGGTTTGAGGTCCGAGAAAAGGAGAATGTGCACCGTCTGGATGAATTGTTGCCAA
	* * * ** *
Ebola_virus_unknown_strain	GCATTCTGGGGAAAAGGCACCAGAGACATCTCTGGAATCCCCCAAGGCGC - - - - -AC
Marburg	TGAACCTCATTACAGCCCTTTGATTTTGGCTCTCAAAACCTTAGAAAGCACTGAATCTCA
Zaire	AGTATCTAGTGGAAAAAACATTAAGAGAACACTTGCTGCCATGCCGGAAGAGGAGACAAC
Bundibugyo	TGCCTCGAGTGGAAGAACATCAAGAGAACATTGGCTGCAATGCCCGAGGAGGAAACAAC
Tai	TGCCTCAGTGGCAAGAGCATCAGGAGAACACTGGCTGCAATGCCTGAAGAGGAGACAAC
Reston	TGCAACGAGTGGAAAAAACATCAGGCGTACGTTGGCCGCACTGCCTGAAGAGGAGACTAC
Sudan	TGTCACCGGTGGAAAAAATCTTAGGAGAACATTGGCTGCAATGCCTGAAGAGGAGACAAC
	* * * *
Ebola_virus_unknown_strain	GTGTGCGAATGCCGGGCCATTCTCTCTTTTGTA - -CCTCATTCTTCCAAGTTCGCTCT
Marburg	AAGGGGGAGGATTGGGCTCTTTCTGTCAATTTTGCAGTCTTTTCTCCCGAAACTCGTTGT
Zaire	TGAAGCTAATGCCGGTCAGTTTCTCTCCTTTGCAAGTCTATTCTTCCGAAATTGGTAGT
Bundibugyo	AGAAGCAAATGCTGGACAATTTCTTTCATTGCTAGTCTGTTTCTCCCAAATTTGGTTGT
Tai	AGAAGCAAATGCCGGACAGTTCTCTCTTTTGCTAGCTTATTTCTTCTAAGCTAGTTGT
Reston	AGAAGCAAATGCAGGGCAATTTCTCTCATTGCGAGTTTGTTTCTTCCCAAACCTGGTTGT
Sudan	AGAAGCTAATGCTGGTCAGTTTTTATCCTTTGCCAGTTTGTTTCTACCCAAACTTGTCGT
	* * ** * ** * * * * *
Ebola_virus_unknown_strain	CAGAGATATAGCCT - - - - -AACGAGTGCACCGGTAATCCATGTTTCATGCGAAAGAGCG
Marburg	CGGAGACCGAGCTAGCATCGAAAAGGCCCTGAGACAAGTAACAGTGTCATCAGGAACAAGG
Zaire	AGGAGAAAAGGCTTGCTTGAGAAGGTTCAAAGGCAAATTCAGTACATGCAGAGCAAGG
Bundibugyo	CGGAGAAAAGGCTGTCTGGAGAAGGTTCAACGACAAATCCAAGTGACGCAGACAAGG
Tai	CGGAGAAAAGCCTGTCTAGAAAAGGTGCAGCGGCAAATTCAGTTTATTCTGAGCAGGG
Reston	GGGAGAGAAGGCTTGCTTGAAAAAGTCCAGCGACAAATTCAGGTTTCATGCAGAACAGGG
Sudan	TGGGGAGAAAGCGTGTCTGGAAAAAGTACAAAAGCAGATTTCAGGTCCATGCAGACAAGG
	* ** ** *
Ebola_virus_unknown_strain	- - -GATCCAGTACCCCGCGGGCT -GCAGGGATTAGATATCGTCATGGTAATTCAGAGGAT
Marburg	GATTGTAACATACCCCAATCATTGGCTCACTACAGGTCACATGAAAGTAATCTTTGGGAT
Zaire	ACTGATACAATATCCAACAGCTTGGCAATCAGTAGGACACATGATGGTGATTTCCGTTT
Bundibugyo	TCTGATTCAATACCCGACATCTTGGCAATCGGTGGGACATATGATGGTCATCTTCAGACT
Tai	ATTGATCCAATACCCACAGCCTGGCAGTCAGTTGGACACATGATGGTCATTTTCAGACT
Reston	TTTAATTTCAATATCCCAGTGCATGGCAATCAGTTGGACACATGATGGTAATCTTCAGATT
Sudan	GCTCATTCAATATCCAATCTCTGGCAATCAGTTGGACACATGATGGTGATCTTCGTTT
	* ** ** * ** *
Ebola_virus_unknown_strain	GT - - -AACAAATTTGCTAATTTGTTTCCTGTT - -TCATAAAAGGAGCTCTTGTTACTGC
Marburg	TTTAAGATCTAGCTTCATTTTAAAGTTTGCTTAATCCATCAGGGAGTAAACTTGGTGAC
Zaire	GATGCGAACAATTTTCTGATCAAATTTCTCCTAATACCCAAGGGATGCACATGGTTGC
Bundibugyo	AATGCGAACCAACTTTCTGATTAAGTTCTCCTAATACATCAAGGAATGCATATGGTTGC
Tai	GATGAGAACAATTTTCTAATTTAAGTTCTCTTATACATCAAGGGATGCATATGGTAGC
Reston	GATGAGGACTAATTTCTTGATTAATATTTACTGATCCACCAGGGTATGCATATGGTAGC
Sudan	GATGAGAACAACCTTTTAAATCAAGTTCCTACTAATACATCAGGGGATGCACATGGTCGC
	* * ** * * * * * *
Ebola_virus_unknown_strain	GCAAGTCGACGCGATGCGTCGTGT - - - - -AAAGTGTCAAGGTCTAGCACTATTTTCAGG
Marburg	AGGTCATGATGCCTATGACAGTATCATCAGTAATTGAGTAGGACAACTAGATTCTCAGG
Zaire	CGGGCATGATGCCAAGCATGCTGTGATTTCAAATTCAGTGGCTCAAGCTCGTTTTTCAGG
Bundibugyo	AGGGCATGATGCTAATGATGCCGTCATTGCCAACTCTGTAGCTCAAGCTCGTTTCTCCGG
Tai	AGGACACGATGCTAACGATGCTGTATCGCAAACCTCTGTAGCTCAAGCACGTTTTTCAGG
Reston	TGGCCACGATGCCAATGATGCTGTCTGTCATTGCTAATTCAGTTGCTCAGGCTCGTTTTCAGG
Sudan	AGGCCATGATGCCAATGACACAGTAATATCTAATTTCTGTTGCCCAAGCAAGTTCTCTGG
	* ** * ** * * * *

Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	ATAATCG--GCGCAAAAGCTCCTAGTGCAAACCATAGTA---TGAGCACGGGGCGG CCTTTTATTGTGAAAACAGTTCTAGAGTTTCATCTACAAAAACTCATTCAGGGTGGG CTTATTGATTGTCAAAACAGTACTTGATCATATCCTACAAAAGACAGAACGAGGAGTTCTG ATTGTTGATAGTCAAAACAGTGCTTGATCATATCCTCAAAAAACAGAGCACGGAGTTCTG ATTATTGATCGTTAAAAACAGTGTAGATCACATCCTTCAGAAAAACAGAGCACGGAGTGCG ACTCCTAATTGTCAAACCGTTCTTGATCATATTCTGCAAAAAACCGACCAAGGAGTAAG TCTTCTGATTGTAAGACTGTTCTGGACCACATCCTACAAAAACAGATCTTGGAGTACG * * * * * * * * * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	ACTCACTTCTGTG---CAACCACCTAATTGATAA--GAAGTAAATCATATAAACTTCGC ATTGCATCCACTTGTGCGGACCTCAAAGTAAAAAATGAAGTTGCAAGCTTCAAACAGGC TCTCCATCCTCTTGCAAGGACCGCCAAGGTAAAAAATGAGGTGAATCCTTTAAGGCTGC CCTGCATCCTTTGGCGCGAACAGCCAAAGTCAAAAATGAGGTGAGCTCTTTTAAGGCCGC TCTTCATCCTTTGGCAAGAACTGCTAAGGTCAAGAACGAAGTAAATTCCTTTAAGGCTGC ACTTCACCCCTTTGGCCCGAACAGCCAAAGTGCGTAATGAGGTTAATGCATTTAAGGCCGC ACTTCATCCACTGGCCAGGACAGCAAAAGTCAAGAATGAGGTGAGTTCATTCAAGGCAGC * * * * * * * * * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	---AGCTCCCTAGCAAAAC-TGGAGAGTAT-CTCCTTGGGCTCGC---TGGAATGTGC ATTGAGTAACTTAGCTCGTCATGGAGAGTACGCACCAATTTGCACGGGTTTTGAATTTATC ACTCAGCTCCCTGGCCAAGCATGGAGAGTATGCTCCTTTGCGCCGACTTTTGAACCTTTC TTTAGCCTCACTAGCACAAACATGGAGAATATGCCCGTTTGCTCGTCTGCTGAATCTATC CCTTAGCTCGCTAGCACAAACATGGAGAGTATGCTCCTTTTGCTCGCTTGCTGAATCTTTC CCTAAGCTCACTTGCTAAGCATGGGAATATGCCCTTTTGCTCGCCTTCTCAATCTCTC TCTTGCTCACTTGGCCAAGCATGGAGAATATGCTCCATTTGCACGTCTCCTCAATCTTTC * * * * * * * * * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	TGGATTAAGTATC--AGAGGACGGACTGGTTACTCGTCTTACTGCAATGCCCTATGTAA AGGGATCAATAACCTTGAGCATGGGCTCTATCCTCAGCTTTTCAAGCAATTGCACTGG--- TGGAGTAAATAATCTTGAGCATGGTCTTTTCCCTCAACTATCGGCAATTGCACTCG--- TGGGGTTAATAATCTTGAGCATGGGCTTTTCCCTCAACTTTCTGCAATTGCTTTGG--- TGGAGTCAACAATCTCGAGCACGGACTGTTTCCCTCAGCTTTCTGCAATTGCCCTAG--- GGGAGTTAAACAACCTAGAACATGGTCTCTACCCACAGTTATCAGCAATTGCTCTTG--- TGGAGTCAACAACCTTGAACATGGGCTTTATCCACAACCTCTCAGCCATTGCTTTGG--- * * * * * * * * * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	CAGTGGCGACGCAGCACTTGGC-----GTGATATATTTGGGA--AAGTGCC --GCGTTGCAACAGCACATGGCAGTACATTGGCTGGTGTTAACGTTGGCGAACAAATACCA --GAGTGCACACAGCACACGGGAGTACCCTCGCAGGAGTAAATGTTGGAGAACAGTATCA --GAGTAGCAACTGCACATGGGAGCACTCTGGCTGGAGTCAATGTAGGAGAGCAATACCA --GTGTCGCAACGGCACACGGCAGTACCCTGGCAGGAGTAAATGTGGGGAAACAGTATCA --GAGTTGCCACAGCACATGGTAGCACCTTGCAGGAGTTAATGTTGGTGAGCAGTATCA --GTGTTGCAACTGCCACGGGAGCACGCTGGCTGGTGTTAATGTAGGGGAGCAATATCA * * * * * * * * * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	CCGACAAAGGGAAGCTGCCAC----GTGTCGAAATAATTGAGAAATACGCTCATCTGCA ACAACTGCGAGAAGCAGCACATGATGCAGAAGTAAATTACAAAGGCGACATGAACACCA ACAACTCAGAGAGGCTGCCACTGAGGCTGAGAAGCAACTCCAACAATATGCAGAGTCTCG ACAACTGCGAGAAGCAGCCACTGAGGCCGAAAAGCAGTTGCAGAAATATGCTGAATCTCG GCAACTACGAGAAGCAGCCACTGAGGCAGAAAAACAATTGCAGAAATACGCTGAATCTCG GCAGCTTAGAGAGGCTGCCACTGAAGCTGAGAAGCAACTCCAACAATATGCTGATGCCAG GCAACTGCGTGAGGCTGCTACTGAAGCTGAAAAGCAACTCCAACAATATGCTGAAACACG * * * * * * * * * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	CATTCGCCATCCAATC----TTGAGATCAAGAGAAGAAAAATCTTCCAAGGCTCCCATCT GGAAATTTCAGGCCATCGCCGAGGATGACGAAGAGAGAAAAATATTAGAACAGTTCCATCT CGAACTTGACCATCTTGAGACTTGATGATCAGGAAAAGAAAAATCTTATGAACCTTCCATCA TGAACCTTGATCACCTAGGTCTTGATGATCAGGAAAAGAAAAATCTTAAAGACTTCCATCA CGAGCTTGACCATCTAGGTCTCGATGATCAAGAGAAGAAGATCTTGAAGACTTCCATCA AGAACTCGACAGCCTAGGCCTGGACGATCAGGAAAAGAAATACTAATGAACCTTCCATCA TGAGTTGGACAACCTTGGGCTTGATGAACAGGAAAAGAAGATTCTCATGAGCTTCCACCA * * * * * * * * * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	GAGGAAATGACTCAGCTTCGCGAGCATCCTCCAAGCACGAGAC-----GGAAGGCGAG CCAGAA--GACTGAGATTACACACAGTCAGACATTGGCCGTCCTCAGCCAGAAACGAGAG GAAAAA--GAACGAAATCAGCTTCCAGCAAACAAACGCTATGGTAACTCTAAGAAAAAGAG GAAAAA--GAATGAGATCAGCTTCCAGCAGACGACAGCCATGGTCACTCTGCGGAAAGAG GAAGAA--AAATGAAATCAGCTTCCAGCAGACAACAGCCATGGTCACTACGGAAGGAA GAAGAA--AAACGAAATTAGTTTCCAGCAGACCAATGCAATGGTAACCCCTTAGGAAAGAG GAAGAA--GAATGAGATCAGCTTCCAGCAAACACGCAATGGTAACCCCTGAGGAAAGAG * * * * * * * * * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	CGTTAGCCCTCTCTCTGAGCAGTCTTATCGCATACCTTCTACAGACGGAAAAGACGT-- AAACTAGCCCGTCTTGCTGCAGAAATT--GAAAACAACATTGCAGAGGATCAGGGGTTCA CGCCTGGCCAAGCTGACAGAAGCTATCACTGCTGCGTCACTGCCCAAAACAAGTGGACAT AGATTGGCCAAATTGACCGAAGCTATTACTTCCACCTCTATCCTCAAAACAGGAAGCGG AGGCTAGCCAAAGCTCACTGAGGCAATCACCTCCACATCCCTTCTCAAGACAGGAAAAACAG CGACTGGCTAAATTAACAGAAGCTATAACGCTGGCCTCAAGACCTAACCTCGGGTCTAGA CGGCTGGCCAAACTGACCGAAGCCATCACGACTGCATCAAGATCAAGGTTGGAGATCGT * * * * * * * * * * * * *

Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

Ebola\_virus\_unknown\_strain  
Marburg  
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Bundibugyo  
Tai  
Reston  
Sudan

Ebola\_virus\_unknown\_strain  
Marburg  
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Bundibugyo  
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Reston  
Sudan

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

Ebola_virus_unknown_strain	TTTGAATAATACGCAGCAACCAACCCAGCCGACCATAACCAACAAAAAACAAC-----
Marburg	CCAGGATCTGATAATGAACAAGGTGTTGA-----
Zaire	TTGGAGTCAGATGATGAAGAGCAGGACAGGGACGGAACCTTCCAACGCACACCCACTGTC
Bundibugyo	CTGGAATCAGACGACGAGGGTAGCACTGATACTACTGCAGCAGAAACAAAGCCTGCCACT
Tai	TTGGAATCAGACGAAGAAAACAACACTGAGACAACCAATTACCACCACAAAAAATACCACT
Reston	CTGGAATCTGATGATGACGATGCATCAAGTAGCCAACAAGATCCCGATTATACAGCTGTT
Sudan	CTTGACTCTGAAGGTGACGAAGATGTTGAGAGCGTATCAGGGGAGAACAAACCAACTGTA
	* * * *

Ebola_virus_unknown_strain	GTCCCACTGCCAGCTGTATACCGTTCTATGCAAAAGAAC-----CCTCTGAGAAGAG
Marburg	CTCCCAACCACTCCATTATATGCTCAGGAAAAGAGACAGGATCCCATACAGCATCCAGCC
Zaire	GCCCCACCGGCTCCCGTATACAGAGATCACTCTGAAAAGAAAGAACTCCCGCAAGACGAG
Bundibugyo	GCACCTCCCGCTCCCGTCTACCGAAGTATCTCCGTAGATGATTCTGTCCCTCAGAGAAC
Tai	GCTCCACCAGCACCTGTTTATCGGAGTAATTCAGAAAAGGAGCCCTCCCGCAAGAAAAA
Reston	GCCCCCTCTGTCTCTGTATACCGCAGTGCAGAAGCCACGAGCCTCCCAACAAATCCTCG
Sudan	GCTCCACCAGCACCAGTCTACAAAGATACTGGAGTAGACACTAATCAGCAAAATGGACCA
	** * * * * *

Ebola_virus_unknown_strain	GCCCCAGAAGACACCGAACCAAGAGTGGTAGTAACACTTGCTGCAAATCACTCAGGATCA
Marburg	GTGAGCTCCCAAGATCCCTTTGGCAGTATTGGTGATGTAGATGGTGATATTTTGAACCT
Zaire	CAACAAGATCAGGACCACACTCAAGAGGCCAGGAACAGGACAGTGACAACCCAGTCA
Bundibugyo	ATTCGCCGACAGTCCCAATCAACGAACAATGAGGACAATGTCAGGAACAATGCTCAGTCG
Tai	TCCCAAGAGCAACCAACCAAGTGAGTGGTAGTGAGAATACCGACAATAAACCTCACTCA
Reston	AACGAGCCAGCTGAAACATCACAATTGAATGAAGACCCTGATATCGGTCAATCAAAGTCT
Sudan	AGCAATGCTGTAGATGGTCAAGGTTCTGAAAGTGAAGCTCTCCAATCAACCCGAAAAAG

Ebola_virus_unknown_strain	GTTTCATATTGTCTCCAGAACCCTC-----CAAACACAAGTACG-TTGCCTGCC
Marburg	ATAAGATCGCCTTCCTCACCCTCTG--CTCCTCAGGAGGACACAAGGATGGGAGAAGCCT
Zaire	GAACACTCTTTTGGAGAGATGTATCGCCACATTCTAAGATCAGAGGGCCATTTGATGCT
Bundibugyo	GAGCAATCCATTGCAGAAATGTATCAACATATCTTGAAAACACAAGGACCTTTTGATGCC
Tai	GAGCAATCAGTGGAAGAAATGTATCGACACATCTCCAAACACAAGGACCATTTGATGCC
Reston	ATGCAAAAATTAGAAGAGACATATCACCATCTGCTGAGAACTCAAGGTCCATTTGAAGCC
Sudan	GGATCTGCACTGGAAGAAACATATTATCATCTCCTAAAAACACAGGGTCCATTTGAGGCA
	* * * *

Ebola_virus_unknown_strain	GTGACAACTATTTAATGATGACG--TGAGCGGATGTCTTT--AACTTG-----
Marburg	ATGAATTATCACCTGATTTTACAAGCTATGAGGATAATCAGCAGAATTGGCCACAGAGAG
Zaire	GTTTTGTATTATCATATGATGAAGGATGAGCCTGTAGTTTTTCAGTACCAG-----
Bundibugyo	ATCCTTTACTACCATATGATGAAAGAAGAGCCCATCATTTTCAGCACTAG-----
Tai	ATCCTATACTATTACATGATGACGGAGGAGCCGATTGTCTTTAGCACTAG-----
Reston	ATCAATTATTATCACATGATGAAGGATGAGCCGGTAATATTTAGCACTGA-----
Sudan	ATCAATTATTATCACCTAATGAGTGATGAGCCCATTTGCTTTTAGCACTGA-----
	* * * * *

Ebola_virus_unknown_strain	-----TGATGGGAATGAATTGGGCTACCTTA-----TTCTATAACGGACACCAT
Marburg	TGGTAACAAAGAAAGGCAGGACCTTCCTTTATCCTAATGACCTTTTACAGACGAGTCCCT
Zaire	-----TGATGGCAAAGAGTACACGTATCCAGACTCCCTTGAAGAGGAATATCCAC
Bundibugyo	-----TGATGGGAAGGAGTATACATATCCAGACTCTCTTGAAGATGAGTATCCAC
Tai	-----TGATGGGAAGAATACTGATACCCCTGATTCTCTTGAAGGGGAGCATCCAC
Reston	-----TGATGGGAAGGAATACACCTACCCGGATTCACTTGAGGAAGCCTATCCTC
Sudan	-----AAGTGGCAAGGAATATATCTTCCAGATTCTCTTGAAGAAGCCTACCCGC
	** * * * *

Ebola_virus_unknown_strain	CCCCGTGCGAGGTGCAAATGGGATTGAATGAAGACATTAATTTGTTCCCAATGGCTGATC
Marburg	CAGAGTCATTAATAACAGCCCTTGTTGAAGAGTACCAAAACCCTGTCTCAGCAAAAGAGC
Zaire	CATGGCTCACTGAAAAGAGGCTATGAATGAAGAGAATAGATTTGTTACATTGGATGGTC
Bundibugyo	CCTGGCTCAGCGAGAAGGAAGCCATGAACGAAGACAATAGATTTCATAACCATGGATGGTC
Tai	CGTGGCTCAGTGAAAAAGAGGCTTGAAATGAGGACAATAGGTTTATCAACAATGGATGATC
Reston	CATGGCTCACCGAGAAAGAACGACTGGACAAGAGAATCGCTACATTTACATAAATAATC
Sudan	CTTGTTGAGTGAGAAGGAGGCTTAGAGAAAGAAAATCGTTATCTGGTCATTGATGGCC
	* * * * *

Ebola_virus_unknown_strain	AACAA-CCTTCTGGCCTCCAATG-----
Marburg	TTCAAGCGGATTGGCCTGCATGTCTATTTGATGAGAGGAGGCATGTTGCTATGAACCTGT
Zaire	AACAATTTTATTGGCCGGTGATG-----
Bundibugyo	AGCAGTTTTACTGGCCTGTGATG-----
Tai	AACAATTCTACTGGCCTGTAATG-----
Reston	AACAGTTCTTCTGGCCTGTCTATG-----
Sudan	AGCAATTCTCTGGCCAGTAATG-----
	** ***** **

Ebola_virus_unknown_strain	-----
Marburg	AATTTTCGACAACACAGCAGCACTACTCATTTATTTACTTCAATATATTTTACCTCCGAAA
Zaire	-----AA
Bundibugyo	-----AA
Tai	-----AA
Reston	-----AG

Ebola\_virus\_unknown\_strain

Marburg

Zaire

Bundibugyo

Tai

Reston

Sudan

-----GATATCGGAAGAAATTTACAGCTTCCTCCAGCA-----

CATAATAGTCAAATTTATTTAAATATCTAGACCACCTTTCAAATACCTTGTTATATATCAC

TCACAAGAATAAATTCATGGCAAT-----CCTGCAACATCATCAGTGAATGAGCAT

TCATAGAAATAAATTCATGGCAAT-----CCTCCAGCATCACAGGTGATCCGACCT

TCACAGGAACAAATTCATGGCTAT-----CCTTCAGCACCACAAGTAATTTCTTCA

TCCCAGAGACAAATTTCTTGAAT-----CTTGCAAGCACCATCAGTAACCACAGCA

CCTACAGGACAAGTTCCTTGCTGT-----TCTTCAACA-----TGACTGAGGAC

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Ebola\_virus\_unknown\_strain

Marburg

Zaire

Bundibugyo

Tai

Reston

Sudan

-----

TGTTATGTGAGATGGTGCAAACCTTAGAATGATAACCAAAGGTAGGAACTG---GTTATA

GGAACAAATGGGATGATTCAACCGACAAATAGCTAACATTAAGTAGTCAAGGAACGAAAC

CTAAAACTG-----

TAATGACAG-----

CAAAGCGCG-----

CCATGATTA-----

Ebola\_virus\_unknown\_strain

Marburg

Zaire

Bundibugyo

Tai

Reston

Sudan

-----

TGACAGTACCTCGAAGGTGTTATTCAATGGTTTAGATCTCTCCTCTAATTGCTACGATAA

AGGAAGAATTTTGTATGCTAAGGTGTGAATTATTATCACAATAAAAGTGATTCTTATTT

-----

-----

-----GTCCACTTCGTAAAGCTAAATACACTTAAGACTTGACCGATTCA

-----GTAGATTTTGTATTCTGAGCTTGATTATAATTGTTTTGATAA

Ebola\_virus\_unknown\_strain

Marburg

Zaire

Bundibugyo

Tai

Reston

Sudan

-----

TACAACTACAAACCTCTTTACCTTGGTTACAATACTGTAATAGATATGATTGTATTTCTT

TTGAATTTAAAGCTAGCTT-----ATTATTACTAGCCGTTTTTCAAAGTTCAATTTGAGT

-----

-----

TCTACAAAACTAATCCATTATAAATTATTAGTGCTACTTTTCTATAAGTGATTCTTAAT

TTCAAGTATGAGCAACCAACCCGAAATATAAACCTATTTTAGTTATGAGGAAATTAAT

Ebola\_virus\_unknown\_strain

Marburg

Zaire

Bundibugyo

Tai

Reston

Sudan

-----

TCTTAAATCATCTGATTCAACTTGATAGATATAACTTGATTGAGAGAACATTTTGGGAAC

CTTAATGCAAATAGGCGTTAAGCCACAGTTATAGCCATAATTGTAACCTCAATATTCTA--

-----

CTAAGGCCATTAAGAGTTTAAGTAATATACATATACACTTACACCGGTCTATCCAAGA--

AAATAATCTGTA--AGTTGTAGGACTATGAAGAGCTGCTTGTTGTCATTTATCACGGGC-

Ebola\_virus\_unknown\_strain

Marburg

Zaire

Bundibugyo

Tai

Reston

Sudan

-----

GTCATTAACATAAATTCTCTAAATGATGTACTGTATTACTGTTTCACCCGACTAATTATAT

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Ebola\_virus\_unknown\_strain

Marburg

Zaire

Bundibugyo

Tai

Reston

Sudan

-----

AGTAGCATATTAATGGATCCTTTACCTCTCCTCTATGCTCTTCTTATAAGTCACTCAAC

-----

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-----

-----

-----TAAT

Ebola\_virus\_unknown\_strain

Marburg

Zaire

Bundibugyo

Tai

Reston

Sudan

-----

CGGTGAAACGCCGAGTTTGTTGGCTTAGAGTTTTCTGTTTTACTGAATGTAGTAATTAA

-----ACTAGCGATTTATCTAAATTA

-----

-----

---TGTGGCTCAATGTTCTTGATTTGAACATAGTCATAAGGGGATAAATAACTTTTATA

ACCCATACCGCAAGAATAATTATTTAGTAATTTTGATCAGCTTATGATATGTACCAATAG

Ebola\_virus\_unknown\_strain

Marburg

Zaire

Bundibugyo

Tai

-----TATCAAGCATGCAGCGTAATTTGATGAATGTCCGGTAC

TGATTGACTTGAGTGTGATGGAATCAAGATAGTGCGATGATTCATATTATAAGGTACAA

AATTACATTATGCTTTTATAACTTACCTACTAGCCTGCCCAACATTTACACGA-----

-----AGCTCCTAACTACAAGCTACCCCATCACTCTGCCGGAATGCCA

-----ATCATTGTAAGGTTATTACCACCATCCCTGCAACAAAGCATGA



Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo

Sudan

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

AACGCTTGCATGCCAGGGGCATCTG - TAACGACCTATGAGAAAGC - TGTATGCCACTATC  
ACATTTTCCAAGCCAAACCTTTCACTAAGGATTTAGAGCTATTATTATTACTCATCTC  
AATTTTGGGAAACCTGACATTTCCGCAAAAGGATTTGAGCAAAATTATGTATGATCATCTG  
AATTTTGGGAAACCAAGACATATCTGCAAAAGACTTTGCGCAATATCATGTATGATCACTC  
AACTTTGGCAAGCCAGATATATCTGCAAAAGGACCTACGAGACATCATGTATGACCACCTA  
AATTTTGGGAAACCTTATATATCTGCTAAAGACCTGAAGGAGATCATGTATGATCATCTA  
AATTTGCGGCGACCTTACATTTCAAGCAAAAGATCTCAAGGAAATCATCTATGACCATCTC  
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Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

TCTTGTCCCGCG - - - - - TACGTACCTGGTCC - - - TTTTTC AAGCTATTTAAAGAC  
CCTGGCAACAACACTCATTCCACATACTCGCC AAGTCCTTTCAAAAATGCTTACAAA  
CCTGGTTTTGGAAGCTCTTCCACCAATTAGTACAAGTGATTTGTAATTTGGGAAAAGAT  
CCAGGTTTTGGACGACGATTTTCATCAACTAGTGAAGTTATCTGCAAGTTAGGGAAGGAC  
CCAGGCTTCCGTACGGCTTTTCAACAACTGGTCCAGGTAATTTGCAAGCTAGGAAAAGAC  
CCTGGTTTTGGGACTGCTTTCAACAACTTGTTCAAGTGATTTGTAATAATAGGAAAGGAT  
CCAGGATTTGGGACAGCTTTTCATCAGTTGGTGCAGGTTATCTGCAAAATTTGGTAAGGAT  
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Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

AATCTGCTTCAGTAATTATTGATGGCGGC - - - - TCCAAGCGTCGGTTTGGGGGAATCT  
TCAGGAAGAGTCTGGAGCATTCTTGATGCATTCCATCAGATTTTAAGCGAAGGGGAGAAAT  
AGCAACTGCTTTGGACATTCATTCTGAGTTCAGGCCAGCCTGGCTGAAGGAGACTCT  
AATTCTCAGTTCATGTAATTCATGCAGAAATTCAGGCCAGCCTTCTGCTGAAGGAGACTCT  
AATTCTGCATTGGACATTATTCTGCTGAGTTCGAAGCCAGCCTTCTGCTGAAGGTGATTCT  
AACAACTTTTGGACACAATTCATGCTGAGTTCAGGCCAAGCTTAGCAGATGGTGACTCT  
AATAATATCTAGACATAATTCTGCGAAGTTCGAAGCAAGCTTGGCTGAGGGAGACTCC

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Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

GC - CTATGAGCCGTAATACA - ATACCATAACGTAAGATCATCATGATAGACTTCTTACCA  
GCTCAGGCTGCATTAAACCGGATTAAAGCAGAACATTCGATGCTTTCTTGGAGCAGCTCC  
CCTCAATGTGCCCTAATTCAAATTACAAAAGAGTTCCAATCTCCAAGATGCTGCTCCA  
CCTCAGTGTCGCTGATTCAGATAACCAAAACGGATTCCTATTTTCCAAGATGCAGCACA  
CCCCAATGTGCCCTGATCCAATAACAAAACGGATCCCATCTTCCAGGATGCCACTCCG  
CCCCAATGTGCACATCATACAGATAACCAAAAGGGTCCCAATCTTTCAGGATGTGCCGCC  
CCCCAGTGTCGCTTAATCCAGATAACAAAACGGATCCCTGCTTTCCAAGATGCTCTTCT

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

[illegible]

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

ACACATGCTCTTTTACCAGAAAA -CAACCGTGATCCGGTTTCCTTTGTCTGATGGCAGGGT  
GCTGTTCCCCCAAATTCACAAATTGACAAGGGATGGGTCGTGTCTATTTCATCTGAACAG  
CCAGTCCCCACCATCGCCCAAGATTGATCGAGGTTGGGTATGCTATTTTCAGCTTCAAGAT  
CTGTTCTACCATCACCAAAAGATTGATAGGGGTTGGGTATGCATTATCCAGCTACAAGAC  
CCAGTTCCTCCATCACCAAAAAATAGACAGAGGTTGGGTTTGCATTTTCCAATTGCAGGAC  
CCAGCACCACCATCACCCAAAAATTGATCGTGTTGGGTTTGTTTGTTTAAGATTGCAAGAT  
CCGGTCCACCCTCACCAAGATCGATAGAGGTTGGGTCGTATTTTCAATTCCAAGAC

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Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

GGGATTCTAGAGTGAAGTTATCAGTTGGCCCCATAAAGCCACTTGCCATCGCGGCATCCC  
GGTGAACCC - GGGCTCTTAAATCTAATCCTT-----  
GGTAAACAC - TTGACTCAAAATTTG---AG-  
GGAAACAC - TCGGACTCAAAATCTA---AGGTGAACAATTGCGCAACCTCCACAGTC  
GGGAAGACAC - TTGGGCTCAAGATATA---GGGTCCCCAGTCAAAGACAGTGC GGTC  
GGTAAACGC - TTGACTTAAGATCTA---AG-  
GGGAAGGCC - TTGGGCTAAAAATGATACAG-----  
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Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

GCACCTTACAACCCATTAACGGTTGACCAAGCACGGTCGGGAGGCGCCCGAGAAACAGTGA  
-----  
- CCAATCTCCCTTCCCTCGAAAGAGGCGAATAATAGCAGAGG - ----  
GCCTATATTGCTTCTTCGGAATCAGGGTATGATCGCGTAAAAAATAAGCTTCAACAT  
CCATCTCTCCTCACCTTCAGACATCAACGCATGGCAGTCCAAACACCGGTGAGGGAGGC  
-----

Ebola\_virus\_unknown\_strain  
Marburg

TTATAGGAATAACGTATAGAGAAATGAAACACCGTAAGGCCGATTACATCCGGTTCTAAG

Zaire	-----CTTCAACTGCTGAAGTATAGGGTACGTTACATTAATG-----
Bundibugyo	ATTGATACACGATCCATATCCATAATGCCATCTCCAGGAATATGAGAACGCAAG-----
Tai	GCCCCGCGACAACACATGATGATAGGCTGATCTTCGGGATAAGAGACATGAAAA-----
Reston	-----AATCAAGATTTATTTAACAAGGCAAGCCACAACCTTA-----
Sudan	-----AAGCAAGGTAAGCTCATTTTGCGATGGCCAAATGATACTTATG-----

Ebola_virus_unknown_strain	ATTAGAGCAGCGTGGGCAAGGGACTTGGTCTTTGTCAACGCGACTTACAGAAACACGACT
Marburg	---
Zaire	---ATACACTTGTGAGTATCAGCCCTGGATAATATAAGTCAATTAACGACCAAGATAAA
Bundibugyo	---GCCATATCAGGACCCGATCTCAATTCCAATGCAACCTACTGTTAAGAATAAAATAAC
Tai	---ACCAAAAAGCCGTTTACATCCAGATCCAAGATCAAGAGTGGCTTGGAATAAAGGGGC
Reston	---GATGGAACCTCAGCCGAGCTATTGAACCTATTGACGCTGTTGATGATAATATATAATT
Sudan	ACTGTTTAAATCAAGTTAGACTAATAGTCTATTGTGTCATAAGCTTATAAGTCAGTTTT

Ebola_virus_unknown_strain	GACGTTA-----
Marburg	-----
Zaire	ATTGTTCATATCTCGCTAGCAGCTTAAAAATATAAATGTAATAGGAGCTATATCTCTGACA
Bundibugyo	CAATGTCCTCTAGCCTTATATGTTCT-----
Tai	ACTTGTTCTTTGTCTCAAAGGACTTA-----
Reston	AATGGTC-----TTATT
Sudan	AAATTTCCCCTCTATCCTAATCAATTGATAATGCTGTCAATAGGGAATTCCCCTGTATT

Ebola_virus_unknown_strain	-----
Marburg	-----GCGATTCACTTCTGAACAAAGAATGATCTT
Zaire	GTATTATAATCAATTGTTATTAAGTAACCC-----
Bundibugyo	-----CA-----
Tai	-----CA-----
Reston	TGAATATGACAACATCTTGCTTCTTGTCTGCCTTGTAGCTCTTTGAATTGGAAGATCAT
Sudan	GTAATAAGACCTCATTAACATATTTCCCCTGCTTAGTACTATGCAGAAACCCCCGAGC--

Ebola_virus_unknown_strain	-----
Marburg	TCTAGGTTAATACAAAAACACTAAACATTTCAAGAGTTTGTGGATGATTTAAGCATATTT
Zaire	-----
Bundibugyo	-----
Tai	-----
Reston	TCCAACT - -TACAAACATGCACAAGATGTTATGGTTTAGCAAAGAATTGATAGGAGTAC
Sudan	-----

Ebola_virus_unknown_strain	-----
Marburg	GGGTAAATTTAATCAGGATAGTAGTTTAAATTTGTTTTAAGCGTGATTTTCATTAAGAGA
Zaire	-----
Bundibugyo	-----
Tai	-----
Reston	TGGTA-----
Sudan	-----

Ebola_virus_unknown_strain	-----
Marburg	GGGTTAATTAGTTATAGATTGATCTTTAGTGTACTCCATACGCATAATATAGAGAAATTA
Zaire	-----
Bundibugyo	-----
Tai	-----
Reston	-----
Sudan	-----

Ebola_virus_unknown_strain	-----
Marburg	ATATTACTAACAAAAAGGGTTTTTAAACGGATTTGATTAATAGATCAGTATATCTCAA
Zaire	-----
Bundibugyo	-----
Tai	-----
Reston	-----
Sudan	-----

Ebola_virus_unknown_strain	-----
Marburg	AGCCAAATAATTGACTTCTTACTCTTTGGGAATTTACTAACAATATAGGAAAGATATTTA
Zaire	-----
Bundibugyo	-----
Tai	-----
Reston	-----
Sudan	-----

Ebola_virus_unknown_strain	-----
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Marburg	TTCTTACGTAATCCTTGGGCCAACGGAACTAACCTCAATGGTCATTCAATATGCTTGCT
Zaire	-----
Bundibugyo	-----
Tai	-----
Reston	-----
Sudan	-----
Ebola_virus_unknown_strain	-----
Marburg	CATGATATATCCAGAGATTTTTTATAAGTTCAAAACGTTGTAATTATACTTGCATAAAA
Zaire	-----
Bundibugyo	-----
Tai	-----
Reston	-----
Sudan	-----
Ebola_virus_unknown_strain	-----
Marburg	TACTGTTTTAATTAAGAAAACTATGAAGAACATTAAGTGGATTTTTCTTCTTAGTGTT
Zaire	-----
Bundibugyo	-----
Tai	-----
Reston	-----TATA
Sudan	-----
Ebola_virus_unknown_strain	-----AGAAACTGCCTGTCATTGGCAAAC--CCA
Marburg	CTTTTACAAAGCAAGGTTTTTAAATTCAAGTAGATCAAGTCTACTCTTGCTGAACCTTACT
Zaire	-----AAACCAAAGTGATGAAGATTAAGAAAAACCTACCTCGGCTGAGAGAGTGTTTT
Bundibugyo	-----AAAATACAAGTGATGAAGATTAAGAAAAAGCATCCTTTACTTGAGAGGAGCTAA
Tai	-----AAAACAAGGGTGATGAAGATTAAGAAAAAGCCTCCTTCAGTTGCAAGGAGCTAA
Reston	ATGTAATATAACAAGTGATGAAGATTAAGAAAAACAGTCGGTATTTTCCAGACTTGGC
Sudan	-----AAATTAATTAAGTGATGAAGATTAAGAAAAAGAGGGATTTTCTCAGGAAAAATCTT
	* *
Ebola_virus_unknown_strain	ATGTATAAAGTTCATCAGTACGAATGACCGATCGA-TCCAGTCAGGATAGGGAATTCAT
Marburg	TCTTTAAAAATTAATTTACACTAAACAATTCGTTTTTGT-----TGACGGAACAAAT
Zaire	TTCATTAACCTTCATCTTGTAACGTTGAGCAAAATTGTTAAAAATATGAGCGGGTTAT
Bundibugyo	TTCTTTATACTTCATCTAATCTTTAAGTAAGTTGATCACTACCACCATGAGGAGGGCAAT
Tai	TTCTTAAACTTCATCTAGACTAAGGATAAATCGATTCCAATCACGATGAGGAGAATCAT
Reston	ATTTCTTATCTTCATCTCTAAAGTGAGATATTTTATCATCAAAAAATGAGCGCGGAGT
Sudan	TTTTCTTACCTTCATCTCATTTAAACAATTTAGGACTCAGGAAAAATGAGAAGGGTCAC
	** ** *
Ebola_virus_unknown_strain	TGGGC--ACGGGTCCACCTGAGTCCCTGCTAGCTGT-TGGCCGATGAGTACAAGAAATTC
Marburg	TCAGATTATGGCCAGTTCAGCAATTATAATACGTATATGCAATACCTGAACCTCCCCCT
Zaire	ATTGCTACTGCTCCTCCTGAATATATGGAGGCCATATACCCTGTCAGGTCAAATTC AAC
Bundibugyo	TCTACCTACTGCACCGCCAGAATACATAGAGGCTGTCTACCCAATGAGAACGGTTAGTAC
Tai	CCTACCACGGCACCACCTGAATACATGGAGGCTGTTACCCAATGAGAACAATGAATTC
Reston	GTTACCAACGGCTCCTCCAGCATATAATGATATTGCATACCTATGAGCATACTCCCAAC
Sudan	TGTGCCGACTGCACCACCTGCCTATGCTGACATTGGCTATCCTATGAGCATGCTTCCCAT
	** * *
Ebola_virus_unknown_strain	TT-----GGCAGATAACCTGGAGTGGCCCTAGTAGAAAAATACTAGTATGATAAC
Marburg	TA-----TGCTGATCATG-----GTGCAAATCAGTTAATCCCAGCAGACCAGCT
Zaire	AATTGCTAGAGGTGGCAACAGCA-----ATACAGGCTTCCTGACACCGGAGTCAGTCAA
Bundibugyo	TAGTATCAACAGTACTGCCAGTG-----GTCCGAACCTTCCAGCACCGGATGTAATGAT
Tai	TGGTGCAGACAACACTGCCAGTG-----GCCCTAATTACACAACAACCTGGTGTGATGAC
Reston	CCGACCAAGTGT CATAGTCAATG-----AGACCAAATCAGATGTACTGGCAGTGCCAGG
Sudan	CAAGTCAAGCAGGGCTGTGAGTG-----GAATTCACAGAAACAAGAGGTCCCTCGCTGG
Ebola_virus_unknown_strain	CAGCGATACGCGCTC--ATTCACTCAGAACATGAGGAGCCGATAAGAGTGAGTATCCTTG
Marburg	ATCAAATCAACATGGTATAACTCCGAATTATGTGGGCGACTTGAATCTAGATGAT-----
Zaire	TGGGGACACTCCATCGAATCCACTCAGGCCAATTGCCGATGACACCATCGACCATGCCAG
Bundibugyo	GAGTGATACACCTCCAACTCACTCCGACCAATTGCTGATGATAACATCGATCATCCAAG
Tai	AAATGATACTCCCTCTAATTCACTCCGACCAAGTTGCAGATGATAATATTGATCATCCGAG
Reston	GGCAGATGTTCCATCAAACCTCATGAGACCAGTGGCTGATGATAACATTGATCACTCAAG
Sudan	AATGGATACACCATCAAATTCTATGAGACCTGTTGCTGATGATAACATTGATCATACAAG
	* * * * *
Ebola_virus_unknown_strain	-GACACACGTAACAGGGTTGATACGGGTATAAT---GAAGGTCTGGCGAATTACATCTT
Marburg	-CAGTTTAAAGGGAATGTTTGTACGCCTTCACTTTGGAAGCAATAATTGATATATCTGC
Zaire	CCACACACCAGGCAGTGTGTATCAGCATTATCCTTGAAGCTATGGTGAATGT CATATC
Bundibugyo	TCATACACCAACCAAGTGTTCATCAGCCTTTATACTCGAGGCAATGGTGAATGTGATATC
Tai	CCACACGCCTAACAGTGTTCCTCTGCATTTATATTGGAAGCTATGGTGAATGTAATATC
Reston	CCATACTCCAAGCGGAGTAGCTTCTGCCTTTATATTGGAAGCTACAGTGAATGTAATTTT
Sudan	TCATACCCCGAACGGAGTGGCCTCAGCATTATCTTGGAGGCAACTGTCAATGTGATCTC
	* ** * * *

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

GGCCCCAAGTG--CGGGCAAGCACATCCCAGACAGCTTCCCG--GGTGACTCTGACCA  
TTATAATGAGGGGACGCTCAAGGAGTCCCAAGCTGGCTGCTTTTGGATCATGAACA  
GGGCCCCAAAGTGCTAATGAAGCAAATCCAAATTTGGCTTCTCTAGGTGTGCTGATCA  
GGGGCCGAAGGTACTAATGAAGCAAATCCTATATGGCTCCCCTTGGGTGTTGCTGATCA  
TGGCCCCGAAAGTGCTGATGAAGCAAATCCCAATCTGGCTTCTCTGGGTGTCTCTGACCA  
GGGAACAAAAGTCTGATGAAGCAAATACCTATTTGGCTTCCACTGGGTGTAGCTGATCA  
GGGGCCCCAAGTCCTCATGAACAAATCCCTATTTGGTTGCCACTCGGAATTGCTGACCA  
\*\* \* \*\* \* \*\* \*

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

GCAGACATAGAGC-TCGATTCAACCACGGCTGCTA-----GATGTTAGTATCAGAA  
TTTTGAATACCCTTTAGCCCACTGTTGCTGCATTGCTTACAGGGAGCTACACGATTAC  
AAAGACCTACAGCTTTGACTCAACTACGGCCGCCATCATGCTTGCTTCATACACTATCAC  
AAAAACATATAGTTTTGACTCAACTACAGTGCAATTATGCTCGCATCGTACACCATCAC  
GAAGACATATAGCTTTGATTCAACCACTGCTGCCATTATGCTAGCATCATATACCATCAC  
GAAGATATACAGCTTTGATTCAACAACAGCCGCAATTATGTTGGCTTCTACACAGTGAC  
AAAAACGTACAGTTTTGACTCAACAACAGCAGCAATTATGCTCGCATCTTATACGATCAC  
\*\* \* \* \*\* \*\* \*\* \*

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

CAACCGGTCATATGCCAATCCTCCAATCTATGGAATTAATGAATTGGTCCACGGATACC  
CCAATTACGCAACAATGGACAAAAATTTGTTGCTGTTAATCGACTTGGGACAGGAATCCC  
CCATTTGCGCAAGGCAACCAATCCACTTGTGAGAGTCAATCGGCTGGGTCTTGAATCCC  
TCATTTTGGCAAAACCTCCAATCCGCTTGTGAGAATCAATCGACTTGGTCTTGGGATCCC  
TCATTTTGGCAAAACCTCAAATCCCCTTGTGAGAATCAACCGACTTGGTCTTGGCATACC  
ACACTTCGGGAAGATATCTAACCCGCTGGTACGTGTCAACAGGCTAGGCCACAGGAATACC  
CCATTTTGGAAAGGCCAACACCCCTCGTTAGAGTGAATCGACTTGGTCAGGGAATACC  
\* \* \* \* \* \* \* \* \* \*

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

TTC-CTTACGTAGACGCGGGCAGAGTAAGTCAAGCTTCGATAAAGTTTGGCAGCC  
AGCACATCCACTCAGAATGCTGCGGGAAGGAAACCAAGCTTTTGTCCAAACATGGTGAT  
GGATCATCCCCTCAGGCTCCTGCGAATTGGAACACAGGCTTTCTCCAGGAGTTCGTTCT  
CGATCACCCTGTCGCGCTTCTAAGAATAGGAAATCAAGCCTTCTTGCAAGAGTTTGTGCT  
TGATCACCCTACGACTCCTAAGAATAGGAAATCAAGCCTTCTTACAAGAGTTTGTGCT  
CGATCATCCGCTACGACTCCTAAGGTTGGGCAATCAGGCATTCTTCAAGAGTTTGTGCT  
GGATCACCCTCAGATTGCTCAGGATGGGGAACAGGCTTTCTTCAAGAGTTTGTGCT  
\* \* \* \* \* \* \* \*

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

TC-----TGAACACTCCCACAATACATGGTTGATCTGA-TACCGTGAAGCTGTTT-C  
TCCCAGGAACTTTTCTACAAATCAGTTTACGTACAATCTTACTAATCTAGTATTGAGCGT  
TCCGCCAGTCCAACCTACCCAGTATTTACCTTTGATTTGACAGCACTCAAACCTGATCAC  
GCCTCCAGTTCAATTGCCGAGTATTTCACTTTTGACCTGACGGCTCTAAAGCTGATCAC  
ACCTCCTGTACAACCTGCCACAATACTTCACTTTTGATCTGACAGCGCTGAAGCTGATCAC  
TCCACCAGTCCAGTTCCTCAGTATTTCACTTTGATCTAACAGCTCTAAAGCTCATCAC  
ACCACCAGTTCAACTGCCGCAATATTTCACTTTTGATCTGACTGCACTCAAACCTAGTGAC  
\* \* \* \* \* \* \*

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

CCAGCCGCTGCCAGTAGCAAC-TGGACGGATGGACGTAGATGTGTCACTACACGCGCG-  
GCAAAAGCTTCTGATGATGCTTGGCGCCGTCCAAAGACAAATTAATCGGAAACACCAT  
CCAACCACTGCCTGCTGCAACATGGACCGATGACACTCCAACAGGATCAAATGGAGCGTT  
TCAACCTCTCCCGGAGCAACCTGGACGGATGATACTCCGACCGGTCTACAGGAATFACT  
CCAGCCACTCCCAGCGGCAACCTGGACAGATGAACTCCAGCTGTGTCACTGGCACGCT  
TCAACCATTTGCCAGCTGCAACCTGGACAGACGAAACTCCAGCAGGAGCAATGATGCTCT  
ACAGCCTCTCCCTGCTGCAACATGGACAGATGAGACTCCGAGCAACCTTTACGAGGCCCT  
\*\* \* \* \* \* \*

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

---CCAAAGATCTAACACGGTTCCACAGTCAGGAATATTTCGC---CCACTTCAGAGATC  
GCACCTGCGGTTTTCTGTACACCCAAACCTGCCGCTATTGCTCTACCA-----ACAGT  
GCGTCCAGGAATTTCACTTTCATCCAAACTTCGCCCCATTCTTTTACCCAACAAAAGTG  
TCGTCTGGAATTTCTTTTCATCCAAACTGAGACCTATCCTATTGCCAGGGAAGACCGG  
CCGCCAGGGATCTCATTCCATCCCAATTAAGGCCTATCCTGCTACCAGGAAGAGCTGG  
TCGTCTGGGCTTCACTCCATCCCAAGCTTCGTCCAATTCTCTGCCGGGGAAGACAGG  
TCGTCCCGGGCTTTCATTTACCCAAAGCTGAGACCGGTTCTACTTCCAGGCAAGACGGG  
\*\* \* \* \* \* \*

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

GAAAAAGGCCTCCAGTCCGGTTACATCGCAGAGAAAA-----  
TAAAAACAAGCCTATCGTCAGCATAAGAATCCTAACATGGACCACTGCTGGCCATATC  
GAAGAAGGGGAACAGTCCGATCTAACATCTCCGAGAA-----AATCCAAGCAATAAT  
GAAAGAGAGGATCCAGCTCCGATCTTACTTCTCTGATA-----AATACAAGCAATAAT  
AAAGAAGGGCTCCAACCTCCGATCTAACATCTCTGACAA-----AATCCAGGCTATAAT  
AAAGAAAGGACATGCTTCAGACTTAACATCACCTGACAA-----GATTCAAAACAATCAT  
AAAGAAGGGCATGTTTCTGATCTGACTGCCCCAGACAA-----AATTCAGACAATTGT  
\*\* \* \* \* \*

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

-----ACCGACCGTATGAATTATACAAAGACTAAAATTCTACATAT  
TGGCATCCTTCACTCAACTGAGGGTTGAAAAAGTCCCAGAGAAGACGAGCTTATTGAGGAT  
GACTTCACTCCAGGACTTTAAGATCGTTCCAATTGATCCAACCAAAAATATCATGGGAAT  
GAACCTTCTCCAAGACCTCAAACCTCGTCCGATTGATCCAGCCAAGAACATTATGGGTAT  
GAATTTCTTACAAGACCTCAAATTTGTACCAATCGATCCAACCAAGAATATCATGGGTAT  
GAATGCAATACCGGACCTCAAATTTGTCGCGATTGATCCAACCAAGAACATAGTTGGAAT  
GAACCTGATGAAGATTTCAAATCTGTCGAATTGATCCAGCTAAGAGTATCATTGGGAT  
\* \* \* \* \*

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Ebola_virus_unknown_strain  GTTATAACCCGGAACACATGGGTACAGTGCCACAATTTGGTTCAAGCTGCTTAGGGGGG
Marburg                     -----TTCAC TTCCTGCCGACATGTTCTCAGTAAAGAGGGCA
Zaire                       -----CGAAGTGCCAGAACTCTGGTCCACAAGCTGACCGGTA
Bundibugyo                  -----TGAAGTGCCGGAACCTTTGGTCCACAGACTAACTGGAA
Tai                          -----TGAAGTGCCAGAACTCTGGTTCACAGGCTGACTGGGA
Reston                       -----TGAGGTTCCAGAATTACTAGTTCAAAGGCTGACCGGCA
Sudan                       -----CGAGGTTCCAGAATTGCTGGTCCACAAGCTCACTGGGA
                               *  **              *              **
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Ebola_virus_unknown_strain  AGAA-----ATATGATGAGGGGGAACATAATCCCAGTTTTGGAGGTAGCGTACATTG
Marburg                     TGATGAAGAAAAAGAGGAGAAGGTTCTCCGGTAGTTTATTTCCAAGCGCTGAGAATTTTC
Zaire                       AGAAGGTGACTTCTAAAAATGGACAACCAATCATCCCTGTTCTTTTGCCAAAGTACATTG
Bundibugyo                  AGAAAATCACAACAAAAAATGGTCAACCAATAATTCCTATTCTTCTACCAAAGTATATTG
Tai                          AGAAGACAACCTACCAAGAATGGTCAACCAATCATTCCAATTCTGCTACCAAAGTACATTG
Reston                       AAAAACCACAACCCAAAAATGGCCAACCAATTATTCCAGTCTTCTTCCGAAATATGTTG
Sudan                       AGAAAATGAGTCAGAAGAATGGACAGCCTATAATTCTGTCTTACTCCCAAATACATTG
                               *      *  **      *  *  *      *
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```
Ebola_virus_unknown_strain  GGCTTTTATCCACT-----TTCCACGGGATCCCCATAGAGCACACCCAGACA-----
Marburg                     CTTTGAATGGCTTCAACAACCGGCAAGTTGTGCTAGCATATGCTAACCCGACACTCAGTG
Zaire                       GGTTGGACCCGGT-----GGCTCCAGGAGACCTCACCATGGTAATC--ACACAGGATT
Bundibugyo                  GCATGGATCCCAT-----TTCTCAGGGAGACCTCACAATGGTCATC--ACTCAAGACT
Tai                          GTCTTGATCCTCT-----ATCTCAAGGTGATCTCACAATGGTGATC--ACTCAGGACT
Reston                       GACTTGATCCTAT-----ATCGCCAGGGGACTTAACTATGGTTATC--ACCCAGGATT
Sudan                       GGCTAGATCCAAT-----CTCACCTGGAGACCTGACTATGGTCATA--ACACCAGATT
                               *  *  *      *  *      *      **
```

```
Ebola_virus_unknown_strain  -----ACTTTCCCGGCTCCCCGGCCCTCAGCCCTTCAATGACCCCTG-----
Marburg                     CTGTTTTAATAAGATAATTGGGTAAGACAATGGCCCTTCTGTACAAAGGG-----
Zaire                       GTGACACGTGTCAATTCTCTGCAAGTCTTCCAGCTGTGATTGAGAAGTA-----
Bundibugyo                  GTGACACTTGCCATTCTCTGCTAGTCTTCTCCAGTCAGCGAGAAATG-----
Tai                          GTGATTCTTGCCACTCCCCGGCCAGTCTTCCCCCAGTCAATGAAAAATG-----
Reston                       GTGATTCTGCCACTCTCCAGCCAGCCATCCGTATCACATGGACAAGCAGAATAGTTACC
Sudan                       ATGATGATTGTCAATTCACCTGCCAGTTGCTCTTATCTCAGTGAAAAGTG-----
                               *              *
```

```
Ebola_virus_unknown_strain  -----
Marburg                     -----
Zaire                       -----
Bundibugyo                  -----
Tai                          -----
Reston                       AATAATTTAAATTCCATTGAGCTATTATTCTGCTAGTAATTCGACGGGATCAATAGAC
Sudan                       -----
```

```
Ebola_virus_unknown_strain  -----
Marburg                     -----
Zaire                       -----
Bundibugyo                  -----
Tai                          -----
Reston                       TAAAAATCTGATTGTATAGAATTATAAAAGAATCAAGCAGAGGCAACAGACTCACAGCTT
Sudan                       -----
```

```
Ebola_virus_unknown_strain  -----GCCATGATACTCTACGAA-----
Marburg                     -----TCTGATTGAGATAGATATTTGTCAGATTGATGCAGGATCATTT
Zaire                       --ATTGCAATAATTGACTCAGATCCAGTTTTATAG---AATCTTCTCAGGGATAGTGA
Bundibugyo                  --AGCATGAAGTCCGAGGCTG-----
Tai                          --ACCATGAGACTCAACATCA-----
Reston                       ACGCCTAGATAACTAATTAAGGAGTTTTTTAAT----CTAATTTTCCAGTCTTGAGT
Sudan                       -----ATTCTCACAAAGTGAGAG----AAACACCTCAGTAAAGAAA
```

```
Ebola_virus_unknown_strain  -----
Marburg                     TAAGTTGATTTTAATAGTGCTTTAACCCCTTCACTGCTACCCTAAAGGATTGATTGA----
Zaire                       TAACATCTATTATAGTAATCCGTCCATTAGAGGAGACACTTTTAATTGATCAATATACTAA
Bundibugyo                  -----
Tai                          -----
Reston                       AATAATCATTTCTTTTGAATTAATTATGC-----
Sudan                       TCAAATCTTATCTATAGCAACTCAATCGAC-----
```

```
Ebola_virus_unknown_strain  -----
Marburg                     --GCTGATTAACCTATAATGTATAACTTCTTTTAAACCGCTAAATCAATCATAAGTTTGT
Zaire                       AGGTGCTTTACACCATTGTCTTTTTTCTCTCTAAATGTAGAACTTAACAAAAGACTCAT
Bundibugyo                  -----
Tai                          -----
Reston                       -----
Sudan                       -----
```

Ebola_virus_unknown_strain	-----
Marburg	CAGATCATATAGGATGAATG-TTAATACGTGATAAATGGTTCCTATTCAGTTTTACTTTA
Zaire	AATATACTTGTTTTTAAAGGATTGATTGATGAAAGATCATAACTAATAACATTACAAATA
Bundibugyo	-----
Tai	-----
Reston	-----
Sudan	-----
Ebola_virus_unknown_strain	-----
Marburg	ACCTCATAGTAAATCTTATAAGACTACTCATCTTCAAGTTGATCAATTCAAAGATAATTT
Zaire	ATCCTACTATAATCAATACGGTGATTCAAATGTTAATCTTTCTCATTGCACATACTTTT
Bundibugyo	-----
Tai	-----
Reston	-----
Sudan	-----
Ebola_virus_unknown_strain	-----
Marburg	CCCTTC-----
Zaire	GCCCTTATCCTCAAATTGCCTGCATGCTTACATCTGAGGATAGCCAGTGTGACTTGATT
Bundibugyo	-----
Tai	-----
Reston	-----
Sudan	-----
Ebola_virus_unknown_strain	-----CCCTGACATAATACCTCACCACAAATCTGGCGAAAATACCGCG
Marburg	-----
Zaire	GGAAATGTGGAGAAAAAATCGGGACCCATTCTAGGTTGTTACAATCCAAGTACAGACA
Bundibugyo	-----CCCGCCACACGACCCCGAGGCCCTTCGTCCGGCTACCGAAC
Tai	-----CACTGCCAGAGCACCTCACCGCAAGTCTATACAACAATCAACC
Reston	-----ATTTGTAACTTATCGGTGCGAGATTTCTTGAGAACCCGGCG
Sudan	-----TTTGTAGGAAGCTAGCAGTCCATATACTATGGGACAACTCAACC
Ebola_virus_unknown_strain	TGCCTGC-----GGCGTGCAAAA
Marburg	-----
Zaire	TTGCCCT-----
Bundibugyo	CAACCATCCGACCTTCATCAAAACCAAAAAATACCGCCACGCGAAAGCTAAAATGCAGGA
Tai	CCGGCAT-CTACAACCTGCAAAACCAGCCCATCTGATACTCCTGGCATCGGGGGCAAGA
Reston	GAGCTTC-----
Sudan	CTCTTGT-----
Ebola_virus_unknown_strain	CCATCCTTCTATACCCTCGCATCGGGTACGGGAGGCAGTCAACAGAACACCCCTGCGAGC
Marburg	-----
Zaire	-----
Bundibugyo	CCACA-ATCCAACCAGCAACCCATCCATACACAGGTATCAATTGGGCTGCCGACGATA
Tai	CAAGGCAGCCAAGCAGCAGCCCCGAGCCGAGCCCAAACCCATTACCCCGAGCCCAACA
Reston	-----TACTATCTGCAGTAACCAGAGAGAAGTTCAACCCAGTCAAACTAAACCAAGC
Sudan	-----TAAATGTACTAATCGGGTCAAGGAAGTCTCACTGATCAAGCCTGAATCCAAGA
Ebola_virus_unknown_strain	CCAATTCACCTACCCAGCCCAACAAGCATCGCGCAACCCACACCGCAGAAGAACACATGA
Marburg	-----
Zaire	-----
Bundibugyo	TAGACCCAATAGCAAGCTGCTGTCCAGAAAATAGT-----TCCGGAA
Tai	CCCATCCAGCAACCCACAACCGTCAAACGCACAGA-----TGGACAA
Reston	AATATTC-----TGAATGCTCTATAGTCTATT-----CTAATCAGAGGTATAACAAT
Sudan	TAGAACCAGCCCAAAGGCCTCCCCAGAGTCTCTTACAAGCTTAGCCAATCAATTAACAT
Ebola_virus_unknown_strain	CGAGCAACGATCTGAAGCCCGCACTTAGAGCAAGCCTATTCTGGATCTCCTGACCCCATC
Marburg	-----
Zaire	-----
Bundibugyo	AGTAACTCAACCATCGCAAGCCCAATGCAGCTTTCAGAAATCCGCCAGCAACCCAATCC
Tai	GCAAAGAATCAAGCCAGGAGCAACACAGACCCCAAGTCTAAGCTGATCAACCCCTCCC
Reston	GGCTAAG-----
Sudan	GCATAAGCGATCCATACTTCGCCCAATCAGTGTCCGATGTTACCCCTTCAAGCCTCCTT
Ebola_virus_unknown_strain	GCT-----CAAAGCCATCAAAATGCCCTGCTCAAACCTAACCGTAAGTCAAGCAG
Marburg	-----
Zaire	-----
Bundibugyo	ACTGTACCCCAATAT--TAACCTGAATCGACTAACCGCACTTTAATTTGAAGTACATTT
Tai	GCAATCCCACCAACGC--CAGCAAAAAATCCCCCAACTCGATACCAACCCCAAGCAAATCA
Reston	-----



Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

CTCAAATTGCTATTCTCAGCGCCTCCTGTCTGCAC --- -CTAGGAGTAGCAAAAATAAAC  
-----  
-----  
GTTCAATGGGTTTCATTATTAACAGTGTGCTTTTAGATTGTACCTTTGCTCAGAGATTAGT  
GCTCAAACCGTCTATCTCTCCCGCTTCACTCCACACCCAGATTACGAAACGATCAAC  
----- -ATTTCAATGACTCGTTAAACAATCGC  
ATCCTCGAGGGTTACACCTTACCACCTCTATGCTCATTTACCCAAACATAAAATGAAAT

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

CTACTTCCTATCCCACAGCTTATGTAACCAAGC-----  
-----TAAATAATAAGAAAACTAATGAAGAACATTAATTGCTAG  
-----TCTAATTAAGAAAAAT - CGGCGATGAAGATTAAAGCCGACA  
AAATTGTTATGGTATCAAATCTTATTAAGAAAAAGA - ACACGATGAAGATTAAAGCGACC  
GCACTTCTTATGCCACAGCTTATATTAAGAAAAAGA - ACTTGATGAAGATTAAAGCAACC  
TAGTAATTTTAACTCTCCAG --- -ATTAAGAAAAAGATATACGATGAAGATTAAAGCGACA  
GTCTTAACATGATTGCACC --- -ATTAAGAAAAACAATCTGATGAAGATTAAAGCCTGAT  
\* \* \*\*\*

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

-----TGCCTTGCTT - -CAAGTAACAGTAGTGTCATTTCA - -TCTATTGACGT  
GTAAAGGCAA - -TTAAGTTCTTTGAACTTTGCAAAAGTAAGGTTTCACTAGTGAGTAAAT  
GTGAGCGTAATCTTCATCT-----CTCTTAGATTAT  
TAGAGCGCTGCCTTCATCT-----CATCAATTTAAC  
AGTGGTGCTATCTTCATCT-----CTTTGATTTGAG  
ACGAGCCGAACTTCATCTCTTTTAAAGATCTAACATTATCTGTTCCAAAGTCATACAAG  
GAAGGCCCAACCTTCATCT - TTTTACCATAATCTTGTTCTCAGTACC - ATTTGATAAGGG  
\*

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

GCTATAAGGGATAGAAAGGTTCTAATACTCTTGCTCCTGTCCAACGGT - -ATTACATTGA  
TCCTGTATTAGT-----  
TTGTTTTCCAGAGTAGGGGTCGTCAGGTCCTTTTCAATCGTGAACCAAAATAAACTCCA  
TTGTCAATAGAGCAACCTAGTTTGATTACTCATCTTCCGTAGTTGACAAACACTTTGTC  
TCTTAAGTGAATACACAGGTTCTAATACTGTTCTTCTGTCCAACGGTATAATTACAGCCAG  
GACACATTCAAATCAGGGATTGTAAGCTGCTATTTCTTACCTCCCT-----  
TACACTTGCCAA-----TACGCCCT-----

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

GGCGAAAGCAGTAGCGGATCCGTCATCATGGTGC-----GTCATGACCTATTG  
-----AGATTAACCAAG  
CTAGAAGGATATTGTGGGGCAACAACACAATGGG - -CGTTACAGGAATTATGCAAGTACC  
TGGTTAATTGTAATAATACACAGTCATCATGGT - -TACATCAGGAATTCTACAATTGCC  
GCCTAAGACAGTAGCTAATCACAGTCATCATGGG - -AGCGTCAGGGATTCTGCAATTGCC  
-----AAATTACCTATACAACATGGGGTCAGGATATCAACTTCTCCAATTGCC  
-----ATCCTAAGGCTCTCGCAATGGG - -GGGTCTTAGCCTACTCCAATTGCC  
\*

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

CCGGGTGAGGAGTCAGTAACAAGTGTCTTTCTG - CGGTAACGACCCTACCCATAAGTC  
GAAGCACCCCGACATGAAGACCATATTTTCTGATTAGTCTCATTTTAAATCCAAAGTAT  
TCGTGATCGATTCAAGAGGACATCATTTCTTTGGGTAATTATCCTTTTCAAAGAAC  
CCGTGAACGCTTCAGAAAAACATCATTTTGTGTTGGGTAATAATCTATTTCACAAAGT  
CCGTGAGCGCTTCAGGAAAACATCTTTCTTTGTTGGGTAATAATCTATTCCATAAAGT  
TCGGGAACGTTTTCGTAAAACCTCGTTCTTAGTATGGGTAATCATCTCTTCAGCGAGC  
CAGGGACAAATTCGGAAAAGCTCTTTCTTTGTTGGGTATCATCTTATTCAAAAGGC  
\* \*\* \* \* \* \*\*

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

TTCAACCCGTCAGG-----GTAGACAAACAGACCCTACAA - -AAAGTAATATTATAT  
AAAAACTCTCCCTGTTTGTAGAAATTGCTAGTAACAGCCAAC-----CTCAAGATGTAGA  
ATTTCCATCCCACTTGGAGTCATCCACAATAGCACATTACAGGTTAGTGATGTGACAA  
TTTTCTCATCCATTGGGCGTAGTTCACAACAACACTCTCCAGGTAAGTGATATGACAA  
CTTTTCAATCCCGTTGGGGGTTGTACACAACAATACCCTACAAGTAGTGATATTGACAA  
AATCTCCATGCCGCTTGGTATAGTGACAAATAGCACTCTCAAAGCAACAGAAATTGATCA  
CTTTTCCATGCCTTTGGGTGTTGTGACTAACAGCACTTTAGAAGTAACAGAGATTGACCA  
\* \* \* \* \*

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

GTGGGGGGGCCGAGGCCAAGTTTCATCACCTGCT----TGCGAGCCAGGAGGGCTGAACC  
TTCAGTGTGCTCCGGAACCCTCCAAAAGACAGAAGATGTTTCATCTGATGGGATTTACACT  
ACTAGTTTGTGCTGACAAACTGTCATCCACAAATCAATTGAGATCAGTTGGACTGAATCT  
ATTGGTGTGCCGGGATAAACTTCTCCACAAGTCAGCTGAAATCGGTCGGGCTTAATCT  
GTTTGTGTGCCGAGACAAACTCTTCAACTAGCCAATTGAAGTCAGTCGGGTTGAACCT  
ATTGGTTTGTGCGGACAAACTGTCTCAACCACTGCTCAAGCTCTGTTGGGCTGAATCT  
GCTAGTCTGCAAGGATCATCTTGCATCTACTGACCAGCTGAAATCAGTTGGTCTCAACCT  
\* \* \* \* \*

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai

GGCGGGTCGTGCAGTAGTACCTCAAAGCTT---TGGAATTCAAAGATGGGGTTTAAAT -  
GAGTGGGCAAAAAGTTGCTGATTCCCCTTTGGAAGCATCTAAACGATGGGCTTTAGGAC  
CGAAGGGAATGGAGTGGCAACTGACGTGCCATCTGCAACTAAAAGATGGGGCTTCAGGTC  
AGAAGGTAATGGAGTTGCCACAGATGTACCAACAGCAACGAAGAGATGGGGATTCCGAGC  
GGAGGGCAATGGAGTAGCAACTGATGTACCAACGGCAACCAAAGATGGGGTTTTCGAGC

Reston  
Sudan

GGAAGGAAATGGAATTGCAACCGATGTCCCATCAGCAACAAAACGGTGGGGATTTCGTTTCAGGGGAGCGGAGTATCTACTGATATCCCATCTGCAACAAAACGGTGGGGCTTCAGATC

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Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

-GGGGTTGCACCTACGCGGAAAAACCT--AGCTTGACACTGTTCTTCGGACTGTTA-ATAGGTGTTCTCCCAAGAAGCTTGAGTATACGGAAGGAGAAGAAGCCAAAACATGTTACAA  
CGGTGTCCCACCAAAGTGGTCAATTATGAAGCTGGTGAATGGGCTGAAAACCTGCTACAA  
TGGTGTTCACCCCAAAGTGGTGAACCTACGAAGCTGGGGAGTGGGCTGAAAACCTGCTACAA  
TGGTGTTCACCCCAAAGTGGTAAATTGCGAAGCTGGAGAATGGGCTGAGAACTGTTATAA  
AGGTGTGCCTCCCAAGGTGGTCAGCTATGAAGCCGGAGAATGGGCAGAAAATTGCTACAA  
TGGTGTTCCTCCCAAGGTGGTCAGCTATGAAGCGGGAGAATGGGCTGAAAATTGCTACAA

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Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

CCTGGCTAGAAAGAGTAAAGTCGGAGGTGCCTACC-----ATACCACCTGTGGGAGAGA  
TATAAGTGTAACAGACCCTTCTGGAAAATCCTTGCTGCTGGATCCTCCAGTAATATCCG  
TCTTGAAATCAAAAAACCTGACGGGAGTGAGTGTCTACCAGCAGCGCCAGACGGGATTCTG  
CCTGGACATCAAGAAAGCAGATGGTAGCGAATGCCTACCTGAAGCCCCTGAGGGTGTAAAG  
CCTGGCTATAAGAAAGTTGATGGTAGTGAGTGCCTACCAGAAGCCCCTGAGGGAGTGAG  
TCTGGAGATCAAAAAGTCAGACGGAAGTGAATGCCTCCCTCTCCCTCCCGACGGTGTACG  
TCTTGAAATAAAGAAGCCGGACGGGAGCGAATGCTTACCCCCACCGCAGATGGTGTGAG

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Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

GAAATTCGCGGATGGCGCTTAATACACAAATTCTCAGGGAGTGCACTTTCCTCCGGGA---  
CGATTACCCTAAATGTAAAACCTGTTTCATCATATTCAAGGTCAAAACCTCATGCACAGGG  
GGGCTTCCCGCGGTGCGGTATGTGCACAAAGTATCAGGAACGGGACCGTGTGCGGGAGA  
AGGCTTCCCTCGCTGCGTATGTGCACAAGGTTTCTGGAACAGGGCCGTGCCCTGAAGG  
GGATTTTCCCGTGGCGCTATGTACACAAAGTCTCAGGAACTGGACCATGCCAGGAGG  
AGGATTCCTAGATGTGCTATGTCCACAAAGTTCAGGAACAGGTCTTGTCTGTGTGA  
AGGCTTTCAGGTGCGCTATGTTACAAAGCCCAAGGAACCGGCCCTGCGCAGGTGA

\*    \*                \*\*                \* \*\*    \*                \*\*                \*

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

----GCATTTCTTTAACGTACAGTTCCGTAACCTAACGACTCGTCGACACTA-----  
GATTGCCCTCCATTTGTGGGGGGCATTTTTCTTGATGATCGCGTTGCCTCTACAACAAT  
CTTGGCTTCCATAAAGAGGGTGCTTCTTCTGTATGATCGACTTGCTTCCACAGTTAT  
TTACGCTTTCCACAAAGAAGCGCTTCTTCTGTATGATCGACTGGCATCAACAATCAT  
ACTCGCTTTTACAAAGAAGGAGCCTTCTTCTGTATGACCGACTCGCATCAACATCAT  
CTTAGCTTTCCATAAAAATGGGGCTTTTTTCTTGATGATAGATTGGCTCAACTGTCAT  
CTACGCTTTTACAAGGATGGAGCTTCTTCTCTATGACAGGCTGGCTTCAACTGTAAT

\*\*    \* \*                \*                \* \*\*                \* \*    \* \*

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

--ATGGACGAGTACACCTTACAAGAAGTATTCTTTGAGT-GTGCTCTAGGAACAGACGCA  
GTACCGAGGCAAGGTCTTCACTGAAGGAAATATAGCAGCTATGATTGTTAATAAGACAGT  
CTACCGAGGAACGACTTTCGCTGAAGGTGTCGTTGCAATTTCTGATACTGCCCAAGCTAA  
CTATCGAAGCACACGTTTTTCAAGAAGTGTTGTGGCTTTCTTGATCCTCCCCGAAACTAA  
TTATCGGGGTACAACCTTTGCCGAAGGAGTTATTGCATTTCTGATCTTGCTTAAGGCGCG  
CTACCGAGGGACAACCTTTTGCTGAAGGTGTCGTAGCTTTTTTAATTCTGTACAGAGCCCAA  
TTACAGAGGAGTCAATTTTGCTGAGGGGGTAATTGCATTCTTGATATTGGCTAAACCAAA

\*    \* \*                \*    \*                \*                \*                \* \*                \* \*

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

AAACGCATTTTTCCAGTATCCTCA--TTGAGGATCCTGCAAAATGAAAGGGTCCCCGCC  
TCACAGAATGATTTTTTCTAGGCAAGGACAAGGTTATCGTCACATGAACCTTGACCTCCAC  
GAAGGACTTCTTCACTCACACCCCTTGAGAGAGCCGGTCAATGCAACGGAGGACCCGTC  
AAAGGACTTTTTCCAATCGCCACCACTACATGAACCGGCCAATATGACAACAGACCCATC  
AAAGGATTTTTTCCAGTCTCCTCCATTGCATGAGCCTGCCAACATGACCACGGATCCCTC  
GAAGCATTTTTTGAAGGCTACACCAGCTCATGAACCGGTGAACACAACAGATGATCCAC  
AGAAACGTTCCCTTCAGTCACCCCTTCGAGAGGCACTAACTACACTGAAATACATC

\*                \*                \*                \*                \*                \*

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

ATTTAGATCGCTCGC--CAACAGTAACTACGTCTTTGTAAGTCGGGACACCACACAGAG  
CAATAAATATTGGACAAGCAGCAATGAAACGCAGAGAAATGATACGGGATGTTTGGCA-  
TAGTGCTACTATTCTACCACAATTAGATATCAGGCTACCGGTTTTTGGAACTTATGAGAC  
CAGCTACTACCACACAGTCACACTTAATTATGTGGCTGACAATTTTGGGACCAATATGAC  
CAGTTACTATCACACGACAACAATAAACTACGTGGTTGATAATTTTGAACCAACACCAC  
AAGCTACTACATGACCTGACACTCAGCTACGAGATGTCAAATTTTGGGGCAATGAAAG  
AAGTTATTATGCCACATCCTACTTGGAGTATGAAATCGAAAAATTTGGTGCTCAACACTC

\*                \*                                \*                \*

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

TGATATTCAGTTTGTTAAAGTGACAAAGTGCACTTAGGCAG-----T  
-----TCCTCAAGAATACAACCTCCACAAACAATCAAACATGCCCTCCATCTCT  
AGAGTACT---TGTTGAGGTTGACAAATTTGACCTACGTCCAACCTGAATCAAGAT---T  
TAACTTTC---TGTTTCAAGTGGATCATCTAACTTATGTGCAACTTGAACCAAGAT---T  
AGAGTTTC---TGTTCCAAGTCGATCATTTGACGTATGTGCAACTCGAGGCAAGAT---T  
CAACACCC---TTTTTAAGGTAGACAACCACACATATGTGCAACTAGATCGTCCAC---A  
CACGACCC---TTTTCAAATTGACAATAACTTTTGTTCGTCTGGACAGGCCCC---A

\*    \* \*                \*                \*\*

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo

TAGACACCGATTTCATTATCCCTTAATGA-----CCATCTAGTGAAAACGCGAAAGAA  
TAAACCTCCATCCCTGCCACAGTAACTCCGAGCATTCACCTACAAATACTCAAATTAA  
CACACCACAGTTTCTGCTCCAGCTGAATGAGACAATATATACAAGTGGGAAAAGGAGCAA  
CACACCACAATTTCTTGTTCAAACCTCAATGAGACCATTTATACTAATGGGCGTCGAGCAA

Tai Reston Sudan	CACAGCACAAATTCCTTGTCTCTCTAAATGAAACCATCTACTCTGATAACCGGAGAAGTAA CACTTCGAGTTCTTTGTTTCAGCTCAATGAAACAGTTCGAGGAAATATCGCTTAGCAA CACGCCTCAGTTCTTTTCAGCTGAATGATACCATTACCTTCACCAACAGTTGAGTAA * * * * * * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	ATAGATGGTGACAATTAATGTGGTAGGAAATCGCACTGGTTATAC - GACAGGGGTGTTTG TACTGCTAAATCTGGAACTATGAACCCAAGTAGCGACGATGAGGACCTTA - - - - - TACCACGGGAAAACTAATTTGGAAGGTCAACCCCGAAATTGATACAACAATCGGGGAGTG CACCACAGGAACACTAATTTGGAAAGTAAATCCTACTGTTGACACCGGCGTAGGTGAATG CACAACAGGAAAACTAATCTGGAAAAATAATCCCAGTGTGATACCAGCATGGGTGAGTG CAGTACAGGGAGATTGACTTGGACATTGGATCCTAAAATTGAACCAGATGTTGGTGAGTG TACAACTGGGAGACTAATTTGGACACTAGATGCTAATATCAATGCTGATATTGGTGAATG * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	GGCCTTACAGATAAATAACTAACCTTCCATAATTCTTTCATGGAAATGTTATCGTGGCTA ----- GGCCTTCTGGGAACTAAAAAACCTCACTAGAAAAAT - - TCGCAGTGAAGAGTTGTCTT GGCCTTCTGGGAAAAATAAAAAACTTCACAAAAACCT - - TTCAAGTGAAGAGCTGTCTG GGCTTTCTGGGAAAAATAAAAAACTTCACAAAAACCT - - TTCAAGTGAAGAGTTGTCTT GGCTTTCTGGGAACTAAAAAACCTTTTCCCAACAAC - - TCATGGAGAAAACTTGCTATT GGCTTTTGGGAAAAATAAAAAATCTCTCCGAACAAC - - ACGTGGAGAAGAGCTGTCTT
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	CCGTACCTAAACCATTGCTCGTCCATCCACGACGGAATGGTACCCCGACCGTCTCGCAAC ----- TCACAGTTGTATCAAACGGAGCCAAAAACATCAGTGGTCAGAGTCCGGCGCAACTTCTT TCATATTTGTACCAAGAGCCCAGGATCCAGGCAGCAACCAGAAGACGAAGGTCACTCCCA TCGTACTCTGTACCAGAAACCCAGAACCAGGTCTTGACACGACAGCGACGGTCTCTCCTC TCCAAATTCATCAACCCACACCAACAACCTCTCAGATCAGAGCCCGGCGGGAACGTGCC TCGAGCTTTATCGCTCAACGAGACAGAAGACGATGATGCGGCATCGTCGAGAATTACAA
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	AACACGTAGGCGAAGACAAGAAGAACGAGG - - - - - TGAGAGGATAGGA ----- CCGACCCAGGGACCAACACAACAACCTGAAGACCACAAAATCATGGCTTCAGAAAAATCCT CCAGCTTCGCCAACCAACCAACCTCCAAGAACCACGAAGACTTGGTTCCAGAGGATCCCG CCATCTCCGCCACAACCACGACGCCGAAGACCACAAAGAATTGGTTTCAGAGGATTCCA AAGGAAAAATTAGCTACCACCACCCGCCAACAACTCCGAGCTGGTTCCAACGGATTCCC AGGGAAGAATCTCCGACCGGCCACCAGGAAGTATTCGGACCTGGTTCCAAAGAATTCCC
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	CGCCTGTGGTTCGAAAGCAAAATCAAAGGGAAAGGATAGGAGGCTAATCA - - - - - ----- CTGCAATGGTTCAGTGCACAGTCAAGGAAGGGAAGCTGCAGTGTGCGATCTAA - - - - - CTTCAGTGGTTCAGTGCAGACCTCCAGAGGGAAAAACAGTGCCGACCC - - - - - CTCCAGTGGTTCAGTGCAGAAACATCAAGGGAAAGGACACAATGCCAACCA - - - - - CTCCAGTGGTTTCAGTGCTCACTGCAGGACGGACAGAGGAAATGTCGACCCAAGGTCTAA CTGGGATGGTTCATTGCACATACCAGAAGGGGAAACAACATTGCCGTCTCAGAATTCGA
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	----- ----- TGATTTCGGGCTCAGGATCTGGAG ----- CAACCTTGCCACAATCTCCACGA ----- CACCCCGACACAGTCCCCACAA ----- CAGTGACGGGTGTACCAACAACCA CCAACGAGAGACAATTACAGGTTTACC CGGAACCCAATGACAACCACATTGCCCCAA CAGAAGGTCGAAGAGTAGGTGTGAACACTCAGGAGACCATTACAGAGACAGTGAACAA
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	--- CATACAGGTACACAATAGGCAACATTCCGTTCTTCTCGTCACAAAAATGTTTAT AACAGGGGCCCCACACAACCTTTAATGT - - - - - AGTCACTGAACAGAAACAATC - - - - - GTCCCAATCCCTCACAACCAAACAGGTCCGGACAACAGCACCCATAATACACCCGTGT CTCTGATCCCGACACAATGGAGGAACA - - - - - AACACCAGCCACTACGAACC - - - - - CACCTCTCCATTTCCAATCAATGCTCG - - - - - CAACACTGATCATACCAAATC - - - - - GTCC - - - AACCATGACAAGCGAGGTTGA - - - - - TAACAATGTACCAAGTGAACAGCCGA TTAT - - - AGGCACTA - - - - -
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	ACTAATTCATTATTCACGTAGAGACCCCTAGAAGACCTCATCACCAGCAGACTGAAGAAC ----- GTCAACAATATTGTCCACTCCTTCACTACATCCAAGCACCTCACAACATGAGCAA ATAAACTTGACATCTCTGAGGCAACTCAAGTTGAACAACATCACCGCAGAACAGACAACG --- ACCAAACATTTCCAGAAACCATCAAG - AGAGGAACAACACCGCACACCCGAAACT --- ATTTATCGGCCTGGAGGGGCCCAAG - AAGACCACAGCACACAGCCTGCCAAG ACAACACAGCATCCATTGAAGACTCCCCCATCGGCAAGCAACGAGACAATTTACCACT ----- ACGGCAACCATATGCAGATCTCCACCATCGGGATAAGACCGAGCTCCAGCCAAT **
Ebola_virus_unknown_strain Marburg Zaire	GCTAGCT - - - - - T - ACACTTACAGCACAGCCTGAATACACTAACGCAAAACA AACAGTACGAATCCTTCCCGA - - - - - CATGCTGTAAGTGAAG ACAGCACAGCCTCCGACACTC - CCTCTGCCACGACCGCAGCCGACCCCAAAAGCAGAG

Reston  
Sudan  
CTCGGCAACAATCGCCAGACAACACAACCCGGTGGACACC---ACCTCAAGACGGTGAG  
ACCAACAGCCATCAACCAACAGCACAGAATCGAGGACAT---AAACCAACATCAGAG  
CCGAGATGGATCCGATCCAAG-GCTCGAACAACTCCGCCAGAG-CCCACAGACCAAGAC  
CCCGAGT-----T-CCTCACCGACCACGGCACCAAG-CCCTGAGGCTCAGAC

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan  
CCCCCGTAGTCATGCGCGCG---ACCATGCGCCCCCGCCCTCCAT-----  
CACAATGGAACCGACCCAACAACACACCAGCAACGCTCCTCAACAA-----  
AACACCAACACGAGCAAGAG---CACTGACTTCTGGACCCCGCCAC-----  
CGGACAAGTTCCACACAACACCCCTCCCCCGCCAGTCCCAACCAG-----  
CCCTCCAGTAGAGGCACGGGACCATCCAGCCCCACGGTCCCAACAC-----  
CACGCCAGCACCCACAACAT---CCCCGATGACCCAGGACCCGCAAGAGACGGCCAACAG  
CCCCACAACCCACACATCAG---GTCCATCAGTGATGGCCACCGAGG-----  
\* \*

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan  
-----ATAGAAAGTTTGCCGTACTAGGCAAGAACCCAAGAA  
-----TACTAATACAACCTCCCACCTATAACACTCTCAAGTACAACCTCAGTACTCCTTCC  
-----CACAACAAGTCCCCAAAACCACAGCGAGACCGCTGGCAACAACAACACTCATCAC  
-----CACAATCCATCCCACCACAGAGAGACTCACATTCCCACCACAATGACAACAAGC  
-----CACAGAAAGCCACGCCGAACCTTGGCAAGACAACCCCAACCACACTCCCAGAACAG  
CAGCAAAACCAGGAACAGCCAGGAAGCGCAGCCGGACCAAGTCAGCCCGGACTCACTAT  
-----AACCAACAACACCACCGGGAAGCTCCCCCGGCCCAACAACAGAAGCACCCACTCT  
\*

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan  
GCTCCGTGTCTACTCCACTGCCCGCGTGCAGTCCAAGCGGCGTGCAACCCCTCATCAG--CT  
CCTCCAACCCGCAACATCACCAATAATGATACACAACGTGAAGTACAGAGAAAGCGAACAA  
CAAGATACCGGAGAAGAGAGTGCCAGC-----AGCGGGAA-----  
CATGACACCGACAGCAATCGACCCAAC-----CCAATTGACATCAGCGAGTCTA--CA  
CACACTGCCGCCAGTGCCATTCCAAGA-----GCCGTGCACCCCGACGAACTCA--GT  
AAATACAGTAAGTAAGTAGCTGATT-----ACTGAGTCCCACCAGGAACAA--AA  
CACCACCCAGAAAATATAACAACAGCGGTTAAACTGTCTCTGCCACAGGAGTCCA--CA

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan  
TCGATCAGTCATCTATCGCACACAATACGCGGG--GCATAATTCCTGACAGAATTCACA  
ACCAATGCTCAGTTGAACACAACCTTAGATCCAACAGAAAATCCCACCACAGGACAAGAGC  
--GCTAGGCTTAATTACCAATACTATTGCTGGAGTGCAGGACTGATCACAGGCGGGAGA  
GAGCCAGGACCACTCACCAACACCACAAGAGGGGCTGCAAACTGCTGACAGGCTCAAGA  
GGACCTGGCTTCCTGACGAACACAATACGGGGGGTTACAAATCTCCTGACAGGATCCAGA  
GCGATCGGTTTCGACAA-----A-----  
AGCAACGGTCTAATAACTTCAACAGTAACAGGGATTCTTGGGAGTCTTGGGTTTCGAAAA

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan  
AGAACGCGAAGGGTACACTCGAGGT-----  
ACCAACAGCACACAACCAACATCATGACGACATCAGATATAACAAGCAAACACCCACACA  
AGAACTCGAAGAGAAGCAATTGTCA-----  
AGAACC CGAAGGGAATCACCCTGA-----  
AGAAAGCGAAGGGATGTCACTCCCA-----  
-----A-----  
CGCAGCAGAAGACAACTAACACCA-----

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan  
-----  
AATTCTTCTCCGGATTCTAGTCCGACAACCCGCCCTCCTATATACTTTAGAAAGAAACGA  
-----  
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-----  
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-----  
-----

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan  
-----  
AGCATTTTCTGGAAAGAAGGTGATATATTTCCCGTTTTTAGATGGGTTAATAAATACTGAA  
-----  
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-----  
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-----  
-----

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan  
-----  
ATTGATTTTGATCCAATCCCAAACACAGAAACAATCTTTGATGAATCTCCAGCTTTAAT  
-----  
-----  
-----  
-----  
-----  
-----

Ebola\_virus\_unknown\_strain  
Marburg  
ACTTCAACTAATGAGGAACAACACACTCCCCGAATATCAGTTTAACTTTCTCTATTTT

Zaire	-----
Bundibugyo	-----
Tai	-----
Reston	-----
Sudan	-----

Ebola_virus_unknown_strain	-----TCCACAC
Marburg	CCTGATAAAATGGAGATACTGCCTACTCTGGGAAAAACGAGAATGATTGTGATGCAGAG
Zaire	-----ATGCTCAACCCAAATGCAACCCCTAAT
Bundibugyo	-----GAACACAAGCCAAATGCAACCCAAAC
Tai	-----ATACACAACCCAAATGCAACCCAAAC
Reston	-----ACACCGCTAATAAATGTAACCCAGAT
Sudan	-----AAGCCACGGGTAAAGTGAATCCCAAC
	* *

Ebola_virus_unknown_strain	CCAATGCTCGCGACTGCGCTGGTTGACAGCTGGACAGCGTGCAGCCATAGGTTTGCCGGC
Marburg	TTGAGGATTTGGAGTGTGCAGGAGGACGATTTGGCGGCAGGGCTTAGCTGGATACCATTT
Zaire	TTACATTACTGGACTACTCAGGATGAAGGTGCTGCAATCGGACTGGCTGGATACCATAT
Bundibugyo	CTACACTATTGGACAACCCAAAGATGAAGGGGCTGCCATTGGTTTAGCTGGATACCTTAC
Tai	CTGCACTATTGGACAGCCTTGATGAGGGTGTGCCATAGGTTTAGCTGGATACCATAC
Reston	CTTTACTATTGGACAGCTGTTGATGAGGGGGCAGCAGTAGGATTGGCATGGATTCCATAT
Sudan	TTACACTACTGGACTGCACAAGAACAACATAATGCTGCTGGGATTGCCTGGATCCCGTAC
	* * * * *

Ebola_virus_unknown_strain	ACCAAGCTCGGCCAGCAAGGGAGAATTTGCGCTGATGGCATATCATGAAGCAAAATGGTTG
Marburg	TTTGGCCCTGGAATCGAAGGACTCTATACTGCCGGTTTAATCAAAAATCAGAACAATTTA
Zaire	TTCGGGCCAGCAGCCGAGGGAATTTACATAGAGGGGCTAATGCACAATCAAGATGGTTTA
Bundibugyo	TTCGGGCCCGCAGCAGAGGGAATTTATACGGAAGGGATAATGCACAATCAAAATGGGCTA
Tai	TTCGGGCCAGCAGCTGAGGGAATTTACTGAAGGCATAATGGAGAATCAAAATGGATTG
Reston	TTCGGACCTGCAGCAAGGCATCTACATTGAGGGTGTAAATGCATAATCAGAATGGGCTT
Sudan	TTTGGACCGGTGCGGAAGGCATATACACTGAAGGCTGATGCATAACCAAAATGCCTTA
	* * * * *

Ebola_virus_unknown_strain	ACCTGTGGAAGGGGACAGCACGCCGATGTATTCAAACAAATTTT---CAATGGCCTACG
Marburg	GTTTGTAGGTTGAGGCGCTTAGCTAATCAAACCTGCTAAATCCTTGGAGCTCTTGTTAAGG
Zaire	ATCTGTGGGTTGAGACAGCTGGCCAACGAGACGACTCAAGCTCTTCAACTGTTCTTGAGA
Bundibugyo	ATTTGCGGGTTGAGGCGCTAGCAAATGAGACGACTCAAGCCCTACAGTTATTCTTGCGT
Tai	ATCTGTGGATTGAGGCGCTGGCCAACGAAACGACACAAGCTCTTCAATTGTTCTTAAGG
Reston	ATTTGCGGGCTACGTAGCTAGCCAATGAAACTACCCAGGCTCTTCAATTATTTCTGCGG
Sudan	GTCTGTGGACTTAGGCAACTTGCAAATGAAACAACTCAAGCTCTGCAGCTTTTCTTAAGA
	* * * * *

Ebola_virus_unknown_strain	CCTATTACTGAGCTGCGTGGAT-CTCTATATTAAATCC-AAGGCAATGGGCTGCCTGGAC
Marburg	GTCACAACCGAGGAAAGGACATTTTCTTAATCAATAGGCATGCAATTGACATTTTGGCTT
Zaire	GCCACAACCTGAGCTACGCACCTTTTCAATCCTCAACCGTAAGGCAATTGATTTCTTGCTG
Bundibugyo	GCTACCACGGAATTGCGCACTTTCTCTATATTGAATCGAAAAGCCATCGACTTTTACTC
Tai	GCAACTACTGAGTTGCGTACATTCTCTATACTAAATCGGAAAGCAATAGACTTCTTGCTC
Reston	GCCACAACAGAACTGAGGACTTACTCACTTCTTAACGAAAAAGCTATTGATTTTCTTCTT
Sudan	GCCACAACGGAGCTGCGGACATATACCATACTCAATAGGAAGGCCATAGATTTCTTCTG
	* ** * * * * * * * * *

Ebola_virus_unknown_strain	TAAGTGTGAGGA--AATGTCACAGCTACGCCTGCTGGTAAGTTGTATCGGACTA-----
Marburg	ACGAGGTGGGGCGGAACATGCAAGGTGCTAGGACCTGATTGTTGCATAGGAATAGAAGAT
Zaire	CAGCGATGGGGCGGCACATGCCACATTCTGGGACCGGACTGCTGTATCGAACCACATGAT
Bundibugyo	CAAAGATGGGGAGGAACGTGCCACATCTTAGGCCAGATTGCTGTATTGAGCCCATGAT
Tai	CAAAGATGGGGAGGAACATGTCACATTCTAGGGCCTGATTGTTGCATTGAACCCCAAGAT
Reston	CAACGATGGGGAGGTACCTGTGCAATCCTAGGACCATCTTGTTGCATTGAGCCACATGAT
Sudan	CGACGATGGGGCGGGACATGCAGGATCCTGGGACCAGATTGTTGCATTGAGCCACATGAT
	* * * * *

Ebola_virus_unknown_strain	-GTGCCCACACCCTCACT-ACAAAATTGATCAAATACTCCACGA---CCCGTGCGAAGAT
Marburg	CTATCTAAAAATATCTCAGAACAAATCGACAAAATCAGAAAGGA--TGAACAAAAGGAG
Zaire	TGGACCAAGAACATAACAGACAAAATTGATCAGATTATTCATGATTTTGTTGATAAAACC
Bundibugyo	TGGACTAAGAACATTACTGACAAAATAGATCAAATCATTCATGATTTTCATTGATAAACCT
Tai	TGGACCAAAAATCACTGATAAAAATTGATCAAATAATCCATGACTTTGTGATAATAAT
Reston	TGGACAAAAAATATTACTGATGAAATTAACCAAATTAACACATGACTTTATTGACAATCCC
Sudan	TGGACAAAAAACATCACTGATAAAAATCAACCAAATCATCCATGATTTTCATCGACAACCCC
	* * * * *

Ebola_virus_unknown_strain	ATTCTGAACTCAGCATCATGCCAGTAACTGTTGGGTG-----ATGGAAGCA
Marburg	GAAACTGG--CTGGGGTCTAGGTGGCAAATGGTGGACATCTGACTGGGGTGTTCTACCA
Zaire	CTTCCGGA--CCAGGGGGACAATGACAATTGGTGGACA--GGATGGAGACAATGGATAC
Bundibugyo	CTACCAGA--TCAAACAGATAATGACAATTGGTGGACA--GGGTGGAGGCAATGGGTTC
Tai	CTTCCAAA--TCAGAATGATGGCAGCAACTGGTGGACT--GGATGGAAACAATGGGTTC
Reston	CTACCAGA--CCACGGAGATGATCTTAATCTATGGACA--GGTGGAGACAATGGATCC
Sudan	TTACCTAA--TCAGGATAATGATGATAATTGGTGGACG--GGCTGGAGACAGTGGATCC
	* ** *

Ebola_virus_unknown_strain	ATGTATCTGCTTGAATTAGGAGACTCAACATTGCTATCTTGGAT-----
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Bundibugyo	CTGCCGGGATCGGGATCACGGGGGTAATAATCGCAGTTATAGCACTGCTGTGTAATTTGCA
Tai	CTGCTGGAATAGGAATCACAGGAGTAATCATTGCTATTATTGCTTTGCTGTGCATTTGCA
Reston	CGGCTGGAATTGGGATTATTGGAGTTATAAATTGCTATAATAGCCCTACTTTGTATATGTA
Sudan	CTGCAGGAATAGGCATTACTGGAATTATTATTGCAATTATTGCTCTTCTTTGCGTTTGCA
	* * * * *
Ebola_virus_unknown_strain	-----
Marburg	GTATCTTCACTA-----
Zaire	AATTTGTCTTTTAGTTTTCTTCAGATTGCTTCATGGAAAAGCTCAGCCTCAAAATCAATG
Bundibugyo	AATTTCTACTCT - AATCTAGTCCGACTCTGTACCAGCATAATGGCCTCTAAAATAAGCTT
Tai	AATTCATGCTTT - GAACTAATATAGCATCATACTTTCTAATATTCCCCCAATATGAATTT
Reston	AGATTTTGTGTT-----
Sudan	AGCTGCTTTGCT-----
Ebola_virus_unknown_strain	-----
Marburg	-----
Zaire	AAACCAGGATTTAATTATATGGATTACTTGAATCTAAGATTACTTGACAAATGATAATAT
Bundibugyo	TTGCTTCTGCTTCTATAGTTAATACATTTAGCAAAAAATCAACTATTAAGTCAAAAGAA
Tai	TTGTTTTCGATTTTATTTAATGATATATCCTCTGTATACCTCACTAATGTACTCGAGCAT
Reston	-----
Sudan	-----
Ebola_virus_unknown_strain	-----
Marburg	----- AATACATTGGATGACAT
Zaire	AATACACTGGAGCTTTAAACATAGCCAATGTGATTCTAACTCCTTTAAACTCACAG----
Bundibugyo	GATCCCTCTAATAATCCTAATTACCTTCAAAAATCTAGAACCTTTATTAATTCTCAG----
Tai	AATTTCCCTGATAGACTTGATTGTATTTGATGATTAAAGGACCTCACAAAATTCCTG----
Reston	-----GA-----TTTATTCTGAGATCTGAGAGAGAAAAATCTCAGGG----
Sudan	-----GAATATCAATTTGAATCATCAATTTAAGCTTGATACATTTCTAGCATTT
Ebola_virus_unknown_strain	-----
Marburg	AAAGTTTACAATGGTTAGAGCTTTAGGAAAGTTGC----TGCTGAGCCCTTTGTCTAAT
Zaire	-----
Bundibugyo	-----
Tai	-----
Reston	TTACTCTAAGGAGAAATATTATTTTTAAAAATTTACTTGAATGCTGACCACTT-----AT
Sudan	TAAATTATAAACCGATACTGATACTTGAAAATCAGGCTAATGCCAAGTTCTGTG-CAAAA
Ebola_virus_unknown_strain	-----
Marburg	CTACTGAAATCGACTTAAAGAATCCTCAGGGAGCTTATAACTCAATGTGAATCGATTCCC
Zaire	-----
Bundibugyo	-----
Tai	-----
Reston	CTTAATGAGCAATTAATAATATGTTTT-----
Sudan	CTTGAAAGTAGGTTTACAAAAATCCTTTGG-----
Ebola_virus_unknown_strain	-----
Marburg	TATATATTGTTGATCGTGATGATATAGCAGTCAAGTGTACCATCATTAGGAGCAATTCT
Zaire	-----
Bundibugyo	-----
Tai	-----
Reston	-----
Sudan	-----
Ebola_virus_unknown_strain	-----
Marburg	-----TGCCTGACTTGCAAATCAGATTTCATTATATAGATCGTACTTTCCAACA
Zaire	TCTGATCCAATGCATTGAAGTCACTAATTACTTCTAAAATCCTTATCTTTAATCCGAATA
Bundibugyo	-----TTAATCATAAACAAGGTTTGACATCAATCTAGTTATCTCT - TTGAGAATG
Tai	-----GGTATTTAGAACAGCCAGATGACTTGACTAAGTTTGTACT - GTAATAAAA
Reston	-----GGGATTGAAAAAGAACTGGATAACTCAATAAAATTTATGCTAGGACCACAA
Sudan	-----TCTGCTTCTTTGCTTGATTTACAATATGATATTTCTCTTAATAATGATTA
	-----ACTGGAATGCTTTGATACTCTTTCTCAATACTATATAAGTTCCTTCCCAAGA
	*
Ebola_virus_unknown_strain	-----
Marburg	TTGCGCTAGATGGCGTTTCGTTTTGGCGTTA-----TGAAACCCTTATCGT
Zaire	TTACATAGAAATCAATTTTGGGAAAATTCAGTAGTGCCTTTTCATGTCACT - TCTC
Bundibugyo	ATAAACTTGATGAAGATTAAGAAAAAGGTAA-----TCTTTCGATTATCTT
Tai	AGATACTTGATGAAGATTAAGAAAAAGACAG-----TCTTGTGATTGTCAC
Reston	ATACACTTGATGAAGATTAAGAAAAAGATAA-----TCTTATGATTATCAT
Sudan	ATATATTAAAGAAAAACTTATGACGAAGATTAAGGAGAGGATCGTTAACGGGAAAACTC
	ATAATATTGATGAAGATTAAGAAAAAGTGACATTGTGCCACTTTTGTAAATCTTCATCCA
	* ** *

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

-----  
ATATTAAGATATACTGCTCAGAACTCCTAGTTTGCAACCAATCTTGAAAAATAAAC  
CTTTTTATTAAGTTGTAATAATCAGATCTGCGAA-----CCGGTAGAGTTTAG  
CATAGCAAACTTACTCATGTTGATAATTGTTG-----CCTGCTATTTACAT  
TTGGATAAACTTGCTCTGCATTCAAATCTGAAGA-----CATACGGCTTATCT  
GTAGGTAGAAAAGGACCAACATTTATAGGTAGGGG-----TCAGAAAAGCAACAATAACC  
TTTGAATTAACCCTCACACTTGCTTAGGAAAGAGCCTATCCTCTACAAGAATCCCGAGGC

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

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CTCCTCTTTTGATCATAACTATCTCTCAATGTCTTGAACACTTAATATTATTAACAAC  
TTGCAACCTAACACACATAAAGCATTGGTCAAAAAGTCAATAGAAATTTAAACAGTGAGT  
ATTTACTAACTTACAAAATTATCTTGGGGATTCTCTGAACATATAATCAGAATTGGCAT  
ATTCACTATTGTATTAGAAAATCTAGGGAATATCATTTGAAACTAATTAGTGACTAAAC  
ATAAAAGGAGAGCCTGACATTGCTATTTAATATCCTAGAACCTGATTCTAGGTTCTAGC  
GGCAATTCAGTTAATTTTCATATCAAGATAACATCCATTTCCAAGACCACAGATAACTATA

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

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TTATTTTTATTTAATCTTTTAAATGCAAAATCAAAAGAGGACATGAGCCACCCTCATTTTA  
GGAGACAACCTTTT-----AAATGGAAGCTTCATATGAGAGAGGACGCCACGAGCTGCC  
TTAAAACACAAGTTAGTCTAATGGACTCATTTCATGAGAGAGGGCGTAGCAGAACTATT  
ACACAACCTCAAGTCGGCCAGAATGGAAGTTGTTTCATGAAAGAGGTCGCTCCAGGATCTCC  
TTTAAAT-----CCGGATGATGGAGCATTCAAGAGAACGGGGTAGATCTAGCAACATG  
TTATTAATCTTTACCACAAATATGGAGAGGGGTCGTGAGCGCGGGAGATCAAGGAATTCA

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

-----TAATGAAGCCCCGCATAACACTTTTTGAGGAGGTAGTGTT  
CTTCAATACGAAGGAATTCCTCTCTCAGCCTACATTTTAATTTACCAGGTGATAAACTT  
AGACAGCATTCAAGGGATGGAC-----  
CGACAGAGTGCAAGAGATGGGC-----  
CGACAAAACACAAGGGATGGAC-----  
CGACATAATAGCCGGAACCAT-----  
CGTGCCGACCAGCAAAATTCAA-----

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

TAAGATAGGCACTTACAATATTCTGGGGTAGAGGTGACAGCCTGCCATAGAGGCTATGAG  
TTGGTAATTTACCTTAACATAGGTGCTGATAAGATGATTGGATGATAACACATTTACCGA  
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Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

GGACCCACAAAACCTTGCTCAAGAATACGAAGCATCAGGTTCTCGAGGATCTTGATGGCAT  
GATTTAATCGTATCTCATTAAAGAAAAGATAATTAGAACACTGGAATTTGATAAACTTCT  
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Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

CTATACCTTGATCCTCGATGCGAGGCAGTTTGACGAGACCAAGAGCTATCGGATACCTT  
ATTTTGATCAAT-----GTAGAAAAGAATTATAAAAATCTTAGTAAATAAACTACTG  
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Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

GTTGCATTCAAATCATAACATTGGGCTTTCTATCATCCGCCATTAGGTCATGTGCGCTAA  
CAAAGTAAAAACGAAGAACATTAAGTGTTCTTTATTTAAATTTGTTTCATCCTTTTCGCTTT  
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Ebola_virus_unknown_strain	TCATTAGCAAATAATCCGGCTTAAACTTCATCTCAAGTCGGTCAATC-----
Marburg	TGATTATATTTGATCAAATACAACCTTCATTTGGTATTCATTCCAAGATTCAGAATGCAAC
Zaire	-----
Bundibugyo	-----
Tai	-----
Reston	-----
Sudan	-----

Ebola_virus_unknown_strain	-----
Marburg	AGCCTCGTGGGAGAAGCCGAAATCGTAGCCACCAAGTTGCACTATCCACATACCATGAAA
Zaire	-----
Bundibugyo	-----
Tai	-----
Reston	-----
Sudan	-----

Ebola_virus_unknown_strain	-----GAAGTTATGCAGTATCATGTCGCTCACGGTCTC
Marburg	ATCAATTACCCTCTAAACCTCAGTACATTAACCATCATCCACGTGCAAGATCAATGAGTT
Zaire	-----ACGACCACCATGTTCGAGCACGATCATCATCCA
Bundibugyo	-----CGAGTCATCAAGTAAGAACAAGATCATCCTCCA
Tai	-----CTAGTCATTTAGTACGGGCGAGATCATCCTCTC
Reston	-----ACGAAAATCCATCAAGGTCCTCGCTCATTATCTC
Sudan	-----CAGGTCCTCAATTTAGGACAAGATCCATTTCCTC
	* **

Ebola_virus_unknown_strain	CAACGAATCAGCAGAGCAATTAATCGGTTATACGACGCGATCTCCTTGAATGTGATGGA
Marburg	CAACCCGTAGTAGTAC-----AGAA
Zaire	GAGAGAATTATCGAGG-----TGAG
Bundibugyo	GAGACAGCCACCGCAG-----CGAA
Tai	GAGCTAGTTATCGAAG-----TGAA
Reston	GGGACCCTAATCAGGT-----TGAT
Sudan	GGGATAAGACAACAAC-----AGAC
	*

Ebola_virus_unknown_strain	AGGAATACCAAACGTCTCAGTGCCTCGGCGGCGGCTCCTAATTCTTGAATCGGAAAA--
Marburg	GGTAGCCCTACTAATCATGCTTCCCGTGCTCGACCACTTTCAACATTTAATC-----
Zaire	TACCGTCAATCAAGGAGCGCCTCACAAGTGCAGCTTCTACTGTATTTCATAAGAAGAGA
Bundibugyo	TATCATACACCTAGGAGCTCTTCCCAAGTTCGAGTCCCGACTGTGTTTCATCGGAAGCGT
Tai	TACCATACACCAAGGAGTGCTCGCAGATCCGTGTCCCACTGTCTTTCATCGGAAAAAG
Reston	CGTAGACAGCCTCGAAGTGCATCCCAAATTCGTGTTCCGAATCTGTTCCATCGGAAAAAG
Sudan	TACCGTAGTAGTCGAAGTACTTCGCAAGTTAGAGTCCCTACGGTTTTCCATAAGAAAGGT
	* * ** *

Ebola_virus_unknown_strain	ACCACATGTATGTCAGTTCCACCAGAAGCTAAG--CTGCTGAACGACTATCCAGGACCGG
Marburg	-----TATCGAAACCTCCTCCCCCGAAAGACATGTGCAGGAACATGAAAATTGGG
Zaire	GTTGAACCATTAACAGTTCTCCAGCACCTAAAGACATATGTCGACCTTGAAGAAAGGA
Bundibugyo	ACTGATTCTTTGACAGTTCACCCAGCACCAAAGGACATATGTCTACCTTAAGGAAAGGA
Tai	ACAGATTTTATTGACAGTTCACCCAGCACCTAAAGATGTATGCCCGACTTTAAAGAAAGGG
Reston	ACTGATGCACTCATAGTTCTCCGGCTCCTAAAGATATATGCCCAACACTCAAGAAAGGA
Sudan	ACTGGGACCCTTACTGTCCCTCCAGCACCTAAGGATGTTTGTCTACTCTCAGAAAAAGGA
	** ** * ** ** * *

Ebola_virus_unknown_strain	TCTCCGTCGGGGTGGAATGCGTGGAAGAGGA-----TAGCAAATAAATCTCAACAG
Marburg	TTACCCTGTACTGACCCCGCTTGCAACAGGGATCATGACCTTGATAATCTAACAATCGT
Zaire	TTTTTGTGTGACAGTAGTTTTTGCAAAAAAGATCACCAGTTGGAGAGTTAACTGATAGG
Bundibugyo	TTTTTGTGTGACAGCAATTTTTGTAAAAAGGACCATCAACTAGAAAGTTTAACAGATAGG
Tai	TTTCTATGTGACAGCAATTTCTGTAAAAAGGATCACCAACTTGAAAGCTTAAACAGATAGA
Reston	TTCCCTCGGTAGATAAGAAATTTTGCAAAAAAGATCACCAATTGGATAGCTTAACGATCAT
Sudan	TTTCTATGTGATAGTAATTTCTGTAAAAAGGACCATCAACTTGAAAGCCTAACCGACCGG
	* * ** ** * * *

Ebola_virus_unknown_strain	AAGAGGGTACTATGCTTTTGAACCCAACTCTGTGGCACCACAGTATAAACCTTAACAATT
Marburg	GAACTTTTGTCTGTTGATGGCACGGAAGATGCTCCCCAATACAGATAAGGCTTTCAAAGT
Zaire	GAATTACTCCTACTAATCGCCGTAAGACTTGTGGATCAGTAGAACAACAATTAATATA
Bundibugyo	GAGCTGCTTTTGTGATTGCACGGAACCTGCGGCTCCCTTGAACAACAATTGAACATC
Tai	GAGTTACTCTTGCTGATTGCACGCAAGACATGTGGATCCACGGAACAACAACTAAGCATA
Reston	GAATTACTACTGCTAATTGCAAGAAGAACATGTGGAATTATCGAGAGCAATTCGCAGATT
Sudan	GAGCTCCTACTTCTTATAGCACGGAAGACCTGTGGATCAACTGATTTCATCGCTTAATATA
	* * * *

Ebola_virus_unknown_strain	--TGCTCCATAAGATAGACCTCAGGC--ATCTTATTGCTGCCGATTTCAAATAAAAGAAT
Marburg	-----CAGCAGGACTGTGGATCGCCATCTCTTCCAAAGGGCTTTCAAAGGACAAGCA
Zaire	ACTGCACCCAAGGACTCGCGCTTAGCAAATCCAACGGCTGATGATTTCCAGCAAGAGGAA
Bundibugyo	ACTGCTCCTAAAGATACACGATTAGCAAATCCAATTGCAGATGATTTCCAAACAAAAAGAC
Tai	GTTGCTCCAAAAGATTACGTCTGGCTAATCCTATTGCTGAGGATTTCCAACAAAAAGAT
Reston	ACATCCCAAAAAGATATGCGGTTAGCGAATCCAACAGCTGAAGACTTCTACAAGGTAAT
Sudan	GCTGCTCCTAAAGACCTAAGACTAGCAAATCTACGGCTGATGACTTCAAGCAAGACGGC



Strain	Sequence
Ebola_virus_unknown_strain	ATACCCACAATCACGGGACTGGACTAAACATGTTTCAGGACTAGTATTGCCTTCGAATCA
Marburg	-----
Zaire	-----
Bundibugyo	-----
Tai	-----
Reston	-----

Ebola_virus_unknown_strain	CAAACGAGCAATAATACTCTACTCCATGGCATTTCATTTCAAACCTCAACGATAGTAGCTG
Marburg	-----TTTGAAGCTG
Zaire	-----TTTGAAGCTG
Bundibugyo	-----TTTGAGGCAG
Tai	-----TTCGAGGCAG
Reston	-----TTTGAGGCTG
Sudan	-----TTTGAGGCAG
	* * * * *

Ebola_virus_unknown_strain	GCTGCAGCCAGCAGTTGGCCAAAAGTCCGATTCTTCTGTAAAGTTGTAGGAGGTGCACAG
Marburg	CCTTATGGCAGGGCTGGGACAAGAAGTCAATATCGTTGTT-----
Zaire	CACTATGGCAACAATGGGACCGACAATCCCTAATTATGTT-----
Bundibugyo	CCCTATGGCAACAATGGGACCGACAGTCCCTTGATCATGTT-----
Tai	CACTATGGCAGCAGTGGGATCGGCAATCATTGATAATGTT-----
Reston	CCCTGTGGCAACAATGGGACCGACAGTCATTAATAATGTT-----
Sudan	CACTATGGCAACAGTGGGATAGACAATCATTAACTATGTT-----
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Ebola_virus_unknown_strain	GGCCTGAGTATATGATGCTTGTAGTCTACGCCATAGCTAATCTTAGTTTGTACCCCCGG
Marburg	-----
Zaire	-----
Bundibugyo	-----
Tai	-----
Reston	-----
Sudan	-----

Ebola_virus_unknown_strain	AAGTAGACATTATGCACGTTATTGATAAAGTCACAAAAGAAAGTGACAATCAACTTCTTG
Marburg	-----
Zaire	-----
Bundibugyo	-----
Tai	-----
Reston	-----
Sudan	-----

Ebola_virus_unknown_strain	TCAATACCTGCTGTACTCCAATT-----ATAGAAAAGGAGCATACGCAGGAGCTGAC
Marburg	--TGTGCAAGCTGCATTATATGTGATGAATAATATCCCCTGTGAATCGTCCATCAGTGTG
Zaire	--TATCACTGCATTCTTGAATATTGCTCTCCAGTTACCGTGTGAAAGTTCTGCTGTCGTT
Bundibugyo	--TATAACAGCATTTCTTAATATTGCTTTACAATTACCCTGTGAAAGTTCATCTGTTGTT
Tai	--CATAACAGCATTTTTAAATATTGCATTACAATTACCATGTGAGAGTTCATCTGTTGTT
Reston	--CATCTCTGCTTTTCTCAACATTGCTCTCCAGATACCTTGTGAAAGTTCAGTGTGCGTA
Sudan	--TATATCTGCTTTTCTCCATGTAGCATTGCAACTTTCCTGTGAGAGCTCCACTGTAGTG
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Ebola_virus_unknown_strain	AAGTCACCTTCAACCACATCTGAAACTGATTTAATGAGTGGTTAATGCAAAACAGATGAT
Marburg	CAGGCCTCATATGATCACTTTATTCTCCCTCGAAATCAGGGTGAAAGACAATGATTGTCA
Zaire	GTTTCAGGGTTAAGAACATTGGTTCCCTCAATCAGATAATGAGGAAGCTTCAACCAACCCG
Bundibugyo	ATTTCAAGGATTAAGGCTGCTAGTGCCTCAATCAGAAGATACCGAGACCTCAACCTACACC
Tai	ATTTCAAGTTTGAGAATGCTGATACCCAGTCGGAAGCCACTGAGGTTGTAACCCCTCC
Reston	GTCTCAGGTCTTGCCACATTGTACCCAGCACAAGACAATTCTACACCATCCGAGGCAACT
Sudan	ATATCAGGCCTACGCTTACTTGCCCCCAGCGTTAATGAAGGGCTCCCTCCTGCACCA
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Ebola_virus_unknown_strain	GGGCTAATGCAATGATAAAACGATAACAATCCACC-----
Marburg	TTTCAAATCAACGATATAATTATTGTTAACATTCTACCTTGGTTCTTATTGTAAGACTT
Zaire	GGGACATGCTCATGGTCTGATGAGGGTACCCCTTA-----ATAAGGCTGACTAAAACCT
Bundibugyo	GAGACAGCTGCATTGGTCAGAGGAAGGTGGCCCCCA-----TTAACATCTTCCACAGCA
Tai	GAAACCTGCACATGGTCAGAAGGAGGAAGTCCCA-----TTGAAGCCCCAAATCACAAG
Reston	AATGATACCACCTGGTCA-----
Sudan	GGGGAATATACTTGGTCAGAAGATAGTACAACCTTAGCCTGTAGGGAGGACAAGTAAACA
	* *

Ebola_virus_unknown_strain	-----
Marburg	GTATACTCTCCTATCAACTGTGACTACTAGTTCAAAATTAAACTCACAAAAATTCAATC
Zaire	ATATAACCTTCTACTTGATCACAATACTCCGTATACCTATCATCATATTTAATCAAGA
Bundibugyo	ATCTACCA-----TAATTTCCCTATTCAACGCAGATAAGAATCAGTACTAAACCACAA
Tai	GCGAGCTA-----AAAAATCCCTTTTGAACATGCATAACATCACATACAATTTCAAAG
Reston	-----
Sudan	AGATGCCC-----

Ebola_virus_unknown_strain	-----
Marburg	GCATTGTAATCAATTATTTATCATCGATTGTTTAGTTTGAGGGATTCCACATCA-----
Zaire	CGATATCCTTTAAAACTTATTCAGTACTATAATCACTCTCGTTTCAAATTAATA---AGA
Bundibugyo	GTGCAAAAATTAACAAAACACCAGCATAAGTGAAATCCTGTCTGTGATTAGCAACACGAA
Tai	GCATTGGAAT----AAATGGTGATTTCAGGAAGATTAGTGTTTGCCTCAAAATCAGATC

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Ebola_virus_unknown_strain -----
Marburg -----
Zaire TGTGCATGATTGCCCTAATATATGAAGAGGTATGATACAACCCTAACAGTGATCAAAGAA
Bundibugyo TGATCTTCAATCCTGTTGCAATTCGCCAGTGATAATTGTATTACATTGTGGCCACAATA
Tai CGAGCAATAATCATCTACTCTACAGCCAGTTAATTTCTAATATAAAGGTTAAAAAATGCG
Reston -----AGTACAGTTGAATAGAAAACCACTGGA
Sudan TCCTCTATAGATGGTATTTTTAGAGAGGGGGACAGGATAGGAATAAAGATAATGACTAAA

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Ebola_virus_unknown_strain -----
Marburg -----
Zaire AATCATAATCTCGTATCGCTCGTAATATAACCTGCCAAGCATACCTCTTGACAAAAGTGA
Bundibugyo TACTGTCTTTTCCCATTGAAAAATAAGGCTGAAT - - - -CTATTACGCTACACAACTTA
Tai TGCAGGC - -CAGCTATTGTTCCACAGGTCCCAATTCTTCTTGTTAAATTGTAGGAGCTAG
Reston GCTATTTTTCCACGATTGCTCTCAGTCAATAAAT - - - -TAATATAGATATAATACGACT
Sudan GCCAATATAAAGATACGAACACAAGTAGAAATTA - - - -AAATAGAAATCAAAAACATCT

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Ebola_virus_unknown_strain -----
Marburg -----
Zaire TTCTTGTACACAAATAATGTTTTACTCTACAGGAGGTAGCAACGATCCATCCCATCAAAA
Bundibugyo CAGGATTAGCACCACGACGGCTCAATACTATACCTATTGGTCACGGCTCGATGTGTTAAT
Tai CACAAGTGATGCAATTAATGATACTAGTATATACAATGCCACCACTTAATTCTAAGAT
Reston TCGGTGTGCAATTGTCAAGAGTTCATTTAGTAATAA - -TGATTCTTAAACAACTCTACT
Sudan CCCCTTATTCAATATGAAATATAATAGTGAGTATTTGTTTCATGATGTCAATCATTTATT

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Ebola_virus_unknown_strain -----
Marburg -----
Zaire TTTGTTTGATTTTTCTTTTAATTTCTACACCACAACACATACAAGTGTCTGACGAACGA
Bundibugyo AATAAGTATTTTCATGACTTACTAATGATCTCTTAAATATTAAG-----
Tai CACTTATATTGTATTCATTTGAAATTACTCATTAGGCAAATCTTTGATTAAGAAAAAAT
Reston TTTGTATATCTCGGAAATTCAAAATTAATGCTACGTTATTGATTCAATTAAGAAAAAGA
Sudan ATCGCAATTATCGATGGATCTACCCTATTTGACGGTACATGACTTGAATGAATAAGGTA
GTAAAAAATA-----AACAAAGTC

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Ebola_virus_unknown_strain -----
Marburg -----
Zaire CATAGGGCTCCGCAA-----
Bundibugyo CCTGTGTTTCTATGG-----
Tai -----A-----
Reston AATTGGAAAACCAGA-----
Sudan CAATGGACCATCA-A-----
AGTTGGTATCTGAGGTATTTTGTCTAGAGTATACTCAAATCGTATGTCTAGCAAAATTAT
AGTAAGAGTGTTAGGATCGTTATATTGCAAGGATCCTCCCTAGAAGCGTTGAATCATCTC

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Ebola_virus_unknown_strain -----
Marburg -----
Zaire -----
Bundibugyo -----
Tai -----
Reston CAATAGCAAAGTTAAATTCCTAACCTCATATTTTGATCAAGTAATCATGATTTTATGA
Sudan AAGTAGCCTAGAACAGAACAGCAGAGCATTAAATTGAAATAGATAATAAGGATATTGCT

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Ebola_virus_unknown_strain -----
Marburg -----
Zaire -----
Bundibugyo -----
Tai -----
Reston TAATTCTTTTCAGATTATCGGTTAATCTTTATTAAGAAAAAATCATGATTGTAGACAAT
Sudan TGTTTTTAAGATAGTTTTAGG--AAGTTTAAATTAAGAAAAAGAACCCATGGACACACT

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Ebola_virus_unknown_strain -----
Marburg -----
Zaire -----
Bundibugyo -----
Tai -----
Reston GTGGAGGAGGTGTTTGGTATTGGCTATTGTTATATTACAATCAATAACAAGCTTGTAATA
Sudan CGAGATAATTAATCAAGCAATGAGGGAACAATGGTGAACAACAACATATTGTTGCCCTC
CAGGAGAACCAGCCAGACAGCAGACAAATAACAATGAACCACAATATGTTACTGCTATAA
TTACTGGTAGTCCTTGGGTATCCAAGTTTATGAATAGAGCTAGAGAGAATTTGCTACTTC
CTAGCATTGAGGATGGGGTTCCTTGATGATAGTATAGTCTTAGGTATAGGTAGTCTTA

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Ebola_virus_unknown_strain -----
Marburg -----
Zaire -----
Bundibugyo -----
Tai -----
Reston -----
Sudan -----
ATATTGTTCTTGTTCAGAGGTAGATTGTGA--CCGGAAATGCTAAACTAATGATGAAG
TTAGATTGGTCAGTTCCAA-----AACAAAGTGATGAAG

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Tai Reston Sudan	Results < Clustal Omega < Multiple Sequence Alignment < <a href="https://www.ebi.ac.uk/Tools/services/web/toolres...">https://www.ebi.ac.uk/Tools/services/web/toolres...</a>	TGAAGTTCGTTAATT-CAA-----AAACAAATGATGAAG CGAGGTATAAGTTATATTTGCTACTTCGAATGGCTAAACCAAGTATGCAGGATCAAG CACGTACTATATTATACAGTCTAAACTTGTA--AATTAACTACAAGAACATGATGAAA
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	----- ATTAAG----- ATTAAT-GCGGAGGTCTGATAAGAATAAACCTTATTATTCAG-----ATTAGGCCCA ATTAAT-GCAGATGTCCAAGGAACACATATTTGTGATTTAAACGTTCCAGTTAGACTCTG ATTAAT-GCAGATGTCTAAAGGATAAACACTCCATGCATCAGTGTTATAATTGGGCTCTG ATTAATTGCGGAGGAATCAGGAATTCACCTTTAGTTCCTTAA-----GGCCT ATTAAT--GAGAAGGTTCCAAGATTGACTTCAATCCAACAC-----CTTGC	
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	-----AATCAACATC-----CCTCCACCGCCTCTACAAAGGGCTTCAAC AAAAAGGATGTTCTTG-----TATTT----- AGAGGCATTCTTCATC-----TCCTT----- TTCAAGGATCTTCATC-----TTTTGTAGCTCCACTCTGAGTCACAACATAATT TAGAA-AATCTTCATC-----TCCTCCAACCTACCTCAAAGAAGGATTTTACCG CGTCCGAATCTTCATCAGTTCGTAAGTTCCTT----- TCTGCCAATTTTCATC-----TCCTT----- * * *	
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	GCCATGGGAGTCATAACGCCAAAACCTAAGCACAGCCTTTGACAACAGCCAAGCTTGTATG ----- -----TTAGCAAAGTACTATTTCAGGGTAGTCCAATTAGTGGC GAGTTTTTGTCTCAGAACAGTTATCAGGATTAATTCTCTCAAATACTGAACTACTAGC CGATTGGGAGTTATAACGACAATAGGGACAACCACCTTTGACACTAGCCAAGCTTGTCTG -----	
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	TCCTCCCAGCATATTATCATGAAACAGCTTGTCATCCTTCTGAGCGGTAACAACATAAA ----- ACGCTCTTTTAGCTGTATATCAGTCGCCCTGAGATACGCCACAAAAGTGCTCTAAG--- ATCACTCTCAATTTTCATTACTTACGACAATCATTATCTTAATAATATTTCTCTAAATTAC G-GGCACACAGCATTTTATCTTGCAACGTCGACATTCCCATCAATCTGAGGAGTAACAGC --TATAGAAGTCATTAGCTTCTAAGGTGATTATATTTTAGTATTAATTTTGTCTAAT--- --AAGATATATGATTTTGTCTCGAGATAAGGTTATCAAATAGGGTGTGTATCTC---	
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	GCACGCAATCTAGTCATTGAGATCCATTACACCCTAAGAGAACTAGTAATTTAAATTTG ----- ---CTAAATTGGTCTGTACACATCCCATACATTGTATTAGGGGCAATAATATCTAATTGA TGACTTAATTAGCTTGTAATCAGATAATATCGAAACCAATTTATCATAAGGCATAATTTG TATC-AAAACAACGCATATGTAGACATTGTCGGTAATAGTACTGCCTAAGACAACATTTT ----- -----	
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	-----GATGCTACCTCTCCCCTAGTTTTCTGGTATGAGAAACAGGC ----- ACTTAGCCGTTTAAAAATTTAGTGCATAAATC-----TGGGCTAACACCACCAGGT TATAAGTGATTTAGGATTTACCCCAGAAGTGAAATAATTCTTAGAATAAAAGACCGACTA ATAATAACAGTTGGAATTCATTTTTTCACCCAAGCTATTCTCAAGTTAACAGTTGAAACA ----- -----	
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	CCCGTCCAG-----CTCAACGGGAATAGTA-GCATAAGTCAAGAACGACCTTTGACTCA ----- CAACTCCAT-----TGGCTGAAAAGAAGCTTACCTACAACGAACATCACTTTGAGCGCC GAATATCCTTAAGGCTGTCTAACGTGCCACACAGCTAGGGTTAGCCTGACATCTGGAACA GGACTCGACCCAGGACAACCTCCGGATACGTA-ACATAAGAAAAGAACAACCTTGACCCA -----TGCTTGCTATAAAGTT----- -----TTTTACATATTTGG-----	
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	GAGCGAACACGCTCCTCATTAATGCTATCCTCCGCAT----- ----- CTCACAATTAATAAATAGGAACGTCGTTCCAACAATCGAGCGCAAGGTTTCAAGGTTGAA AGATCGATACTAATATAGGGATTTGTTTCATACTAGC----TCTCT----- GAGTGAACAAGCTCATACTATCAAGGCTAATCCTCGGCCTGCCTG----- -----GAAATGTCTAATGCTTAAA----- -----	
Ebola_virus_unknown_strain Marburg Zaire	----- CTGAGAGTGTCTAGACAACAAAATATTGATACTCCAGACACCAAGCAAGACCTGAGAAAA -----	

Bundibugyo	-----GCAA
Tai	-----GAGTC
Reston	TGAACACTTTTTTGAAGCTGACATACGAATACATCATATCATATGAAACATCGCAATTA
Sudan	-----GCTCCCACTAG
Ebola_virus_unknown_strain	-----
Marburg	-----
Zaire	-----
Bundibugyo	-----
Tai	-----
Reston	GAGCGTCCTTGAAGTCTGGCATTGACAGTCACCAGGCTGTTCTCAGTAGTCTGTCCTTGG
Sudan	GCTAGGGTTTATAGTTAAGGAAGACTCATCACATTTTTTATTGAACTAGTCTACTCGCAG
Ebola_virus_unknown_strain	-----
Marburg	-----
Zaire	-----
Bundibugyo	-----
Tai	-----
Reston	AAGCTCTTGGGGAGACAAAAAGAGGTCCAGAGAGTCCCAACAGGTTGGCATAAGGTCAT
Sudan	AATCCTACCGGAATAGAAATTAGAACATTTGTGATACTTTGACTATAGGAAATAATTTT
Ebola_virus_unknown_strain	-----
Marburg	-----CAACCAAGGTTGTATATATTTGGCCGATATCCTCGGAGAATAATTGTCAATATCT
Zaire	-----
Bundibugyo	-----
Tai	-----
Reston	TAAACACCAGCATAGTCGGC-----TCGACCAAGACTGTAAGCGAGTCGATTTCAACTAAA
Sudan	CAACACTACCTGAGATCAGGTTATTCTTCCAACCTATTCTGCAAGTAATTGTTTAGCATC
Ebola_virus_unknown_strain	-----
Marburg	GACAATTGATCATACACATTCCAATAATACATTATAGACTTTTTATCATATATAGAAGTG
Zaire	-----
Bundibugyo	-----
Tai	-----
Reston	AAGATTATTTCTTGTTGTTTAAACAAATTCCT-----TTTGTGTGAGACATCCTCAAG
Sudan	ATAACAACAACGTTATAATTTAAGAATCAAGT-----CTTGTAACAGAAATAAGATA
Ebola_virus_unknown_strain	-----
Marburg	GGATTCTAATAGTTCTACTTCTTAGTGACAGTACAGGTTTTTGCAAAGAACTTCT-----
Zaire	-----
Bundibugyo	-----
Tai	-----
Reston	GCA-----
Sudan	ACAGAAAGAACCTTTATTATACGGGTCCATTAATTTTATAGGAGAAGCTCCTTTTACAAG
Ebola_virus_unknown_strain	-----CACATGGTCCATAATGGCCAGTCGATGGAGAGGAAGG
Marburg	-----GAGTATGGCAGAACTGTCAACACGTT-----ACAAC
Zaire	-----AACCATGGCTAAAGCTACGGGACGAT-----ACAATC
Bundibugyo	-----CACAATGGCTAAGGCAACAGGTAGGT-----ACAAC
Tai	-----CACAATGGCCAAGGCTACTGGGAGGT-----ACAACC
Reston	-----CAAGATGGCTAAAGCCACAGGCCGAT-----ACAATC
Sudan	CCTAAGATTCCATTAGAGATAACCAGAATGGCTAAAGCCACAGGCCGGT-----ACAAC
	* * * * *
Ebola_virus_unknown_strain	CTACTCGAGCTATGCAAGATCATGAGAATGGAATCGTTCACTACGAGCCATGCTCCCCCA
Marburg	TACCAACAAATATTACAGAGAAGAGCATAAATCTTGATCTCAATTCTACTGCACGGTGGG
Zaire	TAATATCGCCCAAAAAGGACCTGGAGAAAGGGGTTGTCTTAAGCGACCTCTGTAACCTCT
Bundibugyo	TGGTTTCACCTAAAAAGGACCTCGAGAGGGGGCTGTTTTGAGTGATTTGTGCACGTTTT
Tai	TTATCTCCCCAAAGAAAGATCTTGA AAAAGGGCTGGTTCTGAATGACCTTTGCACCTCTCT
Reston	TCGTGCCCCCAAGAAAGATATGGA AAAAGGGAGTGATTTTTAGTGATCTTTGTAATTTCT
Sudan	TGGTAACACCAAAACGGGAGCTAGAGCAAGGAGTTGTGTTTAGCGACCTATGCAACTTCC
	* ** *
Ebola_virus_unknown_strain	GTGCTCAGACGACT-----AGGGAGTGAGTCTACATGGGTT---TTGTGAATTTCTGTGA
Marburg	TAAAAGAGCCCAAGTGTGGGGCTGGACAGTGAAATGGGGGAATTTTATCTTTACATCC
Zaire	TAGTTAGCCAAACTATTCAGGGGTGGAAGGTTTATTGGGCTGGTATTGAGTTTGATGTGA
Bundibugyo	TAGTTGATCAGACTATCCAGGGGTGGCGGGTACTTGGGTTGGGATTGAATTTGACATCG
Tai	CAGTGGCCCAGACGGTCCAGGGATGGAAGGTTACCTGGGCTGGGATTGAATTTGATGTTA
Reston	TGATTACTCAAACCTGCAAGGTTGGAAGGTTTATTGGGCAGGAATTGAGTTTGATGTAA
Sudan	TAGTGACTCCAACCTGTGCAAGGATGGAAGGTTTACTGGGCTGGACTTGAGTTTGATGTCA
	* ** * **** *
Ebola_virus_unknown_strain	CACTGCTCGGGGTAACATATCTTGCCAGATTGTAGACACCGATATG----CACTACCATGT
Marburg	CAAATACCGGAATGACATTGTTGCATCATTTAAAACTAATTTTGTTGTTCCAGAATGGC

Zaire Bundibugyo Tai Reston Sudan	CTCACAAGGAATGGCCCTATTGCATAGACTGAAACTAATGACTTTGCCCTGCGATGGT CCCAGAAGGATGGCTCTACTGCATCGGTTAAAAATGCTCATTCCCTCTCCATGCGT CACAGAAAGGGATGGCCTTATTGCACAGGCTCAAGACCAGTGATTTTGCTCCAGCCTGGT GTCAAAAAGGCATGGCTCTTCTGACAAGACTCAAAACAAATGACTTTGCTCCTGCGCTGGG ACCAAAAGGGTATTACCTGTAAATCGTCTTAAAGTGAATGATTTTGCTCCTGCGATGGG * * * * * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	CAACGCCCTGCAGTTTCTGT--ACATGACTTTCTTAACTAGAACTCTACTATTGAAT--- AACAACAAGGAGTCTCTTCTCCCATCTCTTTAAAAACCCAAAATCAACCATCATGGAGC CAATGACAAGGAATCTCTTCTCCTATTATTTCAAAATCCGAATTCACAATTGAATCAC CGATGACAAGGAATTTATTCTCCTATTATTTCAAAATTCAAATTCTACTATTGAGTCTC CAATGACCAGGAACTTATTTCCACATCTCTTTCAAACCCGAACCTCTACAATTGAGTCGC CGATGACAAGAAATCTTTTCCACATCTGTTCCAGAACCCAAATTCGGTTATTCAATCTC CGATGACCCGGAACCTCTTCCACACTTGTTCAAAACCAACAGTCTGAAGTCCAAACTC * * * * * ** ** * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	-GCAATTGTCAATCCGTGTCTCTACCAGAGCCGGAATT-AGGATTAGCTTATCGATAAAG CTTTCTTGGCTTTGAGGATCTTACTTGGCGTTGCTTTGAAGGATCAAGAATTGCAGCAAT CGCTGTGGGCATTGAGAGTCATCCTTGCAGCAGGGATACAGGACCAGCTGATTGACCAGT CCCTCTGGGCATTACGAGTGATTCTGGCAGCTGGTATTCAAGACCAGTTAATTGACCAAT CACTTTGGGCACTGCGGGTCATACTAGCAGCAGGTATTCAAGATCAGCTAATTGATCAAT CCATCTGGGCTTTGAGGGTAATTTTGGCAGCCGGATTGCAGGATCAGTTGTTAGACCATT CCATTGGGCCCTTGAAGGTAATTTCTTGCCGCGGGATTCTTGACCAATTAATGGATCATT * * * * * * * * * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	CGTTGATCGAACCTTTGGCCTGTGCGTTGCGCTTAAT-CCTAATGGCTGCTTACTACTG CATTGATTCCTGGATTAGATCCATTGTGCATATGCTTTCAGAATGGCTGCTTTTAGAAG CTTTGATTGAACCTTAGCAGGAGCCCTTGGTCTGATCTCTGATTGGCTGCTAACAAACA CCTTGGTAGAACCGTTGGCCGGAGCCCTGAGCTTAGTCTCCGATTGGCTTCTTACAACAA CGTTGATCGAACCTTGGCAGGAGCGCTAGGCTTAATTGCTGATTGGCTTCTTACTACTG CATTGGTTGAGCCATTGACAGGGGCTCTCGTCTAATTTCTGATTGGCTCTTAACTACAA CCCTCATTGAGCGCTATCAGGGGCCCTGAACCTAATTGCTGATTGGTTACTAACAACT * * * * * * * * * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	A-ACAAGCGACTTTCAAATGAGCAACTAGCGGCTGAAGCGAC---GAGACTAAATATCT TTACGTCAGCTATCCATATCAGTCCTAACCTGTTGGGGATCTATTTGACCTCAGACATGT ACACTAACCATTTCAACATGCGAACACAACGTGTCAAGGAACAATTGAGCCTAAAAATGC ACACAAACCATTTTCAAATGCGCACGACGCTAAAGAGCAACTGAGCTTGAAGATGC GAACAAACCCTTTCAAATGCGCACACAACAGGCTAAGGAGCAACTAAGTCTAAAAATGT CGTCAACACATTTCAATCTTCGTACTAGAAGCGTAAGGACCAGCTTAGTCTTCGTATGT CTACTAATCACTTCAACATGAGAACTCAACGAGTAAAGGACCAACTGAGCATGAGGATGT * * * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	ACTCCCTGCTCCGGTCCACAGCC--AATTTAAACTGCCAGCTGGT--CCACACCTGATG TTAAATCCTAATGGCAGGTGTGAAAACTTTTTCAATAAGCTGTTTACCCTCCATGTTG TGTCTGTTGATTCGATCCCAATATTCTCAAGTTTATTAAACAAATTGGATGCTCTACATGTCG TATCATTAGTGCGCTCTAATATCTTGAAATTCATCAGTCAATTGGACGCACTACATGTCG TGTCCCTGGTGCGATCAACATCCTAAAGTTCATCAACCAACTAGATGCACTACATGTTG TATCTTTGATCAGGTCAAACATCTTGCAGTTCATCAACAAGCTTGACGCCCTGCGATGTTG TATCTCTTATAAGGTCAAATATTATTAACCTTTATAAATAAGCTCGAGACTCTTCATGTCG * * * * * ** * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	-CAATTACAAAGGATGTAGGAGC----TTAAATTGGCCCAAAGACCTTCTC--TTAA TAAATGATCATGGAAAACTAGCAGTATTGAAATAAAATTAAACGGACAACAGATCATAA TGAATACAACGGATTGTTGAGCAGTATTGAAATTGGAACCTAAAATCATACAATCATCA TGAAGTACAATTGGACTCTTGAGCAGTATCGAAATTGGCACTAGAAATCATACATTAATCA TGAATTACAATGGACTTCTCAGTAGCATTGAAATTGGCACCAAAAGCCATACAATTATAA TCAATTACAATGGTTTACTCAGTAGTATTGAGATCGGGACTTCTACACACAAATCATTA TTAATTACAAGGACTTCTAAGCAGTGTGAGATAGGAACACCAAGCTATGCAATCATCA * * * * * ** * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	TGAAGTGGACAAAAATGTTTATCGTCC----GAACGATAGCGTGCGAAAAGAGC----- TCACTCGAGTTAACATGGGGTTCTTAGTAGAAGTTAGGAGGATTGACATTGAACCTTGCT TAACTCGAACTAACATGGGTTTTCTGGTGGAGCTCCAAGAACCCGACAAATCGGC----- TCACAAGAACCAACATGGGTTTTCTGGTAGAATTACAGGAGCCTGATAAATCTGC----- TTACCCGGACAAATATGGGTTTTTTGGTAGAGTTGCAAGAGCCTGACAAATCAGC----- TAACTCGTACAAATATGGGTTTTCTCGTGGAAGTTCAAGAGCCTGACAAATCAGC----- TTACCAGGACTAATATGGGTTATCTTGTCGAGGTTGAGGAACCAAGCTATGCAATCATCA * * * * * * * * * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	-TACCAACACAGAGA--CCAGGAACAGTCGAATTCACCTTCTACAGGAATCACCTTGAA GCGGCGAGAGTGTCTCTCAGAATCAGTTGTGTTTGGGCTAGTAGCTGAAGCAGTCCTAA -AATGAACCGCATGAAGCCTGGGCCGCGGAAATTTTCCCTCCTTCATGAGTCCACACTGA -CATGAATCAAAGAAACCAGGACCAGTCAAGTTCTCCCTCCTGCATGAATCAACCTTCA -CATGAACACCAGAAAACCAGGACCAGTCAATTTCTCCCTCCTCATGAATCAACCTTGA -TATGAATTTAAGCGCCCAGGACCAGTCAAGTTCTCATTACTTCATGAGTCTGCCTTCA -GATGGATATACGACACCCTGGTCTGTCAAATTTCTCCTTACTACATGAATGACACCTTA * * * * * * * * * * * *

Marburg	GGGAACACAGCCAGATTGAGAGAGGTCAACCTCTTAATTTGACACAATACATGAACAGCA
Zaire	AAGCAATTACACACAGGATCTTCGACACGAATGCAAACTTTGATTCTTGAAATTAATAGC
Bundibugyo	AGGCTCTAATCAAAAAACCCGCAACTAAGATGCAGGCCTTGATTCTGGAATTTAACAGCT
Tai	AGACACTTGTCAAAAAACCTGCGACCCAGATGCAAGCACTAATCTTAGAATTCAATAGTT
Reston	AACCTTTCACTCGTGTTCACAATCTGGGATGCAATCATTAAATAATGGAGTTCAACAGTT
Sudan	AACCTGTTGCCACTCCTAAACCATCAAGCATTACTTCATTGATCATGGAGTTCAACAGTT
	* * *
Ebola_virus_unknown_strain	GACTCTAACTCCAGTCACCTAATCGACACAGCGCTCCTAAGCTGCATCTGAGGCTT----
Marburg	AAATTGCTATTTAGA-----CAGCTTGATTGCGCATCTAAAGCTT----
Zaire	CTCTTGCTATCTAAC---T--AAGGTAGAATACTTCATATTGAGCTAACTCATATA----
Bundibugyo	CCCTGGCAATATAGT---CCAACGCTACCAACCATCATTTTTTGTAAGTGCATCTCTTTT
Tai	CTCTCGCTATTTAAC---TCAACTCATCAAAATGCTAACTTGTGATCCTTAAGCTG----
Reston	TGTTGGCAATTTAACAAGGTAATCTTAAAATAAGTACATGAATGAGAATTAGTTGTGGGT
Sudan	CTTTGGCAATTTAAT--TGCCGTAATAAAAATTGTACGATAGGGCTAACATTGATTCCAT
	* * *
Ebola_virus_unknown_strain	-----TTACAAAAGACTAAATTTTATGATTGTTGTGACA
Marburg	-----
Zaire	-----
Bundibugyo	ATTTCTTTTCTAACTTGATACAATTATAATCAAGATC----CCTAATCCTTTTGACGAA
Tai	---CACCTTAGACTTTTGATAAGAATACTAATCTT---GATGATTGCTTTGACATG
Reston	CTTATCTAGCATTGTTGAGTTAACTATCTAATCTATTTTCGCTAATTGCATTGAGCACTG
Sudan	AATCCATCGTAGGACAGAATCATTTTCTGTATGATCTTAGTTAATCTCTCTTTATACA
Ebola_virus_unknown_strain	TGAACATACGCGACTCCCTCCAAACAGATGGGGTTCACCATTGATAA----CAGACCCT
Marburg	-----
Zaire	-----
Bundibugyo	GTGGGCTAATTTTTGCTCATTCTAATAATAAATCATAACCTGAATAAAAGACACCACAAT
Tai	AGGATAAGAACACTGCCATTAGATAGATGGGGTTCACCATTAATACACAATTACCCAAT
Reston	CTAATAGGTTTGATCACGTTAAAGATTTAGAGTGTATGAATTGTGCAGATTTAAACTTG
Sudan	ATGATTAATAAGGAGCCTGTTTAAAT-----GTTACAAAAGTATACTGTTTGAACCCCT
Ebola_virus_unknown_strain	CCTGTCAGCAGCAGCTATCCCTGCGGGT-----CGATCAAGTTTATTAACATTGCTTTG
Marburg	-----
Zaire	-----TGCTGACTCAATAGTTATC-----
Bundibugyo	ATTATAACCCAA---TAACACCTAGAGAATT-TC-----
Tai	CATGTTAACAGCAGTTAGATCCCTCAAGTATA-TC-----
Reston	GGTTTTGCCTTATGCTTCATAGGTGGTCTTTTTGAAATGGAGATTATCAGCATTTCTTAA
Sudan	AGTATCCCTGTAAATATCCTCATTCAATTTTTTGC-----
Ebola_virus_unknown_strain	TTGCTAACTAAAACCCTGATACAGGTCAGAGTAACGGCACGTTACTCTCATTGTTTGACT
Marburg	-----
Zaire	-----
Bundibugyo	-----
Tai	-----
Reston	ATGGGAG-----
Sudan	-----
Ebola_virus_unknown_strain	GTCTGTACCATTATCAACTTCCAATCAGTCATGTTAG-TACATGGGTCTAGTCCATAGA
Marburg	-----TAATTCAGCTGTATAAGGATATTGAGAAGA
Zaire	-----
Bundibugyo	-----
Tai	-----
Reston	-----GAGTTAGCAATCAGAAATTGGAGATAAATGGACATCGGGATAGAA
Sudan	-----
Ebola_virus_unknown_strain	CTGTCATGATGAATAGTTTCAGACCAAATAGATGGAGAGAGCTTCTAC-----
Marburg	CAGTGATCATAATCAATTGCCCTTTATAATAAAAAGATGTAGTTGCCCTAATTTGTATTC
Zaire	-----TTGACATCTCTGCTTTCATAATCAGA
Bundibugyo	-----TGAATTGCTAAAGATTATATACTCGC
Tai	-----AAGTTCATTCTACCCTTTGCATTGTC
Reston	CAATGCCTAACTATTGGGCGGCTTCCATTTTTACATGTGTATATAAC-----
Sudan	-----TTTTACATGTGTAGTCACCTGTATAGCATGAC
Ebola_virus_unknown_strain	-----
Marburg	ACTAACCTAAAATAATAGTATTA-----
Zaire	TATATAAGCATAATAATAAATACTCATATTTCTTGATAATTTGTTTAACCACAGATAAA
Bundibugyo	ACTAAGAGACAAGTTAATCAATC-----TTTACTTAATAATACTAAATGCTAGATAGC
Tai	ACTCTAATTAATACCTGATAC----AATTA-TGTTAATTAGCTAGATTCTCTCATTT
Reston	-----
Sudan	CCTAGTCATGCCTTTAATTAATACTTAATCTAACAGTTAATATAATGTATAACTTTCCAT

Ebola virus unknown strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

-----TCACACTAGATACTCATCACATAATAAGTTGTTCCTCACTGTAAGCCAGCTTCCAAGTTGACACCCCTTACAAAAACCAGGACTCAGAATCCCTCTGGCTAACTAACCTGAGTTGTGGATTACTCCTTTTAAAAAGTCTATCAATTTAAGCT--TTAGACTTGTGCTAGAAATAATTGATCATCCACTTGATTACACATCCAACCTAGGGTC--CAATCTTTTCTATCTTTGCT--GTTCAAAGAGTAGTCAAAACAATGTGAGATCCAGTTTCACTCACAGCATCTATTCACT--

Ebola virus unknown strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

-----ATGAATTAATCATGATAGTATAATCTTGTAGAATTACTATGGGTTCTATATACGGCATTTTCAAACAAGAGATTCCAAGACAACATCATAGAATTGCTTTATTATATGAATAAGCATTTT-----

Ebola virus unknown strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

-----ATTCCGACTGTATCCTTTGTAAACAATGCATGCTTAAGTATTCTCATATCATACATGTTATCACCAGAAATCCTATATACTAAATGGTTAATTGTAACGAACCCGCAGGTCACATGTG-----

Ebola virus unknown strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

-----ATCACTGCCTGATTAAGAAAAACCAATGATGGATATTAACATCCTTCAATTGACTGTTTTAGGTTTACAGATTCTATATATTACTAACTCTATACTCGTAATTAACATTAGATAAGTTATCACTAATATTAAGGAGGACTTTTTAAATAAGAGCAAGTGTTATGTTAGTTTCATAGATTGCTAATAATCTTTAGTTCAATACTAATGACAAAGA--TATATTGGTGTAACTTATTTTAATAACATGTCAATGCT--ATTTACAGTATGATGAGCCCAAATTAACACGGTAGAGGT-----

Ebola virus unknown strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

-----GGTTGTGGAAG- -TATCAAAAAGTGCCTTTGGGGACTTACTGTCTGAGACTTTTAAAT- -CTT-----ACAGGCTGTCTTGAAGATTAAGAAAAA- -GCCTGAGGAAGATTAAGAAAAACTGCTTATTGGGTCTTCCGTGAGTCTTACTAAGAATGATTTGAGGAAGATTAAGAAAAAGTGTCTGTGGGTCTTCCGTTGATTAGATTAGCTATAGCTTGAGGAAGATTAAGAAAAAGTGTCTGTGGGTCTTCCGTGATACTGTTAAGAGAAGGTCTGAGGAAGATTAAGAAAAAGGCCTCGTGTTCACTTGTTGCTCTAGATTTATTAATAGAAC- GAGGAAGATTAAGAAAAAGTCCATA- ATGCTGGGAGGCA-----

Ebola virus unknown strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

GGTCAGAAATG-----CAAAGCCACCTCTTTATA---ACAAGGCTC-----TTTTTAAATTCTCTACGGGATTATACAGTCACCTTTAGCATACATTATGCCTCTCGCGAATTTTAGATGAA-----GCAGTTGAAATTCTTCCTCTTGATATTAATGGCTACA-----GTAGAGGACAC-----ACGAGCAAACCTTCTCCTCTAATTTAATATGGCAACT-----TAGAAGGGCAC-----ACAGCCATAATTCTTCCTCTTTATACAACATGGCTACA-----CGTCAAGTATCCTGTGGTTTTTTCTACCTAAGTTCCTCATGCCATATGGCTACC-----ATCCTTGCCACCATAGGACTTTTTCAATTCCTCTATTTTATG----ATGGCTACC-----\* \* \*

Ebola virus unknown strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

-----ATAATATAAGTGACTCTATGACATTCCGAGCCAGGTCTTTATCTTGAATTAACCCTCTTT-----

Ebola virus unknown strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

-----CAAGCCACTGAATATACAAGCGTAGGGTGTCAATT--CCTAGAGTACAGCTTGGTATGCAACACCCGACTCAATATCCAGATGCAAGATTATCTTCTCCCATAAATTTAG-----CAACATACCCAATACCCAGACGCTAGGTTATCATCACCAATTGTATTGG-----CAACATACACAATATCCAGATGCAAGATTATCTTCAACCATTTGTCTTAG-----CAACATACGCAATATCCAGACGCAAGTTATCATCACCTATAGTTTATG-----CAGCATACCCAGTACCCGGATGCACGTTTATCCTCACCTATAGTCCTGG-----CAACATACACAATATCCTGATGCAAGATTGTCTTCCCCAATTGTCTTAG\*\* \*\* \* \* \* \* \* \* \* \* \* \*

Ebola virus unknown strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

ATCAGT-----ATCAGTGTGATTTATTGACCAGAAGTCTAGGGTTGTATAGTCATTACTCACACAATCCAAACCAATGTGACCTAGTCACTAGAGCTTGCGGGTTATATTCATCATACTCCCTTAATCCGCATCAATGTGATCTTGTACCCGTGCTTGCGGTCTGTATTCTTCACTACTCATTAAATCCTCATCAGTGTGATCTTGTCACTCGTGTGTTGTGGATTGTATCCGCATACCTCTTAAATCCCCATCAATGTGATTTGGTAACTCGAGCATGTGGGTATATTCATCTTATTCTCTAAATCCTCACCAATGTGACCTAGTGACAAGAGCATGTGGACTTTACTCTGAGTATTGCTGAACCCTA\* \* \* \*



Ebola_virus_unknown_strain	-----
Marburg	AACTACGTAATTGTAGGATTCCATACCACATTTATCGCTTGAGGAATTCTACAGCATTAA
Zaire	AACTACGCAACTGTAAACTCCCGAAACATATCTACCGTTTGAAATACGATGTAACGTGTTA
Bundibugyo	AGTTGAAAAAATTGTAGACTACCAGAAACATATTTACCGCCTCAAATTTGATGCTACGGTTA
Tai	AACTAAAGAACTGTAGACTACCGAAACATATATACCGACTAAAATATGACACCACTGTTA
Reston	AACTAAGGCAATGTAAATTACCAAAACATATATATCGACTTAAGTTTGACACAATAGTAT
Sudan	AACTAAAGACATGCCGTTTACCGAAACATATCTATAGATTAAAATATGACACTATTGTTT

Ebola_virus_unknown_strain	-----AGACCTGTCACAGTCGGTGTGACGTATTC
Marburg	AGACATTTCTTCAGAACTGTTTCGATACTCACAGTTCCTTTTCACTCAATTTGGGATCACA
Zaire	CCAAGTTCTTGAGTGATGTACCACTGGCGACATTGCCCATAGATTTCATAGTCCAGTTTC
Bundibugyo	CAAAATTTTTAAGCGATGTTCCAATAGTTACATTGCCGATAGATTACTTGACCCCTTTAC
Tai	CAGAGTTTTTGTAGTGATGTGCGGTAGCAACATTGCCAGCGGATTTTTTAGTACCTACAT
Reston	CCAAATTCCTAAGTGATACACCTGTAGCAACACTGCCGATAGACTATTTAGTACCAATTC
Sudan	TACGATTTATTAGTGATGTCCCTGTAGCTACAATCCCAATAGACTACATTGCTCCGATGT
	* * * * *

Ebola_virus_unknown_strain	CGATTGATTCTGTCTGCTCACAAACAATTGTAGACCCGAACATGATCGCATCAAATTGCG
Marburg	TCATAACTTCAATTCAACACGATGCAATTAATCATATCAATGATTTCAAATACCTATTAC
Zaire	TTCTCAAGGCACTGTCAAGGCAATGGATTCTGTCTGTTGAGCCGCGGTGCCAACAGTTCT
Bundibugyo	TTTTACGAACTTTATCCGGGGAGGGCTTATGCCCTGTCGAACCAAAGTGCAGCCAATTCT
Tai	TTCTTAGGACTCTATCAGGAAATGGTCTTGTCCAATTGATCCAAAATGCAGTCAATTTT
Reston	TCCTGCGTTTCCTAACGGGGACGGTGATAGGCCATTGACCCGACTTGCAATCAATTC
Sudan	TAATAAATGTTCTGGCAGATAGTAAAATGTACCATTGGAACCTCCCTGCTTGAGTTTCT
	* * **

Ebola_virus_unknown_strain	CCCACCTACCTAATATTGAGTCTGTGGCTAGCACACTGTCGCGGATTTATTAGACCAA
Marburg	CATCAGAACTCATAAAGTATGCTAATTGGGACAATGAGT-----
Zaire	TAGATGAAATCATTAAGTACACAATGCAAGATGCTCTCT-----
Bundibugyo	TAGATGAAATAGTAAGTTATGTTTTGCAGGATGCACGTT-----
Tai	TAGAAGAAATGTCAATTATACTCTACAAGATATTGCT-----
Reston	TTGATGAAATATTAAATTACACTCTTCATGATGCAGCCT-----
Sudan	TGGATGAAATAGTCAATTATACCGTGACAGGATGCAGCCT-----
	* * * *

Ebola_virus_unknown_strain	CTGTTCTTTGATCGTTCAGAAATGAGGGTTGCCCAAATGGTCACAAATGCACTCCTTCCT
Marburg	-----
Zaire	-----
Bundibugyo	-----
Tai	-----
Reston	-----
Sudan	-----

Ebola_virus_unknown_strain	ACAAGAATTGGCATATACTCTAGAAAGTATACCTTCCAAAGCTATTAACGCATTGAGCG
Marburg	-----TCTTAAGAGTATTCTTAACAAGATCTTGAGACTCGATCATG
Zaire	-----TCTTGAAATATTATCTCAAAAATGTGGGTGCTCAAGAAGACT
Bundibugyo	-----TTTTAAGATACTATTTTAGGCATGTTGGAGTACACGATGACA
Tai	-----TCCTAAACTATTACCTCAATCGAGCCGGAGTGCAATAACGATC
Reston	-----TTCTTGATTACTATCTCAAGGCAACAGGTGCACAGGACCATT
Sudan	-----TCCTTAATTATTACATGAATCAGATTAACACACAGGAAGGAG
	* * * *

Ebola_virus_unknown_strain	GAGTGCATAACGGGCATCGATTATGTTTTGGACTTTCAATTCGCAATCTAATTTGCTCC
Marburg	CTTTTACAAATTCTGCAAAGTTACAATGTGAGGATTTCTCTCCCAAAGAGAATCCTTATT
Zaire	GTGTTGATGAACACTTTCAAGAGAAAACTTATCTTCAATTCAAGGGCAATGAATTTTAC
Bundibugyo	ATGTTGGAAAAAATTTTGAGCCAAAGATTAAGGCTTTGATTATGATAATGAATTTCTGC
Tai	ATGTGGATAGGGATTTTGGACAAAAAATTGCAATCTAATTTGCGACAATGAGGTTTTAC
Reston	TGACAAACATTGCAACTAGAGAGAAGCTTAAAAACGAAATTTAAACAATGATTATGTCC
Sudan	TAATTACAGATCAATTAAAAACAGAACATTGCTAGGGTCATTCAAAAAACAGATATCTAT
	*

Ebola_virus_unknown_strain	ATCAGCAAATACATCCCTAGAGACAGTGTGAGAGAATGATTGCTAGCCGTAGATGGTCAA
Marburg	ATTGGGGGAT---GTTATTGCTCGTGCAATTTATCTCAACTTGCCAGAAGGATTAAGGGAC
Zaire	ATCAAATGTT---TTTCTGGTATG---ATCTGGCTATTTTAACTCGAAGGGGTAGATTAA
Bundibugyo	AACAATTGTT---TTATTGGTACG---ATTTAGCAATCCTAACGCGTAGAGGGCGCCTGA
Tai	ATCAAATGTT---TCACTGGTATG---ATCTTGCAATTCTAGCACGTAGAGGGCGACTAA
Reston	ATCAATTGTT---CTTCTGGCATG---ACCTTTCTATTTTGGCTCGACGTGGGCGTCTGA
Sudan	CTGCTCTATT---CTTCTGGCATG---ATCTTGCCATCCTCACCCGTCGAGGGAGAATGA
	* * * * *

Ebola_virus_unknown_strain	ATAGCCGGAGTTATCG-TCAACCTCGGTAGAGAATGACAATTGGATCGATATC-----
Marburg	AAAGAGGGTCTTTAAGGAGCAACTGGAAGTTTATAGGAGTTGATTTGGAACATTTGGAA
Zaire	ATCGAGGAACTCTAGATCAACATGGTTTGTTCATGATGATTTAATAGACATCTTAGGCT
Bundibugyo	ATCGAGGGAATTAACGGTTCAACATGGTTTGCAAATGACGATTTAATAGACATTTCTCGGGT
Tai	ATAGAGGGAATAATCGCTCAACATGGTTTGAAGTGATAATTTGGTAGATATCCTAGGTT
Reston	ATCGCGGGAACAACCGTTCAACCTGGTTTGTTCATGATGAATTCATTGATATTTAGGAT
Sudan	ACCGAGGAAATGTGCGCTCCACTTGGTTTGTAAACGAATGAGGTTGTTGACATTCTAGGAT

Ebola_virus_unknown_strain	- TAGTGTGGATATTTATTTTAGGATCCG - TACTACTACAATCT - TGGATACTGCAGACT
Marburg	TAGCAGATTTTGTTATTTTTAAAGTTCCGATAAAAGCAATAATTCGGAATGCTACAAGTT
Zaire	ATGGGGACTATGTTTTTTGGAAAGATCCCAATTTCAATGTTACCAGCTGAACACACAAGGAA
Bundibugyo	ACGGTGATTATTTTCTGGAAAATACCGTTGTCATTGTTGCTACTCAACACAGAGGGGA
Tai	ATGGAGATTATTTTTTGGAAAATACCATTATCACTACTACCAGTGGATACACAAGGCC
Reston	ATGGCGATTATTTTTTGGAAAATACCTTTATCATTATTACCAGTTACTATTAGACGGGG
Sudan	ATGGTGATTATATCTTCTGGAAGATCCCTATTGCTCTATTACCAATGAACACAGCTAATG
	*      *      *      *      *      **      *

Ebola_virus_unknown_strain	TCC-----GACATGCAGCAA-GGATTCGTATCATGAAAGAGATATA-----
Marburg	TACAGGCCTCAAAACCAGGGTTAAAGACATGGTACCGTGATCAAACTTAACTCCTTATC
Zaire	TCC-----CCCATGCTGCTATGGACTGGTATCAGGCATCAGTATTCAAAGAAGCGG
Bundibugyo	TTC-----CTCATGCAGCTAAGGACTGGTATCACGCATCAATCTTCAAAGAAGCGG
Tai	TCC-----CACATGCAGCCAAGGACTGGTATCATGAATCGGTTTTCAAGGAGGCTA
Reston	TCC-----CACACGCAGCAACTGACTGGTATCAACCGACTCTTTTTAAAGAATCCA
Sudan	TTC-----CACATGCATCAACTGACTGGTACCAACCTAATATCTTCAAGGAGGCTA
	*      *                  *      *      *      ***      *                  *

Ebola_virus_unknown_strain	---GTGGCCACCTAGTCATCCATCTTGTCATGTCTACGCAGACGTATTTATCGTGTTAAG
Marburg	TGTGTGATGATGAATTTGTTGTAAGCATCGTAGTTATGAATGTTTTATCATGATTAAG
Zaire	TTCAAGGGCATACACACATTGTTTCTGTTTCTACTGCCGACGCTCTTGATAATGTGCAAAG
Bundibugyo	TTCAAGGTACACACATATCGTGTCAAGTTTCCACTGCAGATGTTTAAATTATGTGTAAGG
Tai	TTCAAGGCATACACACATCGTGTCCATCTCTACAGCAGATGTCTTAATCATGTGTAAGG
Reston	TCCTAGGGCATAGCCAAATCCTATCTGTGTCAACAGCTGAAATACTAATTATGTGTAAGG
Sudan	TTCAAGGACACACATATTATTTCACTCTCTACAGCCGAGGTCCTTATTATGTGTAAGG
	*      *                  *                  *                  *      *      *

Ebola_virus_unknown_strain	CTACTATCGCCAGACGATTT - ATTCATTACTGATT - CTTCCAGGCAAACCAAGAGTTT
Marburg	ATGTCTTCATCGAAAGGTACACACGTGGGAGATCTGTGCTCGCGCTTGGGTGCAAGATA
Zaire	ATTTAATTACATGTCGATTCAACACAACCTCTAATCTCAAAAATAGCAGAGATTGAGGATC
Bundibugyo	ACATCATAACCTGTCGTTTCAATACCACACTATTGCAGCATTGGCAAATTTAGAAGATT
Tai	ACATAATCACCTGTCGATTTAATACTTTACTGATTGCTGCTGTGGCAAATCTAGAGGATT
Reston	ATATTATCACCTGTAGGTTTAAATACATCACTGATTGCATCCATTGCAAAATTAGAGGATG
Sudan	ATCTTGTCAAGAGTCGTTTTAATACCCTTCTGATTGCTGAGTTAGCCAGGTTGGAAGATC
	*                  *      *      *                  **                  **                  ***      *

Ebola_virus_unknown_strain	CCATGATAGCCGAAAACCGTGA - - CAACAAACATGGCTGACATAGACAAAGCA - TACATC
Marburg	ATGAAGAAGCTGATTACCCACCTCTTGGTATATTAAGAGATTTGTACAATCAAGGGGACC
Zaire	CAGTTTGTTCTGATTATCCCAATTTTAAGATTGTGTCTATGCTTTACCAGAGCGGAGATT
Bundibugyo	CTATCTGTTCTGACTATCCACAACCTGAAACAATCTCTAATCTGTATAAGGCAGGGGATT
Tai	CAGTTCATTAGATTACCTTTACCAGAAACAGTGTCTGACCTATACAAAGCAGGAGATT
Reston	TAGATGTGTCTGATTATCCTGACCCGAGTGATATTCTTAAGATATACAATGTGAGACT
Sudan	CAGTGTCTGCTGATTATCCACTAGTAGATAATATTCAATCTCTGTATAACGCAGGAGACT
	*                  *      *      *                  *

Ebola_virus_unknown_strain	ATTTAATAGGAATGCCAGCATCA - - - - TTAGCAACAAGGTAAACTACGTGAGCCGTCT
Marburg	AAATTATAACCATGTATCTAGAGGATGGTTTCAAATTAATAAAACACTTAGAACCTTTAT
Zaire	ACTTACTCTCCATATTAGGGTCTGTAGGGTATAAAATTATTAAGTTCCTCGAACCATTTG
Bundibugyo	ACTTAATCTCGATAGTCTGGGTTTCAAGAGTTATAAGGTCATAAAGTTTTTAGAACCACTAT
Tai	ATTTAATCTCATTGCTAGGATCAGAAGGTTACAAAGTCATAAAATTCCTTGAGCCGTTAT
Reston	ATGTAATATCTATTCTTGGCTCAGAGGGTTATAAGATAATAAAGTACCTTGAACCACTTT
Sudan	ACCTGTTGTCCATATTGGGATCAGAGGGGTACAAAATAATCAAAATATCTCGAACCTCTGT
	*      *      *                  *                  *      *      *                  *      *

Ebola_virus_unknown_strain	GCTAAGCAAATATCCAAGTACGCT - - - AATTGACACGGAAGCAAGAAAGTTTCCATTATA
Marburg	GTGTCAGTTGTATACAAACGTACGGTATTTTTACGCCGAGGAAGTACTGGTTTCAATCTC
Zaire	GCTTGGCCAAAATTCAATTATGCTCAAAGTACACTGAGAGGAAGGGCCGATTCTTAACAC
Bundibugyo	GTTTAGCTAAGATCCAATTGTGCTCAAATTACACTGAGAGGAAAGGGAGATTCTTACTC
Tai	GCTTAGCAAGAACTCTGCTCAAATTACACTGAGAGGAAAGGAAGATTCCCTACTC
Reston	GTTTGGCCAAAATCCAAGTTTGTCTTAAATTCACAGAAAGAAAGGTCGTTTCTCACAC
Sudan	GTTTGGCTAAGATTCAACTATGTTCCCAATATACAGAACGAAAGGGCGGTTTTTAACCC
	*                  **      ***                  *      **                  *                  *      **

Ebola_virus_unknown_strain	CGAT-----TTGCGTAGGTACATACGTTCCAGAAGCTTACGGGT---CCCAAACAGAGTC
Marburg	AGATGATTAAATCATATTATGATGAACCTCAAAGTCTTAACCTAAAACCTTACAGATTCAG
Zaire	AAATGCATTTAGCTGTAAATCACACCCTAGAAGAAATTACAGAAATGCGTGCCTAAAGC
Bundibugyo	AAATGCATTTGGCCGTTAATCACACACTTGAAGAAGTATTAGGGGCCGGGATTGAAGT
Tai	AAATGCATTTAGCTGTAAATCATACACTTGAGGAAGTTACAGGGTCCCGAGAATTAAGGC
Reston	AGATGCATTTATCAGTAATAAATGATCTTCGGGAGTTGATTTCTAACCAGGTTAAAGG
Sudan	AGATGCATCTTGCAGTTATTACAGACATTGCGTGAAGTCTCCTTAATAGAGGGTTGAAAA
	**                                  *                  *                  *

Ebola_virus_unknown_strain	CACCGCAGAGTCCGAGATTGCGGAATTTATGA-----GCGAGAGCCGGTCGCATCTC
Marburg	ATAATAGGACTGAATGTGCACAGAAGTTTATTAACCATAATTAGGCAAAAGTACTCTC
Zaire	CTTCACAGGCTCAAAAGATCCGTGAATTCATAGAACATTGATAAGGCTGGAGATGACGC
Bundibugyo	CACAACAAGACTGGAAGATGAGGGAATTTACCGAATCTTAGTAAATTTAAAGTCAACAC
Tai	CACAACAGATTTCGGAAGGTAAAGGGAATTCATCAAATGCTGATAAACCTTAAGGCAACTC
Reston	ACTATCAGCAAGAGAGATTAGAGATTTTACAAAATATTATTACAATTGCAATTATCTC

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Ebola_virus_unknown_strain  CCCATCACTTCTGTGCATT-----GTTGCATGTCAATCTGCGCAGTGGTTG---CA
Marburg                    CTCACAAATACTGTGAATTGTTCTCTTTACAAAAACATTGGGGTCACCCAGTTTTATACA
Zaire                      CACAACAACCTTTGTGAGCTATTTTCATTCAAAAACACTGGGGGCATCTCTGTCTACATA
Bundibugyo                 CAGTCACTCTGTGAATGTTTTCAGTGCAAAAGCATTGGGGGCATCTGTGCTACATA
Tai                        CTCACAACTCTGTGAGTTGTTTTCAGTGCAAAAGCATTGGGGGCACCCTGTCTTGCATA
Reston                     CTCACAGTTTTGTGAATTATTCTCTGTTCAAAAACATTGGGGGCATCCAATTTTACATA
Sudan                      CACAACAATTATGTGAATTATTTTCAATCCAAAAACACTGGGGCCACCCAGTTCTGCATA
                               *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *

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Ebola_virus_unknown_strain	GAGCGAAAGGCATTGCGACGAGTAACGAGGCATTCCAGAGCCACCAATGTGCTTAA-----
Marburg	ATGATGTTGCAC TAGACAAAGTGAAGAAACATGCCCAATCAACAAAAATTTTAAACCTA
Zaire	GTGAAACAGCAATCCAAAAAGTTAAAAAACATGCTACGGTGCTAAAAGCATTACGCCCTA
Bundibugyo	GCAGAAAGGCTATTTCAGAAAGTAAAGAAACATGCAACCGTAATAAAAGCATTTGCGTCCCG
Tai	GCGAAAAGGCTATCCAAAAAGTAAAGAAAGCATGCAACAGTGATAAAAGCATTGCGCCCAA
Reston	GTGAGAAAGCTATACAAAAAGTAAACGGCATGCAACCATCCTTAAGGCTCTCAGACCTA
Sudan	GTGAAAAGGCCATCCAAAAAGTTAAAAATCATGCAACAGTTCTAAAGGCATTGCGGCCGA
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Ebola_virus_unknown_strain  ---- -ATACAGGAAACTCATAGGTGTAGTAC --- GCATTGCAAAACACAGTAGA - -
Marburg                    AGGTCATGTTTGAAACTTTTTGTGTCITTTAAGTTTATAGTGGCAAAAATCATTATCACT
Zaire                      TAGTGATTTTCGAGACATACTGTGTTTTAAATATAGTATTGCCAACCATTTATTTTGATA
Bundibugyo                TAATCATCTTTGAGACATATTGTGTGTTTCAAGTACAGCATTGCCAACCATTTATTTTGATA
Tai                        TAATAATCTTTGAAACATATTGTGTGTTTAAATACAGCATTGCAAAACATTATTTTGATA
Reston                     ATGTCATCTTTGAGACATATTGTGTAATCAAGTACAATATTGCCAAGCACTATTTGCGACA
Sudan                      TTATCATCTTTGAAACGTATTGTGTAATCAAGTATAGTGTGCAAAACATTTCTTTGATA
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Ebola_virus_unknown_strain      GTCAGGGTACT--GGAAATGTGACTTCTCCCATAACTTAAACGCCTGTGTTTCCTATTG
Marburg                         CTCAAGGATCGTGGTACAAAACCACACATGATCTACATTTGACCCCATATCTACGGCAG
Zaire                           GTCAAGGATCTTGGTACAGTGTTACTTTCAGATAGGAATCTAACACCGGGTCTTAATCTT
Bundibugyo                      GCCAAGGGTCATGGTATAGTGAATCTCAGATAAACATCTAACACCGGTTTACTACTCT
Tai                             GTCAGGGTACGTGGTACAGTGTGACTTCTGACAGATGCTTAACACCAGGCCCTTCTCTT
Reston                          GCCAAGGAACCTGGTACAGTGAATCTCAGACAGGAATTTAACTCCAGGACTCAACTCCT
Sudan                           GTCAAGGCACCTGGTACAGTGTGATATCAGACCGATGTTTAAACGCCGGGATGAATTCCT
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Ebola_virus_unknown_strain	ATCCAACG- - -ACCCAAATTTGGACATTACCTATGCTCAAAGAACTTTGCTTGAATTAAG
Marburg	ACATTGTGTCAAATTCATTTCCATCGCAAGCCGAGATTTATCAGCACCTCTGGGAATGG
Zaire	ATATCAAAAAGAAATCAATTCCCTCCGTTGCCAATGATTAAGAACCTACTATGGGAATTT
Bundibugyo	ACATTAAGAGGAACCAATTTCCGCCACTCGCTATGATTAAGACTTATTGTGGGAATTCT
Tai	ACATCAAAAGAAACCAATTTCTCCACTACCTATGATCAAAGAACTTTGTGGGAATTTT
Reston	TCATAAAACGTAATCACTTTCTTCACTACCCATGATTAAGGATCTTCTATGGGAATTT
Sudan	ACATTAGGCGAAATCAATTCCTCCACTTCCAATGATCAAAGATCTTTATGGGAATTTT
	* * * * *

Ebola_virus_unknown_strain	GACTTGGATCTCCTCGAAATTCGACATCATC-----TGATCAGTGA-TTGCGTATCAGTT
Marburg	ACTTTGTAGAGCATGAACCTCTTTTTCTACAAAAATAAATAAGTGATTTGAGTATTTTCA
Zaire	ACCACCTTGACCACCCCTCCACTTTTCTCAACCAAAAATTATTAGTGACTTAAGTATTTTTA
Bundibugyo	ATCACCTTGATCATCTCTCCCTATTCTCCACCAAGATTATTAGTGACTTGAGTATTTTCA
Tai	ATCACTTAGATCATCTCTCCGTTATTCTCCACCAAAGTGATTAGTGATTTGAGTATCTTTA
Reston	ATCATCTTAATCACCCCTCCGTTATTCTCTACAAAGGTGATTAGTGACTTAAGTATTTTCA
Sudan	ACCATTTGGATCATCTCTCCATTATCTCCACGAAGATCAATTAGTGACCTCAGCATTTTCA
	*                    **       *          *     *****     *     **

Ebola_virus_unknown_strain	TTAAAGATGGCACTTCAGTGC-----AATACACGCAGGGATCCGATTTTGCATC----TC
Marburg	TAAAGATAGAGCTACTGCTGTAATCGAGAGTGTTGGGACAGCGTTTTTGATAGGAGTG
Zaire	TAAAGACAGAGCTACCGCAGTAGAAAGGACATGCTGGGATGCAGTATTCGAGCCTAATG
Bundibugyo	TAAAGGATCGCGCTACCGCAGTGGAAAAACATGTTGGGATGCAGTCTTTTCGAGCCTAATG
Tai	TTAAAGATCGTGCTACTGCAGTCGAGAAAAACATGCTGGGACGCAGTTTTTGAACCCAATG
Reston	TCAAAGATAGGGCCACAGCTGTTGAACAGACATGTTGGGATGCAGTCTTTGAACCCAATG
Sudan	TTAAAGACCGCGCAACAGCAGTTGAACAAACCTGTTGGGATGCAGTTTTGAGCCTAACG
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Ebola_virus_unknown_strain	CCGCTGTTTTGAACCGCGAGATATGCTTGACACAAGA - - GTTACCTAAGCAAACCTTGA -
Marburg	TGCTAGGATACAATCCCCCTGTGAGATTTCAATCAAAGAGGGTACCTGAGCAATTCTTAG
Zaire	TTCTAGGATATAATCCACCTCACAAATTTAGTACTAAACGTGTACCCGAACAATTTTAG
Bundibugyo	TTCTTGGATATAGTCTCCAAACAAGTTCTCAACTAAGAGGGTTCCTGAACAGTTTCTTG
Tai	TTCTTGGTTATAACCCACCGAATAAATTTGCTACAAAAAGGGTACCTGAGCAATTCTTG
Reston	TGCTAGGTTACAATCCTCCAAACAAATTTCTCCACTAAAAGGGTGCCGGAACAATTTCTAG
Sudan	TTTTGGGCTACAGTCCACCTTATCGATTCAATACCAACCGTGTACCTGAACAATTTCTGG
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Ebola_virus_unknown_strain	---AAGTAGAATTTGCAATTCGAGAC-----GTCCTGAATATTTGAGCTATATCT
Marburg	GTC AAGCAGATTTCTCTTTAAATCAAATATTGGATTTTGCTGAGAAATTAGAGTATCTAG
Zaire	AGCAAGAAAAATTTTTCTATTGAGAATGTTCTTTCTACGCACAAAAATCTCAGTATCTAC
Bundibugyo	AACAAGAAAATTTCTCGATTGATAGTGTTCTCACTTATGCCACGCCTGGATTATCTAC
Tai	AACAGGAGAATTTCTCAATAGAGAGTGTCTACATTATGCTCAACGCTCTGGAATATCTTC

Results < Clustal Omega < Multiple Sequence A <https://www.ebi.ac.uk/blast/>

Accession	Sequence
Reston	AAACAGAGCGATTGTTCAATCGAAAGTGTCTGAATTTATGCACAGGAATTACATTATTAT
Sudan	ACCAAGAGGATTTTTCATTGAGAGTGTCTTACAAATACGCCAAGAACTAGGTACTTAT * * * * *
Ebola_virus_unknown_strain	CTTCCCCCGGTGAGATCACTTCCATTTTACATAATGAGAAGGAGT--ACAGATTCCTTAG
Marburg	CTCCTTCATATAGAACTTTTCTTTTTCATTAAGGAAAAAGAATTGAATATTGGGAGAA
Zaire	TACCACAATATCGGAACTTTTCTTCTCATTGAAAGAGAAAGAGTTGAATGTAGGTAGAA
Bundibugyo	TTCACAATACCGGAATTTTTCTTTCTCACTTAAGGAAAAAGAATTAATGTAGGACGAG
Tai	TCCCGGAGTACCGGAACCTTCTTTTTCTCACTCAAGGAGAAGGAGTTAAACATTGGACGAG
Reston	TACCACAGAATAGGAATTTTTCCTTTTCTCTCAAAGAAAAAGGAATTAATATTGGACGAA
Sudan	TGCCCCAGAATCGAAATTTTTCTTTTTCATTGAAGGAAAAAGAATTAATGTGGTAGGA * * * * *
Ebola_virus_unknown_strain	CACCTTGGAAACATGCCAACCTCGTACGC--AAGTACTCACTCAGACGGA--CCTTGTGA
Marburg	CATTTCGGGAAGTTGCCCTATCGTGTGAGAAATGTCCAAACACTTGCAGAAGCCTTATTAG
Zaire	CCTTTCGGAATAATTGCCTTATCCGACTCGCAATGTTCAAACACTTTGTGAAGCTCTGTTAG
Bundibugyo	CTTTTGGTAAGCTACCTTATCCTACACGTAATGTTCAAACCTTATGTGAAGCCTTATTGG
Tai	CTTTTGGGAAATTGCCATATCCAACACGCAATGTTCAAACCTCTGTGCGAAGCTTTGTTAG
Reston	CATTTTGGGAAGCTACCATATCTCACACGGAATGTCCAAACCTTATGTGAGGCTCTGTTAG
Sudan	CATTTTGGAAATAATGCTTATTTAACCAGGAATGTCCAAACCTCTGCGAAGCATTACTTG * * * * *
Ebola_virus_unknown_strain	CAGATAGTGAGGGGAAAAAGTGGCCAAGGATACTACCTTGTGGT--AGAGAGCGACCAAA
Marburg	CAGATGGAAGTACGGAAGGCATTCCCTAGTAATATGATGGTTGTTACTGAGAGAGAGCAGA
Zaire	CTGATGGTCTTGCTAAAGCAATTTCTAGCAATATGATGGTGTGTACGGAAGCTGTAGCAGA
Bundibugyo	CAGATGGATTGCTAAAGCCTTTTCTAGTAACATGATGGTTAGTAAACGAGCGTGACGAAA
Tai	CAGATGGTTTGGCGAAAGCATTCCCAAGCAATATGATGGTTGTGACAGAGCGCGAGCAAA
Reston	CAGATGGACTGGCCAAGGCCTTCCCGAGTAACATGATGGTAGTAAGTGAACGTGAACAAA
Sudan	CAGATGGTTTGGCTAAAGCCTTTCCAAGCAATATGATGGTTGTACAGAGAGGGGAACAAA * * * * *
Ebola_virus_unknown_strain	AAGAACCCTATTGTAAGGCGTCTGCAT-----CACTAAATGAGATATTTGTGAGAAGC
Marburg	AAGAAGCTCTATTGCATCAAGCCTCTTGGCACCATAATTGAGCAAGTATAGGGGAGAATG
Zaire	AAGAAAGCTTATTGCATCAAGCATCATGGCACCACACAAGTGATGATTTTGGTGAACATG
Bundibugyo	AGGAAAGCCTCTTGCACCAGGCGTCTGTGGCACCACACAAGTGACGATTTTCGGTGAGAATG
Tai	AAGAAAGCCTTTTGCATCAAGCGTCTTGGCATCACACAAGTGATGATTTTGGTGAGAATG
Reston	AAGAGAGCCTTCTTCATAGGCATCATGGCACCACACCAAGTGATGATTTTGGAGAGAATG
Sudan	AGGAGAGCCTCCTTACCAAGCATCTTGGCACCATACAAGTGATGATTTTCGGAGAGCATG * * * * *
Ebola_virus_unknown_strain	CTGTTGTACAGACAGAACCATTCTGCAAGTCTCGTGAAAGCAATTATCCTTCCCTAT---
Marburg	CCATAGTAAGAGGTGCAAGTTTTGTTACTGATCTTGAGAAATACAATCTTGCCCTTTAGAT
Zaire	CCACAGTTAGAGGGAGTAGCTTTGTAAGTATGTTAGAGAAATACAATCTTGCAATTTAGAT
Bundibugyo	CCACTGTTAGAGGCAGCAGTTTTGTTACCGACCTAGAAAAATACAATTTGGCATTTAGAT
Tai	CTACTGTTAGAGCAGTAGTTTTGTAACAGACTTGGAAAAATACAATTTAGCATTCCGAT
Reston	CTACCGTTTCGAGGGAGTAGTTTTGTAAGTATGTTAGAGAAGTACAATCTTGCAATTTGCT
Sudan	CCACAGTTCTGGAAGTAGTTTTGTACAGACCTGAAAAATACAATCTGGCCTTCAGGT * * * * *
Ebola_virus_unknown_strain	-TGAGTCTGCAGTATAGTTTTTGAACAGTGCAACGGTTGTT-CGGTGTAAAGACATTTGG
Marburg	ATGAGTTTACACGACATTTTCATAGACTACTGTAATCGATGTTACGGTGTAAAAATTTAT
Zaire	ATGAGTTTACAGCACCCTTTATAGAATATTGCAACCTGTGCTATGGTGTAAAGAAATTTT
Bundibugyo	ATGAGTTTACAGCTCATTTTATTGAATCTGTAATCGATGTTATGGTGTAAAAATTTAT
Tai	ATGAGTTTACAGCTCCTTTTATTGAATACTGTAATCGTTGTTACGGTGTAAAGAAATTTGT
Reston	ATGAGTTCACTGCACCATTTATTGAGTACTGCAACCATGCTATGGTGTGCGTAATGTCT
Sudan	ATGAATTCACAGCTCCCTTCATCAAAATATTGCAACCAATGCTATGGGTTTCGCAATGTCT * * * * *
Ebola_virus_unknown_strain	T-AATAAAACGAATCAACAATA--GCAAGTTTATGACATTTGAGTGAGTATTAGAACC
Marburg	TCGACTGGATGCATTTCTTAATACCACTATGCTATATGCATGTCAGTGACTTTTATAGCC
Zaire	TTAATTGGATGCATTATACAATCCACAGTGTTATATGCATGTCAGTGATTATTATAATC
Bundibugyo	TCAATTGGATGCATTATACGATACCGCAATGTTATATACATGTAAGTGATTATTATAATC
Tai	TTAATTGGATGCACTACCTATACCACAGTGTTATATACATGTCAGTGATTATTATAACC
Reston	TTAATTGGATGCATTATTATCCCGCAGTGTTACATGCATGTGAAGTGATTATTATAATC
Sudan	TTGATTGGATGCACCTCCTAATTCGCAATGTTACATGCATGTTAGTGATTATTATAACC * * * * *
Ebola_virus_unknown_strain	CTGAAAGGTGTC-CGCTCTAAACGAGAAAAACGATATAAGGTTGATGCTCTCACTCAGA
Marburg	CTCCTCACTGCGTGACAGAAAAATAACCGAAATAACCCACCTGATTGTGCCAATGCTTATC
Zaire	CACCACATAAACCACACTGGAGAATCGAGACAACCCCCCGAAGGGCCTAGTTCATACA
Bundibugyo	CCCCTCATGGAGTTTCGCTAGAAAAATCGGAAGATCCCCCGGAAGGCCCTAGCTCTTACC
Tai	CCCCCATGTGAGTCTCTCTCGAAACCGAGAAAAATCCACCAGAAGGTCGAAGCTCTTACC
Reston	CGCCTCACAATGTTAATCTTAGCAATCGAGAATATCCTCCTGAAGGCCGAGTTTCGTACC
Sudan	CACCACATAATGTAACCTTAGAGAATAGGGAATATCCCCCGAAGGACCAAGTGCTTATA * * * * *
Ebola_virus_unknown_strain	TATGGTGTCTAAAGCGTTCCGAAGAATTGTGAGTATACTTGTGTACAGATTGATTATTTG
Marburg	ATTATCATTTAGGAGGTATAGAAGGACTACAACAGAAATTGTGGACATGTATATCATGTG
Zaire	GGGGTCATCTGGGAGGATTGAAGGACTCCAACAAAACTCTGGACAGATTTTCATGTG
Bundibugyo	GTGGTCATCTGGGGGAATTGAGGGACTGCAACAGAACTCTGGACAGCATTTTCATGTG

Tai Reston Sudan	GTGGTCATCTAGGCGGGGATTGAGGGACTTCAACAAAACTCTGGACAAGCATCTCATGTG GAGGGCACCTAGGAGGCATAGAGGGATTACAACAAAACTGTGGACGATATATCTTGGG GAGGCCACCTTGGCGGTATTGAGGGGCTTCAACAAAAGTTATGGACTAGTATCTCATGTG * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	-----GAATCATAAGGTATTAATGCCATATGGAA-AATCGGTG CTCAAATCACGCTTGTAGAACTGAAAACTAAGTTAAAATTGAAATCCAGTGTGATGGGTG CTCAAATTTCTTTAGTTGAAATTAAGACTGGTTTTAAGTTACGCTCAGCTGTGATGGGTG CACAAATCTCATTAGTTGAGATCAAGACTGGTTTCAAATTGAGATCTGCGGTAAATGGGTG CACAGATTTTCATTAGTTGAAATCAAAACCGGTTTTAAACTGCGATCTGCGGTAAATGGGTG CACAAATCTCCTTAGTGAAATTAAACTGGTTTTAAGTTACGATCAGCGGTGATGGGAG CTCAAATCTCATTGGTAGAGATCAAGACCGGGTTCAAATTGCGATCAGCAGTCTATGGGGG * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	AGAATTAATGTCTATATTTGCGCTCTGTATTGGTCCCGCAACTGAGT-TAATTACAGAG ATAATCAATGTATAACAACTCTAAGTCTTTCCCTATTGATGCTCCCAATGATTATCAAG ACAATCAGTGCATTACTGTTTTATCAGTCTTCCCTTAGAGACTGACGCAGACGAGCAGG ATAATCAATGCATCACAGTTCTTTCCGTATTTCTCTAGAGACAGATTCCAATGAGCAAG ACAATCAATGTATAACTGTACTCTCTGTATTTCCCTCGAACTGAGTCTAGTGAGCAAG ACAATCAGTGTATAACCGTATTGTCTGTTTTCCACTTAAACAGACCCTGAAGAGCAGG ATAATCAATGTATTACAGTATTATCAGTCTTCCACTAGAATCTAGTCCGAATGAGCAGG * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	AAGTCAGTTCTCAAGATAATGCCTCGAGTAGGGCTGGCTAC-----AATAAGGCAATG AAAAATGAGGCAGAATTAATGCTGACGAGTTGCTGTTGAATTAGCTATTACTACAGGTG AACAGAGCGCCGAAGACAATGCAGCGAGGGTGGCGCGCAGCCTAGCAAAAAGTTACAAGTG AGCATAGCTCCGAGGACAATGCTGCTCGCTAGCAGCCAGTTTAGCCAAAGTCACGAGTG AATTAAGTTCTGAAGATAATGCCGCTAGAGTAGCTGCTAGCTTAGCAAAAAGTCACAAGTG AGCAAAGCGCCGAAGACAATGCTGCAAGAGTAGCAGCAAGTCTTGCAAAAAGTAACCAAGTG AGAGATGCGCAGAAGACAATGCAGCCAGAGTGCGTGTAGCTTGCCCAAAGTCACAAGTG * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	GGCGCGCAACTGCTTACAATCTGAT-AAACTTTCTGTTGACTAGGCTCAAA---ATTTTG ATAGTGGGATATTCTTAAAACCTGAAGAGACATTTGTGCATTGAGGTTTATTTACTTTG CCTGTGGAATCTTTTTAAAACCTGATGAAACATTTGTACATTGAGTTTTATCTATTTTG CCTGTGGCATCTTCTAAAACAGATGAGACTTTTGTGCATTGAGGCTTTATTTATTTG CCTGCGGCATCTTTTTAAAACCTGATGAACTTTTGTTCAGTCTGAGTTCATTTATTTTG CATGTGGGATCTTTCTTAAACAGATGAGACATTTGTACACTGAGTTCATTTATTTG CCTGTGGGATATTCTCAAGCTGATGAGACTTTCTGTACACTGAGGCTTTATCTATTTTG * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	GCTAAAACCATGTTTTAA----GGTCAAGTATCTCAT---CACAGAGCTGCTACTGTAA GTAAAAAGCAATACCTAAATGGTGTTCAATTACCACAATCATTGAAGACAATGGCAAGGT GAAAAAAACAATATTTGAATGGGGTCCAATTGCCTCAGTCCCTTAAACCGGTACAAGAA GTAAGAAGCAATATTTAAATGGCGTTCAATTGCCACAATCACTCAAGACTGCTACCAGGA GCAAAAAACAATATTTGAATGGAGTACAATTACCTCAATCACTGAAAACTGCTACTAGAA GAAAAAAACAATATCTCAATGGTGTAATTACCGCAATCACTCAAAACAGCAGCAAGAA GCAAAAAGCAATACTTGAACGGAATTCAATTACCTCAATCACTCAAGACAGCAGCTAGGA * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	TTACACCT--TGTCATGCCATATT---GATAGTCATAAAGTGCATTGAATACCTCGCC GTGGACCTTTATCAGATTCCATTTTCGACGATCTTCAAGGTTCACTAGCCAGTATTGGCA TGGCACCATTGTCTGATGCAATTTTTGATGATCTTCAAGGGACCCTGGCTAGTATAGGCA TTGCTCCCTTGTGAGATGCAATCTTTGATGACCTTCAGGGAACCTCTGGCTAGTATAGGAA TTGCACCCTTGTGAGATGCTATCTTTGATGATCTTCAAGGGACACTAGCTAGCATAGGCA TGGCACCACCTCTGATGATCTATATTGATGATCTACAAGGAACACTTGGCATATTGGAA TGGCCCTCTCTCAGATGCAATTTTTGATGACTTGCAAGGTACACTTGCCAGTATAGGAA * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	TGGGCTCTGAGGACATATCTCCGAATCTAGG--TTGGGTCCGTTGCTTAGTAGCAG--G CATCATTTGAGAGAGGGGCAAGCGAGACACGCGATATTTTTCCAAGTCGTTGGATAGCTG CTGCTTTTGAGCGATCCATCTCTGAGACACGACATATCTTTCCTTGCAAGGATAACCGCAG CGGCATTTGAGAGATCTATATCCGAGACTAGACATGTATACCCTTGCCGGGTGGTTGCCG CGGCTTTTGAAAGATCTATCTCCGAACTAGGCACGTAGTCCCTGTAGAGTAGCAGCTG CTGCCTTCGAACGTGCTATATCGGAAACGCGACATATCCTCCCATGTCGTATTGTAGCAG CTGCCTTTGAGCGATCAATCTCCGAACTAGACATATTTACCATGCCGTGTTGCAGCTG * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	ACATAGCGTCCCTTCTTTCCGTCACAATC-TACAATATCA-CTCCTTTGCTTGTCCAAGG CATTTCAATCCATGTTAGCCGTAATTTGTTAAATCAGAATCACCTCGGATTTCCCTTAG CTTTCCATACGTTTTTTTCGGTGAGAATCTTGCAATATCATCATCTCGGGTTCATAAAG CATTCATACATTTCTCTCCGTTAGGATCCTCCAATACCACCACCTTGGTTTCAACAAAG CATTCATACCTTTTTTTCCGTAAGAATCTTACAATATCATCATCTTGGCTTCAACAAGG CTTTCCATACGTATTTTCGCGGTTTCGGATTTTACAATATCACCATCTTGGATTTAATAAAG CCTTTCCATACATATTTCTCTGTTTCGGATCTTACAACATCATCACCTTGGTTTCCATAAGG * * * * *
Ebola_virus_unknown_strain Marburg Zaire	AAACAGTCCTGGATCATGGTTCAAGCAAT----TCATAGTTTTGGAACAGTTGTA---- GATTTAGTATTGATGTATCCTGTTTTTAAAAAGCCTCTTACTTTCTCGAGAAATTAATTG GTTTTCAGCTTGACAGTTAACTCGGCAAACTCTGGATTTTCGGAACATATCATTGG

Bundibugyo Tai Reston Sudan	GAACCGATCTAGGTCAACTATCACTAAGCAAACCGTTGGATTTCGGAACTATCACTCTTG GAACGACCTGGGTCAATTGTCTATTAAAGCAAGCCATTAGATTTCGGAACATAACTTGG GCATCGATTTAGGACAGTTGTCACTTAGTAAAACCATTAGACTATGGGACTATTACTCTAA GTTTCAGACCTTGGACAATTGGCAATCAATAAACCTCTTGATTTCGGGACCATTGCACTAT * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	---TGCCGAAGCTGTATAAGGTCTGGTTGTGTCTCATTTCGATAAGCATCAAAATCTTGTT CTTTGATCACACCTCAAGTGCTAGGGGGATTATCTTTCTTAAACCCGGAGAAATTATTCT CACTAGCGGTACCGCAGGTGCTTGGAGGGTTATCCTTCTTGAATCCTGAGAAATGTTTCT CTTTAGCGGTACCTCAAGTTCTAGGAGGTTTATCGTTTTTAAACCCAGAGAAATGTTTTT CCTTGGCAGTACCACAAGTCTTGGGTGGCTTATCATTCTAAATCCAGAAAAATGTTTTT CATTGGCGGTCCACAAGTCTTGGGGGATTGTCTTTCTAAATCCAGAAAAGTGTTTTT CCTTAGCAGTTCCTCAGGTATTGGGTGGATTATCCTTCTAAATCCAGAAAAGTGCCTTT * * * * * * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	AAACGCTCCTGGGTGATCCTAAAG---GAAACACTTCATTACTATACTTCACTAGGAA ATCGGAACATCAGTGATCCTTACTTCAGGGTTATTTCAACTCAGGAATGCATTAGAGT ACCGGAATCTAGGAGATCCAGTTACCTCAGGCTTATTCAGTTAAAAACTTATCTCCGAA ATCGCAACCTTGAGACCCCGTGACCTCCGGCCTATTCCAATTAGGACTTACCTGCAAA ATAGAAATCTGGGTGATCCTGTTACTTCAGGGCTGTTTCAGCTCAAGACATATCTTCAAA ATCGAAACTTCGGAGATCCTGTGACTTCTGGACTTTTCCAGCTACGGGTGTACCTAGAAA ATCGCAACTTGGGTGATCCTGTAACCTCAGGCCTATTTCACTGAAGCATTATCTGTCAA * * * * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	TTATCCACTTAGATGCTTTGTCTTACTTTTAAACGCCAGTTCAATCAACTGT-----GCG TCCTTAGAAAGGAAGAGTTGTTCTACATCTTGATTGCTAAAAAACCCGGTTTAGCTGATG TGATTGAGATGGATGATTTATCTTACCTTTAATTGCGAAGAACCCTGGGAAGTGCAGT TGATCAACATGGACGACTTATTTCTACCTTTAATTGCCAAGAACCCCGGGAAGTGTAGTG TGATCCACATGGATGATTTGTTTTACCTTTGATCGCAAAGAACCAGGGAAGTGTAGCG TGGTTAACATGAAAGACCTATTTGTCCATTAAATCGAAAAATCCAGGAAATTGTAGTG TGGTGGGTATGATGATATCTTTCATGCACTTATTGCAAAAAGCCAGGGAATTGTAGCG * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	CAATTAATTT--TTGTAAGCCCAAGTGGGTACACGTGTCCTGATTTCGA---TCCACCG CTTCAGATTTTCGTTATGAATCCATTAGGTTTAAATGTGCCAGGATCTAGGGAATAATAA CCATTGACTTTGTGCTAAATCCTAGCGGATTAAATGTCCCTGGGTGCAAGACTTAACTT CAATTGACTTTGTACTCAACCAAGCGGATTGAATGTCCCTGGGTGACAAGACCTAACAT CAATTGACTTTGTGTTAAACCTAGTGGGTAAACGTACCGGGGTACAGGATTTGACAT CCATTGATTTGTCTTAAATCCATCCGGATTAAATGTTCCAGGATCACAAGACTTGACAT CAATTGACTTTGTTCTAAACCCAGGCGGTTAAATGTCCCTGGATCAGAGGATTTAACAT * * * * * * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	TCTGCCCCCGTTAGAGAGTGCCCAGAGCCTTAC-TTTAGCGCTGGAAGTAAAT---GCT CGTTTCTCAGGCAAACAGTTCGTGAAAACATAACAATTACATCACAAAATAGAATAATAA CATTTTCTGCGCCAGATTGTACGCAGGACCATCACCTAAGTGCGAAAAACAACTTATTA CTTTTTTACGTGATAGTGCGTAGAACAATCATTGAGTGCAAAAAATAAGCTAATAA CCTTCTACGTGAGATAGTGCGCCGAACAATTACTCTAAGTGCTAAAAATAAATTAATAA CCTTTTTGCGACAAATCGTTAGGCGTAGTATTACCCTAACTGCTAGAAATAAGTTAATTA CTTTCCTTCGTGAGATTGTGAGAAGGAGTATCACACTTTCGGCAAGGAACAAGTTAATCA * * * * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	AAGCATTGTTCGATTCTCCGCTAACTCATAAGATGAGA--GTTTTGCAATGGTCGCTTT ATTCTCTTTTTACATAGGTTCCGACTTAGAGGATCAAAGAGTATGTGAATGGCTTTTAT ATACCTTATTTTCATGCGTCAGCTGACTTCGAAGACGAAATGGTTTGTAATGGCTATTAT ACACATTGTTTCACTCCTCAGCCGATTTAGAAGATGAGATGGTATGTAAATGGCTACTTT ACACTTTGTTCCATTCTCTGCTGATTAGAAGATGAAATGGTTTTCGAAATGGCTGCTTT ACACTCTCTCCATGCTCTGCTGATTTGGAAGATGAGATGGTTTGTAAAGTGCTCTCTT ACACGTTATTTACGCTTCTGCAGATCTTGAAGACGAATTAGTATGTAAATGGTTACTTT * * * * * * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	TTCGAAGCAGTCTG-----GCCTTCTATCGATTAGCTTCTCGCACTCCA--TCGGA CATCAAACCTGTAATGAGCCGATTGCTGCTGATATTTTTTACGAACACCTAGTGGAA CATCAACTCCTGTTATGAGTCGTTTTGCGCCGATATCTTTTACGCACGCCGAGCGGGA CTTCAACACCTGTAATGAGTCGGTTTGCTGCTGATATATTCTCTCGTACTCCGAGTGGA CTTCTACACCACTCATGAGTAGGTTTGCCGCCGATATATTTTCTCGCACTCCAGTGGGA CATCAAACCTGTCATGAGTCGCTTTGCGAGCGATATTTTTCCAGGACACCGAGTGGA CTTCAACGCCGTGATGAGCGTTTTGCGAGCGATATTTTCTACGAACACCAAGCGGGA * * * * * * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	TAAGGTTAGGGAACTTCGTTCCCGTGAAGGG---CTAAACATTGTTAGACTCTGTAATTA AAAGACTTCAAGTTTTAGGTTACTTGAAGGAACAGAACGTTATTAGCTTCCCGCACGA AGCGATTGCAAAATCTAGGATACCTGGAAGGAACACGCACATTATTAGCCTCTAAGATCA AGCGCTTGCGAGATCCTAGGTTATTTAGAAGGGAAGTAAACCTTGCTAGCCTCCAAAGTCA AACGTTTACAGATCTTAGGTTACCTTGAAGGGACTAGAACATTGTTAGCCTCTAAAATTA AACGTTCTCAAATATTAGGTTATCTTGAAGGGACAGGACTCTATTGGCCTCCAAAATCA AAAGATTACAAATCTTGGGATACCTCGAGGGAACAGAACCTTATTAGCATCCAAAATGA * * * * * * * * * *
Ebola_virus_unknown_strain Marburg	TAAGAACACCAATTGA--CAATTATCCTTGCTCGCTGGAGG-AGATTACGCCGCAAAGGT TCAGTTTAACTACTGAGGTTACAATGTTGATGAGATTAAGAGAGTTAACTAAGAGTCGAT

Zaire Bundibugyo Tai Reston Sudan	TCAACAATAATACAGAGACACCGGTTTTGGAGAGACTGAGGAAAATAACATTGCAAAGGT TCAATAACAATGCAGAGACTTCCTATTTTAGATAGGTTGAGGAAAATACACTGCAGAGAT TAAATCATAATACTGAGACACCTATCCTAGATCGATTGAGGAAAATTACGCTGCAAAGGT TAAACAACAACAGTGAGACACCTGTACTTGATAAGCTGAGGAAGATCACCTACAAAGAT TAAGCAATAATGCAGAGACACCAATCTTGGAGAGGCTCAGAAAAATAACACTTCAAAGAT * * * * * * * * * * * * * * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	GAACCTGTGGTTTAAACGATCTGGACTGATATGATCCAGACCTGGCTGAGGCTCTACT-- GGAAGAGTTGGTTTTCTTACATTGATGCATTAGATGATGATTTGTCTGAGTCTCTTGAAA GGAGCCTATGGTTTAGTTATCTTGATCATTGTGATAATATCCTGGCGGAGGCTTTAAACCC GGAGTTTGTGGTTTAGCTACCTAGACCACTGTGATCAGGTTCTAGCAGATGCTTTAATAA GGAGCCTGTGGTTTAGTTATCTCGACCACTGTGATCAAGTTCTGGCTGATGCCCTAACTC GGAATCTGTGGTTCAAGTTATTGGACCAATTGTGACCAATTACTAGCAGATGCTCTACAGA GGAATCTATGGTTTAGTTACCTAGACCAATTGTGACCCAGCTTTAATGGAAGCAATTCAC * * * * * * * * * * * * * * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	CGATAACCTGCACACTCGACTGAGCAC-GATTATTCACTATTTCTCCTGGG-ACGTATTA AGTTCATATGCACTGTTGATGTGGCTAATTTCTTGAGAGCATATTCATGGTCAGATGTCT AAATAACTTGCACAGTTGATTTAGCACAGATTCTGAGGGAATATTCATGGGCTCATATTT AAGTTTCTTGACAGTTGATTTGGCGCAAATTTACGTGAATATACTGGGCACACATAC AGATAACCTGCACACTGTGGACTTAGCACAGATTCTTCGCGAGTACACCTGGGCACACATAC AAATTAGTTGCACGGTGGATTTGGCCAGATTTGCGTGAGTATACATGGTCACACATCT CAATTAAGTGTACTGTTGATATTGCTCAAATTTCTAGAGAATACTCCTGGGCTCATATCC * * * * * * * * * * * * * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	CATAGGGAAGGCCGCTCAATC-----CTAAACACTGTAGTTTCTACCAAGATGAACGAA TGAAAGGAAAAAGGTTAATTGGTGCCCACTACCATGTTTACTGGAGCAATTCAATGTAA TAGAGGGAAGACCTCTTATTGGAGCCCACTCCCATGTATGATTGAGCAATTCAAAGTGT TAGAGGGAAGACAGCTCATTGGTGCAACACTTCCTTGCAATGTTAGAACAATTTAATGTGT TAGAGGGAAGGCAGCTCATTGGAGCAACACTTCCTTGATACTAGAACCACTAAATGTCA TAGAGGGTAGATCATTGATCGGAGCGACATTACCATGTATGGTGAGCAATTCAAAGTTA TTGATGGTAGACAGTTAATAGGGGCAACACTGCCATGTATACCTGAGCAGTTCCAAACCA * * * * * * * * * * * * * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	GTGTGCGCCAGTAATATGGGAATTGCAATAA----- AGTGGGTCAACTTGTCTGAAGACTTAAAGGAGCAATTTAAGCTATCTTCAGATCTGGGAT TTTGGCTGAAACCTACGAACAATGTCCGCA----- TTTGGCTCAAATCGTACGAACAATGCCCTAA----- TCTGGCTCAAACCATATGAGCATTGCCCTAA----- AGTGGCTAGGACAATATGAACCTTGTCCAGA----- CATGGTTAAACCTTACGAGCAATGTGTGGA----- * * * * * * * * * * * * * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	-----ATTACCAAAGTTAGCAACCCGAA CACCTACGGATTTATTGCAGTACGATTGCAATGGACTGCATTCAAAGGGGGCCGATAACG -----GTGTTCAAATGCAAAGCAACCAAG -----ATGTGCAAAATCTAGAAATCCAA -----ATGTGCAAAGTCAGCAAAACCTTA -----ATGTCTCAACAAAAAAGGCTCAA -----ATGTTTCATCCACAACAATTCTA
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	GGG-----GAAACTTTTCGATCTATCCAGTATAAGACATGTGTTGGTGATAGTGCTCCGC CAGAATTAATTTATGTGAGTTGTGCCCTTGACCGGAAAATTGTTCAAAGCATCCATCTG GTGGGAAACCATTCGTGTCAAGTGGCAGTCAAGAAACATATTGTTAGTGCATGGCCGAACG AAGGAGAGCCATTTGTGTCAATTGCAATTAAGAAACAAGTTGTGAGTGCATGGCCGAATC AAGGGGAACCTTTTGTCTATTGCAATTAACAAACATGTAGTAAGTGCTTGGCCTGATC ATG-----CTTATGTCTCAGTTGCAGTCAAAGATCAAGTGGTCAGTGCTTGGCCTAATA GTC-----CATATGTATCAGTTGCATTAAAAAGGAACGTGGTTAGTGCTTGGCCTGATG * * * * * * * * * * * * * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	ACACT---TTTCTTTGGACTATTGGTG-TGGATAACCCTATAACGAGTCTC-AACCGAAG ACAATCGCCTGGCATGGACAATAGGAAATCGAGCACCGTATATAGGGTCACGAACAGAAG CATCCCGAATAAGCTGGACTATCGGGGATGGAATCCCATACATTGGATCAAGGACAGAAG AGTCACGGTTAAATTGGACCAATTGGGGACGGTGACCTTACATCGGGTCTCGAACAGAGG AATCACGACTTAGTTGGACAATTGGAGATGGCATCCCTTATATCGGATCTCGAACAGAGG CTTCTCGAATAAGTTGGACAATAGGGAGTGGTGCCCTATATAGGGTCAAGAACCGAGG CATCTAGATTGGGGTGGACGATTGGTGATGGGATTCCCTACATAGGCTCAAGAACTGAGG * * * * * * * * * * * * * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	ATAAGATGGGGCAGCCAG--ACTCACCGAAAGTGC---AGGTAGCAAATTAAGAAAAAA ATAAAATTGGTTTACCCTCCTTTAAGAGTAAACTGCCCATCGGCAGCCCTTAAAGAAGCTA ATAAGATAGGACAACCTGCTATTAACCAAAATGTCTTCCGCAGCCTTAAGAGAGGCCA ACAAGATTGGGCAGCCAGCAATCAAGCCTAAGTGTCCTCTGCTGCCTTACGTGAAGCAA ATAAGATTGGGCAGCCAGCCATCAAACCAAAATGCCCTTCAGCAGCCTTACGTGAAGCAA ATAAAATCGGACAGCCTGCTATCAAGCCGCGATGCCCTTCATCTGCCCTCAAGGAGGCTA ACAAAAATAGGTGACCCGCTATTAAGCCGAGGTGCCCATCAGCTGCATTAAGAGAAGCTA * * * * * * * * * * * * * * * * *
Ebola_virus_unknown_strain	ATGAAGTGGAAGTCAAGATGCCTTGCCTAATCACGG--GCGCATCCCGCGA---ACCAG

Marburg	TTGAAATCGTCTCTAGACTATTGTGGTGACTCAAGGCACCGCAGATCGAGAAAAATTGC
Zaire	TTGAAATGGCGTCCGTTTAAATCATGGGTAACTCAGGCAGTTCGAACAGTGAATTGTA
Bundibugyo	TAGAGTTGACATCTAGACTAACATGGGTTACCCAAGGTGGTGCCAATAGTGATTTGCTAG
Tai	TTGAGTTGACATCAAGATTGACTTGGGTTACTCAAGGTGGAGCAAACAGCGACTTACTAG
Reston	TAGAATTAGCATCAAGGCTCACTTGGGTTACACAAGGAGGTTCTAATAGTGAACAATTAA
Sudan	TTGAATTGACCTCTAGGTTGACCTGGGTCACTCAAGGTAGTGCAAACAGCGATCAGTTAA * * * * * * * * * *
Ebola_virus_unknown_strain	TTAAACCCATCATAGAAGCCTAATTTCTGTTATGAGCACACGGAACCTCC--GAAATGATAC
Marburg	TCATTCTCTTCTCAATTCAAGAGTTAATTTAGACTATCAGACAGTGCTCAACTTCCTGC
Zaire	TAAAACCATTTTTGGAAGCACGAGTAAATTTAAGTGTTCAAGAAATACTTCAAATGACCC
Bundibugyo	TTAAACCTTTTGTAGAGGCACGAGTAAACCTGAGTGTGCAGGAGATCCTTCAAATGACGC
Tai	TTAAACCTTTCATAGAAGCACGAGTAAATTTAAGCGTACAGGAAATCTCCAAATGACAC
Reston	TCCGGCCTTTCTTGAAGCGAGAGTCAACCTTAGTGTCAGTGAAGTCCTGCAAATGACAC
Sudan	TTCGCCCTTTTCTTGAGGCAAGAGTAAACTTGAGTGTACAAGAGATTCTTCAAATGACCC * * * * * * * * * *
Ebola_virus_unknown_strain	GATCTCAGTTGTCCAGCAATAATGTACATCTGTGTA-TGACAAATAGGCCATAGCTTTTC
Marburg	CCACTCACTACTCAGGCAATATAGTTCACAGATACAATGATCAATA-----
Zaire	CTTCACATTACTCAGGAAATATTGTTACAGGTACAACGATCAATA-----
Bundibugyo	CTTCTCATTATTACAGGAACATCGTACATCGGTATAATGACCAATA-----
Tai	CTTCTCATTACTCCGGCAACATTGTGCATCGATATAATGATCAATA-----
Reston	CATCACATTATTACAGGAAATATTGTCCATCGATATAACGACCAATA-----
Sudan	CCTCACATTACTCCGGTAATATTGTGCATCGGTATAATGATCAGTA----- * * * * * * * * * *
Ebola_virus_unknown_strain	CAAAATGGATGGTAGTTCGCACTAGTTTAGGCTTAACTAACTTCATGACAC-----
Marburg	-----TGGACAACACTCCTTTATGGCAAATAGAATGAGCAATACATCCACTCG
Zaire	-----CAGTCCTCATTCTTTTCATGGCCAATCGTATGAGTAATTCAGCAACGCG
Bundibugyo	-----CAGCCCTCATTCTTTTCATGGCAAATAGAATGAGTAATTCGCGACGAG
Tai	-----TAGTCCCACTCATTATAGGCAAATAGGATGAGTAATTCGTCTACTAG
Reston	-----CAGCCGCACTCATTATAGGCGAATCGCATGAGCAATACTGCGACCCG
Sudan	-----TAGCCCTCACTCCTTTATGGCTAACCGCATGAGTAACACAGCAACGCG * * * * * * * * *
Ebola_virus_unknown_strain	-----TTACAGGTGGGAGGCAGTGAGCA-GAGT
Marburg	TGCAATCATATCAACTAACACACTAGGGAAATATGCTGGAGGGGGTCAAGCTGCTGTTGA
Zaire	ATTGATTGTTTTCTACAAACACTTTAGGTGAGTTTTTCAGGAGGTGGCCAGTCTGCACGCGA
Bundibugyo	ATTGGTGGTGTGCAGAAATACTCTCGGGGAGTTCTCAGGTGGGGGGCAATCAGCAAGGGA
Tai	GTTAGTTGTTTCGACAAACACTCTTGGAGAATTTTCAGGAGGAGGTGAGTCAAGAGA
Reston	TCTCATAGTGTGCAACTAATACACTTGGAGAATTTTCAGGTGGAGGGCAGGCCGAGGGA
Sudan	CTTGATGGTATCTACCAACACACTAGGAGAGTTTTCCGGAGGGGGTCAGGCTGCACGTGA * * * * * * * *
Ebola_virus_unknown_strain	GACTAATTTGATCTTTGAAACTGTAATTAAGAAG-AGTCTCGATTTTGTAGAT--CGTT
Marburg	TAGTAATATAATCTTCCAGAACACTATTAATTTAGGTGTTGCACTTTTGGACATTACATT
Zaire	CAGCAATATTATTTTCCAGAATGTTATAAATTATGCAGTTGCACTGTTGATATTAAATT
Bundibugyo	CAGCAATATCATCTTTCAAATGTAATCAATTTTTCGGTTGCCCTATTGATTACGATT
Tai	TAGTAATATTATCTTCCAGAATGTCATTAATTTTGCTGTTGCACTTTTGTCTACGATT
Reston	TAGCAATATAATTTTCCAGAATGTTATAAATTTAGCAGTTGCCCTTTATGATATTAGATT
Sudan	TAGCAACATTATTTCAAATGTGATTAACTTTGCAGTGGCCTTGATGACATTAGGTT * * * * * * * * * *
Ebola_virus_unknown_strain	TAGGGTCTCGGTACACTCCTATACACATCATG-----CATTATGGGCTTTTGGGAAG
Marburg	GTCTCTTCTAAATTTGCATCAACATCAAATGTTTCTTCCGTTTAAATGTTAAGTAAATG
Zaire	TAGAAACACTGAGGCTCAGAGATATCCAATATAATCGTGCTCACCTTCATCTCAAGTG
Bundibugyo	TCGGAACACCGGAAACATCCTCCATTAGCATAATCGTGCCCATCTCCATCTTTCACAGTG
Tai	TAGGAACGTGGCTACTTCTTCTATACAACATCATCGGGCTCATCTTCATTTGTCAAAGTG
Reston	CCGGAATACAAACACCTCTGATATAAGGCATAATAGGGCTCATCTTCACCTGACAGAGTG
Sudan	TCGGAACACTTGTACATCTTCTATTCAATATCACAGGGCCCATATTCACCTGACCAATTG * * * * * * * *
Ebola_virus_unknown_strain	TGTTGATCGGGGGTTTTTATCCCAATACT---AGATACCATCACATTTCCGTTGTACCT
Marburg	TTGCACACGGCATGTACCGTCTGAGTATTTATTCTTTGATAAACCTTTAGATGTGGATTT
Zaire	TTGCACCCGGGAAGTACCAGCTCAGTATTTAACATACACATCTACATTGGATTTAGATTT
Bundibugyo	TTGCACACGGGAAGTCCCAGCTCAATACCTAACCTACACGTCTACGCTTTCCTTGGATCT
Tai	TTGCACGCGAGAGGTTCCAGGCCAATATTTAGTTTATACATCAACATTGCCATTGGACCT
Reston	CTGTACTAAAGAGGTCCCGGCCAGTATTTGACATATAAAGTGCATTAATCTGGATTT
Sudan	TTGTACGAGGGAAGTACCGGCCAATACTTAACATACACAACCACGCTAAATCTAGATTT * * * * * * * *
Ebola_virus_unknown_strain	TA-ACGGTATCTGGACACTGAGTCGCTTAACGATGTAA--CCAGTAGGGTGTGGTCT-AG
Marburg	GAACAAGTACATGGACAACGAGTTAGTTTACGATAATGATCCTCTCTGTAGTGGAATAAA
Zaire	AACAAGATACCAGAAAACGAATTGATTTATGACAGTAATCCTCTAAAAGGAGGACTCAA
Bundibugyo	CACAAGGTACCAGAGAAATGAGTTAATTTATGATAACAATCCGTTAAAAGGTGGACTTAA
Tai	TACACGGTATCGGGATAATGAGTTGATTTACGATGACAATCCATTAAGAGGTGGTTTAA
Reston	AAGCCGTTATCGTGATAATGAACATAATATGACTCAAATCCACTGAAGGGAGGATTGAA
Sudan	GAGTAAGTACCGTAATAATGAACGATTTATGATTGAGTCCACTAAGAGGAGGTCTCAA * * * * * * * *



Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

TTGTAACGATATTGCTTATTACCTTTACAGGCCAGAGAATCTCTAA- - - - - TGAACA  
GGGAAGATTAGGTAGAGTATCAAGATCAACAATCTCAATTGAGTTTAAATGTAAAGCAAT  
TTGCAATATCTCATTGATAATCCATTTTTCCAAGGTAAACGGCTGAACATTATAGAAGA  
TTGCAACCTATCCTTTGATAATCCACTTTTTCAAGGGCCAAAGGCTCAATATCATAGAGGA  
TTGCAATCTTTCTTTTGATAATCCGCTTTTTCAAGGGCCAGAGACTTAACATAATTGAAGA  
CTGCAATTTAACAATAGATAGTCTTTAGTGAAGGGTCTAGGCTTAACATGATTGAAGA  
CTGCAACTTATCGATTGACAGTCTTTGATGAAGGGCCACGTTTAAATATTATTGAGGA  
\* \* \* \* \*

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

AGACTGGATCACAATTCCT- ACTTGTGAGGATGAGCGCAAATAAACTGTGAGCCAAA-  
TGGATCTTACGACTTTCCGACTATTGCTGCGTGGACTTTAGGAGAGACAATTATTGGAAG  
TGATCTTATTCGACTGCCTCACTTATCTGGATGGGAGCTAGCCAAGACCATCATGCAATC  
GGATTTGATTAGATTTCTCATCTATCTGGGTGGGAACCTTGCGAAAACCATCATTCAGTC  
AGACTTGATTAGACTACCTTACTTATCAGGATGGGAGCTAGCTAAAACTGTTATCCAATC  
TGATCTTTCTCCGCTTTCCACACCTTTCTGGATGGGAGTTAGCGAAAACGGTGGTACAATC  
TGACTTAATACGGTTGCCACATTTATCCGGCTGGGAATTAGCAAAAACAGTCTTGAATC  
\* \* \* \* \*

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

TATAAATCTGAC- GCAACAATTCATAAGCG- - TCCAAACACTAGTGGCGAACGCACA- -  
TATTTTTCTGATGAATCTTCTCAAAGTACAGACCCTATAAGTTCAAGCTGTACAAAAC  
AATTATTTAGATAGCAACAATTCATCTACAGACCAATTAGCAGTGGAGAAAACAGATC  
CATTATCTCAGACAGCAATAACTCATCCACAGACCCATTAGCAGTGGAGAAAACACGATC  
TATAATTTCTGACAGCAACAATTCATCAACGGATCCAATCAGTAGTGGGAAAACACGATC  
CATCATCTCAGACAATAGCAACTCATCAACAGATCCAATCAGTAGCGGAGAAAACACGCTC  
AATAATCTCTGATAGTGAATTCATCAACAGATCCATTAGCAGCGGTGAAAACAGATC  
\*\* \*\* \* \* \* \* \*

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

- - TTAACACTCACTTCTTGACTT- TCATTAGCCTGGGGCGTTGTATACTATTGGGGTACT  
TTTTGTAACACACTTTCTTGATCCAGTTGAGAGTATCTTTATGCCTTTGGAGCTAA  
ATTCACCTACCCATTTCTTAACCTTATCCAAGATAGGACTTCTGTACAGTTTTGGGGCCTT  
ATTCACAACCTCACTTTCTACATATCCTAAGGTTGGGCTCCTCTATAGTTTGGCGCCAT  
ATTCACCACTCACTTCTTGACATATCCTAAGATTGGACTACTATATAGTTTTGGTGCAT  
TTTACAACCTCATTTTCTCACTTACCCTCAGATTGGCCTTCTTACAGTTTGGAGCAGT  
CTTCACAACCCACTTCTTAACGTATCCCAAATAGGGCTTCTATACAGTTTTGGAGCCCT  
\* \*\* \* \* \* \* \* \*

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

AGCGGTTATTAACAGAGCC- - - - - TCGACGTAAGAGAGACACATTGCTACATCA  
TCTAATAGTGGAAGTTTAAGTTAAGCAGGATCAATTCAATCAAGAGCCTCTCAGATTT  
TGTAAGTTATTATCTTGGAATACAATTCTTCGGACTAAGAAATTAACACTTGACAATTT  
CGTGAGTTATTACTTAGGGAATACCATTATTAGGACCAAAAAGCTAGACCTCAGTCATTT  
CATCAGTTATTATCTAGGCAACACCATTATTAGAACCAGAAATTTGACTCTTAACAACCT  
ATTATGCTTTTATCTAGGCAATACTATCCTATGGACTAAAAAATTGATTACGAACAGTT  
CATAAGTTTTTATTGGGTAATACTATTCTATGCACGAAAAGATCGGACTCACAGAATT  
\* \* \*

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

ACTTCACATTACCTCGTAGTGACCACATTTTTCCCCCGCCGGACATACAGAAACCTTAA  
AACATTTCTTATATCATCCACAATCAGAAATTTGTCACACAGATCACTTCGAATCTTCA  
TTTATATTACTTAACTACTCAAATTCATAATCTACCACATCGCTCATTGCGAATACTTAA  
TATGTATTACTTAACTCAATCCATAATTTGCCACATCGCTCGTTGAGGATACTTAA  
CATATATTACCTAGCTACTCAAATACATAATTTACCTCATCGCTCGTTGAGAATCCTTAA  
TCTATATTATTGCTAACCAGCTGCACAACCTTACCTCATCGAGCACTCCGTGTTTTTAA  
TCTATACTATCTCCAGAATCAGATCCACAACCTTATCACATAGATCCCTTCGAATCTTCAA  
\* \* \* \* \*

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

ACTTATTTTACAACGTCGCTTGTGTC- - - - CGAGATTTAGAATTATTGACAATGCCTTATG  
ATCTACTTTCCGACATGAATTGGTATTAACTAGACTAGCTCATCATATACCATTGATTTT  
GCCAACATTCAAACATGCAAGCGTTATGTCACGGTTAATGAGTATTGATCCTCATTTTTT  
GCCACCTTTAAACATGTTAGTGTGATATCAAGACTAATGAGTATTGATCCTCATTTTTT  
ACCTACTTTGAAACACGCTAGTGTTATCTCGAGATTAATAAGTATTGACTCTCACTTCTC  
ACCAACATTTAAGCATGCCAGTGTGATGTCCCGATTAATGGAATTTGATTCTAACTTCTC  
ACCGACATTTAGACACTCAAGTGTCTGTCAGGTTGATGGATATAGACCCCACTTCTC  
\* \*\* \* \*\* \* \* \*

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

GTTTAAATTCCTGGTT- - - - - TTGAGACAAGGATGTGGCATGCGGGAACCTTGCTTT- -  
CTTAATGCTAGGAGGTTCTGCGGGTGAGAAAAGTTGCTCGGATGCTGTCGACTATTTCT  
TATTTACATAGGCGGTGCTGCAGGTGACAGAGGACTCTCAGATGCGGCCAGGTTATTTT  
AATCTACATCGGGGTACGGCAGGTGATCGAGGGCTTTGCGGATGCTACCAAGACTATTCCT  
AATTTATATTGGAGGAACGCTGGTGATCGAGGACTTTCCGATGCGGCAAGATTGTTTCT  
AATTTATATTGGCGGGACATCTGGAGATCGAGGGCTGTCTGATGCTGCTCGACTGTTTCT  
AATATATATTGGTGGGACTGCAGGTGACCGTGAGTTATCGGACGCTGCAAGATTATTTCT  
\* \* \*\* \* \* \*\* \*

Ebola\_virus\_unknown\_strain  
Marburg  
Zaire  
Bundibugyo  
Tai  
Reston  
Sudan

- - - AACCTCCATTAGTGCTTCTCTTCA- TTCGATCGAAATCGGCTAGTAGCACGGAGACC  
TACGGCAAGTTATCAAAATTTTATCAATAATTTCAAGTTGTTTGATGAGAAAGAACCAATC  
GAGAACGTCCTATTCATCTTTCTTACATTTGTAAAGAATGGATAATTAATCGCGGAAC  
TCGAGTGGCCATTTCTCTTCTTCAATTTATCAAAAAATGGATCGTGGAATACAAGAC  
TAGAACTGCCATTACTGTCTTCTTCAATTCGTTAGAAAAGTGATAGTTGAACGCAAGAC  
TCGGACAGCAATCGCGAGTTTTTTACAATTTCTTAAAGCTGGATCATCGATCGCCAAAA  
CCGAATTGCAATTTCACTTTCTTGAGCTTTGTTGAGGAGTGGGTTATCTTTAGGAAGGC  
\*\* \* \* \*

Ebola_virus_unknown_strain	TCCTGCTCAGCTGTGGATCAACTGACTTTGGGTCTCAGGGATGATCTATTAAACAGTGGC
Marburg	ACCATTACCAAGTTTGGCTTTATTTCCCT-----
Zaire	AATTGTCCCTTTATGGATAGTATATCCG-----
Bundibugyo	AGCTATTCCCTCTGTGGGTATATACCCT-----
Tai	AGCTATTCCACTGTGGGTCACTACCCT-----
Reston	GACAATTCCCTTTATGGATAGTATATCCG-----
Sudan	AAACATCCCCTATGGGTTATCTATCCT-----
	* * * * *

Ebola_virus_unknown_strain	TAAACCACTGCATGCATTGTTCTAATCTGCGTGCTCACACATCAGGTTTGTGCTGTACGA
Marburg	-----AGTGAAGGGCAACA
Zaire	-----CTAGAGGGTCAAAA
Bundibugyo	-----TTGGAGGGACAAAA
Tai	-----CTAGAAGGTCAAAG
Reston	-----CTTGAAGGTCAACA
Sudan	-----CTCGAAGGCCAACG
	* *

Ebola_virus_unknown_strain	GCCAATAGCGGAGTTAAGATTTGTAGAT-----
Marburg	ACTAAAACTATTTTAAAAATTTTGCAAAGTTATCATGTTTATTAACAACATAAAAGGT
Zaire	CCCAACACCTGTGAATAATTTTCTCTAT-----
Bundibugyo	TCCAGATCCAATTAATAGCTTTCTACAT-----
Tai	TCCTAGTCCGATCAACAGTTTTCTACAC-----
Reston	GCCGGAATCCATCAATGAATTTCTACAT-----
Sudan	CTCTGATCCTCTGGCGAATTTTGAACCGAGTAAATCTCTAATTGTTGGGACTGAAGA
	* ** * *

Ebola_virus_unknown_strain	-----
Marburg	TC-----AAAATCACA
Zaire	-----CAGATCGTAGAACTGCTGGTGCATGATTTCATCAAGACAAC-----AGGCTTTTA
Bundibugyo	-----CTGATTATAGCCTTACTGCAAAATGAATCCCCTCAAAACA-----ACATCCAAT
Tai	-----CACGTATCGCATTGTTGCAACATGAGTCCTCCCACGATC-----ATGTTTGTG
Reston	-----AAAAATTTGGGTCTGCTCAAAACAAGGCCCAAAAGTATTCAAAGGAGGTACAGCA
Sudan	TGATAAAAATAAAGGCTCTATACTTTCAAGATCTGGAGAGAAATGCTCTTCA-----

Ebola_virus_unknown_strain	-----CCTTGATATGTGTTAAAGCA
Marburg	GACCTGTAGCTGATACTTGTTTTTGA CTGATAATTTTGGGTCTATCCAAGCAAATCAA
Zaire	AAACTACCATAAGTGATCATGTACATCCTCACGACAATCTTGTTTACACATGTAAGAGTA
Bundibugyo	TCCAAGAAGACAGAAATAATCAACAGTTGTCCGATAATCTAGTTTACATGTGCAAGAGCA
Tai	CTGCAGAAGCCCACAGTCGAGTGGAGACATTTGATAATTTAGTTTATATGTGTAAAAGCA
Reston	TCCAAATGATGGACATTTGGATTTGGCAGAAAATAATTATGTTTACAATAGTAAGAGCA
Sudan	-----AATCTAGTTTATAATTGCAAGAGTA
	* * * * *

Ebola_virus_unknown_strain	CTGCAAGGAACCTTTCAATATCATAGCATACTGAGTAGGGAGCTCCTCATCAAAAAGAGA
Marburg	CGAGAACTAATCATTATTATGCAAGTCTTAATTATTGGAGAGACAAAGCTAATAAGATTA
Zaire	CAGCCAGCAATTTCTTCCATGCATCATTGGCGTACTGGAGGAGCAGACACAGAAACAGCA
Bundibugyo	CTGCCAGTAATTTCTTCCATGCATCACTTGCTATTGGAGGAGCCGGCACAAAGGACGGC
Tai	CAGCAAGTAACCTCTTTTCATGCTTTCATTAGCATACTGGAGAAGTCGATCTAAAAATCAAG
Reston	CTGCTAGTAATTTCTTCCATGCATCCTTAGCTTACTGGAGAAGTAGGAAATCTCGAAAA
Sudan	CAGCAAGCAATTTTTCATGCATCATTGGCTTACTGGAGAGGTGACATAGACCTAAGA
	* * ** * * * * *

Ebola_virus_unknown_strain	GACCAGATATTAGCCTTGCTCAACAGTAAGAATAATTATTCGCGATACAGTAATCCATGA
Marburg	-----AGAATACTTCATTTTC-----ACATTTGATAAACTA
Zaire	-----ACCGAAAATACTTGGC-----
Bundibugyo	-----CCAAAAATCGATCGACCGAAGAACAGACAGTTAAACCCATACCATATGATAATT
Tai	-----ACAAAAGAGAGATGAC--AAAGATATTATCTTTGACGCAAACGGAAAGAAAAA
Reston	-----CTCAAGACCATAATGA-----
Sudan	-----AGACTATAGGTGCAAC-----

Ebola_virus_unknown_strain	GTCAGCCTGCATGGCATCCTGATGGCCCAGATGCATCCAGTCCCCCGCTGATGAGGTAGA
Marburg	TTCATTTTCTGAACCTCTCTACATGCGAGCTCTATCTCTTCTAGTCAAGAAGTGGTCAA
Zaire	-----AAG-----
Bundibugyo	TTCATTCTGTAAATGTGCCTCAAACCCACCAAG-----
Tai	TTCATTCTGGCTATACAGCACATCCAGAAAGCACT-----
Reston	-----
Sudan	-----

Ebola_virus_unknown_strain	ATGACATAATAACAAATTTTGAAAGTTTTGACGCCTGGCGAGTGTCCCAAGAATACGCGA
Marburg	TTTAAAAACACCAGTCGTTTATAGTGAACACCTAATATGAGTGAAAGGGCTCAATCAAC
Zaire	-----
Bundibugyo	-----
Tai	-----
Reston	-----
Sudan	-----

Ebola_virus_unknown_strain	AATCCGTGACCTAACCAATTGTCATTCGCTACCGTTACACATGCTCTCGTGGGATCA
Marburg	AAATCATGAGCCAACAGCTTTACAAGA- --GGTGTGCACTGAGATACCCTACTCGGAACA
Zaire	-----
Bundibugyo	-----
Tai	-----
Reston	-----
Sudan	-----
Ebola_virus_unknown_strain	ATTTGCAAATGACGGTATAACAAGATTAAAGTAATTTAATGTTGGAGGATTGTCTGCGGT
Marburg	AGATCCAGCCAAAAGTTATTTGCTGTTAGAG- AATACTAGATTACAGGGATGATCAGAAAA
Zaire	-----
Bundibugyo	-----
Tai	-----
Reston	-----
Sudan	-----
Ebola_virus_unknown_strain	TTTTACGGTGTCTCATAATAGTACATA-----
Marburg	TATTAAGACATGATCAGAAAAGCTGAGAGGGGTGAACCTCTTTCATTGCAAGTGTCTTCTA
Zaire	-----
Bundibugyo	-----
Tai	-----
Reston	-----
Sudan	-----
Ebola_virus_unknown_strain	-----
Marburg	GGGGTTGCCTGCAGGCTCTTACTTGGCCCTCATCACCCCTCCCCATCTCAAACCACCACAG
Zaire	-----
Bundibugyo	-----
Tai	-----
Reston	-----
Sudan	-----
Ebola_virus_unknown_strain	-----
Marburg	AACCACTAAGCATGCTTAGGAATTGTGACGCCATAAAAGCAGCCTTACGTTCTGAGACGA
Zaire	-----AGACTCTTCAACTGGATCAAGCACAAACAACA
Bundibugyo	-----CATCCCCAATCTAAGTCAGGAAC- -TCAAGG
Tai	-----GCTGTTCTTGGTCCCTCCAGACCAGCCTTGC
Reston	-----
Sudan	-----
Ebola_virus_unknown_strain	-----
Marburg	ATGATCCCCGTCTTATGAGCAG-----
Zaire	GTGATGGTCATATTGAGAGAAGTCAAGAACAAACCACCAGAGATCCACATGATGGCACTG
Bundibugyo	TTCAAGCGCATTTTTTGAGAAA-----
Tai	TCCACCTCCATCTGCTGACGAG-----
Reston	-----TTTCTCAAGAGGGGATGGAACACTTACAGAACCCGTGCGTAAGTTTT
Sudan	-----TAACGCGACAACAGCTCCACATATCATTTTGCCACTGGGAAATTCGT
Ebola_virus_unknown_strain	-----
Marburg	-----TATCCTTGAT
Zaire	AACGGAATCTAGTCCTACAAA-----TGAGCCATGA
Bundibugyo	-----CTTGAATA-----TGATAAGAA
Tai	-----GCTACATA-----TGATAAGAA
Reston	CAAGCAATCATCAGTCAGATGAAAAGTACTACAATGTGACATGTGGAAAGTCACCGAAGC
Sudan	ATCGACCGCCTGGCCTAGACCTTAATAGGAACAATGATACTT-----TCATTCTAC
Ebola_virus_unknown_strain	-----
Marburg	ATGAGATCATTTGAAACTCCCATGAGAATAGAATCTCGAAACACGAGTCTATTGCAACCT
Zaire	AATAAAAAGAACGACAATTCCACAAGAAAACACGCACAGGGTCCGTGTTCCAGTCCTT
Bundibugyo	AGAGAATTGCCAACAGCTTCCACACCAGCCGAACAATCCAAGACCTATATCAAGGCCCTA
Tai	AACAAAGTTTGAAGCTTCCAGACCTGGCAAGTATTTCCAGAATACAACCAAAGCCCCA
Reston	CGCAAGAACGCAAGACTTCTCGCAATACAGACTCAGCAATAACGGGCAACAATGAGTA
Sudan	CAGAATTAACACAGATAGTCCAAGGAGACTCTAGAAACGACAGAACGACCACCACGAGATT
Ebola_virus_unknown_strain	-----
Marburg	-----CGTACACTCTTATAGATGGAGGGTTCAACTATTCAT
Zaire	TCTGAGTGTCTGTC- AACTTCTAAGGGAAAATCTGTACTGTCTAGAGAACAG- GCTTCAT
Bundibugyo	TCTAAGTGACTCTGCTTGTGGTACAGCAAATCCAAAACATAAATTTTCGATCG-----
Tai	TCCAGCCGAATTTA-TCATGGTAAAACACCATCCAATGCCGCAAAAGATGA-----
Reston	CCCAACCAAACCAG- TTGTCGCGATGTATCTCCAATATCACAGGCACAGA-----
Sudan	ATCATCGTAAGAAA-----GGGAAGTTCACAAGTGGAATCCCTGC-----A

Ebola_virus_unknown_strain	AAAGGTTACAGTCAACCGTATTAATACCAAGTCACGAAATGTCTGCGACTTCC-----
Marburg	ACCTGTATGTTGATTGCAGTAATATCTCTTCTATTTCTCTGGATTACAGTTTT-----
Zaire	-----ATCGAGACACAATGTGAAATTTCT
Bundibugyo	-----TTCAACAACCTCCAAG-----
Tai	-----TGGGTGCCCTTCTGCC-----
Reston	AAATGTTAATGGAGAGTCAAAGGGGAAGTGTCTAACAGAGGGTGACTACTTT-----
Sudan	AAATGTATGAGGGTTTCACAACCCACCAAGGAAATTAACAGATACACATTTG-----

Ebola_virus_unknown_strain	-----
Marburg	-----
Zaire	AGGATCATAACTCGGCATCCAAGAGGGAAGGTCATCAAATAATCTCACACCGTCTAGTCC
Bundibugyo	-----GGCTGCGATTCCAAAGAAGAAATGCCGTTCAAGCTTCACACCGAATTGTCC
Tai	-----AATGAGGGTTCTAACAGCAATAACAATAATTTAGTCTCGCACAGAATTGTAC
Reston	-----CAAACAATACTCCACCAACAGATGATGTATCAAGTCCTCACCAGCTCATTC
Sudan	-----GATGAGGATCACAATGCCAAGAGTTCCTCATCAATCCGCATCGTTTAGTAG

Ebola_virus_unknown_strain	-----
Marburg	-----CGAAATATGTCTGATAGAAATCAAG
Zaire	TACCTTTCTTTACATTATCTCAAGGGACACGCCAATTAACGTCATCCAATGAGTCACAAA
Bundibugyo	TACCATTTTTTACATTGTACAGAACGACTACAGAACTCCCTCAGCTAAAAAGTCAGAGT
Tai	TGCCGTTTTTTACATTGTCTCATAATTATAACGAAAGACCCTCTATCAGAAAGTCGAGG
Reston	TACCATTTTTTAAATTGGGAAATCACAACCATGCACATGATCAAGATGCCAAGAATTGA
Sudan	TACCATTTCTTTAAATTAACAAAAGATGGGGAATACAGCATCGAACCTTCTCCTGAAGAAA

Ebola_virus_unknown_strain	-----
Marburg	TCCAATGCTAATAAATACTTACAAACGTGACTTATACACTTGTTTTGATAGTAACCAAT
Zaire	CCCAAGACGAGATATCAAAGTACTTACGGCAATTGAGATCCGTCAATTGATACCACAGTTT
Bundibugyo	ATATAACTGAAATCACCAAACTAATTCGACAATTAAGGCAATTCAGATACCACTGTAT
Tai	GGACAACAGAGATTGTAAGGCTTACTCGGCAGCTGAGGGCAATACCAGACACCACAATAT
Reston	TGAATCAAAATATTAAACAGTACCTACATCAGCTAAGGTCTATGTTGGACACCCTATAT
Sudan	GCCGCAGTAATATAAAGGGTTACTTCAACATTTAAGAACCATGGTTGATACTACCATAT

Ebola_virus_unknown_strain	-----CGTAGTGGTTCGTGAAGGCGGTATAAGCTCCATCA-----GT
Marburg	TCTGCAGGTTTACAGGGGTCGTTTCATCAATGCATTATAAGCTTTATGA---TCTTTTGC
Zaire	ATTGTAGATTACCGGTATAGTCTCGTCCATGCATTACAACTTGATGAGGTCTTTGGG
Bundibugyo	ACTGTCGCTTTACAGGGGTTGTATCTTCAATGCATTATAAGCTTGATGAGGTTCTCTGGG
Tai	ATTGCCGCTTCACGGGAATAGTTTCTTCAATGCACATAAGCTCGATGAAGTCCTTTGGG
Reston	ATTGTAGATTACAGGGATTGTCTCATCCATGCATTACAAATTGGACGAAGTTCTTCTAG
Sudan	ATTGTCGCTTCACTGGAATTGTTTCATCAATGCATTATAAGTTAGATGAAGTACTATGGG
	* * ** * * ** ** * * *

Ebola_virus_unknown_strain	ACTTTGTAAATTTGAGAATCCCAGACTGCATAGCACTGGCCGAAGGTGCAGGTTCCGTGC
Marburg	CAGCAGGCCAACTCGGAAAGGCAATCTGCCTAGCCGAAGGGGAAGGGAGTGGCGCTCGAC
Zaire	AAATAGAGAGTTTCAAGTCGGCTGTGACGCTAGCAGAGGGGAGAAGGTGCTGGTGCCTTAC
Bundibugyo	AATTCGATAGTTTCAAACCTGCTGTGACTCTAGCTGAAGGAGAAGGGTCAGGTGCCTTAT
Tai	AATTTGATAATTTTAAGTCTGCTATAACACTTGCCGAAGGTGAAGGTTCGGGTGCATTAC
Reston	AATACAATAGTTTCGATTACAGTATCACATTAGCTGAAGGTGAGGGGTCAGGGGCTCTAT
Sudan	AATATAATAAATTTGAATCAGCTGTAACCCTAGCAGAAGGGGAGGGTTCAAGTGCCTTAC
	* * * ** * ** ** ** *

Ebola_virus_unknown_strain	ATTTCT--CTATACGAACACAGAAGTCTCTCTAGTTGCTATACACTAGCTA-AGAACCCA
Marburg	TACTCTTGAAGTGGAAGGAGACAGATTATTTATTTCTTCAATACTTTGGCCACAGATTAC
Zaire	TATTGATTAGAAATACCAAGTTAAGACCTTATTTTTCAACACGCTAGCTACTAGTGCCA
Bundibugyo	TACTATTACAAAATATAAGTACAGAACCTTTTTTAAACACTTTAGCTACAGAGCATA
Tai	TCTTATTACAAAAATATAAAGTAGAAACCTTGTTTTTAAATACACTAGCCACAGAACACA
Reston	TACTTTTGCAAAAATATAGTACAAGGTTATTATTTTTGAACACATTGGCAACAGAACACA
Sudan	TACTGATCCAAAAATACGGCGTTAAGAAGTTATTTTTGAATACACTTGCTACTGAACATA
	* * * ** * ** * **

Ebola_virus_unknown_strain	G-ATTGTAGCAAGGATTATATGTGGTGCCCT-CACCAAAATGTT----CTGTCAATA
Marburg	AACAGGAAGCAGAAATTTTGAAGTGGTCGAGTTATTTCAAGGATGTTGTATAACATAGATA
Zaire	GTATAGAGTCAGAAATAGTATCAGGAATGACTACTCTAGGATGCTTCTACCTGT---TA
Bundibugyo	GCATCGAGGCAGAAATAGTTTCTGGGACAACCACACCTCGAATGCTCCTTCTGT---AA
Tai	GCATTGAAGCAGAAATATTTCTGGAATAACTACACCAAGAATGCTTCTCCCTAT---TA
Reston	GTATAGAATCAGAAAGTTGTATCAGGTTTTCTACTCCGAGAATGTTGTTACCAAT---AA
Sudan	GTATTGAGAGTGAAGTGATATCAGGTTACCACTCCAAGGATGCTACTCCCAAT---TA
	* * * ** ** *** * *

Ebola_virus_unknown_strain	TGTCTAAAAGCTAGGGTGG-CCTATATAAGTCTCAATCAACAA-TCTGCACGCCGATTA
Marburg	AGCTAAGTGTTTTACTTGAATCCAGAAAATTAATCTTGAATAATCTAACTATTCAAATCA
Zaire	TGTCAAAATTCATAATGACCAAATTGAGATTATTCTTAACAACCTCAGCAAGCCAAATAA
Bundibugyo	TGGCCAAACTTCATGATGATCAAATAAATGTAATATTAACAATTCTGCTAGCCAGGTTA
Tai	TGTCTAGGTTCCATGTTGGACAAATAAAGTCACTTTAAACAATTCTGCAAGCCAGATTA

Reston Sudan	TGCAAAAGGTTTCATGAAGGACAAGTCACTGTTATCTTAATAATTTCAGCAAGTCAGATAA TCCCTAAACACATCGTGGTGAGCTAGAGGTCTATTTAAATAACTCAGCTAGTCAATAAA * * * * * * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	CCGATATTACTAACA-----TGTTGGAGCAGATCATCCTTGGAATCCCTAACGAAAGAG CGGATATTACAAACCCACTATGGCTGGACTCTGTCATACAATACCTACCTGAAGATAGTG CAGACATAACAAATCCTACTTGGTTTAAAGACCAAAGAGCAAGGCTACCTAAGCAAGTCG CTGATATCACTAACCTGTCATGGTTCACTGACCAGAAATCTAGAATCCCCACACAAGTTG CCGATATTACTAATCCAAGTTGGTTGGCAGACCAAAAATCTAGGATCCCTAAGCAAGTAG CTGACATAACTAGCTCAATGTGGTTAAGTAATCAAAAATATAATCTACCTTGTCAAGTTG CTGATATTACACATCGAGATTGGTTTTCAAATCAAAAAATAGGATTCCAAATGATGCTG * * * * * * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	ATTTCACTC-----GGAGGTAACATCAGCAAGATTGCTCGTAGAAAAATGTATGGAG ACATTCTAACAAATGGATGCAGAGACCACTAAAGAAGAGACAAGAGAGCAACTCTATAAAA AGGTTATAACCATGGATGCAGAGACAACAGAGAATATAAACAGATCGAAATTGTACGAAG AGATTATGACTATGGATGCTGAAACGACAGAAAATATTAATCGGTCAAAATTATATGAGG AGATTATAACCATGGATGCTGAAACACAGAAAACATTAATCGGTCAAAATTGTACGAAG AAATCATTATGATGGATGCTGAAACACAGAGAACTTAACAGGTCCTCAACTCTACCGAG ATATTATTACCATTGGATGCTGAAACTACAGAAAACCTAGATCGTTCCAGATTATATGAAG * * * * * * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	G-GTCAACCAACAGTTTTTTCGCACCTCTTCATCCTAATGCAGCGAAGTTGGG--TCTGA CTATCATAAA--TATTTGGGCACGTACTTCTCCTAATATCCCTAAAACCAGCATCATTA CTGTATATAAATGATCTTACACCATATTGATCCTAGCGTATTGAAAGCAGTGGTCCCTTA CTATTAGCAATTAATTGTTTCACACATTGATACAAGGGTGCTAAAGATTGTTATTATAA CAGTCCAACAGCTGATTGTCTCACATATTGATCCGAATGCACTCAAAGTTGTGGTTCTTA CAGTATATACTTAATCACTTGATCACATTGATCCGCAGTATCTCAAGGTGGTGGTACTCA CAGTATATACGATTATTTGTAATCATATCAATCCTAAAACTTTGAAGTGGTCACTTAA * * * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	GAGTTTTCTGGGTGACACTGAGCAATCCTTGGCTGACTGTAACCTTACACTTCGTTCCG AAGTGTTTTATTAGATTATGGGGGAACCTTG-----TTCTTAATGAAGAATGCTATTTC AAGTCTTCTAAGTGATACTGAGGGTATGTTA-----TGGCTAAATGATAATTTAGCCC AGGTTTTTTTAAAGTGATTTGAAGGTCTCTG-----TGGCTTAATGACCATCTTGCCC AAGTTTTCTTAAAGTGACATTGATGGAATCCTA-----TGGCTGAATGATAACCTTACCC AAGTATTTCTGAGTGATATAGAAGGAATATTA-----TGGATTAATGATTACTTGGCTC AAGTCTTCTCAGCGATTGGATGGGATGTGC-----TGGATTAACAATTATCTTGCTC * * * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	TCTGCTACTAGTCTGGCCGATCCCTCTACACAAATTCTAGTGGTGGTATGTGTAGCTTCA AATATTATGGACAAGTTCAACTTAAGAAACCATATAGTTCAAATGCAAAAAATTCAGAAT CGTTTTTTGCCACTGGTTATTTAATTAAGCCAATAACGTCAAGTGCTAGATCTAGTGAGT CTTTATTCGGATCCGGCTATTTAATTAACCTATTACTTCGAGTCCAAAGTCAAGCGAAT CTTTGTTTGGGCTGGGTACTTGATCAAGCCGATCACCTCTAGCCCCAAATCTAGTGAGT CATTATTCCGGGCTGGTTACTTGATTAAACCGATTACATCAAGTGCCCGGTCAAGTGAAT CTATGTTTGGATCAGGATATTTAATCAAACCTATAACATCAAGTGCAAAGTCAAGTGAGT * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	GACCTTCTTTCAATTCAAGATTAATCCTACCTCACGCATCCTTCTTGCTTCTAAATTTTA GGTACTTATGTTGTGGAAAACGAAGAGTTCAACGACTCCGAGTTGATTTTCAGACCAAG GGTATCTTTGTCTGACGAACCTCTTATCAACTACACGTAAGATGCCACACCAAAACCATC GGTACTTATGCTTTCAAATTTCTTTCAAGTCTCGACGACGGCCTCATCAGGGTCATG GGTACCTATGCTCTCAAACCTTCTTTCAACTTCAAGACGATTACCTCATCAGAGTCATA GGTACCTTTGCTTATCAAATTTGATATCTACTAACAGGAGATCGGCCATCAGACTCACA GGTATTTATGCTTATCTAATCTACTTTCAACCTTGAGAACTACTCAGCATCAAACCCAGG * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	AAT-----AAGACTACAACAACAGATAGCAGAACTAAGC TAG--GAATATTTCTGTACTGTAAAGCAATGTCACGTCAAGGCAAGCAATCCCTACT TCAGTTTAAACAGGTAACTTACGGCAATTGCAAGTGCATAATCAACGAAGTCTTACT CTACCTGTATGCAAGTCATCCAAACAGCGCTACGACTCCAAGTTCAAAGGAGTTCATACT CTACTTGCATGCATGTTATTCAAACAGCACTCCAGCTACAAATTCAAGGAGCTCATATT AGGCATGCTCTGGTGTTATCAGAGATGCTTTGCAAGCACAAAGTCAGCGAGGCGTGTACT CAAACGTCTCCATGTCGTACAATGTGCTCTTCAACAGCAAGTACAAAGAGGGTCATATT * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo Tai Reston Sudan	CTCTTACTC-CTGAGTCAAGTATGCGAAACATATTTTCATAGGATAATATAATCTCG--- GGCTAAAGCACATAGAAAAGAATTACCTGCTTCATTGCACGAGTTCTTTATAACTTTAG GGCTAAGTCATTTAACTCAGTATGCTGACTGTGAGTTACATTTAAGTTATATCCGCCTTG GGCTTAGCCATTTAGTGCAATATGCTGATATTAATTTGCACCTTGAGTTATGTTAATTTGG GGCTTAGCCACCTTGTCCAGTATGCCAATCATAATTTGCATTTAGATTATATTAATCTCG GGTTGAGTCACATCGCACAGTATGCTACAAAGAATCTCCATTGTGAATACATAGGCCTTG GGCTAAGTCATCTTACCAAATACACCACAAGTAGATTGCACAATAGTTATATTGCATTTG * * * * *
Ebola_virus_unknown_strain Marburg Zaire Bundibugyo	--TTTTCTTTAGTGACGCGGGATTATACCATAAATACAATTTAGCCGATTCGGACGAC GTTTTCTTCTTTAGAGTCATCTTTCTGCCATCGCTACACCAT--TCCGTTCACTGAGGG GTTTTCCATCATTAGAGAAAGTACTATACCACAGGTATAACCTCGTCGATTCAAAAAGAG GTTTCCCTTCATTGGAAGAGGTTCTTTACCATCGATATAACCTAGTTGATTCACGGAAGG

Tai	Results < Clustal Omega < Multiple Sequence Alignment	<pre> GTTTGCCTTCATTGGAGAGGGTTTTATACCATAGATACAATTAGTCGATTCTCAGAAAG GTTTTCCTTCATTAGAGAAAGTCCCTATATCAGGATATAATCTAGTTCATACGACATCG GTTTTCTTCATTAGAGAAGGTCCCTATATCATAGGTATAACCTTGTTGATTCCGAGAAATG **  * </pre>
Ebola_virus_unknown_strain		
Marburg		
Zaire		
Bundibugyo		
Tai		
Reston		
Sudan		
Ebola_virus_unknown_strain		<pre> GTTGATTTTCAT-----GTCCATTATTTTGCATGCCCCAGTCCGTTG----- AACGGCTCTCTTTCCACAAGGTCCAGTCTTATGTCCGACAAGGTAGACAACACCTACACTC GTCCACTAGTCTCTATCACTCAGCACTTAGCACATCTTAGAGCAGAGA-----TTCGAGA GTCCACTGGTCTCGATCCTTTACCATTAAACACACTTGCAAGCAGAGA-----TTAGAGA GCCCTTTGACTTCCATTGTGCCAACATCTAGCGACCTGCAGACCGAGA-----TTAGGGA GTCCATTGTCGTGAGTTATTAGACATTTAACTAACCTCCAGGCAGAGA-----TACGAGA GACCATTAGTTTCTATAACGAGACACCTTGCCCTCCTCCAACTGAGA-----TCCGGGA *      *      *      * </pre>
Ebola_virus_unknown_strain		
Marburg		
Zaire		
Bundibugyo		
Tai		
Reston		
Sudan		
Ebola_virus_unknown_strain		<pre> --AAGTATTGGCTAGGATATACTATAGACACGGTCGAACCCA-----CATATCATTCT TCTTATGTTAGATTACGAAAATAATTACCCCTCCTAGATCTGAGAAATCACTTCATATG ATTAACATAATGATTATAATCAACAGCGACAAAGTCGGAATCAAACATATCACTTTATTCTG ATTAGTGTGTGACTATAATCAGCAACGACAAAGTCGAACCCAAACATACCACTTCATCAA GTTGGTTAATGACTATAATCAACAAAGACAAAGTCGAACCCAAACATATCATTTTCATTAA CTTAGTATTAGATTATAACCTGATGAGGGAGAGTCGCACTCAAACGTACCATTTTATTAA GTTGGTAACGTGATTATAATCAGCTGCGACAAAGTCGAACCCAGACTTATCATTTTCATAAA *      *      *      *      *      *      *      *      * </pre>
Ebola_virus_unknown_strain		
Marburg		
Zaire		
Bundibugyo		
Tai		
Reston		
Sudan		
Ebola_virus_unknown_strain		<pre> TGAACATTAAGCTGGGATCCAAAATTGTAAAATTAC-----CCTTAGTCTTTCTAAT CTCATTGAGGGGAAAGATAACCAAGTATTACAATGACATATTGAAATTAATCTAGTAGT TACTGCAAAAGGACGAATCACAAAAGTCAATGATTATTTAAATTTCTTTCTATTGT AACGACAAAGGGCCGGATTACAAAATTAGTCAATGACTACCTTAAATTTTATCTCGTAGT AACAATAAAAGGTCTGATTACAAAATTGGTAAATGATTACCTTAAGTTCTTTCTAATAAT GACTGCAAAAGGCAGAAATCACAAAGTATGTCATGACTTTCTGAAGTTTCTTTAATTGT AACATCCAAGGACGGATAACTAACTAGTGAATGATTATCTAAGATTGAGTTGGTTAT *      *      *      *      *      *      *      *      * </pre>
Ebola_virus_unknown_strain		
Marburg		
Zaire		
Bundibugyo		
Tai		
Reston		
Sudan		
Ebola_virus_unknown_strain		<pre> CAGTTCAGTATTAACCGGGTGACGTGGCAAGAGTAACAGAAGGCTCTGCATTATCAAA GAGAGCAGTAGAAAGAGGGGAAAAATTGGTCGCAACTCGTTGAGTCCCTTCCTAATATGCA GCAAGCATTAAACATAATGGGACATGGCAAGCTGAGTTTAAAGAAATTACCAGAGTTGAT GCAAGCACTGAAGCATAAATTGTCTTTGGCAGGAAGAACTCAGAACACTTCCCTGACTTAAT ACAAGCCTTAAAGCACAAATGCACATGGCAAGAGGAAGTAAGAGCTCTTCCAGATCTAAT CCAGGCACTCAAAAATAATTCTTCTTGGTATACTGAGCTTAAAAAATTACCTGAGGTTAT ACGGGCTCTTAAAAATAATTCTACATGGCACCATGAGTTATACTTGCTACCAGAAGTTAT *      *      *      *      *      *      *      *      * </pre>
Ebola_virus_unknown_strain		
Marburg		
Zaire		
Bundibugyo		
Tai		
Reston		
Sudan		
Ebola_virus_unknown_strain		<pre> --ATTGTTGCACGCGATACTTTTATCTTTAACTGT---CAAGTGAAGACGGTTTCCAGGT CTCAGTATGCATAACACATGTTGATCACGAATGTATTGGCTGTGAGAGACGGTTATTACT TAGTGTGTGCAATAGGTTCTACCATATTAGAGATTGCAATTGTGAAGAACGTTTCTTAGT CAATGTTTGCAATCGATTTTACCATAAAGGGACTGCTCATGTGAAGATCGATTTTAAAT TAGTGTCTGCACTCGATTCTATCATACTCGAAACTGTTTCATGTGAAAAACCGGTTCTAGT TAATGTGTGTAATCGATTTTATCATACTCACAATTGCGAATGTGAGGAAAAATTCTTTGT AGGTGTTTGCCATCGATTTAATCATACACGTAAGTGTACATGCAGTGAAGGTTCTCGGT **      **      *      **      * </pre>
Ebola_virus_unknown_strain		
Marburg		
Zaire		
Bundibugyo		
Tai		
Reston		
Sudan		
Ebola_virus_unknown_strain		<pre> CAGACTATTACAT---CCCGAATGCAGGATC--GGAATTATCCCATAAATGCCTTCCT TAAATTGGACTTTGTGAGAAATACAAAGATAGCAGAACAAAAGTTACTCAATAGGGTAAT TCAAACCTTATATTTACATAGAATGCAGGATTCTGAAGTTAAGCTTATCGAAAGGCTGAC TCAAACCTCTTTACTTAAACCGTATGCAAGACTCAGAAAGCAAAATTAATGGAGAGATTAAC ACAGACTTTTATACTTATCACGCATGCAGGATTCGGAATCAAACATAAGATAGATTGAC CCAGACGCTTTTATTTTACAAAGCCTACGCGATGCAGAAATCAAGCTAATTGAACGCTTAC TCAAACCTTTATATCTACACCGAATGAGTGATGCTGAGATAAACTTATGGACCGGCTCAC *      *      *      *      * </pre>
Ebola_virus_unknown_strain		
Marburg		
Zaire		
Bundibugyo		
Tai		
Reston		
Sudan		
Ebola_virus_unknown_strain		<pre> CGACCCTCTTCGACGATGTCTAGTGTATTTTCGGTAGGTCTCATGCGACAAACCCGACTAG TGGGTATATTCTATTCTTCCCTTTTGGTTTCTCCAGACCCAAGTGACTACAGATATATTC AGGGCTTCTGAGTTTATTTCCGGATGGTCTCTACAGGTTTGATTGAATTACCGTGCATAG CGGGTTTCTAGGATTGTATCCTAATGGTATTAACGCTTAAGATCCCTTA-GAGGCATCG CGGCCTTCTTAGTCTATGTCCAAATGGTTTTTTTCGGTAAGGACTCTTGA-CGTACAAC CGGGTTAATGCGATTTTATCCAGAAGGGTTAATATATTCCAATCACACATAGGTACTAAA CAGCCTAGTCAATATGTTTCTGAAGGTTTCAGGTCTAGTTCAGTCTAATTCTAACTGCA *      *      *      * </pre>
Ebola_virus_unknown_strain		
Marburg		
Zaire		
Bundibugyo		
Tai		
Reston		
Sudan		
Ebola_virus_unknown_strain		<pre> TTA----- TTC-----A TAT----- CAA----- TCC----- TCA----- CCAAAGGCTCTAAAAATATTTTAAATAACAGGTGTATATCAAAGTCAATACAAGTGTA </pre>
Ebola_virus_unknown_strain		
Marburg		
Zaire		
Ebola_virus_unknown_strain		<pre> ----- ATAAAGGAAGCTCAGTCTAACTCACAGAAATAATCTACTTCAAACAAAGGATCACCCATT -----CCTGATACTTGCAAGGTTGGTTA </pre>

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-----ATTAAGTTTTTTAT--AATTATCATTACITTAATTGTCGTTTTAA  
ACACAAGAAGT--TATGATTTTGTATTCAAATATATTACAGGAATTTGTGATTAATA  
ACAAAAGAAGTACTCTGAGTATATTCACATATCATATGTGATTAACATATAAGCAACGCA  
-----TATTAGTTTATTAG--GTTTATGAGTTGGTTACACAGTGAGTATTAG  
-----AATTTA--GAAGCTAGGTTGACTCTAATTACATAAGTAT

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ACATTAATGGACATTTGAGTTTTATGCCTAGAATAATAAAGAAATTTAAGAGACATT  
AACGGTGATAGCCTTAATCTTTGTGTAAAATAAGAGATTAGGTGTAATAACCTTAACATT  
TAAAAGTCTCAGTTGTTGGTTGTGAGTTGTAAAACCTCCCGTTAAAA-----  
TGATGCGCCTTCCTCTTACTTATTGTGTTGTACGCGAGTCGTTGTACTACCTCGAAAATT  
TAATTGAGGATTATGTAGATAGGTAATCTAACACTGAATCACCCATCTGATGTCACCATA  
TAAGAAAAAATTACTAAGACTAATACTCTCATGCCAAGAACTAGTAATGTGTTTCACATG

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-----TAGATATATCAGTTGAATTGATTTATGACACATAGTGCATCATG  
-----TTTGTCTAGTAAGCTACTATTTTCATACAGA  
-----ATTTATTTTCCACTTATAAATAATAAT  
CCAAACAATAAATCGTGTCTATCCCGCATTTAGTGTCTTTAATTTAAGATCTCAAATCCA  
TCCAAATGTT-----GTGCTAGTCGCATTTAAACATGCTATCTTCAGTTAAGTAACATA  
ACAGATTATTTCTAACACTAAATTGCAATTTCAATTTTAAAGCTAAGTTTAAACCTATA

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AATACAAAGAGAAAAATTTGTTGCAATTCAGGAATATCTTATTTAAATGTA-TTAGAGAGA  
ATGATAAAATTTAAAGAAAAGGCAGGACTGTAAAATCAGAAATACCTTCT-TTACAATAT  
CATAGATCAGTATGAGTTGAGGCTATTCAA-----ACCTTAGAAAAAA  
AAAAACTGGGTTTATGTTGATGTAAATCAATAATACCGAAATTGCTTGATATTAATAA  
GACTGAAAATGCTAAGAAGAGATTGGAGTA-----AAAGTATAA  
CAGCCAAATATTTTCATAGGCGCATGGGA-----ATAACATAA

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AAGTCAGATTATTATCAAAATCAAGCAAAATACAATAGGTTTTTTTCAAGAATAGGTGGT  
AGCAGACTAGATAATAA-----  
TTGTGCGATGTTTTTTA-----  
AGCTTAAAGGATTTTTTC-----  
AATAAATTTAATTAAC-----TTCAAAGTGATTAAATGATAATGATCTTG  
GAGGAACATGATCAATGAACCTTT---ATTCCAACTAGGCAGTTGATTGATAATCTACA

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-----AGAAG-----CTAAGGGATCAACAT  
AAAGCCTTATGGTTATTTTTTAAAGATGTCAA--TGTGAATTTTATTAAGAAAAAGTA  
-----T---CTTCG-----TGTTAATGATAATTA  
-----CCATGTCAA-----TCTTGATTTCAATGA  
-----C---TTAAA-----CGGTGATGTTAGGTA  
AACTCGATATGACCTCAAGTCAAAATAATGTCAATATAATTGTTTAGTAATATGAGTGA  
AATTCATAAGATGTTCTTACGATATTCCTTTTGTTTTTAA----TCTCAATGTCAATGA  
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ATGATCAAAGCGCGATGCCCATACTTCTTATTTAGTTGTAGACGTTGTCGAACCTGTCCT  
ATGCATGAAATTTAAAAAATTAAGAACTTTGA-----  
AGACATTGACCACGCTCATCAGAAGGCTCGCCAGAATAAACGTTGCAAAAAGGATTCCTG  
TATTGGAGGGCTTGTCGATAAATTCAGTAATTAACATTAAGTCAGTGTGGAACCTCAATTG  
TATAGGAAAGCTCGATCAGCATGTCCCTTACTCAGAAAAAGAAAAACGGAAGCCCTATTG  
TAATGTAATTTTGTAACTAACTAGCTTTAGTAGTTAAGATCAAATGCAACATTATAA  
TTTAATTAAGTAATAATAAAAAAATCACATTAAGATGCAGGAAGATCTTGACCTCGCCAG  
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CAAAGTCAAACATAGGC-----GTTTCTACCCTGCGTTTCGTGTTTTTAGTTCGGATA  
-----TATAAGTAACACAAAACACTCTTCATCTTTTAGTGTGTCCA  
GAAAAATGGTCGCACACAAAAATTTAAAAATAAATCTATTTCTCTTTTTGTGTGTCCA  
GATATTTGATCGTACAC-AAATATCTTTACAAAATTGTTTTCTCTTTTTGTGTGTCCA  
GCCATTTAATCGTACACAAAAATATCTTTACCAAATTGTTTTCTCTTTTTGTGTGTCCA  
GAATGTTAAGCGCACACAAAAACATTATAAAAAACCAATTTTTCTTTTTGTGTGTGCC-  
GAAAAATTAAGCGCACACAAATAAATAAAAAATCTGATTTTCTCTTTTTGTGTGTCCA  
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Ebola\_virus\_unknown\_strain  
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Reston  
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TCACGCGAAAATCTTGCAATGATGTGTAACCTCACCTACGGAAATCTTCCATTTTCATAT  
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Ebola\_virus\_unknown\_strain

AGCTTAAATTAAGCAAAAGGTAATTCAGGTATTAAGGATACTCGAGCACAATGTCCCTAC



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Ebola\_virus\_unknown\_strain  
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GCAAATGATGAACGGTAACCTGATTGACCAGTTAAGTGGCACAAATCTTCACCGTTG  
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Ebola\_virus\_unknown\_strain  
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TGCAGTAGTCTTGTGGTCC  
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PLEASE NOTE: Showing colors on large alignments is slow.