# Clustal Omega



## Results for job clustalo-I20220715-121525-0370-87297613-p1m

Alignments | Result Summary | Guide Tree | Phylogenetic Tree | Results Viewers | Submission Details

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CLUSTAL O(1.2.4) multiple sequence alignment


DENV4_AEW50183-Brazil-2010           TYEKDVDLGAGTRSVSTETEKPDMTIIGRRLQRLQEEHKETWHYDQENPYRTWAYHGSYE	60
DENV4_AFX65868-Brazil-2010           TYEKDVDLGAGTRSVSTETEKPDMTIIGRRLQRLQEEHKETWHYDQENPYRTWAYHGSYE	60
AHA80987-Pakistan-2010               TYEPDVDLGSGTRNIGIESETPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
AFZ40225-India-2009                  TYEPDVDLGSGTRNIGIESETPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
AIH13924-Jeddah-2014                 TYEPDVDLGSGTRNIGIESETPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
ACS32039-SriLanka-2004               TYEPDVDLGSGTRNIGIESETPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
ADM26228-Tahiti-1971                 TYEPDVDLGSGTRNIGIESETPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
ADM26226-Samoa-1972                  TYEPDVDLGSGTRNIGIESETPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
ADM26236-Tonga-1974                  TYEPDVDLGSGTRNIGIESETPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
ADM26220-Fiji-1971                   TYEPDVDLGSGTRNIGIESETPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
ADM26222-NewCaledonia-1972           TYEPDVDLGSGTRNIGIESETPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
ACQ44499-SaintKitts-2001             TYEPDVDLGSGTRNIGIESETPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
AER45462-Guatemala-2009              TYEPDVDLGSGTRNIGIESEVPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
ADA60759-Colombia-2007               TYEPDVDLGSGTRNIGIESEIPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
ACK57816-Guadeloupe-2006             TYEPDVDLGSGTRNIGIESEIPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
BAD36760-Dominican-2001              TYEPDVDLGSGTRNIGIESEIPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
ACQ44492-VirginIsl-2005              TYEPDVDLGSGTRNIGIESEIPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
ACK57811-FrenchGuiana-2006           TYEPDVDLGSGTRNIGIESEIPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
ACS32033-Jamaica-2007                TYEPDVDLGSGTRNIGIESEIPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
ACK57806-Suriname-2005               TYEPDVDLGSGTRNIGIESEIPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
AAW31412-Cuba-1997                   TYEPDVDLGSGTRNIGIESEIPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
AET43238-Venezuela-2007              TYEPDVDLGSGTRNIGIESEIPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
ACQ44500-Belize-2002                 TYEPDVDLGSGTRNIGIESEIPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
ACW82937-Mexico-2006                 TYEPDVDLGSGTRNIGIESEIPNLDIIGKRIEKIKREHETSWHYDQDHPYKTWAYHGSYE	60
AHG23135-Nicaragua-2007              TYEPDVDLGSGTRNIGIESEIPNLDIIGKRIEKIKQEHEISWHYDQDHPYKTWAYHGSYE	60
AGX15366-Peru-2009                   TYEPDVDLGSGTRNIGIESETPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
AGN94892-Brazil-2002                 TYEPDVDLGSGTRNIGIESEIPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
AHG23133-PuertoRico-2006             TYEPDVDLGSGTRNIGIENEIPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
ADK26435-Guam-2001                   TYEPDVDLGSGTRNIGIESETPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
AGF87124-China-2012                  TYEPDVDLGSGTRNIGIESETPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
ABW06614-Brunei-2006                 TYEPDVDLGSGTRNIGIESETPDLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
AAW51407-Jakarta-2004                TYEPDVDLGSGTRNIGIESETPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
AKA55069-Singapore-2012              TYEPDVDLGSGTRNIGIESETPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
BAD42415-Sumatera-1998               TYEPDVDLGSGTRNIGIESEIPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
AHG06340-Makassar-2007               TYEPDVDLGSGTRNIGIESETPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
AAK67712-Australia-1993              TYEPDVDLGSGTRNIGIESETPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
AHG23169-Cambodia-2008               TYEPDVDLGSGTRNIGIESETPNLDIIGKRIEKIKEEHETSWHYDQDHPYKTWAYHGSYE	60
ACY70785-Thailand-2001               TYEPDVDLGSGTRNIGIESEIPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
AGO67249-VietNam-1995                TYEPDVDLGSGTRNIGIESEIPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
ACQ44517-PapuaNewGuinea-2008         TYEPDVDLGSGTRNIGIESEIPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
AHZ61501-Taiwan-2014                 TYEPDVDLGSGTRNIGIESEVPNLDIIGKRIEKIKQEHETSWHYDQDHPYKTWAYHGSYE	60
                                     *** *****:***.:. *.* *:: ***:*::::.**: :*****::**:*********

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DENV4_AFX65868-Brazil-2010           APSTGSASSMVNGVVKLLTKPWDVIPMVTQLAMTDTTPFGQQRVFKEKVDTRTPQPKPGT	120
AHA80987-Pakistan-2010               TKQTGSASSVVNGVVRLLTKPWDVIPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
AFZ40225-India-2009                  TKQTGSASSMVNGVVRLLTKPWDVIPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
AIH13924-Jeddah-2014                 TKQTGSASSMVNGVVRLLTKPWDVIPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
ACS32039-SriLanka-2004               TKQTGSASSMVNGVVRLLTKPWDVIPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
ADM26228-Tahiti-1971                 TKQTGSASSMVNGVVRLLTKPWDVVPXVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
ADM26226-Samoa-1972                  TKQTGSASSMVNGVVRLLTKPWDVVPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
ADM26236-Tonga-1974                  TKQTGSASSMVNGVVRLLTKPWDVVPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
ADM26220-Fiji-1971                   TKQTGSASSMVNGVVRLLTKPWDVVPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
ADM26222-NewCaledonia-1972           TKQTGSASSMVNGVVRLLTKPWDVVPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
ACQ44499-SaintKitts-2001             TKQTGSASSMVNGVVRLLTKPWDVVPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
AER45462-Guatemala-2009              TKQTGSASSMVNGVVRLLTKPWDVVPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
ADA60759-Colombia-2007               TKQTGSASSMVNGVVRLLTKPWDVVPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
ACK57816-Guadeloupe-2006             TKQTGSASSMVNGVVRLLTKPWDVVPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
BAD36760-Dominican-2001              TKQTGSASSMVNGVVRLLTKPWDVVPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
ACQ44492-VirginIsl-2005              TKQTGSASSMVNGVVRLLTKPWDVVPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
ACK57811-FrenchGuiana-2006           TKQTGSASSMVNGVVRLLTKPWDVVPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
ACS32033-Jamaica-2007                TKQTGSASSMVNGVVRLLTKPWDVVPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
ACK57806-Suriname-2005               TKQTGSASSMVNGVVRLLTKPWDVVPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
AAW31412-Cuba-1997                   TKQTGSASSMVNGVVRLLTKPWDVVPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
AET43238-Venezuela-2007              TKQTGSASSMVNGVVRLLTKPWDVVPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
ACQ44500-Belize-2002                 TKQTGSASSMVNGVVRLLTKPWDVVPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
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AHG23135-Nicaragua-2007              TKQTGSASSMVNGVVRLLTKPWDVVPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
AGX15366-Peru-2009                   TKQTGSASSMVNGVVRLLTKPWDVVPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
AGN94892-Brazil-2002                 TKQTGSASSMVNGVVRLLTKPWDVVPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
AHG23133-PuertoRico-2006             TKQTGSASSMVNGVVKLLTKPWDVVPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
ADK26435-Guam-2001                   TKQTGSASSMVNGVVRLLTKPWDVIPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
AGF87124-China-2012                  TKQTGSASSMVNGVVKLLTKPWDVIPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
ABW06614-Brunei-2006                 TKQTGSASSMVNGVVRLLTKPWDVIPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
AAW51407-Jakarta-2004                TKQTGSASSMVNGVVRLLTKPWDVIPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
AKA55069-Singapore-2012              TKQTGSASSMVNGVVRLLTKPWDVIPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
BAD42415-Sumatera-1998               TKQTGSASSMVNGVVRLLTKPWDVIPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
AHG06340-Makassar-2007               TKQTGSASSMVNGVVRLLTKPWDVIPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
AAK67712-Australia-1993              TKQTGSASSMVNGVVRLLTKPWDIIPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
AHG23169-Cambodia-2008               TKQTGSASSMVNGVVRLLTKPWDVLPTVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
ACY70785-Thailand-2001               TKQTGSASSMVNGVVRLLTKPWDVLPTVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
AGO67249-VietNam-1995                TKQTGSASSMVNGVVRLLTKPWDVVPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
ACQ44517-PapuaNewGuinea-2008         TKQTGSASSMVNGVVRLLTKPWDVVPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
AHZ61501-Taiwan-2014                 TKQTGSASSMVNGVVRLLTKPWDVVPMVTQMAMTDTTPFGQQRVFKEKVDTRTQEPKEGT	120
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DENV4_AFX65868-Brazil-2010           RMVMTTTANWLWALLGKKKNPRLCTREEFISKVRSNAAIGAVFQEEQGWTSASEAVNDSR	180
AHA80987-Pakistan-2010               KKLMKITAEWLWKELGKKKTPRMCTREEFARKVRSNAALGAIFTDENKWKSAREAVEDSR	180
AFZ40225-India-2009                  KKLMKITAEWLWKELGKKKTPRMCTREEFTRKVRSNAALGAIFTDENKWKSAREAVEDSR	180
AIH13924-Jeddah-2014                 KKLMKITAEWLWKELGKKKTPRMCTREEFARKVRSNAALGAIFTDENKWKSAREAVEDSR	180
ACS32039-SriLanka-2004               KKLMKITAEWLWKELRKKKTPRMCTREEFARKVRSNAALGAIFTDENKWKSAREAVEDSR	180
ADM26228-Tahiti-1971                 KKLMKITAEWLWKELGKKKTPRMCTREEFTKKVRSNAALGAIFTDENKWKSXREAVEDSR	180
ADM26226-Samoa-1972                  KKLMKITAEWLWKELGKKKTPRMCTREEFTKKVRSNAALGAIFTDENKWKSAREAVEDSR	180
ADM26236-Tonga-1974                  KKLMKITAEWLWKELGKKKTPRMCTREEFTKKVRSNAALGAIFTDENKWKSAREAVEDSR	180
ADM26220-Fiji-1971                   KKLMKITAEWLWKELGKKKTPRMCTREEFTKKVRSNAALGAIFTDENKWKSAREAVEDSR	180
ADM26222-NewCaledonia-1972           KKLMKITAEWLWKELGKKKTPRMCTREEFTKKVRSNAALGAIFTDENKWKSAREAVEDSR	180
ACQ44499-SaintKitts-2001             KKLMKITAEWLWKELGKKKTPRMCTREEFTKKVRSNAALGAIFTDENKWKSAREAVEDGR	180
AER45462-Guatemala-2009              KKLMKITAEWLWKELGKKKTPRMCTREEFTRKVRSNAALGAIFTDENKWKSAREAVEDGR	180
ADA60759-Colombia-2007               KKLMKITAEWLWKELGKKKTPRMCTREEFTRKVRSNAALGAIFTDENKWKSAREAVEDGR	180
ACK57816-Guadeloupe-2006             KKLMKITAEWLWKELGKKKTPRMCTREEFTRKVRSNAALGAIFTDENKWKSAREAVEDGR	180
BAD36760-Dominican-2001              KKLMKITAEWLWKELGKEKTPRMCTREEFTRKVRSNAALGAIFTDENKWKSAREAVEDGR	180
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ACK57811-FrenchGuiana-2006           KKLMKITAEWLWKELGKEKTPRMCTREEFTRKVRSNAALGAVFTDENKWKSAREAVEDGR	180
ACS32033-Jamaica-2007                KKLMKITAEWLWKELGKEKTPRMCTREEFTRKVRSNAALGAIFTDENKWKSAREAVEDGR	180
ACK57806-Suriname-2005               KKLMKITAEWLWKELGKEKTPRMCTREEFTRKVRSNAALGAIFTDENKWKSAREAVEDGR	180
AAW31412-Cuba-1997                   KKLMKITAEWLWKELGKKKTPRMCTREEFTRKVRSNAALGAIFTDENKWKSAREAVEDGR	180
AET43238-Venezuela-2007              KKLMRITAEWLWKELGKKKTPRMCTREEFTRKVRSNAALGAIFTDENKWKSAREAVEDGR	180
ACQ44500-Belize-2002                 KKLMKITAEWLWKELGKKKTPRMCTREEFTRKVRSNAALGAIFTDENKWKSAREAVEDGR	180
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AHG23135-Nicaragua-2007              KKLMKITAEWLWKELGKKKTPRMCTREEFTKKVRSNAALGAIFTDENKWKSAREAVEDGR	180
AGX15366-Peru-2009                   KKLMKITAEWLWKELGKKKTPRMCTREEFTRKVRSNAALGAIFTDENKWKSAREAVEDSR	180
AGN94892-Brazil-2002                 KKLMRITAEWLWKELGKKKTPRMCTREEFTRKVRSNAALGAIFTDENKWKSAREAVEDSR	180
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AGF87124-China-2012                  KKLMKITAEWLWKELGKKKTPRMCTREEFTRKVRSNAALGAIFTDENKWKSARGAVEDSG	180
ABW06614-Brunei-2006                 KKLMKITAEWLWKELGKKKTPRMCTREEFTRKVRSNAALGAIFTDENKWKSAREAVEDSG	180
AAW51407-Jakarta-2004                KKLMKITAEWLWKELGKKKTPRMCTREEFTRKVRSNAALGAIFTDENKWKSAREAVEDSE	180
AKA55069-Singapore-2012              KKLMKITAEWLWKELGKKKTPRMCTREEFTRKVRSNAALGAIFTDENKWKSAREAVEDSG	180
BAD42415-Sumatera-1998               KKLMKITAEWLWKELGKKKTPRMCTREEFTRKVRSNAALGAIFTDENKWKSAREAVEDSG	180
AHG06340-Makassar-2007               KKLMKITAEWLWKELGKKKTPRMCTREEFTRKVRSNAALGAIFTDENKWKSAREAVEDSG	180
AAK67712-Australia-1993              KKLMKITAEWLWKELGKKKTPRMCTREEFTRKVRSNAALGAIFTDENKWKSAREAVEDSG	180
AHG23169-Cambodia-2008               KKLMKITAEWLWKELGKKKTPRMCTREEFTRKVRSNAALGAIFTDENKWKSAREAVEDSR	180
ACY70785-Thailand-2001               KKLMKITAEWLWKELGKKKTPRMCTREEFTRKVRSNAALGAIFTDENKWKSAREAVEDSR	180
AGO67249-VietNam-1995                KKLMKITAEWLWKELGKKKTPRMCTREEFTRKVRSNAALGAIFTDENKWKSAREAVEDSR	180
ACQ44517-PapuaNewGuinea-2008         KKLMKITAEWLWKELGKKKTPRMCTREEFTRKVRSNAALGAIFTDENKWKSAREAVEDSR	180
AHZ61501-Taiwan-2014                 KKLMKITAEWLWKELGKKKTPRMCTREEFTRKVRSNAALGAIFTDENKWKSAREAVEDSR	180
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DENV4_AEW50183-Brazil-2010           FWELVDKERALHQEGKCESCVYNMMGKREKKLGEFGRAKGSRAIWYMWLGARFLEFEALG	240
DENV4_AFX65868-Brazil-2010           FWELVDKERALHQEGKCESCVYNMMGKREKKLGEFGRAKGSRAIWYMWLGARFLEFEALG	240
AHA80987-Pakistan-2010               FWELVDKERNLHLEGKCETCVYNMMGKREKKIGEFGKAKGSRAVWYMWLGARFLEFEALG	240
AFZ40225-India-2009                  FWELVNKERNLHLEGKCETCVYNMMGKREKKIGEFGKAKGSRAIWYMWLGARFLEFEALG	240
AIH13924-Jeddah-2014                 FWELVDKERNLHLEGKCETCVYNMMGKREKKIGEFGKAKGSRAIWYMWLGARFLEFEALG	240
ACS32039-SriLanka-2004               FWELVDKERNLHLEGKCETCVYNMMGKREKKIGEFGKAKGSRAIWYMWLGARFLEFEALG	240
ADM26228-Tahiti-1971                 FWELVDKERNLHLEGKCETCVYNMMGKREKKLGEFGKAKGSRAIWYMWLGARFLEFEALG	240
ADM26226-Samoa-1972                  FWELVDKERNLHLEGKCETCVYNMMGKREKKLGEFGKAKGSRAIWYMWLGARFLEFEALG	240
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ADM26220-Fiji-1971                   FWELVDKERNLHLEGKCETCVYNMMGKREKKLGEFGKAKGSRAIWYMWLGARFLEFEALG	240
ADM26222-NewCaledonia-1972           FWELVDKERNLHLEGKCETCVYNMMGKREKKLGEFGKAKGSRAIWYMWLGARFLEFEALG	240
ACQ44499-SaintKitts-2001             FWELVDRERNLHLEGKCETCVYNMMGKREKKLGEFGKAKGSRAIWYMWLGARFLEFEALG	240
AER45462-Guatemala-2009              FWELVDRERNLHLEGKCETCVYNMMGKREKKLGEFGKAKGSRAIWYMWLGARFLEFEALG	240
ADA60759-Colombia-2007               FWELVDRERNLHLEGKCETCVYNMMGKREKKLGEFGKAKGSRAIWYMWLGARFLEFEALG	240
ACK57816-Guadeloupe-2006             FWELVDRERNLHLEGKCETCVYNMMGKREKKLGEFGKAKGSRAIWYMWLGARFLEFEALG	240
BAD36760-Dominican-2001              FWELVDRERNLHLEGKCETCVYNMMGKREKKLGEFGKAKGSRAIWYMWLGARFLEFEALG	240
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AET43238-Venezuela-2007              FWELVDRERNLHLEGKCETCVYNMMGKREKKLGEFGKAKGSRAIWYMWLGARFLEFEALG	240
ACQ44500-Belize-2002                 FWELVDRERNLHLEGKCETCVYNMMGKREKKLGEFGKAKGSRAIWYMWLGARFLEFEALG	240
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AHG23135-Nicaragua-2007              FWELVDRERNLHLEGKCETCVYNMMGKREKKLGEFGKAKGSRAIWYMWLGARFLEFEALG	240
AGX15366-Peru-2009                   FWELVDRERNLHLEGKCETCVYNMMGKREKKLGEFGKAKGSRAIWYMWLGARFLEFEALG	240
AGN94892-Brazil-2002                 FWELVDRERNLHLEGKCETCVYNMMGKREKKLGEFGKAKGSRAIWYMWLGARFLEFEALG	240
AHG23133-PuertoRico-2006             FWELVDKERNLHLEGKCETCVYNMMGKREKKLGEFGKAKGSRAIWYMWLGARFLEFEALG	240
ADK26435-Guam-2001                   FWELVDKERNLHLEGKCETCVYNMMGKREKKLGEFGKAKGSRAIWYMWLGARFLEFEALG	240
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AGO67249-VietNam-1995                FWELVDKERNLHLEGKCETCVYNMMGKREKKLGEFGKAKGSRAIWYMWLGARFLEFEALG	240
ACQ44517-PapuaNewGuinea-2008         FWELVDKERNLHLEGKCETCVYNMMGKREKKLGEFGKAKGSRAIWYMWLGARFLEFEALG	240
AHZ61501-Taiwan-2014                 FWGLVDKERNLHLEGKCETCVYNMMGKREKKLGEFGKAKGSRAIWYMWLGARFLEFEALG	240
                                     ** **::** ** *****:************:****:******:***************

DENV4_AEW50183-Brazil-2010           FLNEDHWFGRENSWSGVEGEGLHRLGYILEEIDKKDGDLMYADDTAGWDTRITEDDLQNE	300
DENV4_AFX65868-Brazil-2010           FLNEDHWFGRENSWSGVEGEGLHRLGYILEEIDKKDGDLMYADDTAGWDTRITEDDLQNE	300
AHA80987-Pakistan-2010               FLNEDHWFSRENSLSGVEGEGLHKLGYILREVSKKEGGAMYADDTAGWDTRITLEDLKNE	300
AFZ40225-India-2009                  FLNEDHWFSRENSLSGVEGEGLHKLGYILREVSKKEGGAMYADDTAGWDTRITLEDLKNE	300
AIH13924-Jeddah-2014                 FLNEDHWFSRENSLSGVEGEGLHKLGYILREVSKKEGGAMYADDTAGWDTRITLEDLKNE	300
ACS32039-SriLanka-2004               FLNEDHWFSRENSLSGVEGEGLHKLGYILREVSKKEGGAMYADDTAGWDTRITLEDLKNE	300
ADM26228-Tahiti-1971                 FLNEDHWFSRENSLSGVEGEGLHKLGYILREVSKKEGGAMYADDTAGWDTRITIEDLKNE	300
ADM26226-Samoa-1972                  FLNEDHWFSRENSLSGVEGEGLHKLGYILREVSKKEGGAMYADDTAGWDTRITIEDLKNE	300
ADM26236-Tonga-1974                  FLNEDHWFSRENSLSGVEGEGLHKLGYILREVXKKEGGAMYADDTAGWDTRITIEDLKNE	300
ADM26220-Fiji-1971                   FLNEDHWFSRENSLSGVEGEGLHKLGYILREVSKKEGGAMYADDTAGWDTRITIEDLKNE	300
ADM26222-NewCaledonia-1972           FLNEDHWFSRENSLSGVEGEGLHKLGYILREVSKKEGGAMYADDTAGWDTRITIEDLKNE	300
ACQ44499-SaintKitts-2001             FLNEDHWFSRGNSLSGVEGEGLHRLGYILREVGKKEGGAMYADDTAGWDTRITLEDLKNE	300
AER45462-Guatemala-2009              FLNEDHWFSRGNSLSGVEGEGLHRLGYILREVSKKEGGAMYADDTAGWDTRITLEDLKNE	300
ADA60759-Colombia-2007               FLNEDHWFSRGNSLSGVEGEGLHRLGYILRDVSKKEGGAMYADDTAGWDTRITLEDLKNE	300
ACK57816-Guadeloupe-2006             FLNEDHWFSRGNSLSGVEGEGLHRLGYILREVGKKEGGAMYADXTAGWDTRITLEDLKNE	300
BAD36760-Dominican-2001              FLNEDHWFSRGNSLSGVEGEGLHRLGYILREVGKKEGGAMYADDTAGWDTRITLEDLKNE	300
ACQ44492-VirginIsl-2005              FLNEDHWFSRGNSLSGVEGEGLHRLGYILREVGKKEGGAMYADDTAGWDTRITLEDLKNE	300
ACK57811-FrenchGuiana-2006           FLNEDHWFSRGNSLSGVEGEGLHRLGYILREVGKKEGGAMYADDTAGWDTRITLEDLKNE	300
ACS32033-Jamaica-2007                FLNEDHWFSRGNSLSGVEGEGLHRLGYILREVGKKEGGAMYADDTAGWDTRITLEDLKNE	300
ACK57806-Suriname-2005               FLNEDHWFSRGNSLSGVEGEGLHRLGYILREVGKKEGGAMYADDTAGWDTRITLEDLKNE	300
AAW31412-Cuba-1997                   FLNEDHWFSRGNSLSGVEGEGLHRLGYILREVGKKEGGAMYADDTAGWDTRITLEDLKNE	300
AET43238-Venezuela-2007              FLNEDHWFSRGNSLSGVEGEGLHRLGYILRDVGKKEGGAMYADDTAGWDTRITLEDLKNE	300
ACQ44500-Belize-2002                 FLNEDHWFSRGNSLSGVEGEGLHRLGYILRDVGKKEGGAMYADDTAGWDTRITLEDLKNE	300
ACW82937-Mexico-2006                 FLNEDHWFSRGNSLSGVEGEGLHRLGYILRDVGKKEGGAMYADDTAGWDTRITLEDLKNE	300
AHG23135-Nicaragua-2007              FLNEDHWFSRGNSLSGVEGEGLHRLGYILRDVGKKEGGAMYADDTAGWDTRITLEDLKNE	300
AGX15366-Peru-2009                   FLNEDHWFSRGNSLSGVEGEGLHRLGYILRDVSKKEGGAMYADDTAGWDTRITLEDLKNE	300
AGN94892-Brazil-2002                 FLNEDHWFSRGNSLSGVEGEGLHRLGYILRDVSKKEGGAMYADDTAGWDTRITLEDLKNE	300
AHG23133-PuertoRico-2006             FLNEDHWFSRGNSLSGVEGEGLHKLGYILRDVSKKEGGAMYADDTAGWDTRITLEDLKNE	300
ADK26435-Guam-2001                   FLNEDHWFSRKNSLSGVEGEGLHKLGYILRDVSKKEGGAMYADDTAGWDTRITLEDLKNE	300
AGF87124-China-2012                  FLNEDHWFSRENSLSGVEGEGLHKLGYILRDVSKKEGGAMYADDTAGWDTRITLEDLKNE	300
ABW06614-Brunei-2006                 FLNEDHWFSRENSLSGVEGEGLHKLGYILRDVSKKEGGAMYADDTAGWDTRITLEDLKNE	300
AAW51407-Jakarta-2004                FLNEDHWFSRENSLSGVEGEGLHKLGYILRDVSKKEGGAMYADDTAGWDTRITLEDLKNE	300
AKA55069-Singapore-2012              FLNEDHWFSRENSLSGVEGEGLHKLGYILRDVSKKEGGAMYADDTAGWDTRITLEDLKNE	300
BAD42415-Sumatera-1998               FLNEDHWFSRENSLSGVEGEGLHKLGYILRDVSKKEGGAMYADDTAGWDTRITLEDLKNE	300
AHG06340-Makassar-2007               FLNEDHWFSRENSLSGVEGEGLHKLGYILRDVSKKEGGAMYADDTAGWDTRITLEDLKNE	300
AAK67712-Australia-1993              FLNEDHWFSRENSLSGVEGEGLHKLGYILRDVSKKEGGAMYADDTAGWDTRITLEDLKNE	300
AHG23169-Cambodia-2008               FLNEDHWFSRENSLSGVEGEGLHKLGYILRDVSKKEGGAMYADDTAGWDTRITLEDLKNE	300
ACY70785-Thailand-2001               FLNEDHWFSRENSLSGVEGEGLHKLGYILRDVSKKEGGAMYADDTAGWDTRITLEDLKNE	300
AGO67249-VietNam-1995                FLNEDHWFSRENSLSGVEGEGLHKLGYILRDVSKKEGGAMYADDTAGWDTRITLEDLKNE	300
ACQ44517-PapuaNewGuinea-2008         FLNEDHWFSRENSLSGVEGEGLHKLGYILRDVSKKEGGAMYADDTAGWDTRITLEDLKNE	300
AHZ61501-Taiwan-2014                 FLNEDHWFSRENSLSGVEGEGLHKLGYILRDVSKKEGGAMYADDTAGWDTRITLEDLKNE	300
                                     ********.* ** *********:*****.:: **:*. **** ********* :**:**

DENV4_AEW50183-Brazil-2010           ELITEQMAPHHKILAKAIFKLTYQNKVVKVLRPTPRGAVMDIISRKDQRGSGQVGTYGLN	360
DENV4_AFX65868-Brazil-2010           ELITEQMAPHHKILAKAIFKLTYQNKVVKVLRPTPRGAVMDIISRKDQRGSGQVGTYGLN	360
AHA80987-Pakistan-2010               EMVTNHMEGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRRDQRSSGQVGTYGLN	360
AFZ40225-India-2009                  EMVTNHMEGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRRDQRGSGQVGTYGLN	360
AIH13924-Jeddah-2014                 EMVTNHMEGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRRDQRGSGQVGTYGLN	360
ACS32039-SriLanka-2004               EMVTNHMEGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRRDQRGSGQVGTYGLN	360
ADM26228-Tahiti-1971                 EMITNHMAGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRRDQRGSGQVGTYGLN	360
ADM26226-Samoa-1972                  EMITNHMAGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRRDQRGSGQVGTYGLN	360
ADM26236-Tonga-1974                  EMITNHMAGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRRDQRGSGQVGTYGLN	360
ADM26220-Fiji-1971                   EMITNHMAGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRRDQRGSGQVGTYGLN	360
ADM26222-NewCaledonia-1972           EMITNHMAGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRRDQRGSGQVGTYGLN	360
ACQ44499-SaintKitts-2001             EMVTNHMKGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRRDQRGSGQVGTYGLN	360
AER45462-Guatemala-2009              EMVTNHMKGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRRDQRGSGQVGTYGLN	360
ADA60759-Colombia-2007               EMVTNHMKGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRRDQRGSGQVGTYGLN	360
ACK57816-Guadeloupe-2006             EMVTNHMKGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRKDQRGSGQVGTYGLN	360
BAD36760-Dominican-2001              EMVTNHMKGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRKDQRGSGQVGTYGLN	360
ACQ44492-VirginIsl-2005              EMVTNHMKGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRKDQRGSGQVGTYGLN	360
ACK57811-FrenchGuiana-2006           EMVTNHMKGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRKDQRGSGQVGTYGLN	360
ACS32033-Jamaica-2007                EMVTNHMKGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRKDQRGSGQVGTYGLN	360
ACK57806-Suriname-2005               EMVTNHMKGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRKDQRGSGQVGTYGLN	360
AAW31412-Cuba-1997                   EMVTNHMKGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRRDQRGSGQVGTYGLN	360
AET43238-Venezuela-2007              EMVTNHMKGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRRDQRGSGQVGTYGLN	360
ACQ44500-Belize-2002                 EMVTNHMKGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRRDQRGSGQVGTYGLN	360
ACW82937-Mexico-2006                 EMVTNHMKGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRRDQRGSGQVGTYGLN	360
AHG23135-Nicaragua-2007              EMVTNHMKGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRRDQRGSGQVGTYGLN	360
AGX15366-Peru-2009                   EMVTNHMKGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRRDQRGSGQVGTYGLN	360
AGN94892-Brazil-2002                 EMVTNHMEGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRKDQRGSGQVGTYGLN	360
AHG23133-PuertoRico-2006             EMVTNHMKGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRKDQRGSGQVGTYGLN	360
ADK26435-Guam-2001                   EMVTNHMEGEHKKLAEAIFRLTYQNKVVRVQRPTPRGTVMDIISRRDQRGSGQVVTYGLN	360
AGF87124-China-2012                  EMVTNHMEGVHKKLAEAIFRLTYQNKVVRVQRPTPRGTVMDIISRRDQRGSGQVVTYGLN	360
ABW06614-Brunei-2006                 EMVTNHMEGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRRDQRGSGQVVTYGLN	360
AAW51407-Jakarta-2004                EMVTNHMEGEHKKLAEAIFRLTYQNKVVRVQRPTPRGTVMDIISRRDQRGSGQVVTYGLN	360
AKA55069-Singapore-2012              EMVTNHMEGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRRDQRGSGQVVTYGLN	360
BAD42415-Sumatera-1998               EMVTNHMEGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRRDQRGSGQVVTYGLN	360
AHG06340-Makassar-2007               EMVTNHMEGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRRDQRGSGQVVTYGLN	360
AAK67712-Australia-1993              EMVTNHMEGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRRDQRGSGQVVTYGLN	360
AHG23169-Cambodia-2008               EMVTNHMEGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRRDQRGSGQVGTYGLN	360
ACY70785-Thailand-2001               EMVTNHMEGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRRDQRGSGQVGTYGLN	360
AGO67249-VietNam-1995                EMVTNHMEGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRRDQRGSGQVGTYGLN	360
ACQ44517-PapuaNewGuinea-2008         EMVTNHMEGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRRDQRGSGQVGTYGLN	360
AHZ61501-Taiwan-2014                 EMVTNHMEGEHKKLAEAIFKLTYQNKVVRVQRPTPRGTVMDIISRRDQRGSGQVGTYGLN	360
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DENV4_AEW50183-Brazil-2010           TFTNMEVQLIRQMEAEGVITQDDMQNPKGLKERVEKWLRECGVDRLKRMAISGDDCVVKP	420
DENV4_AFX65868-Brazil-2010           TFTNMEVQLIRQMEAEGVITQDDMQNPKGLKERVEKWLRECGVDRLKRMAISGDDCVVKP	420
AHA80987-Pakistan-2010               TFTNMGAQLIRQMEGEGVFKGIQHLT-ATEEVAVQDWLARVGRERLSRMAISGDDCVVKP	419
AFZ40225-India-2009                  TFTNMGAQLIRQMEGEGVFKGIQHLT-ATEETAVHDWLARVGRERLSRMAISGDDCVVKP	419
AIH13924-Jeddah-2014                 TFTNMGAQLIRQMEGEGVFKGIQHLT-ATEEVAVQDWLARVGRERLSRMAISGDDCVVKP	419
ACS32039-SriLanka-2004               TFTNMGAQLIRQMEGEGVFKGIQHLT-ATEEVAVQDWLARVGRERLSRMAISGDDCVVKP	419
ADM26228-Tahiti-1971                 TFTNMEAQLIRQMEGEGIFKSIQHLT-ASEEIAVQDWLVRVGRERLSRMAISGDDCVVKP	419
ADM26226-Samoa-1972                  TFTNMEAQLIRQMEGEGIFKSIQHLT-ASEEIAVQDWLVRVGRERLSRMAISGDDCVVKP	419
ADM26236-Tonga-1974                  TFTNMEAQLIRQMEGEGIFKSIQHLT-ASEEIAVQDWLVRVGRERLSRMAISGDDCVVKP	419
ADM26220-Fiji-1971                   TFTNMEAQLIRQMEGEGIFKSIQHLT-ASEEIAVQDWLVRVGRERLSRMAISGDDCVVKP	419
ADM26222-NewCaledonia-1972           TFTNMEAQLIRQMEGEGIFKSIQHLT-ASEEIAVQDWLVRVGRERLSRMAISGDDCVVKP	419
ACQ44499-SaintKitts-2001             TFTNMEAQLIRQMEGEGIFKSIQHLT-ATEEIAVQNWLARVGRERLSRMAISGDDCVVKP	419
AER45462-Guatemala-2009              TFTNMEAQLIRQMEGEGIFKSIQHLT-ATEEIAVQNWLARVGRERLSRMAISGDDCVVKP	419
ADA60759-Colombia-2007               TFTNMEAQLIRQMEGEGIFKSIQHLT-AIEEIAVQNWLARVGRERLSRMAISGDDCVVKP	419
ACK57816-Guadeloupe-2006             TFTNMEAQLIRQMEGEGIFKSIQHLT-ATEEIAVQNWLARVGRERLSRMAISGDDCVVKP	419
BAD36760-Dominican-2001              TFTNMEAQLIRQMEGEGIFKSIQHLT-ATEEIAVQNWLARVGRERLSRMAISGDDCVVKP	419
ACQ44492-VirginIsl-2005              TFTNMEAQLIRQMEGEGIFKSIQHLT-VTEEIAVQNWLARVGRERLSRMAISGDDCVVKP	419
ACK57811-FrenchGuiana-2006           TFTNMEAQLIRQMEGEGIFKSIQHLT-ATEEIAVQNWLARVGRERLSRMAISGDDCVVKP	419
ACS32033-Jamaica-2007                TFTNMEAQLIRQMEGEGIFKSIQHLT-ATEEIAVQNWLARVGRERLSRMAISGDDCVVKP	419
ACK57806-Suriname-2005               TFTNMEAQLIRQMEGEGIFKSIQHLT-ATEEIAVQNWLARVGRERLSRMAISGDDCVVKP	419
AAW31412-Cuba-1997                   TFTNMEAQLIRQMEGEGIFKSIQHLT-ATEEIAVQNWLARVGRERLSRMAISGDDCVVKP	419
AET43238-Venezuela-2007              TFTNMEAQLIRQMEGEGIFKSIQHLT-VTEEIAVQNWLARVGRERLSRMAISGDDCVVKP	419
ACQ44500-Belize-2002                 TFTNMEAQLIRQMEGEGIFKSIQHLT-ATEEIAVQNWLARLGRERLSRMAISGDDCVVKP	419
ACW82937-Mexico-2006                 TFTNMEAQLIRQMEGEGIFKSIQHLT-ATEEIAVQNWLARVGRERLSRMAISGDDCVVKP	419
AHG23135-Nicaragua-2007              TFTNMEAQLIRQMEGEGIFKSIQHLT-ATEEIAVQNWLARVGRERLSRMAISGDDCVVKP	419
AGX15366-Peru-2009                   TFTNMEAQLIRQMEGEGIFKSIQHLT-VTEEIAVQNWLARVGRERLSRMAISGDDCVVKP	419
AGN94892-Brazil-2002                 TFTNMEAQLIRQMEGEGIFKSIQHLT-VTEEIAVQNWLARVGRERLSRMAISGDDCVVKP	419
AHG23133-PuertoRico-2006             TFTNMEAQLIRQMEGEGIFKSIQRLT-VTEEIAVQNWLARVGRERLSRMAISGDDCVVKP	419
ADK26435-Guam-2001                   TFTNMEAQLIRQMEGEGVFKSIQHLT-ATEEIAVKTWLVRVGRERLSRMAISGDDCVVKP	419
AGF87124-China-2012                  TFTNMEAQLIRQMEGEGVFKSIQHLT-VTEEIAVKNWLVRVGRERLSRMAISGDDCVVKP	419
ABW06614-Brunei-2006                 TFTNMEAQLIRQMEGEGVFKSIQQLT-VTEEIAVKNWLARVGRERLSRMAISGDDCVVKP	419
AAW51407-Jakarta-2004                TFTNMEAQLIRQMEGEGVFKSIQHLT-VTEEIAVKNWLVRVGRERLSRMAISGDDCVVKP	419
AKA55069-Singapore-2012              TFTNMEAQLIRQMEGEGVFKSIQQLT-VKEEIAVKNWLIRVGRERLSRMAISGDDCVVKP	419
BAD42415-Sumatera-1998               TFTNMEAQLIRQMEGEGVFKSIQHLT-VTEEIAVKNWLARVGRERLSRMAISGDDCVVKP	419
AHG06340-Makassar-2007               TFTNMEAQLIRQMEGEGVFKSIQQLT-VTEEIAVKNWLVRVGRERLSRMAISGDDCVVKP	419
AAK67712-Australia-1993              TFTNMEAQLIRQMEGEGVFKSIQHLT-VTEEIAVKNWLVRVGRERLSRMAISGDDCVVKP	419
AHG23169-Cambodia-2008               TFTNMEAQLIRQMEGEGVFKNIQHLT-VTEEAAVQNWLARVGRERLSRMAISGDDCVVKP	419
ACY70785-Thailand-2001               TFTNMEAQLIRQMEGEGVFKNIQHLT-VTEEVAVQNWLARVGRERLSRMAISGDDCVVKP	419
AGO67249-VietNam-1995                TFTNMEAQLIRQMEGEGIFKSIQHLT-VTEEIAVQDWLARVGRERLSRMAISGDDCVVKP	419
ACQ44517-PapuaNewGuinea-2008         TFTNMEAQLIRQMEGEGVFKSIQHLT-VTEEIAVQNWLARVGRERLSRMAISGDDCVVKP	419
AHZ61501-Taiwan-2014                 TFTNMEAQLIRQMEGEGVFKSIQHLT-VTEEIAVQNWLARVGRERLSRMAISGDDCVVKP	419
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DENV4_AEW50183-Brazil-2010           LDERFGTSLLFLNDMGKVRKDIPQWEPSKGWKNWQEVPFCSHHFHKIFMKDGRSLVVPCR	480
DENV4_AFX65868-Brazil-2010           LDERFGTSLLFLNDMGKVRKDIPQWEPSKGWKNWQEVPFCSHHFHKIFMKDGRSLVVPCR	480
AHA80987-Pakistan-2010               LDDRFASALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELIMKDGRVLVVPCR	479
AFZ40225-India-2009                  LDDRFASALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELIMKDGRVLVVPCR	479
AIH13924-Jeddah-2014                 LDDRFASALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELIMKDGRVLVVPCR	479
ACS32039-SriLanka-2004               LDDRFASALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELIMKDGRVLVVPCR	479
ADM26228-Tahiti-1971                 LDDRFARALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELIMKDGRTLVVPCR	479
ADM26226-Samoa-1972                  LDDRFARALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELIMKDGRTLVVPCR	479
ADM26236-Tonga-1974                  LDDRFARALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELIMKDGRTLVVPCR	479
ADM26220-Fiji-1971                   LDDRFARALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELIMKDGRTLVVPCR	479
ADM26222-NewCaledonia-1972           LDDRFARALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELIMKDGRTLVVPCR	479
ACQ44499-SaintKitts-2001             IDDRFASALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELVMKDGRVLVVPCR	479
AER45462-Guatemala-2009              IDDRFASALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELVMKDGRVLVVPCR	479
ADA60759-Colombia-2007               IDDRFASALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELVMKDGRVLVVPCR	479
ACK57816-Guadeloupe-2006             IDDRFASALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELVMKDGRVLVVPCR	479
BAD36760-Dominican-2001              IDDRFASALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELVMKDGRVLVVPCR	479
ACQ44492-VirginIsl-2005              IDDRFASALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELVMKDGRVLVVPCR	479
ACK57811-FrenchGuiana-2006           IDDRFASALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELVMKDGRVLVVPCR	479
ACS32033-Jamaica-2007                IDDRFASALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELVMKDGRVLVVPCR	479
ACK57806-Suriname-2005               IDDRFASALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELVMKDGRVLVVPCR	479
AAW31412-Cuba-1997                   IDDRFASALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELVMKDGRVLVVPCR	479
AET43238-Venezuela-2007              IDDRFASALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELVMKDGRVLVVPCR	479
ACQ44500-Belize-2002                 IDDRFASALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELVMKDGRVLVVPCR	479
ACW82937-Mexico-2006                 IDDRFASALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELVMKDGRVLVVPCR	479
AHG23135-Nicaragua-2007              IDDRFASALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELVMKDGRVLVVPCR	479
AGX15366-Peru-2009                   LDDRFASALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELVMKDGRVLVVPCR	479
AGN94892-Brazil-2002                 LDDRFASALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELVMKDGRVLVVPCR	479
AHG23133-PuertoRico-2006             LDDRFASALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELVMKDGRVLVVPCR	479
ADK26435-Guam-2001                   LDDRFASALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELIMKDGRVLVVPCR	479
AGF87124-China-2012                  LDDRFASALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELIMKDGRVLVVPCR	479
ABW06614-Brunei-2006                 LDDRFASALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELIMKDGRVLVVPCR	479
AAW51407-Jakarta-2004                LDDRFASALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELIMKDGRVLVVPCR	479
AKA55069-Singapore-2012              LDDRFASALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELIMKDGRVLVVPCR	479
BAD42415-Sumatera-1998               LDDRFASALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELIMKDGRVLVVPCR	479
AHG06340-Makassar-2007               LDDRFASALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELIMKDGRVLVVPCR	479
AAK67712-Australia-1993              LDDRFASALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELIMKDGRVLVVPCR	479
AHG23169-Cambodia-2008               LDDRFANALTALNDMGKIRKDIQQWEPSKGWNDWTQVPFCSHHFHELIMKDGRVLVVPCR	479
ACY70785-Thailand-2001               LDDRFANALTALNDMGKIRKDIQQWEPSKGWNDWTQVPFCSHHFHELIMKDGRVLVVPCR	479
AGO67249-VietNam-1995                LDDRFASALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELIMKDGRVLVVPCR	479
ACQ44517-PapuaNewGuinea-2008         LDDRFASALTALNDMGKVRKDIQQWEPSRGWNDWTQVPFCSHHFHELIMKDGRVLVVPCR	479
AHZ61501-Taiwan-2014                 LDDRFASALTALNDMGKVRKDIQQWEPSRGWSDWTQVPFCSHHFHELIMKDGRVLVVPCR	479
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DENV4_AFX65868-Brazil-2010           NQDELIGRARISQGAGWSLRETACLGKAYAQMWSLMYFHRRDLRLASMAICSAVPTEWFP	540
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ADM26228-Tahiti-1971                 NQDELIGRARISQGAGWSLRETACLGKSYAQMWSLMYFHRRDLRLAANAICSAVPSHWIP	539
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ADM26236-Tonga-1974                  NQDELIGRARISQGAGWSLRETACLGKSYAQMWSLMYFHRRDLRLAANAICSAVPSHWIP	539
ADM26220-Fiji-1971                   NQDELIGRARISQGAGWSLRETACLGKSYAQMWSLMYFHRRDLRLAANAICSAVPSHWIP	539
ADM26222-NewCaledonia-1972           NQDELIGRARISQGAGWSLRETACLGKSYAQMWSLMYFHRRDLRLAANAICSAVPSHWIP	539
ACQ44499-SaintKitts-2001             NQDELIGRARISQGAGWSLRETACLGKSYAQMWTLMYFHRRDLRLAANAICSAVPSHWVP	539
AER45462-Guatemala-2009              NQDELIGRARISQGAGWSLRETACLGKSYAQMWTLMYFHRRDLRLAANAICSAVPSHWVP	539
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ACQ44492-VirginIsl-2005              NQDELIGRARISQGAGWSLRETACLGKSYAQMWTLMYFHRRDLRLAANAICSAVPSHWVP	539
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ACS32033-Jamaica-2007                NQDELIGRARISQGAGWSLRETACLGKSYAQMWTLMYFHRRDLRLAANAICSAVPSHWVP	539
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ACQ44500-Belize-2002                 NQDELIGRARISQGAGWSLRETACLGKSYAQMWTLMYFHRRDLRLAANAICSAVPSHWVP	539
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AHG23135-Nicaragua-2007              NQDELIGRARISQGAGWSLRETACLGKSYAQMWTLMYFHRRDLRLAANAICSAVPSHWVP	539
AGX15366-Peru-2009                   NQDELIGRARISQGAGWSLRETACLGKSYAQMWTLMYFHRRDLRLAANAICSAVPSHWVP	539
AGN94892-Brazil-2002                 NQDELIGRARISQGAGWSLRETACLGKSYAQMWTLMYFHRRDLRLAANAICSAVPSHWVP	539
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AGF87124-China-2012                  NQDELIGRARISQGAGWSLRETACLGKSYAQMWSLMYFHRRDLRLAANAICSAVPSHWVP	539
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AAW51407-Jakarta-2004                NQDELIGRARISQGAGWSLRETACLGKSYAQMWSLMYFHRRDLRLAANAICSAVPSHWVP	539
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BAD42415-Sumatera-1998               NQDELIGRARISQGAGWSLRETACLGKSYAQMWSLMYFHRRDLRLAANAICSAVPSHWVP	539
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ACY70785-Thailand-2001               NQDELIGRARISQGAGWSLRETACLGKSYAQMWSLMYFHRRDLRLAANAICSAVPSHWIP	539
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AHZ61501-Taiwan-2014                 NQDELIGRARISQGAGWSLRETACLGKSYAQMWSLMYFHRRDLRLAANAICSAVPSHWVP	539
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DENV4_AFX65868-Brazil-2010           TSRTTWSIHAHHQWMTTEDMLTVWNRVWIEDNPNMIDKTPVHSWEDIPYLGKREDLWCGS	600
AHA80987-Pakistan-2010               TSRTTWSIHARHEWMTTEDMLTVWNRVWIQENPWMEDKTPVESWEEIPYLGKRGDQWCGS	599
AFZ40225-India-2009                  TSRTTWSIHARHEWMTTEDMLTVWNRVWIQENPWMEDKTPVESWEEIPYLGKREDQWCGS	599
AIH13924-Jeddah-2014                 TSRTTWSIHAGHEWMTTEDMLTVWNRVWIQENPWMEDKTPVESWEEIPYLGKREDQWCGS	599
ACS32039-SriLanka-2004               TSRTTWSIHARHEWMTTEDMLTVWNRVWIQENPWMEDKTPVESWEEIPYLGKREDQWCGS	599
ADM26228-Tahiti-1971                 TSRTTWSIHASHEWMTTEDMLTVWNRVWILENPWMEDKTPVESWEEIPYLGKREDQWCGS	599
ADM26226-Samoa-1972                  TSRTTWSIHASHEWMTTEDMLTVWNRVWILENPWMEDKTPVESWEEIPYLGKREDQWCGS	599
ADM26236-Tonga-1974                  TSRTTWSIHASHEWMTTEDMLTVWNRVWILENPWMEDKTPVESWEEIPYLGKREDQWCGS	599
ADM26220-Fiji-1971                   TSRTTWSIHASHEWMTTEDMLTVWNRVWILENPWMEDKTPVESWEEIPYLGKREDQWCGS	599
ADM26222-NewCaledonia-1972           TSRTTWSIHASHEWMTTEDMLTVWNRVWILENPWMEDKTPVESWEEIPYLGKREDQWCGS	599
ACQ44499-SaintKitts-2001             TSRTTWSIHAKHEWMTTEDMLAVWNRVWIQENPWMEDKTPVESWEEVPYLGKREDQWCGS	599
AER45462-Guatemala-2009              TSRTTWSIHAKHEWMTTEDMLAVWNRVWIQENPWMEDKTPVESWEEVPYLGKREDQWCGS	599
ADA60759-Colombia-2007               TSRTTWSIHAKHEWMTTEDMLAVWNRVWIQENPWMEDKTPVESWEEVPYLGKREDQWCGS	599
ACK57816-Guadeloupe-2006             TSRTTWSIHAKHEWMTTEDMLAVWNRVWIQENPWMEDKTPVESWEEVPYLGKREDQWCGS	599
BAD36760-Dominican-2001              TSRTTWSIHAKHEWMTTEDMLAVWNRVWIQENPWMEDKTPVESWEEVPYLGKREDQWCGS	599
ACQ44492-VirginIsl-2005              TSRTTWSIHAKHEWMTTEDMLAVWNRVWIQENPWMEDKTPVESWEEVPYLGKREDQWCGS	599
ACK57811-FrenchGuiana-2006           TSRTTWSIHAKHEWMTTEDMLAVWNRVWIQENPWMEDKTPVESWEEVPYLGKREDQWCGS	599
ACS32033-Jamaica-2007                TSRTTWSIHAKHEWMTTEDMLAVWNRVWIQENPWMEDKTPVESWEEVPYLGKREDQWCGS	599
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AAW31412-Cuba-1997                   TSRTTWSIHAKHEWMTTEDMLAVWNRVWIQENPWMEDKTPVESWEEVPYLGKREDQWCGS	599
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ACQ44500-Belize-2002                 TSRTTWSIHAKHEWMTTEDMLAVWNRVWIQENPWMEDKTPVESWEEVPYLGKREDQWCGS	599
ACW82937-Mexico-2006                 TSRTTWSIHAKHEWMTTEDMLAVWNRVWIQENPWMEDKTPVESWEEVPYLGKREDQWCGS	599
AHG23135-Nicaragua-2007              TSRTTWSIHAKHEWMTTEDMLAVWNRVWIQENPWMEDKTPVESWEEVPYLGKREDQWCGS	599
AGX15366-Peru-2009                   TSRTTWSIHAKHEWMTTEDMLAVWNRVWIQENPWMEDKTPVESWEEVPYLGKREDQWCGS	599
AGN94892-Brazil-2002                 TSRTTWSIHAKHEWMTTEDMLAVWNRVWIQENPWMEDKTPVESWEEVPYLGKREDQWCGS	599
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ADK26435-Guam-2001                   TSRTTWSIHATHEWMTTEDMLTVWNRVWIQENPWMEDKTPVESWEEIPYLGKREDQWCGS	599
AGF87124-China-2012                  TSRTTWSIHATHEWMTTEDMLTVWNRVWIQENPWMEDKTPVESWEEIPYLGKREDQWCGS	599
ABW06614-Brunei-2006                 TSRTTWSIHATHEWMTTEDMLTVWNRVWIQENPWMEDKTPVESWEEIPYLGKREDQWCGS	599
AAW51407-Jakarta-2004                TSRTTWSIHATHEWMTTEDMLTVWNRVWIQENPWMEDKTPVESWEEIPYLGKREDQWCGS	599
AKA55069-Singapore-2012              TSRTTWSIHATHEWMTTEDMLTVWNRVWIQENPWMEDKTPVESWEEIPYLGKREDQWCGS	599
BAD42415-Sumatera-1998               TSRTTWSIHATHEWMTTEDMLTVWNRVWIQENPWMEDKTPVESWEEIPYLGKREDQWCGS	599
AHG06340-Makassar-2007               TSRTTWSIHATHEWMTTEDMLTVWNRVWIQENPWMEDKTPVESWEEIPYLGKREDQWCGS	599
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AHG23169-Cambodia-2008               TSRTTWSIHATHEWMTTEDMLTVWNRVWIRENPWMEDKTPVESWEEIPYLGKREDQWCGS	599
ACY70785-Thailand-2001               TSRTTWSIHATHEWMTTEDMLTVWNRVWIRENPWMEDKTPVESWEEIPYLGKREDQWCGS	599
AGO67249-VietNam-1995                TSRTTWSIHAKHEWMTTEDMLAVWNRVWIQENPWMEDKTPVESWEEVPYLGKREDQWCGS	599
ACQ44517-PapuaNewGuinea-2008         TSRTTWSIHATHEWMTTEDMLTVWNRVWIQENPWMEDKTPVESWEEIPYLGKREDQWCGS	599
AHZ61501-Taiwan-2014                 TSRTTWSIHATHEWMTTEDMLTVWNRVWIQENPWMEDKTPVESWEEIPYLGKREDQWCGS	599
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DENV4_AEW50183-Brazil-2010           LIGLSSRATWAKNIHTAITQVRNLIGKEEYVDYMPVMKR-	639
DENV4_AFX65868-Brazil-2010           LIGLSSRATWAKNIHTAITQVRNLIGKEEYVDYMPVMKR-	639
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AFZ40225-India-2009                  LIGLTSRATWAKNIQTAINQVRSLIGSEEYTDYMPSMKRF	639
AIH13924-Jeddah-2014                 LIGLTSRATWAKNIQTAINQVRSLIGSEEYTDYMPSMKRF	639
ACS32039-SriLanka-2004               LIGLTSRATWAKNIQTAINQVRSLIGSEEYTDYMPSMKRF	639
ADM26228-Tahiti-1971                 LIGLTSRATWAKNIQTAINQVRSLIGNEEYTDYMPSMKRF	639
ADM26226-Samoa-1972                  LIGLTSRATWAKNIQTAINQVRSLIGNEEYTDYMPSMKRF	639
ADM26236-Tonga-1974                  LIGLTSRATWAKNIQTAINQVRSLIGNEEYTDYMPSMKRF	639
ADM26220-Fiji-1971                   LIGLTSRATWAKNIQTAINQVRSLIGNEEYTDYMPSMKRF	639
ADM26222-NewCaledonia-1972           LIGLTSRATWAKNIQTAINQVRSLIGNEEYTDYMPSMKRF	639
ACQ44499-SaintKitts-2001             LIGLTSRATWAKNIQTAINQVRSLIGNEEYTDYMPSMKRF	639
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BAD36760-Dominican-2001              LIGLTSRATWAKNIQTAINQVRSLIGNEEYTDYMPSMKRF	639
ACQ44492-VirginIsl-2005              LIGLTSRATWAKNIQTAINQVRSLIGNEEYTDYMPSMKRF	639
ACK57811-FrenchGuiana-2006           LIGLTSRATWAKNIQTAINQVRSLIGNEGYTDYMPSMKRF	639
ACS32033-Jamaica-2007                LIGLTSRATWAKNIQTAINQVRSLIGNEGYTDYMPSMKRF	639
ACK57806-Suriname-2005               LIGLTSRATWAKNIQTAINQVRSLIGNEGYTDYMPSMKRF	639
AAW31412-Cuba-1997                   LIGLTSRATWAKNIQTAINQVRSLIGNEEYTDYMPSMKRF	639
AET43238-Venezuela-2007              LIGLTSRATWAKNIQTAINQVRSLIGNEEYTDYMPSMKRF	639
ACQ44500-Belize-2002                 LIGLTSRATWAKNIQTAINQVRSLIGNEEYTDYMPSMKRF	639
ACW82937-Mexico-2006                 LIGLTSRATWAKNIQTAINQVRSLIGNEEYTDYMPSMKRF	639
AHG23135-Nicaragua-2007              LIGLTSRATWAKNIQTAINQVRSLIGNEEYTDYMPSMKRF	639
AGX15366-Peru-2009                   LIGLTSRATWAKNIKTAINQVRSLMGNEEYMDYMPSMKRF	639
AGN94892-Brazil-2002                 LIGLTSRATWAKNIQTAINQVRSLIGNEEYTDYMPSMKRF	639
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ADK26435-Guam-2001                   LIGLTSRATWAKNIQTAINQVRSLIGNEEYTDYMPSMKRF	639
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AAW51407-Jakarta-2004                LIGLTSRATWAKNIQTAINQVRSLIGNEEYTDYMPSMKRF	639
AKA55069-Singapore-2012              LIGLTSRATWAKNIQTAINQVRSLIGNEEYTDYMPSMKRF	639
BAD42415-Sumatera-1998               LIGLTSRATWAKNIQTAINQVRSLIGNEEYTDYMPSMKRF	639
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AAK67712-Australia-1993              LIGLTSRATWAKNIQTAINQVRSLIGNEEYTDYMPSMKRF	639
AHG23169-Cambodia-2008               LIGLTSRATWAKNIQAAINQVRSLIGNEEYTDYMPSMKRF	639
ACY70785-Thailand-2001               LIGLTSRATWAKNIQAAINQVRSLIGNEEYTDYMPSMKRF	639
AGO67249-VietNam-1995                LIGLTSRATWAKNIQTAINQVRSLIGNEEYTDYMPSMKRF	639
ACQ44517-PapuaNewGuinea-2008         LIGLTSRATWAKNIQTAINQVRSLIGNEEYTDYMPSMKRF	639
AHZ61501-Taiwan-2014                 LIGLTSRATWAKNIQTAINQVRSLIGNEEYTDYMPSMKRF	639
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*PLEASE NOTE: Showing colors on large alignments is slow.*



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