```
logo
NTDB id 1284 ACE17W RS12370 WP 010946666.1      MRKIIAILILISA..SLSMAYSKDNSLISVKVLPLPENRVRIDFQFSKPLKQLPASFITQKPPRLVLDFISTDMQIPSDQ   78
NTDB id 1257 GC085 RS04855 WP 163621000.1      MRKIIAILILISA..SLSLAYSKDNSLISVKVLPLPENRVRIDFQFSKPLKQLPASFITQKPPRLVLDFISTDMQIPSDQ   78
NTDB id 1009 ACIAD RS15175 WP 004923730.1      MKQIIRQFSIGTVAYAIMQVASAQVAITNVVPMNIPGQGTEIRVMFNGLPP.QPQAYQLEQPARLILDFDKAGQKLAK..   77
NTDB id 1039 HON27 RS01460 WP 031993779.1      MNHVFRQFSMGAVAIAIMQAASAQVSMTNIVPMQIAGQGTEIRVMFNGLPP.QPQAYQLENPSRLILDFDKAQQGLKQ..   77
NTDB id 1052 ABD1 RS15850 WP 001017033.1       MNHVFRQFSMGAVAIAIMQAASAQVSMTNIVPMQIAGQGTEIRVMFNGLPP.QPQAYQLENPSRLILDFDKAQQGLKQ..   77
NTDB id 1040994 ABRP31 RS25015 WP 349972186.1  MTRILSTIGVSLWI.AMISPILQAATLKTLDVAALPGDRIELKLTFDAPVP.APKGYTTEQPARIALDLPGVSSQLAT..   76
NTDB id 1193 PAKAF RS26665 WP 003161249.1      MNSGLSRLGIALLA.AMFAPALLAADLEKLDVAALPGDRVELKLQFDEPVA.APRGYTIEQPARIALDLPGVQNKLGT..   76
consensus                                      !  **  * ** ** *** ***   **  * ** ********** ! ****  ! ** ***! !**!!*    * * *

logo
NTDB id 1284 ACE17W RS12370 WP 010946666.1      KTKTIQLGSLHSYNIVAVGDRVRAILELDRSVSYSGSTAGSIYSLVLNGKSNDLFENSKE...............VFITNQ  144
NTDB id 1257 GC085 RS04855 WP 163621000.1      KTKTIQLGSLHSYNIVAVGDRVRAILELDRSVSYSGSTAGSVYSLVLNGKSNDLFENSKE...............VFITNQ  144
NTDB id 1009 ACIAD RS15175 WP 004923730.1      SLIPVTTNEASSIDVSSDDKRARVVVNLKDAGAFTTRVEGNVFILKINNIQSTAT...........PV..ATSAPA....  140
NTDB id 1039 HON27 RS01460 WP 031993779.1      SKISVATNEASSVDVTSDDQRSRLTVNLKDTGAFTTRVEGNTFILKINSAQTSNK...........PL..PVVS.A....  139
NTDB id 1052 ABD1 RS15850 WP 001017033.1       SKISVATNEASSVDVTSDDQRSRLTVNLKDAGAFTTRVEGNTFILKINSAQTSNK...........PL..PVVS.A....  139
NTDB id 1040994 ABRP31 RS25015 WP 349972186.1  KSRELGSGNARSVVVVEAKDRTRIIINMTTLAPYSSRVDGNNLFVVIGQGAAAAQASQPTTALGAARVAVPPPAPAKPKA  156
NTDB id 1193 PAKAF RS26665 WP 003161249.1      KNRELSVGNTRSVTVVEAKDRTRLIINLTTLSSYTTRVEGNNLFVVVGNSPAGASVAST.APVKASPAPASYAQPIKPKP  155
consensus                                      * *** ** * !* **   *!*!*****   * ******!* * ****                  **       *

logo
NTDB id 1284 ACE17W RS12370 WP 010946666.1      VVNAKHEIKRIDFRGIEKQGGRVLIDVSDTGIPIDVTQVGKEIVVNFLNTKIPLNLMKRYDVSDFHSPVQIITMQQEGKK  224
NTDB id 1257 GC085 RS04855 WP 163621000.1      VVNAKHEIKRIDFRGIEKQGGRVLIDVSDTGIPIDVTQVGKEIVVNFLNTKIPLNLMKRYDVSDFHSPVQIITMQQEGKK  224
NTDB id 1009 ACIAD RS15175 WP 004923730.1      ...PQQGIGNIGFQRGAQGEGLVVIDLQGTNTPVDVQQQGSKVVVRFPGIKIPTHLARRLNTTDFATPVASIDSYNDGSN  217
NTDB id 1039 HON27 RS01460 WP 031993779.1      ...QPQGVSNIGFQRGSQGEGLVVVDLLGSNTPVDVQQQGSKVVIRTIGTKIPTHLARRLNVNDFATPVSSIDAYNDKGV  216
NTDB id 1052 ABD1 RS15850 WP 001017033.1       ...QPQGVSNIGFQRGSQGEGLVVVDLLGSNTPVDVQQQGSKVVIRTIGTKIPTHLARRLNVNDFATPVSSIDAYNDKGV  216
NTDB id 1040994 ABRP31 RS25015 WP 349972186.1  YAPVGKAIRNVDFQRGELGEGNVIIDLTDPGVAPDIQEQGGRIRVDFAKTQLPEKLRVRLDVKDFATPVQFVNASATGDK  236
NTDB id 1193 PAKAF RS26665 WP 003161249.1      YVPAGRAIRNIDFQRGEKGEGNVVIDLSDPTLSPDIQEQGGKIRLDFAKTQLPDALRVRLDVKDFATPVQFVNASAQSDR  235
consensus                                            ******!****  **!  !**!****  ***!****!  ****  **  ***!   !  *!***  !!**!!*  *  *  ***  *

logo
NTDB id 1284 ACE17W RS12370 WP 010946666.1      VRMTILSKGDYGHFVYQVNKQFMVDVFPLTAEEIRQAKLKKQVFTGKRISLNFQNISIRAVLQLLADFTGINMVVSDKVQ  304
NTDB id 1257 GC085 RS04855 WP 163621000.1      VRMTILSKGDYGHFVYQVNKQFMVDVFPLTAEEIRQAKLKKQVFTGKRISLNFQNISIRAVLQLLADFTGINMVVSDKVQ  304
NTDB id 1009 ACIAD RS15175 WP 004923730.1      GVISIQSTGSYEYMAYQAENKLTISLKRPQDNV.RLNSKNNQNYTGKKISLDFQDIEVRRVLQLLADFTNINMVTADSVQ  296
NTDB id 1039 HON27 RS01460 WP 031993779.1      GVITIQSSGSYEYMAYQAENKLTISLKRPQDKN.VTSLYKTPNYSGNKLSLDFQDIEVRRVLQLLADFTGINMVAADSVQ  295
NTDB id 1052 ABD1 RS15850 WP 001017033.1       GVITIQSSGSYEYMAYQAENKLTISLKRPQDKN.VTSLYKTPNYSGNKLSLDFQDIEVRRVLQLLADFTGINMVAADSVQ  295
NTDB id 1040994 ABRP31 RS25015 WP 349972186.1  ASITIEPSGAFDYSAYQTEGKLTISVRPLTNEDLDRRNAEKLVYTGEKLSLNFQDIDVRSVLQLIADFTSLNLVASDTVQ  316
NTDB id 1193 PAKAF RS26665 WP 003161249.1      TSITIEPSGLYDYLVYQTDNRLTVSIKPMTTEDAERRKKDNFAYTGEKLSLNFQDIDVRSVLQLIADFTDLNLVASDTVQ  315
consensus                                      * **! **! *****!! ************ **       *    **! **!!*!!*!**! !!!!*!!!!**!*!**!*!!
```

```
logo

NTDB id 1284 ACE17W RS12370 WP 010946666.1      GDITLRLNDIPWDQALDIILTTQGLDKRRKGNVMLIDTKASMDKMEEEQLKSQQTIEKLEPIRSDLIQINYAKAADIAVL   384
NTDB id 1257 GC085 RS04855 WP 163621000.1       GDITLRLNDIPWDQALDIILTTQGLDKRRKGNVMLIDTKASMDKMEEEQLKSQQTIEKLEPIRSDLIQINYAKAADIAVL   384
NTDB id 1009 ACIAD RS15175 WP 004923730.1       GNITLHLKDVPWDQALDIILKTKNLDKRRNGNVIWIAPVSELIKSEEDEAKAIAQSTKLAPLQTEYILLKYAKAADIEKL   376
NTDB id 1039 HON27 RS01460 WP 031993779.1       GNITLRLKDVPWDQALDIILKTKNLDKRRNGNVIWIAPVAELIKAEEEEAKAVAQSVKLAPLQTEYIQLKYAKAGDIMGL   375
NTDB id 1052 ABD1 RS15850 WP 001017033.1        GNITLRLKDVPWDQALDIILKTKNLDKRRNGNVIWIAPVAELIKAEEEEAKAVAQSVKLAPLQTEYIQLKYAKAGDIMGL   375
NTDB id 1040994 ABRP31 RS25015 WP 349972186.1  GGITLRLQNVPWDQALDLVLKTKGLDKRKIGNVLLVAPADEIAARERQELESLKQIAELAPLRRELLQVNYAKAADIAKL   396
NTDB id 1193 PAKAF RS26665 WP 003161249.1      GNITLRLQNVPWDQALDLVLKTKGLDKRKLGNVLLVAPADEIAARERQELEAQKQIAELAPLRRELIQVNYAKAADIAKL   395
consensus                                      !*!!!*!***!!!!!!!**!*!**!!!!* !!!***** *** * !******* ** *!*!*********!!!!*!!* !

logo

NTDB id 1284 ACE17W RS12370 WP 010946666.1      IKDKQ.............................NSLLSDRGKISVDARTNTIWIQDTGTKIEEVRELIKQLDIPVKQ   433
NTDB id 1257 GC085 RS04855 WP 163621000.1       IKDKQ.............................NSLLSDRGKISVDARTNTIWIQDTGTKIEEVRELIKQLDIPVKQ   433
NTDB id 1009 ACIAD RS15175 WP 004923730.1       ITQGRNSGTSNSN.........TNGSATVEPLGDSVGTLLSPRGTISLDPRTNTLIINDTSQKIDQIRKMIDLLDIPVKQ   447
NTDB id 1039 HON27 RS01460 WP 031993779.1       ITQGSNNSNGLQHTSGGGTSTSTNLNTGVDSLGNNVGSLLSPRGTITQDDRTNTLIINDTAQSIDQIRKMIDLLDVQVKQ   455
NTDB id 1052 ABD1 RS15850 WP 001017033.1        ITQGSNNSNGLQHTSGGGTSTSTNLNTGVDSLGNNVGSLLSPRGTITQDDRTNTLIINDTAQSIDQIRKMIDLLDVQVKQ   455
NTDB id 1040994 ABRP31 RS25015 WP 349972186.1  FQSVTSAE..........................SKVDERGSITVDERTNNIIAYQTQDRLDELRRIVSQLDIPVRQ   447
NTDB id 1193 PAKAF RS26665 WP 003161249.1      FQSVTSDGGQ........................EGKEGGRGSITVDDRTNSIIAYQPQERLDELRRIVSQLDIPVRQ   449
consensus                                      *   *                              **** !!*!**!*!!!******** *****!*** *!!**!*!

logo

NTDB id 1284 ACE17W RS12370 WP 010946666.1      VLIEARIVEVTKDFSQDIGIRWGVSRPTHLSGT..LEGAN.............ELARGTAPANV........VPL.....   485
NTDB id 1257 GC085 RS04855 WP 163621000.1       VLIEARIVEVTKDFSQDIGIRWGVSRPTHLSGT..LEGAN.............ELARGTAPANV........VPL.....   485
NTDB id 1009 ACIAD RS15175 WP 004923730.1       VMIEARIVRATTSFSKEMGVKWGILSQGINQNSNLLVGGSETTLWNLRNPDSN..................GTYTI...ER   507
NTDB id 1039 HON27 RS01460 WP 031993779.1       VMVEARIVRASTSFTKELGVKWGILSQGITNNNNLLVGGSETTLWNLREPKKDE............TTGGYKYTI...ER   520
NTDB id 1052 ABD1 RS15850 WP 001017033.1        VMVEARIVRASTSFTKELGVKWGILSQGITNNNNLLVGGSETTLWNLREPKKDE............TTGGYKYTI...ER   520
NTDB id 1040994 ABRP31 RS25015 WP 349972186.1  VMIEARIVEANVGYDKALGVRWAGDTNRNNNHK...........WSGYGLDDNGDEAGN...............TGDALT   501
NTDB id 1193 PAKAF RS26665 WP 003161249.1      VMIEARIVEANVGYDKSLGVRWGGAYHK...GN...........WSGYGKDGNIGIKDEDGMNCGPIAGSCTFPTTGTSK   515
consensus                                      !**!!!!!***  *****!**!** **   *    * **     *        *                  * *    *

logo

NTDB id 1284 ACE17W RS12370 WP 010946666.1      ERRLNLDLAAAPLTGATPASVGIALAKL.NDNILLDLELSALESEGRAELISSPRLITTNQQAAVIESGEEIPYQEATSS   564
NTDB id 1257 GC085 RS04855 WP 163621000.1       ERRLNLDLAAVPLTGATPASVGIALAKL.NDNILLDLELSALESEGRAELISSPRLITTNQQAAVIESGEEIPYQEATSS   564
NTDB id 1009 ACIAD RS15175 WP 004923730.1       PDNLNVDLG.....VTTTGASSIAFGLISLSDFMLDLELSALQADGYGEVISTPKVMSADKQKAKVATGVEVPYQSTTNS   582
NTDB id 1039 HON27 RS01460 WP 031993779.1       PDNLNVDLG.....VSNP.AGSIAFGLISMSDFMLDLELSALQADGYGEVISTPKVMTADKQTAKVATGQQVPYQSTTNS   594
NTDB id 1052 ABD1 RS15850 WP 001017033.1        PDNLNVDLG.....VSNP.AGSIAFGLISMSDFMLDLELSALQADGYGEVISTPKVMTADKQTAKVATGQQVPYQSTTNS   594
NTDB id 1040994 ABRP31 RS25015 WP 349972186.1  SNVPFVDLG.....AADA.TSGIGIAFM.TNNTLLDLELSAMERTGNGEIVSQPKVVTSDKETAKILKGTEIPYQESSSS   574
NTDB id 1193 PAKAF RS26665 WP 003161249.1      SPSPFVDLG.....AKDA.TSGIGIGFI.TDNIILDLQLSAMEKTGNGEIVSQPKVVTSDKETAKILKGSEVPYQEASSS   588
consensus                                         ***!!*      *  * * *!*** *   * *!!!*!!!** *! *!**!*!*****!****!** *! **!!!****!
```

```
logo
NTDB id 1284 ACE17W RS12370 WP 010946666.1      GA...TAVAFKKAVLSLKVTPQITPDGKILMDLQINQDTPSP.QTFLGVPAIITKEIQTNVLVNNGQTIVLGGIYKQDKN   640
NTDB id 1257 GC085 RS04855 WP 163621000.1       GA...TAVAFKKAVLSLKVTPQITPDGKILMDLQINQDTPSP.QTFLGVPAIITKEIQTNVLVNNGQTIVLGGIYKQDKN   640
NTDB id 1009 ACIAD RS15175 WP 004923730.1       AAGSTATTSFKEALLSLEVTPNITPDGKILMELNIANDSINS.YAQNGEAILNKNTINTNVLVNNGETVVLGGVFEQTTN   661
NTDB id 1039 HON27 RS01460 WP 031993779.1       AAGSTATTSFKDALLSLNVTPSITPDGKIQMKLDISKDSVAG.AAPNGELILNKNNINTNVLVDNGETVILGGVFEQTTM   673
NTDB id 1052 ABD1 RS15850 WP 001017033.1        AAGSTATTSFKDALLSLNVTPSITPDGKIQMKLDISKDSVAG.AAPNGELILNKNNINTNVLVDNGETVILGGVFEQTTM   673
NTDB id 1040994 ABRP31 RS25015 WP 349972186.1  GA...TTVSFKEASLSLEVTPQITPDNRIIMEVKVTKDEPDYLNTVLGVPPIRKNEVNAKVLVADGETIVIGGVFSNTQS   651
NTDB id 1193 PAKAF RS26665 WP 003161249.1      GA...TSTSFKEAALSLEVTPQITPDNRIIVEVKVTKDAPDYQNMLNGVPPINKNEVNAKILVNDGETIVIGGVFSNEQS   665
consensus                                      *!   ****!!*!*!!! !!!*!!!!**!**** ***!**   *  *!** *********!!**!*!***!!** **
```

```
logo
NTDB id 1284 ACE17W RS12370 WP 010946666.1      KVINRIPFFGELPVVGILFSNRQITLKNEELLIFITPRIITNALSITTIEGREKDVYK   698
NTDB id 1257 GC085 RS04855 WP 163621000.1       KVINRIPFFGELPVVGILFSNRQITLKNEELLIFITPRIITNALSITTIEGREKDVYK   698
NTDB id 1009 ACIAD RS15175 WP 004923730.1       NAVTKVPFLGDLPYVGRLFKKTAKSEAKNELLIFVTPRIVNDTIVGNH..........   709
NTDB id 1039 HON27 RS01460 WP 031993779.1       NSQTKVPFFGDIPVVGRLFRKDVKSDDKQELLIFVTPRIVNDTLARNH..........   721
NTDB id 1052 ABD1 RS15850 WP 001017033.1        NSQTKVPFFGDIPVVGRLFRKDVKSDDKQELLIFVTPRIVNDTLARNH..........   721
NTDB id 1040994 ABRP31 RS25015 WP 349972186.1  KVVDKVPFLGDVPYVGRLFRRDVVSEAKSELLVFLTPRIMNNQAIAVSR.........   700
NTDB id 1193 PAKAF RS26665 WP 003161249.1      KSVEKVPFLGELPYLGRLFRRDTVTDRKNELLVFLTPRIMNNQAIAIGR.........   714
consensus                                      * * **!!*!**!**!*!!*** *** **!!!*!*!!!!*** *
```

X non conserved

X similar

X $\geq$ 50% conserved