```
logo
NTDB id 1284 ACE17W RS12370 WP 010946666.1      MRKIIAILIL..ISASLSMAYSKDNSLISVKVLPLPENRVRIDFQFSKPLKQLPASFITQKPPRLVLDFISTDMQIPSDQ   78
NTDB id 1257 GC085 RS04855 WP 163621000.1       MRKIIAILIL..ISASLSLAYSKDNSLISVKVLPLPENRVRIDFQFSKPLKQLPASFITQKPPRLVLDFISTDMQIPSDQ   78
NTDB id 1129697 G3R43 RS28980 WP 162291230.1   MNSGLSRLGIALLAA.MFAPALLAADLEKLDVAALPGDRVELKLQFDEPVA.APRGYTIEQPARIALDLPGVQNKLG..T   76
NTDB id 1193 PAKAF RS26665 WP 003161249.1      MNSGLSRLGIALLAA.MFAPALLAADLEKLDVAALPGDRVELKLQFDEPVA.APRGYTIEQPARIALDLPGVQNKLG..T   76
NTDB id 1009 ACIAD RS15175 WP 004923730.1      MKQIIRQFSIGTVAYAIMQVASAQVAITNVVPMNIPGQGTEIRVMFNGLPP.QPQAYQLEQPARLILDFDKAGQKLA..K   77
NTDB id 1052 ABD1 RS15850 WP 001017033.1       MNHVFRQFSMGAVAIAIMQAASAQVSMTNIVPMQIAGQGTEIRVMFNGLPP.QPQAYQLENPSRLILDFDKAQQGLK..Q   77
NTDB id 1039 HON27 RS01460 WP 031993779.1      MNHVFRQFSMGAVAIAIMQAASAQVSMTNIVPMQIAGQGTEIRVMFNGLPP.QPQAYQLENPSRLILDFDKAQQGLK..Q   77
consensus                                      !* **  * ** *** *  ***   **  * ** ***********!  **   ! ** ***! !**!!*   ** *   *

logo
NTDB id 1284 ACE17W RS12370 WP 010946666.1      KTKTIQLGSLHSYNIVAVGDRVRAILELDRSVSYSGSTAGSIYSLVLNGKSNDLFENS.............KEVFITNQV  145
NTDB id 1257 GC085 RS04855 WP 163621000.1       KTKTIQLGSLHSYNIVAVGDRVRAILELDRSVSYSGSTAGSVYSLVLNGKSNDLFENS.............KEVFITNQV  145
NTDB id 1129697 G3R43 RS28980 WP 162291230.1   KNRELSVGNTRSVTVVEAKDRTRLIINLTALSSYTTRVEGNNLFVVVGNSPTGASVASTAPVKASPAPASYAQPIKPKPY  156
NTDB id 1193 PAKAF RS26665 WP 003161249.1      KNRELSVGNTRSVTVVEAKDRTRLIINLTTLSSYTTRVEGNNLFVVVGNSPAGASVASTAPVKASPAPASYAQPIKPKPY  156
NTDB id 1009 ACIAD RS15175 WP 004923730.1      SLIPVTTNEASSIDVSSDDKRARVVVNLKDAGAFTTRVEGNVFILKINNIQSTAT..........PVAT..SA.......  138
NTDB id 1052 ABD1 RS15850 WP 001017033.1       SKISVATNEASSVDVTSDDQRSRLTVNLKDAGAFTTRVEGNTFILKINSAQTSNK..........PLPV..VS.......  138
NTDB id 1039 HON27 RS01460 WP 031993779.1      SKISVATNEASSVDVTSDDQRSRLTVNLKDTGAFTTRVEGNTFILKINSAQTSNK..........PLPV..VS.......  138
consensus                                      * *** **   !* **   *!*!****!    *******!* * ****   *      *       * *

logo
NTDB id 1284 ACE17W RS12370 WP 010946666.1      VNAKHEIKRIDFRGIEKQGGRVLIDVSDTGIPIDVTQVGKEIVVNFLNTKIPLNLMKRYDVSDFHSPVQIITMQQEGKKV  225
NTDB id 1257 GC085 RS04855 WP 163621000.1       VNAKHEIKRIDFRGIEKQGGRVLIDVSDTGIPIDVTQVGKEIVVNFLNTKIPLNLMKRYDVSDFHSPVQIITMQQEGKKV  225
NTDB id 1129697 G3R43 RS28980 WP 162291230.1   VPAGRAIRNIDFQRGEKGEGNVVIDLSDPTLSPDIQEQGGKIRLDFAKTQLPDALRVRLDVKDFATPVQFVNASAQSDRT  236
NTDB id 1193 PAKAF RS26665 WP 003161249.1      VPAGRAIRNIDFQRGEKGEGNVVIDLSDPTLSPDIQEQGGKIRLDFAKTQLPDALRVRLDVKDFATPVQFVNASAQSDRT  236
NTDB id 1009 ACIAD RS15175 WP 004923730.1      PAPQQGIGNIGFQRGAQGEGLVVIDLQGTNTPVDVQQQGSKVVVRFPGIKIPTHLARRLNTTDFATPVASIDSYNDGSNG  218
NTDB id 1052 ABD1 RS15850 WP 001017033.1       .AQPQGVSNIGFQRGSQGEGLVVVDLLGSNTPVDVQQQGSKVVIRTIGTKIPTHLARRLNVNDFATPVSSIDAYNDKGVG  217
NTDB id 1039 HON27 RS01460 WP 031993779.1      .AQPQGVSNIGFQRGSQGEGLVVVDLLGSNTPVDVQQQGSKVVIRTIGTKIPTHLARRLNVNDFATPVSSIDAYNDKGVG  217
consensus                                      * *  ****!*!*******! !**!**** ***!****! **** ** ***!  ! *!*** !!**!!* * * **  *

logo
NTDB id 1284 ACE17W RS12370 WP 010946666.1      RMTILSKGDYGHFVYQVNKQFMVDVFPLTAEEIRQAKLKKQVFTGKRISLNFQNISIRAVLQLLADFTGINMVVSDKVQG  305
NTDB id 1257 GC085 RS04855 WP 163621000.1       RMTILSKGDYGHFVYQVNKQFMVDVFPLTAEEIRQAKLKKQVFTGKRISLNFQNISIRAVLQLLADFTGINMVVSDKVQG  305
NTDB id 1129697 G3R43 RS28980 WP 162291230.1   SITIEPSGLYDYLVYQTDNRLTVSIKPMTTEDAERRKKDNFAYTGEKLSLNFQDIDVRSVLQLIADFTDLNLVASDTVQG  316
NTDB id 1193 PAKAF RS26665 WP 003161249.1      SITIEPSGLYDYLVYQTDNRLTVSIKPMTTEDAERRKKDNFAYTGEKLSLNFQDIDVRSVLQLIADFTDLNLVASDTVQG  316
NTDB id 1009 ACIAD RS15175 WP 004923730.1      VISIQSTGSYEYMAYQAENKLTISLKRPQDNV.RLNSKNNQNYTGKKISLDFQDIEVRRVLQLLADFTNINMVTADSVQG  297
NTDB id 1052 ABD1 RS15850 WP 001017033.1       VITIQSSGSYEYMAYQAENKLTISLKRPQDKN.VTSLYKTPNYSGNKLSLDFQDIEVRRVLQLLADFTGINMVAADSVQG  296
NTDB id 1039 HON27 RS01460 WP 031993779.1      VITIQSSGSYEYMAYQAENKLTISLKRPQDKN.VTSLYKTPNYSGNKLSLDFQDIEVRRVLQLLADFTGINMVAADSVQG  296
consensus                                       **! **! !****!! *********** **    * *   **! **!!*!!*!**! !!!!*!!!!**!*!**!*!!!
```

```
logo
NTDB id 1284 ACE17W RS12370 WP 010946666.1    DITLRLNDIPWDQALDIILTTQGLDKRRKGNVMLIDTKASMDKMEEEQLKSQQTIEKLEPIRSDLIQINYAKAADIAVLI   385
NTDB id 1257 GC085 RS04855 WP 163621000.1    DITLRLNDIPWDQALDIILTTQGLDKRRKGNVMLIDTKASMDKMEEEQLKSQQTIEKLEPIRSDLIQINYAKAADIAVLI   385
NTDB id 1129697 G3R43 RS28980 WP 162291230.1 NITLRLQNVPWDQALDLVLKTKGLDKRKLGNVLLVAPADEIAARERQELEAQKQIAELAPLRRELIQVNYAKAADIAKLF   396
NTDB id 1193 PAKAF RS26665 WP 003161249.1    NITLRLQNVPWDQALDLVLKTKGLDKRKLGNVLLVAPADEIAARERQELEAQKQIAELAPLRRELIQVNYAKAADIAKLF   396
NTDB id 1009 ACIAD RS15175 WP 004923730.1    NITLHLKDVPWDQALDIILKTKNLDKRRNGNVIWIAPVSELIKSEEDEAKAIAQSTKLAPLQTEYILLKYAKAADIEKLI   377
NTDB id 1052 ABD1 RS15850 WP 001017033.1     NITLRLKDVPWDQALDIILKTKNLDKRRNGNVIWIAPVAELIKAEEEEAKAVAQSVKLAPLQTEYIQLKYAKAGDIMGLI   376
NTDB id 1039 HON27 RS01460 WP 031993779.1    NITLRLKDVPWDQALDIILKTKNLDKRRNGNVIWIAPVAELIKAEEEEAKAVAQSVKLAPLQTEYIQLKYAKAGDIMGLI   376
consensus                                    *!!!*!***!!!!!!!**!*!**!!!!* !!!***** *** * !******* ** *!*!*****!***!!!!*!!* !*

logo
NTDB id 1284 ACE17W RS12370 WP 010946666.1    KDKQN...............................SLLSDRGKISVDARTNTIWIQDTGTKIEEVRELIKQLDIPVKQV   434
NTDB id 1257 GC085 RS04855 WP 163621000.1    KDKQN...............................SLLSDRGKISVDARTNTIWIQDTGTKIEEVRELIKQLDIPVKQV   434
NTDB id 1129697 G3R43 RS28980 WP 162291230.1 QSVTSDGGQEG.........................KEGGRGSITVDDRTNSIIAYQPQERLDELRRIVSQLDIPVRQV   450
NTDB id 1193 PAKAF RS26665 WP 003161249.1    QSVTSDGGQEG.........................KEGGRGSITVDDRTNSIIAYQPQERLDELRRIVSQLDIPVRQV   450
NTDB id 1009 ACIAD RS15175 WP 004923730.1    TQGRNSGTSNSN.........TNGSATVEPLGDSVGTLLSPRGTISLDPRTNTLIINDTSQKIDQIRKMIDLLDIPVKQV   448
NTDB id 1052 ABD1 RS15850 WP 001017033.1     TQGSNNSNGLQHTSGGGTSTSTNLNTGVDSLGNNVGSLLSPRGTITQDDRTNTLIINDTAQSIDQIRKMIDLLDVQVKQV   456
NTDB id 1039 HON27 RS01460 WP 031993779.1    TQGSNNSNGLQHTSGGGTSTSTNLNTGVDSLGNNVGSLLSPRGTITQDDRTNTLIINDTAQSIDQIRKMIDLLDVQVKQV   456
consensus                                       **                                 **** !!*!**!*!!!******** *****!*** *!!**!*!!

logo
NTDB id 1284 ACE17W RS12370 WP 010946666.1    LIEARIVEVTKDFSQDIGIRWGVSRPTHL.SGT.LEGANEL...........AR......GTAPANVVPLERRLNLDLAA   495
NTDB id 1257 GC085 RS04855 WP 163621000.1    LIEARIVEVTKDFSQDIGIRWGVSRPTHL.SGT.LEGANEL...........AR......GTAPANVVPLERRLNLDLAA   495
NTDB id 1129697 G3R43 RS28980 WP 162291230.1 MIEARIVEANVGYDKSLGVRWGGAYHKGNWSG....YGKDGN.IGIKDEDGMNCGPIAGSCTFPTTGTSKSPSPFVDLGA   525
NTDB id 1193 PAKAF RS26665 WP 003161249.1    MIEARIVEANVGYDKSLGVRWGGAYHKGNWSG....YGKDGN.IGIKDEDGMNCGPIAGSCTFPTTGTSKSPSPFVDLGA   525
NTDB id 1009 ACIAD RS15175 WP 004923730.1    MIEARIVRATTSFSKEMGVKWGILSQGINQNSNLLVGGSETTLWNLRNPD...SN.....GTYTI...ERPDNLNVDLGV   517
NTDB id 1052 ABD1 RS15850 WP 001017033.1     MVEARIVRASTSFTKELGVKWGILSQGITNNNNLLVGGSETTLWNLREPK...KDETTGGYKYTI...ERPDNLNVDLGV   530
NTDB id 1039 HON27 RS01460 WP 031993779.1    MVEARIVRASTSFTKELGVKWGILSQGITNNNNLLVGGSETTLWNLREPK...KDETTGGYKYTI...ERPDNLNVDLGV   530
consensus                                    **!!!!!***  *****!**!!*       **  * ** *     ***     *    *  ***     *   ***!!**

logo
NTDB id 1284 ACE17W RS12370 WP 010946666.1    APLTGATPASVGIALAKL.NDNILLDLELSALESEGRAELISSPRLITTNQQAAVIESGEEIPYQEATSSGA...TAVAF   571
NTDB id 1257 GC085 RS04855 WP 163621000.1    VPLTGATPASVGIALAKL.NDNILLDLELSALESEGRAELISSPRLITTNQQAAVIESGEEIPYQEATSSGA...TAVAF   571
NTDB id 1129697 G3R43 RS28980 WP 162291230.1 .....KDA.TSGIGIGFI.TDNIILDLQLSAMEKTGNGEIVSQPKVVTSDKETAKILKGSEVSYQEASSSGA...TSTSF   595
NTDB id 1193 PAKAF RS26665 WP 003161249.1    .....KDA.TSGIGIGFI.TDNIILDLQLSAMEKTGNGEIVSQPKVVTSDKETAKILKGSEVPYQEASSSGA...TSTSF   595
NTDB id 1009 ACIAD RS15175 WP 004923730.1    .....TTTGASSIAFGLISLSDFMLDLELSALQADGYGEVISTPKVMSADKQKAKVATGVEVPYQSTTNSAAGSTATTSF   592
NTDB id 1052 ABD1 RS15850 WP 001017033.1     .....SNP.AGSIAFGLISMSDFMLDLELSALQADGYGEVISTPKVMTADKQTAKVATGQQVPYQSTTNSAAGSTATTSF   604
NTDB id 1039 HON27 RS01460 WP 031993779.1    .....SNP.AGSIAFGLISMSDFMLDLELSALQADGYGEVISTPKVMTADKQTAKVATGQQVPYQSTTNSAAGSTATTSF   604
consensus                                           * * *!*** *  ****!!!*!!!** *! *!**!*!*****!!** *! **!!****!*!    ****!
```

```
logo

NTDB id 1284 ACE17W RS12370 WP 010946666.1     KKAVLSLKVTPQITPDGKILMDLQINQDTPSPQ.TFLGVPAIITKEIQTNVLVNNGQTIVLGGIYKQDKNKVINRIPFFG   650
NTDB id 1257 GC085 RS04855 WP 163621000.1     KKAVLSLKVTPQITPDGKILMDLQINQDTPSPQ.TFLGVPAIITKEIQTNVLVNNGQTIVLGGIYKQDKNKVINRIPFFG   650
NTDB id 1129697 G3R43 RS28980 WP 162291230.1  KEAALSLEVTPQITPDNRIIVEVKVTKDAPDYQNMLNGVPPINKNEVNAKILVNDGETIVIGGVFSNEQSKSVEKVPFLG   675
NTDB id 1193 PAKAF RS26665 WP 003161249.1     KEAALSLEVTPQITPDNRIIVEVKVTKDAPDYQNMLNGVPPINKNEVNAKILVNDGETIVIGGVFSNEQSKSVEKVPFLG   675
NTDB id 1009 ACIAD RS15175 WP 004923730.1     KEALLSLEVTPNITPDGKILMELNIANDSINS.YAQNGEAILNKNTINTNVLVNNGETVVLGGVFEQTTNNAVTKVPFLG   671
NTDB id 1052 ABD1 RS15850 WP 001017033.1      KDALLSLNVTPSITPDGKIQMKLDISKDSVAG.AAPNGELILNKNNINTNVLVDNGETVILGGVFEQTTMNSQTKVPFFG   683
NTDB id 1039 HON27 RS01460 WP 031993779.1     KDALLSLNVTPSITPDGKIQMKLDISKDSVAG.AAPNGELILNKNNINTNVLVDNGETVILGGVFEQTTMNSQTKVPFFG   683
consensus                                     !*!*!!!  !!!*!!!!**!**** ***!**   *    *!** **********!!**!*!***!!** **   *** **!!*!

logo

NTDB id 1284 ACE17W RS12370 WP 010946666.1     ELPVVGILFSNRQITLKNEELLIFITPRIITNALSITTIEGREKDVYK   698
NTDB id 1257 GC085 RS04855 WP 163621000.1     ELPVVGILFSNRQITLKNEELLIFITPRIITNALSITTIEGREKDVYK   698
NTDB id 1129697 G3R43 RS28980 WP 162291230.1  ELPYLGRLFRRDTVTDRKNELLVFLTPRIMNNQAIAIGR.........   714
NTDB id 1193 PAKAF RS26665 WP 003161249.1     ELPYLGRLFRRDTVTDRKNELLVFLTPRIMNNQAIAIGR.........   714
NTDB id 1009 ACIAD RS15175 WP 004923730.1     DLPYVGRLFKKTAKSEAKNELLIFVTPRIVNDTIVGNH..........   709
NTDB id 1052 ABD1 RS15850 WP 001017033.1      DIPVVGRLFRKDVKSDDKQELLIFVTPRIVNDTLARNH..........   721
NTDB id 1039 HON27 RS01460 WP 031993779.1     DIPVVGRLFRKDVKSDDKQELLIFVTPRIVNDTLARNH..........   721
consensus                                     **!**!*!!*** ******!!!*!*!!!!*** *
```

X non conserved

X similar

X ≥ 50% conserved