```
logo
NTDB id 1257 GC085 RS04855 WP 163621000.1     MRKI........IAILILISASLSLAYSKDNSLISVKVLPLPENRVRIDFQFSKPLKQLPASFITQKPPRLVLDFISTDM   72
NTDB id 1284 ACE17W RS12370 WP 010946666.1    MRKI........IAILILISASLSMAYSKDNSLISVKVLPLPENRVRIDFQFSKPLKQLPASFITQKPPRLVLDFISTDM   72
NTDB id 363543 FE254 RS02810 WP 273252292.1  MNSSLSRLSVALLATL.LSPA......ILAANLQDLSVASLPGDRVELKLSFDEPVT.APRGYTIEQPARIALDLPGVSN   72
NTDB id 1193 PAKAF RS26665 WP 003161249.1    MNSGLSRLGIALLAAM.FAPA......LLAADLEKLDVAALPGDRVELKLQFDEPVA.APRGYTIEQPARIALDLPGVQN   72
NTDB id 1009 ACIAD RS15175 WP 004923730.1    MKQIIRQFSIGTVAYAIMQVA......SAQVAITNVVPMNIPGQGTEIRVMFNGLPP.QPQAYQLEQPARLILDFDKAGQ   73
NTDB id 1052 ABD1 RS15850 WP 001017033.1     MNHVFRQFSMGAVAIAIMQAA......SAQVSMTNIVPMQIAGQGTEIRVMFNGLPP.QPQAYQLENPSRLILDFDKAQQ   73
NTDB id 1039 HON27 RS01460 WP 031993779.1    MNHVFRQFSMGAVAIAIMQAA......SAQVSMTNIVPMQIAGQGTEIRVMFNGLPP.QPQAYQLENPSRLILDFDKAQQ   73
consensus                                    !* *     *** *!****  !       *   **  * ** ********** !  **   ! ** ***! !**!!*    *

logo
NTDB id 1257 GC085 RS04855 WP 163621000.1     QIPSDQKTKTIQLGSLHSYNIVAVGDRVRAILELDRSVSYSGSTAGSVYSLVLNGKSNDLFENSK.............EV   139
NTDB id 1284 ACE17W RS12370 WP 010946666.1    QIPSDQKTKTIQLGSLHSYNIVAVGDRVRAILELDRSVSYSGSTAGSIYSLVLNGKSNDLFENSK.............EV   139
NTDB id 363543 FE254 RS02810 WP 273252292.1  KLG..SKNRELGVGNARSVTIVEAKDRTRLIVNLTSLAPYSTRVEGNDLYVLVGDSSAVAAR....PAASVPAPV..ASV   144
NTDB id 1193 PAKAF RS26665 WP 003161249.1    KLG..TKNRELSVGNTRSVTVVEAKDRTRLIINLTTLSSYTTRVEGNNLFVVVGNSPAGASVASTAPVKASPAPASYAQP   150
NTDB id 1009 ACIAD RS15175 WP 004923730.1    KLA..KSLIPVTTNEASSIDVSSDDKRARVVVNLKDAGAFTTRVEGNVFILKINNIQSTA..........TPVA......   135
NTDB id 1052 ABD1 RS15850 WP 001017033.1     GLK..QSKISVATNEASSVDVTSDDQRSRLTVNLKDAGAFTTRVEGNTFILKINSAQTSN..........KPLP......   135
NTDB id 1039 HON27 RS01460 WP 031993779.1    GLK..QSKISVATNEASSVDVTSDDQRSRLTVNLKDTGAFTTRVEGNTFILKINSAQTSN..........KPLP......   135
consensus                                     *   ** *** ** * !* **   *!*!****!   * ******!* * ****                 * *

logo
NTDB id 1257 GC085 RS04855 WP 163621000.1     FITNQVVNAKHEIKRIDFRGIEKQGGRVLIDVSDTGIPIDVTQVGKEIVVNFLNTKIPLNLMKRYDVSDFHSPVQIITMQ   219
NTDB id 1284 ACE17W RS12370 WP 010946666.1    FITNQVVNAKHEIKRIDFRGIEKQGGRVLIDVSDTGIPIDVTQVGKEIVVNFLNTKIPLNLMKRYDVSDFHSPVQIITMQ   219
NTDB id 363543 FE254 RS02810 WP 273252292.1  PPKKTYGPQPKAISNIDFQRGEQGEGNVVITLSDASVSPDIQEQGGKIRLDFAKTDLPESLRVRLDVKDFATPVQFVSAT   224
NTDB id 1193 PAKAF RS26665 WP 003161249.1    IKPKPYVPAGRAIRNIDFQRGEKGEGNVVIDLSDPTLSPDIQEQGGKIRLDFAKTQLPDALRVRLDVKDFATPVQFVNAS   230
NTDB id 1009 ACIAD RS15175 WP 004923730.1    ...TSAPAPQQGIGNIGFQRGAQGEGLVVIDLQGTNTPVDVQQQGSKVVVRFPGIKIPTHLARRLNTTDFATPVASIDSY   212
NTDB id 1052 ABD1 RS15850 WP 001017033.1     ...VVS.AQPQGVSNIGFQRGSQGEGLVVVDLLGSNTPVDVQQQGSKVVIRTIGTKIPTHLARRLNVNDFATPVSSIDAY   211
NTDB id 1039 HON27 RS01460 WP 031993779.1    ...VVS.AQPQGVSNIGFQRGSQGEGLVVVDLLGSNTPVDVQQQGSKVVIRTIGTKIPTHLARRLNVNDFATPVSSIDAY   211
consensus                                                 ** *!*!******!! !******* ***!****! **** ** ***!   ! *!*** !!**!!* * *

logo
NTDB id 1257 GC085 RS04855 WP 163621000.1     QEGKKVRMTILSKGDYGHFVYQVNKQFMVDVFPLTAEEIRQAKLKKQVFTGKRISLNFQNISIRAVLQLLADFTGINMVV   299
NTDB id 1284 ACE17W RS12370 WP 010946666.1    QEGKKVRMTILSKGDYGHFVYQVNKQFMVDVFPLTAEEIRQAKLKKQVFTGKRISLNFQNISIRAVLQLLADFTGINMVV   299
NTDB id 363543 FE254 RS02810 WP 273252292.1  GSADKTSILVEPVGLYDYLAYQTENTLTLSVKPLSQDDAERRKAERFAYSGEKLSLNFQDIDVRSVLQLIADFTDLNLVA   304
NTDB id 1193 PAKAF RS26665 WP 003161249.1    AQSDRTSITIEPSGLYDYLVYQTDNRLTVSIKPMTTEDAERRKKDNFAYTGEKLSLNFQDIDVRSVLQLIADFTDLNLVA   310
NTDB id 1009 ACIAD RS15175 WP 004923730.1    NDGSNGVISIQSTGSYEYMAYQAENKLTISLKRPQD.NVRLNSKNNQNYTGKKISLDFQDIEVRRVLQLLADFTNINMVT   291
NTDB id 1052 ABD1 RS15850 WP 001017033.1     NDKGVGVITIQSSGSYEYMAYQAENKLTISLKRPQD.KNVTSLYKTPNYSGNKLSLDFQDIEVRRVLQLLADFTGINMVA   290
NTDB id 1039 HON27 RS01460 WP 031993779.1    NDKGVGVITIQSSGSYEYMAYQAENKLTISLKRPQD.KNVTSLYKTPNYSGNKLSLDFQDIEVRRVLQLLADFTGINMVA   290
consensus                                    *** *  *** **! !****!! ************ **    * *   **! **!!*!!*!**! !!!!*!!!!**!*!*
```

```
logo

NTDB id 1257 GC085 RS04855 WP 163621000.1      SDKVQGDITLRLNDIPWDQALDIILTTQGLDKRRKGNVMLIDTKASMDKMEEEQLKSQQTIEKLEPIRSDLIQINYAKAA   379
NTDB id 1284 ACE17W RS12370 WP 010946666.1     SDKVQGDITLRLNDIPWDQALDIILTTQGLDKRRKGNVMLIDTKASMDKMEEEQLKSQQTIEKLEPIRSDLIQINYAKAA   379
NTDB id 363543 FE254 RS02810 WP 273252292.1    SDTVAGNITLRLQNVPWDQALDLVLKTKGLDKRQVGNVLLVAPADEIAARERQELESQKQIAELAPLRRELIQVNYAKAA   384
NTDB id 1193 PAKAF RS26665 WP 003161249.1      SDTVQGNITLRLQNVPWDQALDLVLKTKGLDKRKLGNVLLVAPADEIAARERQELEAQKQIAELAPLRRELIQVNYAKAA   390
NTDB id 1009 ACIAD RS15175 WP 004923730.1      ADSVQGNITLHLKDVPWDQALDIILKTKNLDKRRNGNVIWIAPVSELIKSEEDEAKAIAQSTKLAPLQTEYILLKYAKAA   371
NTDB id 1052 ABD1 RS15850 WP 001017033.1       ADSVQGNITLRLKDVPWDQALDIILKTKNLDKRRNGNVIWIAPVAELIKAEEEEAKAVAQSVKLAPLQTEYIQLKYAKAG   370
NTDB id 1039 HON27 RS01460 WP 031993779.1      ADSVQGNITLRLKDVPWDQALDIILKTKNLDKRRNGNVIWIAPVAELIKAEEEEAKAVAQSVKLAPLQTEYIQLKYAKAG   370
consensus                                      *!*!*!*!!!*!***!!!!!!!**!*!**!!!!* !!!***** *** * !******* ** *!*!*****!***!!!!*

logo

NTDB id 1257 GC085 RS04855 WP 163621000.1      DIAVLIKDKQ.............................NSLLSDRGKISVDARTNTIWIQDTGTKIEEVRELIKQLD   428
NTDB id 1284 ACE17W RS12370 WP 010946666.1     DIAVLIKDKQ.............................NSLLSDRGKISVDARTNTIWIQDTGTKIEEVRELIKQLD   428
NTDB id 363543 FE254 RS02810 WP 273252292.1    DMAKLFQSVTSADG..........................ASDTRGSVTVDERTNSIIAYQTQDRLDELRRIIAQLD   435
NTDB id 1193 PAKAF RS26665 WP 003161249.1      DIAKLFQSVTSDGGQ........................EGKEGGRGSITVDDRTNSIIAYQPQERLDELRRIVSQLD   444
NTDB id 1009 ACIAD RS15175 WP 004923730.1      DIEKLITQGRNSGTSNSN.........TNGSATVEPLGDSVGTLLSPRGTISLDPRTNTLIINDTSQKIDQIRKMIDLLD   442
NTDB id 1052 ABD1 RS15850 WP 001017033.1       DIMGLITQGSNNSNGLQHTSGGGTSTSTNLNTGVDSLGNNVGSLLSPRGTITQDDRTNTLIINDTAQSIDQIRKMIDLLD   450
NTDB id 1039 HON27 RS01460 WP 031993779.1      DIMGLITQGSNNSNGLQHTSGGGTSTSTNLNTGVDSLGNNVGSLLSPRGTITQDDRTNTLIINDTAQSIDQIRKMIDLLD   450
consensus                                      !**  !*    *                                 ****  !!****!*!!!*******  *****!***  *!!

logo

IPVKQVLIEARIVEVTKDFSQDIGIRWGVSRPTHLS..GTLEGANE....LARGTAPA.........NVV..........   483
NTDB id 1284 ACE17W RS12370 WP 010946666.1     IPVKQVLIEARIVEVTKDFSQDIGIRWGVSRPTHLS..GTLEGANE....LARGTAPA.........NVV..........   483
NTDB id 363543 FE254 RS02810 WP 273252292.1    IPVRQVMIEARIVEANVDYDKALGVRWGGASRRG..............NWSVYGKDGATSFDSDSGQVFLPGTDTVGNVT   501
NTDB id 1193 PAKAF RS26665 WP 003161249.1      IPVRQVMIEARIVEANVGYDKSLGVRWGGAYHKG..............NWSGYGKDGNIGIKDEDGMNCGPIAGSCTFPT   510
NTDB id 1009 ACIAD RS15175 WP 004923730.1      IPVKQVMIEARIVRATTSFSKEMGVKWGILSQGINQNSNLLVGGSETTLWNLRNPDSN....................GT   502
NTDB id 1052 ABD1 RS15850 WP 001017033.1       VQVKQVMVEARIVRASTSFTKELGVKWGILSQGITNNNNLLVGGSETTLWNLREPKKDET...............TGGYK   515
NTDB id 1039 HON27 RS01460 WP 031993779.1      VQVKQVMVEARIVRASTSFTKELGVKWGILSQGITNNNNLLVGGSETTLWNLREPKKDET...............TGGYK   515
consensus                                      **!*!!**!!!!!***  *****!**!!* *         * ** *   * ***

logo

NTDB id 1257 GC085 RS04855 WP 163621000.1      .PL..ERRLNLDLAAVPLTGATPASVGIALAKL.NDNILLDLELSALESECRAELISSPRLITTNQQAAVIESGEEIPYQ   559
NTDB id 1284 ACE17W RS12370 WP 010946666.1     .PL..ERRLNLDLAAAPLTGATPASVGIALAKL.NDNILLDLELSALESECRAELISSPRLITTNQQAAVIESGEEIPYQ   559
NTDB id 363543 FE254 RS02810 WP 273252292.1    LQDGVAPVPFVD.....MGVLGS.TSGIGIGFL.TDNVTLDLQLSAMEKTGNGEIVSQPKVVTSDKETAKILKGQEVPYQ   574
NTDB id 1193 PAKAF RS26665 WP 003161249.1      TGTSKSPSPFVD.....LGAKDA.TSGIGIGFI.TDNIILDLQLSAMEKTGNGEIVSQPKVVTSDKETAKILKGSEVPYQ   583
NTDB id 1009 ACIAD RS15175 WP 004923730.1      YTIERPDNLNVD.....LGVTTTGASSIAFGLISLSDFMLDLELSALQADGYGEVISTPKVMSADKQKAKVATGVEVPYQ   577
NTDB id 1052 ABD1 RS15850 WP 001017033.1       YTIERPDNLNVD.....LGVSNP.AGSIAFGLISMSDFMLDLELSALQADGYGEVISTPKVMTADKQTAKVATGQQVPYQ   589
NTDB id 1039 HON27 RS01460 WP 031993779.1      YTIERPDNLNVD.....LGVSNP.AGSIAFGLISMSDFMLDLELSALQADGYGEVISTPKVMTADKQTAKVATGQQVPYQ   589
consensus                                        * *   ***!     ***  * * *!*** *  ****!!!*!!!** *! *!**!*!*********!** *! **!!!
```

```
logo
NTDB id 1257 GC085 RS04855 WP 163621000.1     EATSSGA...TAVAFKKAVLSLKVTPQITPDGKILMDLQINQDTPS.PQTFLGVPAIITKEIQTNVLVNNGQTIVLGGIY   635
NTDB id 1284 ACE17W RS12370 WP 010946666.1    EATSSGA...TAVAFKKAVLSLKVTPQITPDGKILMDLQINQDTPS.PQTFLGVPAIITKEIQTNVLVNNGQTIVLGGIY   635
NTDB id 363543 FE254 RS02810 WP 273252292.1  EASSSGA...TSTSFKEAALSLEVTPQITPDNRIIMEVKVTKDAPDFARALNGVPPINKNEVNAKVLVNDGETIVIGGVF   651
NTDB id 1193 PAKAF RS26665 WP 003161249.1    EASSSGA...TSTSFKEAALSLEVTPQITPDNRIIVEVKVTKDAPDYQNMLNGVPPINKNEVNAKILVNDGETIVIGGVF   660
NTDB id 1009 ACIAD RS15175 WP 004923730.1    STTNSAAGSTATTSFKEALLSLEVTPNITPDGKILMELNIANDSIN.SYAQNGEAILNKNTINTNVLVNNGETVVLGGVF   656
NTDB id 1052 ABD1 RS15850 WP 001017033.1     STTNSAAGSTATTSFKDALLSLNVTPSITPDGKIQMKLDISKDSVA.GAAPNGELILNKNNINTNVLVDNGETVILGGVF   668
NTDB id 1039 HON27 RS01460 WP 031993779.1    STTNSAAGSTATTSFKDALLSLNVTPSITPDGKIQMKLDISKDSVA.GAAPNGELILNKNNINTNVLVDNGETVILGGVF   668
consensus                                    ****!*!    ****!!*!*!!! !!!*!!!!**!**** ***!**     * *!** *********!!**!*!***!!**

logo
NTDB id 1257 GC085 RS04855 WP 163621000.1     KQDKNKVINRIPFFGELPVVGILFSNRQITLKNEELLIFITPRIITNALSITTIEGREKDVYK   698
NTDB id 1284 ACE17W RS12370 WP 010946666.1    KQDKNKVINRIPFFGELPVVGILFSNRQITLKNEELLIFITPRIITNALSITTIEGREKDVYK   698
NTDB id 363543 FE254 RS02810 WP 273252292.1  SNTQTKGVEKVPFLGDLPFLGRVFRRDVVADNKAELLVFITPRIMNNQAIAVNR.........   705
NTDB id 1193 PAKAF RS26665 WP 003161249.1    SNEQSKSVEKVPFLGELPYLGRLFRRDTVTDRKNELLVFLTPRIMNNQAIAIGR.........   714
NTDB id 1009 ACIAD RS15175 WP 004923730.1    EQTTNNAVTKVPFLGDLPYVGRLFKKTAKSEAKNELLIFVTPRIVNDTIVGNH..........   709
NTDB id 1052 ABD1 RS15850 WP 001017033.1     EQTTMNSQTKVPFFGDIPVVGRLFRKDVKSDDKQELLIFVTPRIVNDTLARNH..........   721
NTDB id 1039 HON27 RS01460 WP 031993779.1    EQTTMNSQTKVPFFGDIPVVGRLFRKDVKSDDKQELLIFVTPRIVNDTLARNH..........   721
consensus                                     **   * * **!!*!**!**!**!*** *** **!!!*!*!!!!*** *
```

X non conserved

X similar

X $\geq$ 50% conserved