```
logo
NTDB id 1257 GC085 RS04855 WP 163621000.1      MRK........IIAILILISASLSLAYSKDNSLISVKVLPLPENRVRIDFQFSKPLKQLPASFITQKPPRLVLDFISTDM    72
NTDB id 1284 ACE17W RS12370 WP 010946666.1     MRK........IIAILILISASLSMAYSKDNSLISVKVLPLPENRVRIDFQFSKPLKQLPASFITQKPPRLVLDFISTDM    72
NTDB id 186749 VSVS12 RS02200 WP 156773132.1  ..........................................................................................     0
NTDB id 1186 GTF74 RS01320 WP 000788426.1     ..........................................................................................     0
NTDB id 1175 A1552VC RS12105 WP 000788426.1   ..........................................................................................     0
NTDB id 1408 DSB67 RS13980 WP 010643500.1     ..........................................................................................     0
NTDB id 1193 PAKAF RS26665 WP 003161249.1     MNSGLSRLGIALLA.AMFAP......ALLAADLEKLDVAALPGDRVELKLQFDEPVA.APRGYTIEQPARIALDLPGVQN    72
NTDB id 1039 HON27 RS01460 WP 031993779.1     MNHVFRQFSMGAVAIAIMQA......ASAQVSMTNIVPMQIAGQGTEIRVMFNGLPP.QPQAYQLENPSRLILDFDKAQQ    73
NTDB id 1052 ABD1 RS15850 WP 001017033.1      MNHVFRQFSMGAVAIAIMQA......ASAQVSMTNIVPMQIAGQGTEIRVMFNGLPP.QPQAYQLENPSRLILDFDKAQQ    73
consensus                                     *            **  *                *  *    *       *   *        *  *    * **  **
```

```
logo
NTDB id 1257 GC085 RS04855 WP 163621000.1      QIPSDQKTKTIQLGSLHSYNIVAVGDRVRAILELDRSVSYSGSTAGSVYSLVLNGKSNDLFE.......NSKE......V   139
NTDB id 1284 ACE17W RS12370 WP 010946666.1     QIPSDQKTKTIQLGSLHSYNIVAVGDRVRAILELDRSVSYSGSTAGSIYSLVLNGKSNDLFE.......NSKE......V   139
NTDB id 186749 VSVS12 RS02200 WP 156773132.1  ................................MIQGWKVTNQKRMRCLQVICVV....I.V..........AL......L    27
NTDB id 1186 GTF74 RS01320 WP 000788426.1     ................................MKNGLKT..YVAQTWLTLWVGL....ALC..........AS......S    26
NTDB id 1175 A1552VC RS12105 WP 000788426.1   ................................MKNGLKT..YVAQTWLTLWVGL....ALC..........AS......S    26
NTDB id 1408 DSB67 RS13980 WP 010643500.1     ...............................MKMRHGLTLTPRKLTGLFSLWFSL....LLA..........P........    28
NTDB id 1193 PAKAF RS26665 WP 003161249.1     KL..GTKNRELSVGNTRSVTVVEAKDRTRLIINLTTLSSYTTRVEGNNLFVVVGNSPAGASVASTAPVKASPAPASYAQP   150
NTDB id 1039 HON27 RS01460 WP 031993779.1     GL..KQSKISVATNEASSVDVTSDDQRSRLTVNLKDTGAFTTRVEGNTFILKINSAQTS..........NKPLPVVS...   138
NTDB id 1052 ABD1 RS15850 WP 001017033.1      GL..KQSKISVATNEASSVDVTSDDQRSRLTVNLKDAGAFTTRVEGNTFILKINSAQTS..........NKPLPVVS...   138
consensus                                      *        *       *  *      * *  * ** ** **  * *  *** *
```

```
logo
NTDB id 1257 GC085 RS04855 WP 163621000.1      FITNQVVNAKHEIKRIDFRGIEKQGGRVLIDVSDTGIPIDVTQVGKEIVVNFLNTKIPLNLMKRYDVSDFHSPVQIITMQ   219
NTDB id 1284 ACE17W RS12370 WP 010946666.1     FITNQVVNAKHEIKRIDFRGIEKQGGRVLIDVSDTGIPIDVTQVGKEIVVNFLNTKIPLNLMKRYDVSDFHSPVQIITMQ   219
NTDB id 186749 VSVS12 RS02200 WP 156773132.1  TAQPQAWSMSNQLLSVDFRLDDTNRGKVMLQLSSDQLALDIQEDPQGLVIELFDTSVDDALLSRFDVADFGNNVQTMEVF   107
NTDB id 1186 GTF74 RS01320 WP 000788426.1     MVFSAESATANQLENIDFRVNKEKAAVLIVELASPSAVVDVQKVQEGLSIELLKTDVADDKLYLLDVKDFSTPVESVEVF   106
NTDB id 1175 A1552VC RS12105 WP 000788426.1   MVFSAESATANQLENIDFRVNKEKAAVLIVELASPSAVVDVQKVQEGLSIELLKTDVADDKLYLLDVKDFSTPVESVEVF   106
NTDB id 1408 DSB67 RS13980 WP 010643500.1     .FVAAEEVQSNSLKSIDFRTNKDKDAVIVVELVSPAAIVDIKRVQEGLSIDLLNTSVKDDQLYLLDVKDFSTVVESVEVF   107
NTDB id 1193 PAKAF RS26665 WP 003161249.1     IKPKPYVPAGRAIRNIDFQRGEKGEGNVVIDLSDPTLSPDIQEQGGKIRLDFAKTQLPDALRVRLDVKDFATPVQFVNAS   230
NTDB id 1039 HON27 RS01460 WP 031993779.1     .......AQPQGVSNIGFQRGSQGEGLVVVDLLGSNTPVDVQQQGSKVVIRTIGTKIPTHLARRLNVNDFATPVSSIDAY   211
NTDB id 1052 ABD1 RS15850 WP 001017033.1      .......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 186749 VSVS12 RS02200 WP 156773132.1  RLDDRVRVHIQIEGRFAYQHTLDGGLLELVVTEAESEGKHDL.SMLSKASANKIAINFQDISVRNVLQLIAEYNDFNLVV   186
NTDB id 1186 GTF74 RS01320 WP 000788426.1     RKEPSTQLVVTVDGEFQHDYTLKGKYLEVVISKLKADEKPKP.KSVLEKEGKLISINFQDIPVRNVLQLIADYNGFNLVV   185
NTDB id 1175 A1552VC RS12105 WP 000788426.1   RKEPSTQLVVTVDGEFQHDYTLKGKYLEVVISKLKADEKPKP.KSVLEKEGKLISINFQDIPVRNVLQLIADYNGFNLVV   185
NTDB id 1408 DSB67 RS13980 WP 010643500.1     RDTSTTRLVAYIDEDYSHDYRLTGRYLEVKVGKLKANEKAPD.KSILDKEGKLISINFQDIPVRNVLQLIADYNQFNLVV   186
NTDB id 1193 PAKAF RS26665 WP 003161249.1     AQSDRTSITIEPSGLYDYLVYQTDNRLTVSIKPMTTEDAERRKKDNFAYTGEKLSLNFQDIDVRSVLQLIADFTDLNLVA   310
NTDB id 1039 HON27 RS01460 WP 031993779.1     NDKGVGVITIQSSGSYEYMAYQAENKLTISLKRPQDKNVT.SLYKTPNYSGNKLSLDFQDIEVRRVLQLLADFTGINMVA   290
NTDB id 1052 ABD1 RS15850 WP 001017033.1      NDKGVGVITIQSSGSYEYMAYQAENKLTISLKRPQDKNVT.SLYKTPNYSGNKLSLDFQDIEVRRVLQLLADFTGINMVA   290
consensus                                      *     ***   *** *  **  * * * * ** ***          *********!!*! *! !!!!*!*****!*!*
```

```
logo
NTDB id 1257 GCO85 RS04855 WP 163621000.1      SDKVQGDITLRLNDIPWDQALDIILTTQGLDKRRKGNVMLIDTKASMDKMEEEQLKSQQTIEKLEPIRSDLIQINYAKAA   379
NTDB id 1284 ACE17W RS12370 WP 010946666.1     SDKVQGDITLRLNDIPWDQALDIILTTQGLDKRRKGNVMLIDTKASMDKMEEEQLKSQQTIEKLEPIRSDLIQINYAKAA   379
NTDB id 186749 VSVS12 RS02200 WP 156773132.1  SDAVSGNLTLRLDDVPWPQVLDIILQVKGLDKRIEGNVVLVAPKAEFELREQQRLENARMAEQLSELHSDIIAVNFANAS   266
NTDB id 1186 GTF74 RS01320 WP 000788426.1     SDSVVGNLTLRLDGVPWQQVLDIILQVKGLDKRVDGNVILIAPKEELDLREKQALEKARLAEELGDLKSEIIKINFAKAS   265
NTDB id 1175 A1552VC RS12105 WP 000788426.1   SDSVVGNLTLRLDGVPWQQVLDIILQVKGLDKRVDGNVILIAPKEELDLREKQALEKARLAEELGDLKSEIIKINFAKAS   265
NTDB id 1408 DSB67 RS13980 WP 010643500.1     SDSVEGNLTLRLDGVPWQQVLDIILQVKGLDKRVDGNVILVAPKDELDLREKQQLEKQKLEKEIGELSSEIIKVNFAKAS   266
NTDB id 1193 PAKAF RS26665 WP 003161249.1     SDTVQGNITLRLQNVPWDQALDLVLKTKGLDKRKLGNVLLVAPADEIAARERQELEAQKQIAELAPLRRELIQVNYAKAA   390
NTDB id 1039 HON27 RS01460 WP 031993779.1     ADSVQGNITLRLKDVPWDQALDIILKTKNLDKRRNGNVIWIAPVAELIKAEEEEAKAVAQSVKLAPLQTEYIQLKYAKAG   370
NTDB id 1052 ABD1 RS15850 WP 001017033.1      ADSVQGNITLRLKDVPWDQALDIILKTKNLDKRRNGNVIWIAPVAELIKAEEEEAKAVAQSVKLAPLQTEYIQLKYAKAG   370
consensus                                     *!*!*!**!!!! **!!*!*!!**! ***!!!!* !!!********** *! * **  *  * ********!****!*!*
```

```
logo
NTDB id 1257 GCO85 RS04855 WP 163621000.1      DIAVLIKDKQ.N.............................SLLSDRGKISVDARTNTIWIQDTGTKIEEVRELIKQLD   428
NTDB id 1284 ACE17W RS12370 WP 010946666.1     DIAVLIKDKQ.N.............................SLLSDRGKISVDARTNTIWIQDTGTKIEEVRELIKQLD   428
NTDB id 186749 VSVS12 RS02200 WP 156773132.1  DIAEMIGGSGAI.............................SMLSERGSITVDERTNALLIRDLPSHIEMVRSVVGSLD   316
NTDB id 1186 GTF74 RS01320 WP 000788426.1     DIAAMIGGEGNV.............................NMLSERGSISIDERTNSLLIRELPDNIAVIREIIESLD   315
NTDB id 1175 A1552VC RS12105 WP 000788426.1   DIAAMIGGEGNV.............................NMLSERGSISIDERTNSLLIRELPDNIAVIREIIESLD   315
NTDB id 1408 DSB67 RS13980 WP 010643500.1     DIAEMINGEGNI.............................SMLSDRGSMTIDERTNSLLIRELPENIEVIREIIESLD   316
NTDB id 1193 PAKAF RS26665 WP 003161249.1     DIAKLFQSVTSDG..GQE.......................GKEGGRGSITVDDRTNSIIAYQPQERLDELRRIVSQLD   444
NTDB id 1039 HON27 RS01460 WP 031993779.1     DIMGLITQGSNNSNGLQHTSGGGTSTSTNLNTGVDSLGNNVGSLLSPRGTITQDDRTNTLIINDTAQSIDQIRKMIDLLD   450
NTDB id 1052 ABD1 RS15850 WP 001017033.1      DIMGLITQGSNNSNGLQHTSGGGTSTSTNLNTGVDSLGNNVGSLLSPRGTITQDDRTNTLIINDTAQSIDQIRKMIDLLD   450
consensus                                     !!* **    *                              *****!!****!*!!!**** *    ** *!**** !!
```

```
logo
NTDB id 1257 GCO85 RS04855 WP 163621000.1      IPVKQVLIEARIVEVTKDFSQDIGIRWGVSRPTH......LSGTLEGANE....L...ARG......TAPANVVPLERRL   489
NTDB id 1284 ACE17W RS12370 WP 010946666.1     IPVKQVLIEARIVEVTKDFSQDIGIRWGVSRPTH......LSGTLEGANE....L...ARG......TAPANVVPLERRL   489
NTDB id 186749 VSVS12 RS02200 WP 156773132.1  VPVKQVQIEARIVTVNQGSLDELGVRWSLNSTTGN.....LGATLEGNLNQRGSDG............LLSPGDNIDDFL   379
NTDB id 1186 GTF74 RS01320 WP 000788426.1     IPVKQVQIEARIVTVKEGNLEELGVRWGVMSTNGSHS...VGGSIESNLWQKGLLAD...............DEFPVDEFL   378
NTDB id 1175 A1552VC RS12105 WP 000788426.1   IPVKQVQIEARIVTVKEGNLEELGVRWGVMSTNGSHS...VGGSIESNLWQKGLLAD...............DEFPVDEFL   378
NTDB id 1408 DSB67 RS13980 WP 010643500.1     IPVKQVQIEARIVTINEGNMDELGVRWGFTSINGSHT...VGGSIENNLATIGLYDGGGEG......DDGGSSVGIDDFL   387
NTDB id 1193 PAKAF RS26665 WP 003161249.1     IPVRQVMIEARIVEANVGYDKSLGVRWGGAYHKGNWS....GYGKDGN.IGIKDEDGMNCGPIAGSCTFPTTGTSKSPSP   519
NTDB id 1039 HON27 RS01460 WP 031993779.1     VQVKQVMVEARIVRASTSFTKELGVKWGILSQGITNNNNLLVGGSETTLWNLREP...KKDETTGGYKYT...IERPDNL   524
NTDB id 1052 ABD1 RS15850 WP 001017033.1      VQVKQVMVEARIVRASTSFTKELGVKWGILSQGITNNNNLLVGGSETTLWNLREP...KKDETTGGYKYT...IERPDNL   524
consensus                                     **!*!!**!!!!! *  **  **!**!** *  **     ****** ** *                      * *** *
```

```
logo
NTDB id 1257 GCO85 RS04855 WP 163621000.1      NLDLAAVPLTGATPASVGIALAKLNDNILLDLELSALESEGRAELISSPRLITTNQQAAVIESGEEIPYQEATSSGA...   566
NTDB id 1284 ACE17W RS12370 WP 010946666.1     NLDLAAAPLTGATPASVGIALAKLNDNILLDLELSALESEGRAELISSPRLITTNQQAAVIESGEEIPYQEATSSGA...   566
NTDB id 186749 VSVS12 RS02200 WP 156773132.1  NVNLAA...TAGHSSSLAFQVAKLGSSTLLDLELSALQSESKAEVISSPRLITTNKKPAYIEQGTDIPYLESTSSGA...   453
NTDB id 1186 GTF74 RS01320 WP 000788426.1     NVNLAS...TSANASSIAFQVAKLGSGTLLDLELSALQNESKAEIISSPRLITTNKQPAYIEQGTEIPYLESSSSGA...   452
NTDB id 1175 A1552VC RS12105 WP 000788426.1   NVNLAS...TSANASSIAFQVAKLGSGTLLDLELSALQNESKAEIISSPRLITTNKQPAYIEQGTEIPYLESSSSGA...   452
NTDB id 1408 DSB67 RS13980 WP 010643500.1     NVNLAA...TSPNATSIAFQVAKLGSDTLLDLELSALQQESKAEIISSPRLITTNKKPAYIEQGTEIPYLESSSSGA...   461
NTDB id 1193 PAKAF RS26665 WP 003161249.1     FVDLGA....KDATSGIGIGFIT..DNIILDLQLSAMEKTGNGEIVSQPKVVTSDKETAKILKGSEVPYQEASSSGA...   590
NTDB id 1039 HON27 RS01460 WP 031993779.1     NVDLGV....SNPAGSIAFGLISM.SDFMLDLELSALQADGYGEVISTPKVMTADKQTAKVATGQQVPYQSTTNSAAGST   599
NTDB id 1052 ABD1 RS15850 WP 001017033.1      NVDLGV....SNPAGSIAFGLISM.SDFMLDLELSALQADGYGEVISTPKVMTADKQTAKVATGQQVPYQSTTNSAAGST   599
consensus                                     ***!**   *** ********** *  *!!!*!!!** ****!**!*!***!**** ! ** !***!!*****!*!
```

```
logo

NTDB id 1257 GCO85 RS04855 WP 163621000.1      TAVAFKKAVLSLKVTPQITPDGKILMDLQINQDTPSPQT.FLGVP...AIITKEIQTNVLVNNGQTIVLGGIYKQDKNKV   642
NTDB id 1284 ACE17W RS12370 WP 010946666.1     TAVAFKKAVLSLKVTPQITPDGKILMDLQINQDTPSPQT.FLGVP...AIITKEIQTNVLVNNGQTIVLGGIYKQDKNKV   642
NTDB id 186749 VSVS12 RS02200 WP 156773132.1  SSVSFKKAVLSLKVTPQITPDNRLILDLSVTQDRPGEVV.KVGTGEAVSINTQRIGTQVLVDNGETIVLGGIYQHSVTDT   532
NTDB id 1186 GTF74 RS01320 WP 000788426.1      STVAFKKAVLSLKVTPQITPDNRLVLDLSVTQDRRGETV.KTGTGEAVSIDTQRIGTQVLVNNGETVVLGGIFQHSINNS   531
NTDB id 1175 A1552VC RS12105 WP 000788426.1    STVAFKKAVLSLKVTPQITPDNRLVLDLSVTQDRRGETV.KTGTGEAVSIDTQRIGTQVLVNNGETVVLGGIFQHSINNS   531
NTDB id 1408 DSB67 RS13980 WP 010643500.1      TSVTFKKAVLSLKVTPQITPDNRLVLDLSVTQDRPGQVV.KTGTGEAVAIDTQRIGTQVLVNNGETVVLGGIFQHSITNS   540
NTDB id 1193 PAKAF RS26665 WP 003161249.1      TSTSFKEAALSLEVTPQITPDNRIIVEVKVTKDAPDYQNMLNGVP...PINKNEVNAKILVNDGETIVIGGVFSNEQSKS   667
NTDB id 1039 HON27 RS01460 WP 031993779.1      ATTSFKDALLSLNVTPSITPDGKIQMKLDISKDSVA.GAAPNGEL...ILNKNNINTNVLVDNGETVILGGVFEQTTMNS   675
NTDB id 1052 ABD1 RS15850 WP 001017033.1       ATTSFKDALLSLNVTPSITPDGKIQMKLDISKDSVA.GAAPNGEL...ILNKNNINTNVLVDNGETVILGGVFEQTTMNS   675
consensus                                      ****!!*!*!!!*!!!*!!!!******* ***! **       !       * ** *****!!**!*!***!!** **   **

logo

NTDB id 1257 GCO85 RS04855 WP 163621000.1      INRIPFFGELPVVGILFSNRQITLKNEELLIFITPRIITNALSITTIEGREKDVYK   698
NTDB id 1284 ACE17W RS12370 WP 010946666.1     INRIPFFGELPVVGILFSNRQITLKNEELLIFITPRIITNALSITTIEGREKDVYK   698
NTDB id 186749 VSVS12 RS02200 WP 156773132.1  VDKVPLLGDIPYLGALFRRSYQRMGKSELLIFVTPKVVMQ................   572
NTDB id 1186 GTF74 RS01320 WP 000788426.1      VDKVPLLGDLPVLGALFRRTYEQMGKSELLIFVTPKVVIQ................   571
NTDB id 1175 A1552VC RS12105 WP 000788426.1    VDKVPLLGDLPVLGALFRRTYEQMGKSELLIFVTPKVVIQ................   571
NTDB id 1408 DSB67 RS13980 WP 010643500.1      VDKVPLLGDLPLLGALFRRSYENVGKSELLIFVTPKVVIQ................   580
NTDB id 1193 PAKAF RS26665 WP 003161249.1      VEKVPFLGELPYLGRLFRRDTVTDRKNELLVFLTPRIMNNQAIAIGR.........   714
NTDB id 1039 HON27 RS01460 WP 031993779.1      QTKVPFFGDIPVVGRLFRKDVKSDDKQELLIFVTPRIVNDTLARNH..........   721
NTDB id 1052 ABD1 RS15850 WP 001017033.1       QTKVPFFGDIPVVGRLFRKDVKSDDKQELLIFVTPRIVNDTLARNH..........   721
consensus                                      *****!**!**!**! !!**    ** * !!!*!*!!*** *
```

X non conserved

X similar

X ≥ 50% conserved