```
logo
NTDB id 1323 RA0C RS07335 WP 004916218.1          .MLVKVYGSAIHGVSAQTITIEVNVDQGV.GYHLVGLPDNAIKESSHRISAALKNVGYKLPGKKITINMAPADLRKEGSA   78
NTDB id 1271 LPP RS03220 WP 011213198.1           MSLAFTKTRSTIGIVAQPVSVEVHLSNGLPSFTMVGLAETAVKESKDRVRSAIINSQFEFPCRKITVNLGPANLPKTGSG   80
NTDB id 1248 GC085 RS03150 WP 011213198.1         MSLAFTKTRSTIGIVAQPVSVEVHLSNGLPSFTMVGLAETAVKESKDRVRSAIINSQFEFPCRKITVNLGPANLPKTGSG   80
NTDB id 1064688 ACHMW6 RS03290 WP 395405516.1    MSIAVLKSRALAGMQAPEVSVEVHLANGLPAFHIVGLADTEVKESRDRVRAAIINTGYDMPAQRITVSLAPADLPKESGR   80
NTDB id 1153 A1552VC RS00115 WP 000521788.1      MGLAIIHSRASIGVQAPPVTVEVHISNGMPGFTLVGLPETTVKESRDRVRSAIINSRFEFPAKRITVNLAPADLPKEGGR   80
NTDB id 1397 DSB67 RS15690 WP 005535577.1        MGLAIIHSRASVGVQAPSVSVEVHISNGMPGFTLVGLPETTVKESKDRVRSAIVNSNFQFPAKRITVNLAPADLPKEGGR   80
NTDB id 1387 A4U84 RS06900 WP 020457569.1        MSLAIIYSRASIGVEAPLVTIEVHISGGSPGLTLVGLPEKSVKEAQDRVRSALMNANFDYPARRITINLAPADLPKEGGR   80
NTDB id 1349 HI 1117 AAC22771.1                  MSLAIVYSRASMGVQAPLVTIEVHLSNGKPGFTLVGLPEKTVKEAQDRVRSALMNAQFKYPAKRITVNLAPADLPKEGGR   80
consensus                                        ****** *****!* !* ***!!****!******!!!*** *!!***!***!**!*****!***!!****!!*!*!****

logo
NTDB id 1323 RA0C RS07335 WP 004916218.1          YDLSIALGILAASGQIIAPEIERYLIMGELSLDGGLQPIKGVLPIAIRAR...EEGFKGIILPKQNTREAAIVNDLEVYG  155
NTDB id 1271 LPP RS03220 WP 011213198.1           FDLPIALGILAASEQIPLTNLANHEFIGELALSGELRGVSAIIPAVLAAH....KDNQHLIIANANAAEASLTGHQKVFT  156
NTDB id 1248 GC085 RS03150 WP 011213198.1         FDLPIALGILAASEQIPLTNLANHEFIGELALSGELRGVSAIIPAVLAAH....KDNQHLIIANANAAEASLTGHQKVFT  156
NTDB id 1064688 ACHMW6 RS03290 WP 395405516.1    FDLPIALGILAASGQVPCEALERYEFAGELSLTGELRPIRGALAMTYAMHRDSTRSGRAFILPHANAEEAALVHDAAIYP  160
NTDB id 1153 A1552VC RS00115 WP 000521788.1      FDLPIALGILAASDQIARNKLESYEFIGELALSGEIRGVKGVLPAALAA....NQVERCLVVPHSNGDQAALVGVERHKS  156
NTDB id 1397 DSB67 RS15690 WP 005535577.1        FDLPIALGILAASEQIATDKLKNYEFVGELALSGGLRTVKGVLPAALAA....NKKQRHLVVPHANGDQAALVGKEQHKS  156
NTDB id 1387 A4U84 RS06900 WP 020457569.1        FDLPIAIGILAASGQIDSDKLKRIELLGELSLTGHLRGVHGAIPAVLAA....SKAKREIIVPQQNANEVSLVSNTQTYC  156
NTDB id 1349 HI 1117 AAC22771.1                  FDLPIAIGILAASDQLDASHLKQFEFVAELALTGQLRGVHGVIPAILAA....QKSKRELIIAKQNANEASLVSDQNTYF  156
consensus                                        *!!*!!*!!!!!!*!*    *  *****!!*!*! **** ***** ***     *  * ****  !* ** **     *

logo
NTDB id 1323 RA0C RS07335 WP 004916218.1          VENIKEVIDFFNENCPLEPTKVNTRE.........................................EF...HKRVNLFPFDF  194
NTDB id 1271 LPP RS03220 WP 011213198.1           ANNLREVCDYLCQGTSLQSLPPKP...........................................DLLLNNYELDW  191
NTDB id 1248 GC085 RS03150 WP 011213198.1         ANNLREVCDYLCQGTSLQSLPPKP...........................................DLLLNNYELDW  191
NTDB id 1064688 ACHMW6 RS03290 WP 395405516.1    AATLLQVCAHFGGTPTLANPEDAGRGWSDGERPPLDGSGVGSDCVAPARPRKRRVPDEPVFALERYQASPLPLASPYLDF  240
NTDB id 1153 A1552VC RS00115 WP 000521788.1      AQSLLEVCADLCGQQTLSLFQSSPSV.........................................QQVSQTRDL  191
NTDB id 1397 DSB67 RS15690 WP 005535577.1        AQSLLEVCAELCGQHQLNLYQTPKKK.........................................ELKAHGRDL  191
NTDB id 1387 A4U84 RS06900 WP 020457569.1        ASTLLQVVNFLNNRDQLPIAQQLSQNIA.......................................EN.RPLVSRDL  194
NTDB id 1349 HI 1117 AAC22771.1                  AQTLLDVVQFLNGQEKLPLATEIVKESA.......................................VNFSGKNTLDL  195
consensus                                        ******!* **      !                                                   *     !

logo
NTDB id 1323 RA0C RS07335 WP 004916218.1          SEVKGQETAKRAMEVAAAGGHNIILLIGPPGSGKTMLAKRIPSILPPLTLKEALETTKIHSVAGKMGAETSLMTIRPFRSP  274
NTDB id 1271 LPP RS03220 WP 011213198.1           SDIKGQQHAKNAMVIAACGGHSILLSGAPGSGKTMMAKRFSTLLPELSETQALECAAINSIRGKLPD.FREWRLPPFRAP  270
NTDB id 1248 GC085 RS03150 WP 011213198.1         SDIKGQQHAKNAMVIAACGGHSILLSGAPGSGKTMMAKRFSTLLPELSETQALECAAINSIRGKLPD.FREWRLPPFRAP  270
NTDB id 1064688 ACHMW6 RS03290 WP 395405516.1    ADVKGQQHAKRALEVAAAGRHSILLIGPPGAGKTMLASRFAGVLPAMTDDEALEAAAVQSLIG.GFS.LTGWKTRPFRAP  318
NTDB id 1153 A1552VC RS00115 WP 000521788.1      QDIIGQQQGKRALEIAAAGNHNLLFLGPPGTGKTMLASRLCDLLPEMSDEEAMETASIASLTQQEIN.QHNWKLRPFRAP  270
NTDB id 1397 DSB67 RS15690 WP 005535577.1        QDIIGQQQGKRALEIAAAGNHNLLFLGPPGTGKTMLASRLCDLLPEMSDEEAMETASVASLTQSEIN.EHNWKTRPFRAP  270
NTDB id 1387 A4U84 RS06900 WP 020457569.1        TDIIGQQHAKRALIIAASGQHNLLFLGPPGTGKTMLASRLADLLPEMEDDEAIETASVTSLVQNELN.FQNWKKRPFRSP  273
NTDB id 1349 HI 1117 AAC22771.1                  TDIIGQQHAKRALTIAAAGQHNLLFLGPPGTGKTMLASRLTGLLPEMTDLEAIETASVTSLVQNELN.FHNWKQRPFRAP  274
consensus                                        ***  !!***!*!* *!!*! !*** *!*!!*!!!!*!*!*  *!!**** *!*!** * !*          **  *!!!*!
```

```
logo

NTDB id 1323 RA0C RS07335 WP 004916218.1        HHTISDVALVGGGSYPQPGEISLAHNGVLFLDEMPEFKRTVLEVMRQPLEDREVTISRAKFTVNYPASFMLVASMNPSPS   354
NTDB id 1271 LPP RS03220 WP 011213198.1         HHTASPVALVGGGNPPKPGEISLAHHGVLFLDELPEFNRQVLETLREPLESGHICISRAAAQIEFPAKFQLIAAMNPCPC   350
NTDB id 1248 GC085 RS03150 WP 011213198.1       HHTASPVALVGGGNPPKPGEISLAHHGVLFLDELPEFNRQVLETLREPLESGHICISRAAAQIEFPAKFQLIAAMNPCPC   350
NTDB id 1064688 ACHMW6 RS03290 WP 395405516.1  HHTSSGAALVGGGSVPRPGEISLAHCGVLFLDELPEFDRRVLEVLREPLESGHVTISRAARHADFPARFQLVAAMNPCPC   398
NTDB id 1153 A1552VC RS00115 WP 000521788.1    HHSSSMAALVGGGTIPRPGEISLAHNGLLFLDEMPEFERKVLDSLREPLESGEIVISRAQGKTRFPARFQLVGALNPSPT   350
NTDB id 1397 DSB67 RS15690 WP 005535577.1      HHSSSMAALVGGGSVPRPGEISLAHNGLLFLDEMPEFDRKVLDSLREPLESGEIISRAQGKTRFPARFQIVGALNPSPT   350
NTDB id 1387 A4U84 RS06900 WP 020457569.1      HHSASMVALVGGGSIPKPGEISLAHNGVLFLDELPEFERKVLDALRQPLESGEIISRANAKVQFPACFQLIAAMNPSPT   353
NTDB id 1349 HI 1117 AAC22771.1                HHSASMPALVGGGTIPKPGEISLATNGVLFLDELPEFERKVLDALRQPLESGEIISRANAKIQFPARFQLVAAMNPSPT   354
consensus                                       !!* !  !!!!!!**!*!!!!!!!**!*!!!!!*!!!*!*!!* *!*!!!**** !!!! * * *!!*!******!!*!*

logo

NTDB id 1323 RA0C RS07335 WP 004916218.1        GFFPDDPN.NTSSSFEMQRYLNKLSGPLLDRIDIHIEVQKVEFDQLSD..KRKGESSEIIRQRVLKAREIQQERYQDLAI   431
NTDB id 1271 LPP RS03220 WP 011213198.1         GQWGNSQANCMCTPDRISRYLAKLSAPLLDRIDMQVTIHALSQEELIKPNTHLEKQSLAIREKVTKMHEIQMARQDS...   427
NTDB id 1248 GC085 RS03150 WP 011213198.1       GQWGNSQANCMCTPDRISRYLAKLSAPLLDRIDMQVTIHALSQEELIKPNTHLEKQSLAIREKVTKMHEIQMARQDS...   427
NTDB id 1064688 ACHMW6 RS03290 WP 395405516.1  GYLGHPGGQCRCTPDAILRYQGRVSGPLLDRIDMQIEVGPVPATVLEA..DASGETSDRIANRVEAAFKRQLMRQQK...   473
NTDB id 1153 A1552VC RS00115 WP 000521788.1    GYYE..GSQARANPQSILRYLSRLSGPLLDRFDMSIEIPALPKGTLANG.GDRGESTAAVRQRVWVARERMLARSGK...   424
NTDB id 1397 DSB67 RS15690 WP 005535577.1      GYYE..GNQARTNPQAILRYLGRLSGPLLDRFDMSLEIPALPKGTLSEG.GDRGEPTAIVKERVNQARDCMLARSGK...   424
NTDB id 1387 A4U84 RS06900 WP 020457569.1      GHYQ..GTHNRTSPQQLMRYLNRLSGPFLDRFDLSIEVPLLPQGALQNNTDQRGETTEQARKRVLEARHLQFNRRGK...   428
NTDB id 1349 HI 1117 AAC22771.1                GHYT..GTHNRTSPQQIMRYLNRLSGPFLDRFDLSIEVPLLPQGSLQNT.GDRGETSAQVREKVLKVREIQMERAGK...   428
consensus                                       ! *   * * * **  **!!* **!*!*!!! !* ***  **   !     *****  ** *!  ****** !  *

logo

NTDB id 1323 RA0C RS07335 WP 004916218.1        SYNAQMGPKEIEHFCELDEVSLLLIKNAMEKLNLSARAYDRILKVSRTIADLERETNIQSHHIAEAIQYRSLDRDFWKV.   510
NTDB id 1271 LPP RS03220 WP 011213198.1         .LNANLNSKTCEMVCELGSEEQLFLREVMSKLKLSARGYHRLLKVSRTIADMNSSKKVLLNHLQQALSYKQNLHLPK...   503
NTDB id 1248 GC085 RS03150 WP 011213198.1       .LNANLNSKTCEMVCELGSEEQLFLREVMSKLKLSARGYHRLLKVSRTIADMNSSKKVLLNHLQQALSYKQNLHLPK...   503
NTDB id 1064688 ACHMW6 RS03290 WP 395405516.1  .SNQELTPREIDRYCKPNAAGIDVLRAAMAKFDWSARSYHRVLRVARTIADLAGERTVAPHHVSEAIQMRRGLRPF....   548
NTDB id 1153 A1552VC RS00115 WP 000521788.1    .VNALLQSREIEQYCPLLKADAEFLESALHRLGLSIRAYHRIIKVARTIADLQGEAQIARPHLAEALGYRAMDRLLKQLS   503
NTDB id 1397 DSB67 RS15690 WP 005535577.1      .VNALLGSREIEAFCPLQKSDAEFLENALHRLGLSIRAYHRIIKVARTIADLEGSPQIERTHLAEALGYRAMDRLLKQLT   503
NTDB id 1387 A4U84 RS06900 WP 020457569.1      .INAQLTTKEIEQDCKLTDRDALFLENALTKLGLSVRAYHRILKVSRTIADLAGEAQIQQPHLAEALGYRAMDRLLQRLQ   507
NTDB id 1349 HI 1117 AAC22771.1                .INAYLNSKEIERDCKLNDKDAFFLEKALNKLGLSVRAYHRILKVSRTIADLQGEQQIFQPHLAEALGYRAMVRLLQKLS   507
consensus                                       *!* * *****  ! *   *  **  ** ** *! !*!*!***!*!!!!!* ** **   !***!* ** * **   *

logo

NTDB id 1323 RA0C RS07335 WP 004916218.1        ....   510
NTDB id 1271 LPP RS03220 WP 011213198.1         ....   503
NTDB id 1248 GC085 RS03150 WP 011213198.1       ....   503
NTDB id 1064688 ACHMW6 RS03290 WP 395405516.1  ....   548
NTDB id 1153 A1552VC RS00115 WP 000521788.1    AQNV   507
NTDB id 1397 DSB67 RS15690 WP 005535577.1      AQAV   507
NTDB id 1387 A4U84 RS06900 WP 020457569.1      GES.   510
NTDB id 1349 HI 1117 AAC22771.1                NM..   509
consensus
```

X non conserved
X similar
X $\geq$50% conserved