```
logo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
NTDB id 617 LCA RS06480 WP 011375001.1        .MSTEEKLTTLLKHCAKQRVQDLYFTPTIGGWRLTERRQSDLVTNQELDKPTGTRYLNRLKYMAGMDISETRRAQTGRSE   79
NTDB id 586 KW2 RS10855 WP 011836048.1        ..MVQKKAQELIQKAIEMEASDIYLIASGNLYKIYIRQQLGRTLIEEVNQEIGLALLTHFKFLAGMNTGERRRVQLGACW   78
NTDB id 429 SGO RS09420 WP 012130942.1        ..MVQKIAQAIVRQAKEECAQDIYFVPKDDCYELYMRIGDERRFIQTYDFDQLAAVISHFKFLAGMNVGEKRRSQLGSCD   78
NTDB id 500 SM12261 RS00945 WP 000249545.1    ..MVQEIAQEIIRSARKKGAQDIYFVPKLDAYELHMRVGDERCKIGCYDFEKFAAVISHFKFVAGMNVGEKRRSQLGSCD   78
NTDB id 270 KZH43 RS09265 WP 000249564.1      ..MVQEIAQEIIRSARKKGTQDIYFVPKLDAYELHMRVGDERCKIGSYDFEKFAAVISHFKFVAGMNVGEKRRSQLGSCD   78
NTDB id 229 SPD RS09895 WP 000249564.1        ..MVQEIAQEIIRSARKKGTQDIYFVPKLDAYELHMRVGDERCKIGSYDFEKFAAVISHFKFVAGMNVGEKRRSQLGSCD   78
NTDB id 195 SPR RS09430 WP 000249564.1        ..MVQEIAQEIIRSARKKGTQDIYFVPKLDAYELHMRVGDERCKIGSYDFEKFAAVISHFKFVAGMNVGEKRRSQLGSCD   78
NTDB id 160 SP RS10380 WP 000249564.1         ..MVQEIAQEIIRSARKKGTQDIYFVPKLDAYELHMRVGDERCKIGSYDFEKFAAVISHFKFVAGMNVGEKRRSQLGSCD   78
NTDB id 584 DLJ51 RS00890 WP 019777327.1      MVEVQELGKELIRQAVEEQAQDIYLLPKPAVYKIYLRFGEKRHLIQTCPPEQAAGLISHFKFLAGMNVGEKRRAQLGACD   80
NTDB id 164079 AU077 RS09240 WP 014293763.1   ..MIQEKAKQLIKDAVEVNAQDIYILPREDCYEVYQRVGDQRQFVDYFELEQMTSLISHFKFVAGMNVGEKRRSQLGSCD   78
NTDB id 385 SMU RS09035 WP 002263435.1       ..MVQKLGRKIIAEAVQNKAQDIYIIPKKESYELYMRIGNERRFIDVYDHHFMANLISHFKFVAGMNVGEKRRSQLGSCD   78
NTDB id 394 FSA28 RS09405 WP 002291652.1     ..MVQKLGRKIIAEAVQNKAQDIYIIPKKESYELYMRIGNERRFIDVYDHHFMANLISHFKFVAGMNVGEKRRSQLGSCD   78
consensus                                      ********** *    **!*!**** * *** *!*****  *  ** *  *******!**!!!***!*!!*!*!***
```

```
logo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
NTDB id 617 LCA RS06480 WP 011375001.1        LQLAD.QTIYLRLATVGDFLNRESLVIRFIYPIGAIYHCDDQQILAQLTQMSRQSGLILFAGPTGSGKTTSLYHLAQQSM   158
NTDB id 586 KW2 RS10855 WP 011836048.1        YELEGSSAKRLRLSTVGDFEGNESLVIRLLHDQKQELEFWFD.DK..LQDFRCKRGLYLFAGPVGSGKTSLMFDLAHRHF   155
NTDB id 429 SGO RS09420 WP 012130942.1        YRYDD.KETSIRLSTVGDYRGYESLVIRLLHDEETELKFWFT.HFPELREKFKDRGLYLFSGPVGSGKTTLMHQLAQLKF   156
NTDB id 500 SM12261 RS00945 WP 000249545.1    YEYDQ.KMASLRLSTVGDYRGHESLVIRLLHDEEQDLHFWFQ.DIEELGKQYRQRGLYLFAGPVGSGKTTLMHELAKSLF   156
NTDB id 270 KZH43 RS09265 WP 000249564.1      YAYDH.KIASLRLSTVGDYRGHESLVIRLLHDEEQDLHFWFQ.DIEELGKQYRQRGLYLFAGPVGSGKTTLMHELSKSLF   156
NTDB id 229 SPD RS09895 WP 000249564.1        YAYDH.KIASLRLSTVGDYRGHESLVIRLLHDEEQDLHFWFQ.DIEELGKQYRQRGLYLFAGPVGSGKTTLMHELSKSLF   156
NTDB id 195 SPR RS09430 WP 000249564.1        YAYDH.KIASLRLSTVGDYRGHESLVIRLLHDEEQDLHFWFQ.DIEELGKQYRQRGLYLFAGPVGSGKTTLMHELSKSLF   156
NTDB id 160 SP RS10380 WP 000249564.1         YAYDH.KIASLRLSTVGDYRGHESLVIRLLHDEEQDLHFWFQ.DIEELGKQYRQRGLYLFAGPVGSGKTTLMHELSKSLF   156
NTDB id 584 DLJ51 RS00890 WP 019777327.1      YAFADGETAALRLSTVGDYQGRESLVIRLLFDRKRELKFWFD.GLNALLPKIIGRGLYLFSGPVGSGKTTLMYELVSRKY   159
NTDB id 164079 AU077 RS09240 WP 014293763.1   YQFADEEEISLRLSSVGDYRGRESLVIRLLYSGRHDLQYWFD.GMKNILEAIDSRGLYLFSGPVGSGKTTLMYQLVREKF   157
NTDB id 385 SMU RS09035 WP 002263435.1       YSYDEGKVISLRLSSVGDYRGYESLVIRLLFSGRHDLKFWFN.SMDLILNEIKGRGLYLFSGPVGSGKTSLMYQLVKLRF   157
NTDB id 394 FSA28 RS09405 WP 002291652.1     YSYDEGKVISLRLSSVGDYRGYESLVIRLLFSGRHDLKFWFN.SMDLILNEIKGRGLYLFSGPVGSGKTSLMYQLVKLRF   157
consensus                                     * **  ** **!!**!!!*** !!!!!!****   ** ****  ** *    * *!!*!!*!!*!!!!!*** *! *  *
```

```
logo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
NTDB id 617 LCA RS06480 WP 011375001.1        SAKMVVAIEDPIEIVAPEFLQLQVNDNAGLSYAELLKISLRLRPDTLIIGEIRDLETAQYVVSAALSGHLVLSTIHARST   238
NTDB id 586 KW2 RS10855 WP 011836048.1        SNAQVITIEEPVELIDSDFIQLQVNDVIGNSYDELIKLSLRHRPDLLIVGEIRDQQTARAVLRASLTGYTVFSTIHAASV   235
NTDB id 429 SGO RS09420 WP 012130942.1        KGQQVMSIEDPVEIKQEDMLQLQLNETIGLTYESLIKLSLRHRPDLLIIGEIRDSETARAVVRASLTGATVFSTIHAKSI   236
NTDB id 500 SM12261 RS00945 WP 000249545.1    KGQQVMSIEDPVEIKQDNMLQLQLNEAIGLTYENLIKLSLRHRPDLLIIGEIRDSETARAVVRASLTGATVFSTIHAKSI   236
NTDB id 270 KZH43 RS09265 WP 000249564.1      KGQQVMSIEDPVEIKQDDMLQLQLNEAIGLTYENLIKLSLRHRPDLLIIGEIRDSETARAVVRASLTGATVFSTIHAKSI   236
NTDB id 229 SPD RS09895 WP 000249564.1        KGQQVMSIEDPVEIKQDDMLQLQLNEAIGLTYENLIKLSLRHRPDLLIIGEIRDSETARAVVRASLTGATVFSTIHAKSI   236
NTDB id 195 SPR RS09430 WP 000249564.1        KGQQVMSIEDPVEIKQDDMLQLQLNEAIGLTYENLIKLSLRHRPDLLIIGEIRDSETARAVVRASLTGATVFSTIHAKSI   236
NTDB id 160 SP RS10380 WP 000249564.1         KGQQVMSIEDPVEIKQDDMLQLQLNEAIGLTYENLIKLSLRHRPDLLIIGEIRDSETARAVVRASLTGATVFSTIHAKSI   236
NTDB id 584 DLJ51 RS00890 WP 019777327.1      PDSQIITIEDPVEIKQDNMLQLQLNPSIGMTYDHLIKLSLRHRPDVLIIGEIRDRETAQAVIRASLTGIRVFSTVHAKSI   239
NTDB id 164079 AU077 RS09240 WP 014293763.1   PNKQVITIEDPVEIKQEQMLQLQLNSDIGMTYDELIKLSLRHRPDILIIGEIRDSETARAVIRASLTGAVVFSTIHAKSI   237
NTDB id 385 SMU RS09035 WP 002263435.1       ETKQVITIEDPVEIKQDNMLQLQLNESIDMTYDNLIKLSLRHRPDILIIGEIRDKETARAVIRASLTGAMVFSTIHAKSI   237
NTDB id 394 FSA28 RS09405 WP 002291652.1     ETKQVITIEDPVEIKQDNMLQLQLNESIDMTYDNLIKLSLRHRPDILIIGEIRDKETARAVIRASLTGAMVFSTIHAKSI   237
consensus                                      * ****!!*!*!*******!!!*!* ****!**!*!*!!!*!!!*!!*!!!!!**!!**!**!*!*!**!*!!*!!*!*
```

```
logo

NTDB id 617 LCA RS06480 WP 011375001.1        QGVVARLLDLGISELQLRACLTGIAYQSLVTKDDVVQAH...YELLTGSDYFSKKEGG.............CDV.......   296
NTDB id 586 KW2 RS10855 WP 011836048.1        KGVVQRLLELGLSDWELKNGLEAVVYQRLIAGKGVLDIAKSKFDTWSPKKWNEKIENLYANGHLTAIEAEREKISINQAS   315
NTDB id 429 SGO RS09420 WP 012130942.1        PGVYERLLELGVSEEELKIVLQGICYQRLIGGGGVIDFASDNYQEHEPTVWNQQIDQLLAAGHIHPEQAEAEKIRNQQAK   316
NTDB id 500 SM12261 RS00945 WP 000249545.1    RGVYERLLELGVSEEELAVVLQGVCYQRLIGGGGIVDFANKDYQEHQSTSWNAQIDQLLKDGHITSLQAETEKISYS...   313
NTDB id 270 KZH43 RS09265 WP 000249564.1      RGVYERLLELGVSEEELAVVLQGVCYQRLIGGGGIVDFASRDYQEHQAAKWNEQIDQLLKDGHITSLQAETEKISYS...   313
NTDB id 229 SPD RS09895 WP 000249564.1        RGVYERLLELGVSEEELAVVLQGVCYQRLIGGGGIVDFASRDYQEHQAAKWNEQIDQLLKDGHITSLQAETEKISYS...   313
NTDB id 195 SPR RS09430 WP 000249564.1        RGVYERLLELGVSEEELAVVLQGVCYQRLIGGGGIVDFASRDYQEHQAAKWNEQIDQLLKDGHITSLQAETEKISYS...   313
NTDB id 160 SP RS10380 WP 000249564.1         RGVYERLLELGVSEEELAVVLQGVCYQRLIGGGGIVDFASRDYQEHQAAKWNEQIDQLLKDGHITSLQAETEKISYS...   313
NTDB id 584 DLJ51 RS00890 WP 019777327.1      PGVYARILELGVSQDELDNCLAGIAYQRLIGGGGLIDFAQDHFQNHQAECWNEKIDQLLAAGHLTEEEAAAEKIKD....   315
NTDB id 164079 AU077 RS09240 WP 014293763.1   PGVYARLLELGLSKQELENSLRAIVYQRLIGGGGVIDFAKENFESHQPECWNTKIESLVKDGHITAEQAKIEKIAI....   313
NTDB id 385 SMU RS09035 WP 002263435.1        PGVYARMLELGTSSEELQNALRGIVYQRLIGGGGIIDFAKGDYQNHSAKKWNKQIYDLFTAGYITEGEAQAEEIED....   313
NTDB id 394 FSA28 RS09405 WP 002291652.1      PGVYARMLELGTSSEELQNALCGIVYQRLIGGGGIIDFAKGDYQNHSAKKWNKQIYDLFTAGYITEGEAQAEEIED....   313
consensus                                      !!* !*!*!!*!***!   ! ** !!*!**********  *** *** *** ******  ****  *** ***

logo

NTDB id 617 LCA RS06480 WP 011375001.1        ...........   296
NTDB id 586 KW2 RS10855 WP 011836048.1        KIDTTDGESFE   326
NTDB id 429 SGO RS09420 WP 012130942.1        TSY........   319
NTDB id 500 SM12261 RS00945 WP 000249545.1    ...........   313
NTDB id 270 KZH43 RS09265 WP 000249564.1      ...........   313
NTDB id 229 SPD RS09895 WP 000249564.1        ...........   313
NTDB id 195 SPR RS09430 WP 000249564.1        ...........   313
NTDB id 160 SP RS10380 WP 000249564.1         ...........   313
NTDB id 584 DLJ51 RS00890 WP 019777327.1      ...........   315
NTDB id 164079 AU077 RS09240 WP 014293763.1   ...........   313
NTDB id 385 SMU RS09035 WP 002263435.1        ...........   313
NTDB id 394 FSA28 RS09405 WP 002291652.1      ...........   313
consensus
```

X non conserved
X similar
X ≥ 50% conserved