```
logo
NTDB id 1168 A1552VC RS11070 WP 000957200.1      ..........MLTNLVAILRQAELISATQEQAVVTQVSASGTSVPEALLELSIFHAQELTEQLSHIFGLPETDLSRYDYA   70
NTDB id 1293 VP RS12240 WP 005479695.1           ..........MHSNLSTILRQKGLLTFSQEESLIEQVKASGISMPEALLSSGFFTSSELAEHLSSIFGLSQPELSQYEYA   70
NTDB id 1401 DSB67 RS12665 WP 010643259.1        ..........MLTNLSTVLRQAGILTFSQEESLLEQVKASGISMPEALLSSGFFQSHELTEHLSSVFGLSCTSLNQYEYA   70
NTDB id 1110 NGFG RS09235 WP 003689817.1         ..........MSVGLLRILVQNQVVTVEQAEHY.YNESQAGKEVLPMLFSDGVISPKSLAALIARVFSYSILDLRHYPRH   69
NTDB id 1251 GC085 RS07725 WP 011946523.1       MA..LATEEYRLQGIGQLLVLEKLLDKTKAIELHKLAAAEKISLLQYIVKNKILSAEQIALTAAQNFGVPMLDINCIDVG   78
NTDB id 160284 GLA29479 RS08890 WP 057971375.1  MSSVATANLVGITGIARRLVLDGALDEVKAREAMAAATAERKPLATYLAEHRLATSAQLAAANSIEFGVPLFDPSSLDPS   80
NTDB id 1018 ACIAD RS01685 WP 004920473.1       MSAF..TTPPKFSGFIRRLVEEGYVNAQNMQQALEKAKKFKQDIVPYLIDNFSISPLTIAEIISLEFGEPLLDLGVFDPA   78
NTDB id 1058 ABD1 RS01615 WP 001274986.1        MSAL..HTSPKFTGFFRRLVEEKHVSAATMQTALDAAKRAKQDTVAYLIEEVHLSPSLLAETISAEFAEPYFDLDVYDTS   78
consensus                                                 ***  *!*   ***  *    *    *   *   **     *   *** **  !***  **  ** *

logo
NTDB id 1168 A1552VC RS11070 WP 000957200.1      NLCQQLGLRELITRYDALPLAKQGNLLLLAVSDPTLLQAEEEFRFATGLQVELALADHRALQAAIRRLYGRSIQGAANQG  150
NTDB id 1293 VP RS12240 WP 005479695.1           SLCQQLGLRELITRHNALPLHRTPSTLLLAVADPTNQQAEDDFRFATGLQVELVLADFRELSTAIRRLYGRSLSHEKSGL  150
NTDB id 1401 DSB67 RS12665 WP 010643259.1        SLCQTLGLRDLITRHNALPLNRTSSTLILAVADPTNLQAEDDFRFATGLQVELVLADFRELTAAIRRLYGRSLGQEKSGL  150
NTDB id 1110 NGFG RS09235 WP 003689817.1         RVLMGVLTEEQMVEFHCVPVFRRGDKVFFAVSDPTQMPQIQKTVSAAGIAVELVIVEDDQLAGLLDWVGSRSTS.LLQE.  147
NTDB id 1251 GC085 RS07725 WP 011946523.1       TIPVNLVNEKLIKRHAMVPLFSRGTNLYLATDDPSKQASLKEIQFHTGLNTHAIVVETDKLSALIDNLLTAKESQGLSEY  158
NTDB id 160284 GLA29479 RS08890 WP 057971375.1  QSAVRAISEELIRKHSALPLFKRGNKLFIGLADPTNTAALDEIKFQTNAAVEAILVDDELIRRTLDRWLENSDA..LANA  158
NTDB id 1018 ACIAD RS01685 WP 004920473.1       LFLKDKIDEKLIQKYRIMPLVHRGHVLYVATSNPTNIEAMDAIRFNSKLKVEPIIVEHDKLERLLSEHFVEETH..FNFD  156
NTDB id 1058 ABD1 RS01615 WP 001274986.1        QIPKDLVDQKLILKHRILPLIQRGQILYVATSNPSNIEAIDAIRFNSKLLVEPVIVEHHKLEKVLGQHFAEESS..FDFN  156
consensus                                        *   **  *** **  *!* ***  ***** *!*** **** ** *** ** ****   *   *  **  *

logo
NTDB id 1168 A1552VC RS11070 WP 000957200.1      KEIS..QDELANLVKV..SDDELQSIEDLSQDDSPVSRFINQVLLDAVRKGASDIHFEPYENQYRIRLRCDGILVETQQP  226
NTDB id 1293 VP RS12240 WP 005479695.1           KEIN..QEELASLVDV..GADEIDNIEDLSQDESPVSRYINQILLDAVRKGASDIHFEPYEKMYRVRLRCDGILIETQQP  226
NTDB id 1401 DSB67 RS12665 WP 010643259.1        KEIN..QDELAGLVDI..GEDEIENIEDLSQDESPVSRYINQILLDAVRKGASDIHFEPYENMYRVRLRCDGILIEIQQP  226
NTDB id 1110 NGFG RS09235 WP 003689817.1         .........LGEGQEEEE..SHTLYIDNEEAEDGPVPRFIHKTLSDALRSGASDIHFEFYEHNARIRFRVDGQLREVVQP  216
NTDB id 1251 GC085 RS07725 WP 011946523.1       VEDSGDLEGLEISADDED...QDIDTATSVTDDAPIVKFVNKILLDAIRQGASDIHFEPYEREYRIRYRQDGILHEVATP  235
NTDB id 160284 GLA29479 RS08890 WP 057971375.1  VGDSDGLDTLEIGKD.DDLSTTSDSGIDAKGDDTPVVKFINKVLVDAIRRGASDIHFEPYETDYRVRLRIDGLLKQVAKV  237
NTDB id 1018 ACIAD RS01685 WP 004920473.1       TE......ELDLDVEVDPHTTDDDDEDDKLKDEAPIVKYINKLLIDAIRMSASDLHFEPYEKSYRVRYRVDGVLRLIATP  230
NTDB id 1058 ABD1 RS01615 WP 001274986.1        DE......EFDLDVNLDGPTAQEDEEEAPQGDEAPIVKYINKLLIDAIRMGASDLHFEPYEKSYRVRYRVDGVLRQIANP  230
consensus                                        *     ***   ****       *  **   ** !* ******!*!!*! *!!!*!!!*!!   *!*! ! !!*! ** **

logo
NTDB id 1168 A1552VC RS11070 WP 000957200.1      ASHLSRRLAARIKILSKLDIAERRLPQDGRIKLRLSR.DTAIDMRVSTLPTLWGEKIVLRLLDSSAANLDIDKLGYNPQQ  305
NTDB id 1293 VP RS12240 WP 005479695.1           PNHLSRRLSARIKILSKLDIAERRLPQDGRIKLKLNQ.DTAIDMRVSTLPTLFGEKIVLRLLDSSSASLDIDKLGYSEQQ  305
NTDB id 1401 DSB67 RS12665 WP 010643259.1        PSHLSRRLSARIKILSKLDIAERRLPQDGRIKLKLNQ.DTAIDMRVSTLPTLFGEKIVLRLLDSSSAALDINKLGYSDSQ  305
NTDB id 1110 NGFG RS09235 WP 003689817.1         PIAVRGQLASRIKVMSRLDISEKRIPQDGRMQLTFQKGGKPVDFRVSTLPTLFGEKVVMRILNSDAASLNIDQLGFEPFQ  296
NTDB id 1251 GC085 RS07725 WP 011946523.1       PASLSSRITARIKVMSNLDISERRIPQDGFKMKISK.SRAIDFRVSTCPTSAGEKVVMRVLDSGAAKLGIEALGFNPVQ  314
NTDB id 160284 GLA29479 RS08890 WP 057971375.1  PNKLHSRIAARLKVMAQLDIAEKRVPQDGRIKLNLSK.TKQIDFRMSTLPTLFGEKIVLRILDGSAAKLGIEKLGYEDYQ  316
NTDB id 1018 ACIAD RS01685 WP 004920473.1       PLQLATRLASRLKVMSQMDISEKRVPQDGRIKLKMSK.SKTIDFRVNSLPTLFGEKIVLRILDPASAMLGIDALGYEPEQ  309
NTDB id 1058 ABD1 RS01615 WP 001274986.1        PLQLANRLASRLKVMSQMDISEKRVPQDGRIKLKLSK.SKAIDFRVNSLPTLFGEKLVLRILDPSSAMLGIDALGYEEDQ  309
consensus                                        *  *  ****!*!***  *!! !*!*!!!!********  ***!*!****!!**!!!*!*!*!*** ! ! !* !!*   !
```

```
logo
NTDB id 1168 A1552VC RS11070 WP 000957200.1      KQLYLNALKRPQGMILMTGPTGSGKTVSLYTGLRILNTSQINISTAEDPVEINLSGINQVQVQPKIGFGFAEALRSFLRQ   385
NTDB id 1293 VP RS12240 WP 005479695.1           KQLYLEALRRPQGMILMTGPTGSGKTVSLYTGLNILNKPEINISTAEDPVEINLSGINQVQVQPKIGFGFAEALRSFLRQ   385
NTDB id 1401 DSB67 RS12665 WP 010643259.1        KQLYLDALRRPQGMILMTGPTGSGKTVSLYTGLSILNKPEINISTAEDPVEIYLPGINQVQVQPKIGFGFAEALRSFLRQ   385
NTDB id 1110 NGFG RS09235 WP 003689817.1         KKLLLEAIHRPYGMVLVTGPTGSGKTVSLYTCLNILNTESVNIATAEDPAEINLPGINQVNVNDKQGLTFAAALKSFLRQ   376
NTDB id 1251 GC085 RS07725 WP 011946523.1        RTNFLKAIQRPQGMILVTGPTGSGKTVTLYTALNILNTIEVNISTAEDPVEIKVPGINQVNINPKAGLTFSGALRSFLRQ   394
NTDB id 160284 GLA29479 RS08890 WP 057971375.1   KELFINAVAKPYGMVLVTGPTGSGKTVSLYTALNILNDEQRNISTVEDPVEIRVPGINQVQMNVKRGMTFAAALRSFLRQ   396
NTDB id 1018 ACIAD RS01685 WP 004920473.1        KALFMEALNKPQGMLLITGPTGSGKTVSLYTGLNILNTEHANISTAEDPVEINLEGVNQVNVNPKVGLTFAAALRSFLRQ   389
NTDB id 1058 ABD1 RS01615 WP 001274986.1         KALFMEALDKPQGMLLITGPTGSGKTVSLYTGLNILNTESSNISTAEDPVEINLEGINQVNVNPKVGLTFAAALKSFLRQ   389
consensus                                        *  ****!* *!*!!*!*!!!!!!!!!!*!!!*!*!!!*  *!!*!*!!!*!!** !*!!!****!*!**!**!!*!!!!!

logo
NTDB id 1168 A1552VC RS11070 WP 000957200.1      DPDVVMVGEIRDLETAEIAVKAAQTGHLVLSTLHTNSAAETVIRLANMGVEPFNLASSLSLIIAQRLARRLCKHCKIAV.   464
NTDB id 1293 VP RS12240 WP 005479695.1           DPDVVMVGEIRDLDTAEIAIKASQTGHLVLSTLHTNSAAETIIRLSNMGVESFNLASSLSLIIAQRLARKLCPYCKQPQ.   464
NTDB id 1401 DSB67 RS12665 WP 010643259.1        DPDVVMVGEIRDLDTAEIAIKASQTGHLVLSTLHTNSAAETVIRLSNMGVESFNLASSLSLIIAQRLARKLCPYCRQPQ.   464
NTDB id 1110 NGFG RS09235 WP 003689817.1         DPDIIMVGEIRDLETADIAIKAAQTGHMVFSTLHTNNAPATLSRMLNMGVAPFNIASSVSLIMAQRLLRRLCSSCKQEVE   456
NTDB id 1251 GC085 RS07725 WP 011946523.1        DPDIIMVGEIRDLETAEIAIKAAQTGHLVLSTLHTNSAAETLNRLVNMGIPTFNIASSVTLIIAQRLARKLCNQCKAVRD   474
NTDB id 160284 GLA29479 RS08890 WP 057971375.1   DPDVIMVGEIRDLETAEIAIKAAQTGHMVLSTLHTNDAPQTIARLMNMGVAPYNITSSVTLVIAQRLARRL.HDCKREV.   474
NTDB id 1018 ACIAD RS01685 WP 004920473.1        DPDIIMVGEIRDLETAEIAIKAAQTGHLVMSTLHTNNAAETLTRLRNMGVASFNIATSVNLVIAQRLARRLCSQCKRPI.   468
NTDB id 1058 ABD1 RS01615 WP 001274986.1         DPDIIMVGEIRDLETAEIAIKAAQTGHMVMSTLHTNSAPETLTRLRNMGVPSFNIATSVNLVIAQRLARRLCSQCKIPA.   468
consensus                                        !!!**!!!!!!!!!*!!*!!*!!*!!!!!*!*!!!!!!*!**!* !* !!!* **!***!**!**!!!!*!*!*  !*

logo
NTDB id 1168 A1552VC RS11070 WP 000957200.1      RPSALLQSQFAFQPNEIL....YEANAAGCNECT.GGYSGRVGIYEVMAFNTELAEAIMQRASIHQIERLAKANGMQTLQ   539
NTDB id 1293 VP RS12240 WP 005479695.1           EHTVQL.QHLGIQTTDNI....FRANPDGCNECT.HGYSGRTGIYEVMRFDESLSEALIKGASVHELEKLAIANGMSTLQ   538
NTDB id 1401 DSB67 RS12665 WP 010643259.1        EPNSQL.QHIGIANTEQI....FQANPDGCNECT.HGYSGRTGIYEVMKFDESLSEALIKGASVHELEKLAIANGMQTLQ   538
NTDB id 1110 NGFG RS09235 WP 003689817.1         RPSASALKEVGFTDEDLA.KDWKLYRAVGCDRCRGQGYKGRAGVYEVMPISEEMQRVIMNNGTEVGILDVAYKEGMVDLR   535
NTDB id 1251 GC085 RS07725 WP 011946523.1        DFTNQGLIELGFKEADLV..NLKLYKAVGCEQCT.SGYRGRVGLFEVLPMTKELGQLIMSGGNSLDILKLAQSEGMLTIF   551
NTDB id 160284 GLA29479 RS08890 WP 057971375.1   HLPEHALLAEGFTAEEIA.SGFKLYEPAGCPDCT.EGYKGRTGIYQVMPMTDEIQAIVLEGGNAMQIAAAAIKSGVNDLR   552
NTDB id 1018 ACIAD RS01685 WP 004920473.1        QVPERSLLEMGFTPEDLAQPEFQIFEPVGCHDCR.EGYKGRVGIYEVMKITPEISKIIMEDGNALEIAATAETLGFNNLR   547
NTDB id 1058 ABD1 RS01615 WP 001274986.1         DIPKQSLLEMGFTEQDLAHPDFRVFQPVGCLECR.EGYKGRVGIYEVMKVTPEISKIIMEDGNALEIAAASEKLGFNNLR   547
consensus                                              *  ***   **      ** * !! *!*  !!*!! !***!* ** **  ***  *  ***  **   !** *

logo
NTDB id 1168 A1552VC RS11070 WP 000957200.1      ESGLEKLREGITSFAELQRVLYF   562
NTDB id 1293 VP RS12240 WP 005479695.1           MSGIEKLKQGITSFSELQRVLYF   561
NTDB id 1401 DSB67 RS12665 WP 010643259.1        MSGIEKLKQGITSFRELQRVLYF   561
NTDB id 1110 NGFG RS09235 WP 003689817.1         RAGILKIMQGITSLEEVTANTND   558
NTDB id 1251 GC085 RS07725 WP 011946523.1        QSGIEKVKEGITTIEEVNRVTVD   574
NTDB id 160284 GLA29479 RS08890 WP 057971375.1   RSALIKVMNGVTGLAEINRVTKD   575
NTDB id 1018 ACIAD RS01685 WP 004920473.1        RSGLKKVMQGVTSLQEINRVTSE   570
NTDB id 1058 ABD1 RS01615 WP 001274986.1         RSGLKKVMQGVTSLQEVNRVTSE   570
consensus                                         *** !* *!*!** !***** *
```

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