logo



```
NTDB id 1028 TT RS08215 WP 011173991.1          MSVLTIGDKRLGAALLDAGLLTDEELQRALERHREVGGSLAEVLVDMGLLSERRIAQTIEDRFGIPLVELHRVEIPPKVK   80
NTDB id 1306 DR RS10060 WP 027479822.1          .MALSIGDRRLGAILLDQGYLGDNDLQRALERHSEVGGRLADVLIDSGMVGEKRIARAIEEALGIPLVNLLAVQPDPAAL   79
NTDB id 1168 A1552VC RS11070 WP 000957200.1     ................................................................................   0
NTDB id 1293 VP RS12240 WP 005479695.1          ................................................................................   0
NTDB id 1401 DSB67 RS12665 WP 010643259.1       ................................................................................   0
NTDB id 1251 GCO85 RS07725 WP 011946523.1       ................................................................................   0
NTDB id 1110 NGFG RS09235 WP 003689817.1        ................................................................................   0
NTDB id 188336 BSY238 RS07125 WP 069038515.1    ................................................................................   0
NTDB id 1018 ACIAD RS01685 WP 004920473.1       ................................................................................   0
NTDB id 1058 ABD1 RS01615 WP 001274986.1        ................................................................................   0
consensus
```

logo



```
NTDB id 1028 TT RS08215 WP 011173991.1          ALLPAEKAKELKAIPFALDEEAGVVRVAFLNPLDTLSLEEVEDLTGLVVEPYQTTKSAFLYALAKHYPELGLPVPPP..P   158
NTDB id 1306 DR RS10060 WP 027479822.1          RSIRPQTALNLQAFPFALE..GDRLRVALVDPLSSFSIETLEDDSGFDIEPYQALREEVMWAIATHYPELGLEIVVPSGA   157
NTDB id 1168 A1552VC RS11070 WP 000957200.1     ................................................................................   0
NTDB id 1293 VP RS12240 WP 005479695.1          ................................................................................   0
NTDB id 1401 DSB67 RS12665 WP 010643259.1       ................................................................................   0
NTDB id 1251 GCO85 RS07725 WP 011946523.1       ................................................................................   0
NTDB id 1110 NGFG RS09235 WP 003689817.1        ................................................................................   0
NTDB id 188336 BSY238 RS07125 WP 069038515.1    ................................................................................   0
NTDB id 1018 ACIAD RS01685 WP 004920473.1       ................................................................................   0
NTDB id 1058 ABD1 RS01615 WP 001274986.1        ................................................................................   0
consensus
```

logo



```
NTDB id 1028 TT RS08215 WP 011173991.1          SGEGQKDLKLGELLLQKGWISREALEEALVEQEKTGDLLGRILV.RKGLPEEALYRALAEQKGLEFLESTEGIVPDPSAA   237
NTDB id 1306 DR RS10060 WP 027479822.1          SDAGRTGGKLGERLITHGYITDAQLQVALDAQQQTGEALGATLISQRAITEDQLYEVLAEQEGTTFLPNPSGFHPGEEVL   237
NTDB id 1168 A1552VC RS11070 WP 000957200.1     ................................................................................   0
NTDB id 1293 VP RS12240 WP 005479695.1          ................................................................................   0
NTDB id 1401 DSB67 RS12665 WP 010643259.1       ................................................................................   0
NTDB id 1251 GCO85 RS07725 WP 011946523.1       ................................................................................   0
NTDB id 1110 NGFG RS09235 WP 003689817.1        ................................................................................   0
NTDB id 188336 BSY238 RS07125 WP 069038515.1    ................................................................................   0
NTDB id 1018 ACIAD RS01685 WP 004920473.1       ................................................................................   0
NTDB id 1058 ABD1 RS01615 WP 001274986.1        ................................................................................   0
consensus
```

logo



```
NTDB id 1028 TT RS08215 WP 011173991.1          LLLLRSDALRYGAVPIGFQNGEVEVVLSDPRHKEAVAQLLNRPARFYLALPQAWEELFRRAYPQKNRLGEVLVQEGKLSR   317
NTDB id 1306 DR RS10060 WP 027479822.1          GSMLRADALRLLAVPVDETEQGVTVLTSDPRKRPDIDALIGRPVQLMLTRPRDIERLIEQFYPQRGRLGEQLVQEGTLSR   317
NTDB id 1168 A1552VC RS11070 WP 000957200.1     ..........................................................................................     0
NTDB id 1293 VP RS12240 WP 005479695.1          ..........................................................................................     0
NTDB id 1401 DSB67 RS12665 WP 010643259.1       ..........................................................................................     0
NTDB id 1251 GCO85 RS07725 WP 011946523.1       ..........................................................................................     0
NTDB id 1110 NGFG RS09235 WP 003689817.1        ..........................................................................................     0
NTDB id 188336 BSY238 RS07125 WP 069038515.1    ..........................................................................................     0
NTDB id 1018 ACIAD RS01685 WP 004920473.1       ..........................................................................................     0
NTDB id 1058 ABD1 RS01615 WP 001274986.1        ..........................................................................................     0
consensus
```

logo



```
NTDB id 1028 TT RS08215 WP 011173991.1          EALKEALEVQKGLPRAKPLGEILVELGLARPEDVEEALQKQRRGGGRLEDTLVQSGKLRPEALAQAVATQLGYPYVDPEE   397
NTDB id 1306 DR RS10060 WP 027479822.1          DQLREALQVQAREGKVKPLGEVITELGFASPDEVDSALQKQNVGGGRLEDTLVQSGKLSPEMLARSLAAQLGYEFLDPIQ   397
NTDB id 1168 A1552VC RS11070 WP 000957200.1     ..............MLTNLVAILRQAELISATQEQAVVTQVSASGTSVPEALLELSIFHAQELTEQLSHIFGLPETDLSR    66
NTDB id 1293 VP RS12240 WP 005479695.1          ..............MHSNLSTILRQKGLLTFSQEESLIEQVKASGISMPEALLSSGFFTSSELAEHLSSIFGLSQPELSQ    66
NTDB id 1401 DSB67 RS12665 WP 010643259.1       ..............MLTNLSTVLRQAGILTFSQEESLLEQVKASGISMPEALLSSGFFQSHELTEHLSSVFGLSCTSLNQ    66
NTDB id 1251 GCO85 RS07725 WP 011946523.1       ......MALATEEYRLQGIGQLLVLEKLLDKTKAIELHKLAAAEKISLLQYIVKNKILSAEQIALTAAQNFGVPMLDINC    74
NTDB id 1110 NGFG RS09235 WP 003689817.1        ..............MSVGLLRILVQNQVVTVEQAEH.YYNESQAGKEVLPMLFSDGVISPKSLAALIARVFSYSILDLRH    65
NTDB id 188336 BSY238 RS07125 WP 069038515.1    .......MAATAKSSLSGLARALAQHGRLTETEASTLTREGDQSGAGFVAQLVSSGKMSARDAAVFASETFGYPLLDLTQ    73
NTDB id 1018 ACIAD RS01685 WP 004920473.1       ......MSAFTTPPKFSGFIRRLVEEGYVNAQNMQQALEKAKKFKQDLVPYLIDNFSISPLTIAEIISLEFGEPLLDLGV    74
NTDB id 1058 ABD1 RS01615 WP 001274986.1        ......MSALHTSPKFTGFFRRLVEEKHVSAATMQTALDAAKRAKQDTVAYLIEEVHLSPSLLAETISAEFAEPYFDLDV    74
consensus                                             *        *****  **** **** ** ****   *  *  *** ** ** ***  *** **  ** * ***
```

logo



```
NTDB id 1028 TT RS08215 WP 011173991.1          DPPDPGAPLLLPEDLCRRYGVFPHRLEGNRLVLLMKDPRNILALDDVRLALKRKGLNYEVAPAVATEAAITKLIERFYGK   477
NTDB id 1306 DR RS10060 WP 027479822.1          NPPDPKVALMIPEATARRYVVVPVRLQGNSLVVAMKDPRNVFALDDLKLITG.....KETLPAVMAEKDIIRLIERYFGE   472
NTDB id 1168 A1552VC RS11070 WP 000957200.1     YDYANLCQQLGLRELITRYDALPIAKQGNLLLLAVSDPTLLQAEEEFRFATG.....LQVELALADHRALQAAIRRLYGR   141
NTDB id 1293 VP RS12240 WP 005479695.1          YEYASLCQQLGLRELITRHNALPLHRTPSTLLLAVADPTNQQAEDDFRFATG.....LQVELVLADFRELSTAIRRLYGR   141
NTDB id 1401 DSB67 RS12665 WP 010643259.1       YEYASLCQTLGLRDLITRHNALPLNRTSSTLILAVADPTNLQAEDDFRFATG.....LQVELVLADFRELTAAIRRLYGR   141
NTDB id 1251 GCO85 RS07725 WP 011946523.1       IDVGTIPVNLVNEKLIKRHAMVPLFSRGTNLYLATDDPSKQASLKEIQFHTG.....LNTHAIVVETDKLSALIDNLLTA   149
NTDB id 1110 NGFG RS09235 WP 003689817.1        YPRHRVLMGVLTEEQMVEFHCVPVFRRGDKVFFAVSDPTQMPQIQKTVSAAG.....IAVELVIVEDDQLAGLLDWVGSR   140
NTDB id 188336 BSY238 RS07125 WP 069038515.1    YDSEQFATDAIDKKLMRTHRVLALKKRANRLAVAIADPSNLRAIDEVRFQTG.....LAVDPVVVETDKLFALVDKLSES   148
NTDB id 1018 ACIAD RS01685 WP 004920473.1       FDPALFLKDKIDEKLIQKYRIMPLVHRGHVLYVATSNPTNIEAMDAIRFNSK.....LKVEPIIVEHDKLERLLSEHF..   147
NTDB id 1058 ABD1 RS01615 WP 001274986.1        YDTSQIPKDLVDQKLILKHRILPLIQRGQILYVATSNPSNIEAIDAIRFNSK.....LLVEPVIVEHHKLEKVLGQHF..   147
consensus                                       ** * *    ** **** ** **** **** ***** *!*** ********** *      * ******* *  *********
```

logo



```
NTDB id 1028 TT RS08215 WP 011173991.1      AELSEIA..KEFA..........KKQAEEEV..PSPLELDESAAQKFVKQVIREAFLQDASDIHIEPRQNDVQVRLRID  542
NTDB id 1306 DR RS10060 WP 027479822.1      KGFEKLN..KELA..........ERNKTQQSQFADLSVADESAIVQVVDSIIREAALQDASDIHIETTEDAVKVRYRID  539
NTDB id 1168 A1552VC RS11070 WP 000957200.1 SIQGAANQGKEISQDELA....NLVKVSDDELQSIEDLSQDDSPVSRFINQVLLDAVRKGASDIHFEPYENQYRIRLRCD  217
NTDB id 1293 VP RS12240 WP 005479695.1      SLSHEKSGLKEINQEELA....SLVDVGADEIDNIEDLSQDESPVSRYINQILLDAVRKGASDIHFEPYEKMYRVRLRCD  217
NTDB id 1401 DSB67 RS12665 WP 010643259.1   SLGQEKSGLKEINQDELA....GLVDIGEDEIENIEDLSQDESPVSRYINQILLDAVRKGASDIHFEPYENMYRVRLRCD  217
NTDB id 1251 GCO85 RS07725 WP 011946523.1   KESQGLS...EYVEDSGDLEGLEISADDEDQDIDTATSVTDDAPIVKFVNKILLDAIRQGASDIHFEPYEREYRIRYRQD  226
NTDB id 1110 NGFG RS09235 WP 003689817.1    STSLLQ....ELGEG.........QEEEESHTLYIDNEEAEDGPVPRFIHKTLSDALRSGASDIHFEFYEHNARIRFRVD  207
NTDB id 188336 BSY238 RS07125 WP 069038515.1 VEKTLE....SLSSADFDFD.GEMAPDEDAASNDTGTVEIDDAPVVRFIQKILLDAINEGASDVHFEPYEKYYRIRYRTD  223
NTDB id 1018 ACIAD RS01685 WP 004920473.1   VEETHF....NFDTEELDLD.VEVDPHTT.DDDIEDDKLKDEAPIVKYINKLLIDAIRMSASDLHFEPYEKSYRVRYRVD  221
NTDB id 1058 ABD1 RS01615 WP 001274986.1    AEESSF....DFNDEEFDLD.VNLDGPTA.QEDEEEAPQGDEAPIVKYINKLLIDAIRMGASDLHFEPYEKSYRVRYRVD  221
consensus                                    *       ***  **       *    ***  * * *  **********************!** *!!!*!*!****  ***!*!*!
```

logo



```
NTDB id 1028 TT RS08215 WP 011173991.1      GALRPYSTLPKGALNAVISVVKIMGGLNIAEKRLPQDGRVRYR..EGAIDVDLRLSTLPTVYGEKAVMRLLKKASDIPEI  620
NTDB id 1306 DR RS10060 WP 027479822.1      GALREQNSFPKGAAQQIMARLKIMGHLDIAERRVPQDGRVRFK..KGSIDLDLRLSTLPTVYGEKAVMRLLQKASNIPEL  617
NTDB id 1168 A1552VC RS11070 WP 000957200.1 GILVETQQPASHLSRRLAARIKILSKLDIAERRLPQDGRIKLRLSR.DTAIDMRVSTLPTLWGEKIVLRLLDSSAANLDI  296
NTDB id 1293 VP RS12240 WP 005479695.1      GILIETQQPPNHLSRRLSARIKILSKLDIAERRLPQDGRIKLKLNQ.DTAIDMRVSTLPTLFGEKIVLRLLDSSSASLDI  296
NTDB id 1401 DSB67 RS12665 WP 010643259.1   GILIETQQPPSHLSRRLSARIKILSKLDIAERRLPQDGRIKLKLNQ.DTAIDMRVSTLPTLFGEKIVLRLLDSSSAALDI  296
NTDB id 1251 GCO85 RS07725 WP 011946523.1   GILHEVATPPASLSSRITARIKVMSNLDISERRIPQDGGFKMKISK.SRAIDFRVSTCPTSAGEKVVMRVLDSGAAKLGI  305
NTDB id 1110 NGFG RS09235 WP 003689817.1    GQLREVVQPPIAVRGQLASRIKVMSRLDISEKRIPQDGRMQLTFQKGGKPVDFRVSTLPTLFGEKVVMRILNSDAASLNI  287
NTDB id 188336 BSY238 RS07125 WP 069038515.1 GVLREITQPPLVLREKIASRIKVISRLDISEKRVPQDGRMKFVLSK.TRAIDFRVSTLPTLHGEKIVMRILDPSSAMLGI  302
NTDB id 1018 ACIAD RS01685 WP 004920473.1   GVLRLIATPPLQLATRLASRLKVMSQMDISEKRVPQDGRIKLKMSK.SKTIDFRVNSLPTLFGEKIVLRILDPASAMLGI  300
NTDB id 1058 ABD1 RS01615 WP 001274986.1    GVLRQIANPPLQLANRLASRLKVMSQMDISEKRVPQDGRIKLKLSK.SKAIDFRVNSLPTLFGEKLVLRILDPSSAMLGI  300
consensus                                   !*!*** ***  *  *** **!*******! !*!*!!!!*******  ****!*!****!!**!!!*!*!*!*********
```

logo



```
NTDB id 1028 TT RS08215 WP 011173991.1      EDLGFAPGVFERFKEVISKPYGIFLITGPTGSGKSFTTFSILKRIATPDKNTQTIEDPVEYEIPGINQTQVNPQAGLTFA  700
NTDB id 1306 DR RS10060 WP 027479822.1      EQLGFSEYNYARYTEIIERPNGIFLVTGPTGSGKSFTCFSTLKRIAKPEKNTTTIEDPIEYEVPGIVQSQVNNSTGMTFA  697
NTDB id 1168 A1552VC RS11070 WP 000957200.1 DKLGYNPQQKQLYLNALKRPQGMILMTGPTGSGKTVSLYTGLRILNTSQINISTAEDPVEINLSGINQVQVQPKIGFGFA  376
NTDB id 1293 VP RS12240 WP 005479695.1      DKLGYSEQQKQLYLEALRRPQGMILMTGPTGSGKTVSLYTGLNILNKPEINISTAEDPVEINLSGINQVQVQPKIGFGFA  376
NTDB id 1401 DSB67 RS12665 WP 010643259.1   NKLGYSDSQKQLYLDALRRPQGMILMTGPTGSGKTVSLYTGLSILNKPEINISTAEDPVEIYLPGINQVQVQPKIGFGFA  376
NTDB id 1251 GCO85 RS07725 WP 011946523.1   EALGFNPVQRTNFLKAIQRPQGMILVTGPTGSGKTVTLYTALNILNTIEVNISTAEDPVEIKVPGINQVNINPKAGLTFS  385
NTDB id 1110 NGFG RS09235 WP 003689817.1    DQLGFEPFQKKLLLEAIHRPYGMVLVTGPTGSGKTVSLYTCLNILNTESVNIATAEDPAEINLPGINQVNVNDKQGLTFA  367
NTDB id 188336 BSY238 RS07125 WP 069038515.1 DALGYEPPQRAALMHAIGRPYGMILVTGPTGSGKTVSLYTCLNILNQAGVNISTAEDPAEINLPGVNQVNVNDKAGLTFA  382
NTDB id 1018 ACIAD RS01685 WP 004920473.1   DALGYEPEQKALFMEALNKPQGMLLITGPTGSGKTVSLYTGLNILNTEHANISTAEDPVEINLEGVNQVNVNPKVGLTFA  380
NTDB id 1058 ABD1 RS01615 WP 001274986.1    DALGYEEDQKALFMEALDKPQGMLLITGPTGSGKTVSLYTGLNILNTESSNISTAEDPVEINLEGINQVNVNPKVGLTFA  380
consensus                                   * !!* * ** ****** *!*!**!*!!!!!!!!*******!***** **!**!*!!!*!****!**!******!**!*
```

logo



```
NTDB id 1028 TT RS08215 WP 011173991.1        RALRAFLRQDPDIIMVGEIRDSETAKIATEAALTGHLVIATLHTNDAAQAITRLDEMGVEPFNISAALIGVLSQRLVRRV  780
NTDB id 1306 DR RS10060 WP 027479822.1        RALRAFLRQDPDIIFVGEIRDQETAKIAVEAALTGHMVLATLHTNDAPGAVTRLEEMGIENFNISAAVMGVLAQRLVRRV  777
NTDB id 1168 A1552VC RS11070 WP 000957200.1   EALRSFLRQDPDVVMVGEIRDLETAEIAVKAAQTGHLVLSTLHTNSAAETVIRLANMGVEPFNLASSLSLIIAQRLARRL  456
NTDB id 1293 VP RS12240 WP 005479695.1        EALRSFLRQDPDVVMVGEIRDLDTAEIAIKASQTGHLVLSTLHTNSAAETIIRLSNMGVESFNLASSLSLIIAQRLARKL  456
NTDB id 1401 DSB67 RS12665 WP 010643259.1     EALRSFLRQDPDVVMVGEIRDLDTAEIAIKASQTGHLVLSTLHTNSAAETVIRLSNMGVESFNLASSLSLIIAQRLARKL  456
NTDB id 1251 GCO85 RS07725 WP 011946523.1     GALRSFLRQDPDIIMVGEIRDLETAEIAIKAAQTGHLVLSTLHTNSAAETLNRLVNMGIPTFNIASSVTLIIAQRLARKL  465
NTDB id 1110 NGFG RS09235 WP 003689817.1      AALKSFLRQDPDIIMVGEIRDLETADIAIKAAQTGHMVFSTLHTNNAPATLSRMLNMGVAPFNIASSVSLIMAQRLLRRL  447
NTDB id 188336 BSY238 RS07125 WP 069038515.1  AALKSFLRQDPDVIMVGEIRDLETAEISIKAAQTGHLVLSTLHTNDAPTTLDRMRNMGIAAFNIASSVILITAQRLARRL  462
NTDB id 1018 ACIAD RS01685 WP 004920473.1     AALRSFLRQDPDIIMVGEIRDLETAEIAIKAAQTGHLVMSTLHTNNAAETLTRLRNMGVASFNIATSVNLVIAQRLARRL  460
NTDB id 1058 ABD1 RS01615 WP 001274986.1      AALKSFLRQDPDIIMVGEIRDLETAEIAIKAAQTGHMVMSTLHTNSAPETLTRLRNMGVPSFNIATSVNLVIAQRLARRL  460
consensus                                     *!!**!!!!!!!**!!!!!!**!!*!***!**!!!*!**!!!!!*!*****!*  *!!***!!*********!!!*!**
```

logo



```
NTDB id 1028 TT RS08215 WP 011173991.1        CEHCKVEVKPDPET.LRRLGLSEAEIQ..GARLYKGMGCERCGGTGYKGRYAIHELLVVDDEIRHAIVAGKSATEIKEIA  857
NTDB id 1306 DR RS10060 WP 027479822.1        CSECKQPTNADPEV.LRRLGISERDIR..GANLMRGTGCPRCGGTGYKGRMGIHELMVMDDSLRRTIGAGRPAAEIRDVA  854
NTDB id 1168 A1552VC RS11070 WP 000957200.1   CKHCKIAVRPSALL.QSQFAFQPNEIL....YEANAAGCNECT.GGYSGRVGIYEVMAFNTELAEAIMQRASIHQIERLA  530
NTDB id 1293 VP RS12240 WP 005479695.1        CPYCKQPQEHTVQL..QHLGIQTTDNI....FRANPDGCNECT.HGYSGRTGIYEVMRFDESLSEALIKGASVHELEKLA  529
NTDB id 1401 DSB67 RS12665 WP 010643259.1     CPYCRQPQEPNSQL..QHIGIANTEQI....FQANPDGCNECT.HGYSGRTGIYEVMKFDESLSEALIKGASVHELEKLA  529
NTDB id 1251 GCO85 RS07725 WP 011946523.1     CNQCKAVRDDFTNQGLIELGFKEADLV..NLKLYKAVGCEQCT.SGYRGRVGLFEVLPMTKELGQLIMSGGNSLDILKLA  542
NTDB id 1110 NGFG RS09235 WP 003689817.1      CSSCKQEVERPSASALKEVGFTDEDLA.KDWKLYRAVGCDRCRGQGYKGRAGVYEVMPISEEMQRVIMNNGTEVGILDVA  526
NTDB id 188336 BSY238 RS07125 WP 069038515.1  CS.CKQPMDIPVEA.LLEAGFTEEELD.GSWQPYGPVGCERCKGSGYKGRVGIYQVMPISDEIAHIIMTNGNSIDIAQQA  539
NTDB id 1018 ACIAD RS01685 WP 004920473.1     CSQCKRPIQVPERS.LLEMGFTPEDLAQPEFQIFEPVGCHDCR.EGYKGRVGIYEVMKITPEISKIIMEDGNALEIAATA  538
NTDB id 1058 ABD1 RS01615 WP 001274986.1      CSQCKIPADIPKQS.LLEMGFTEQDLAHPDFRVFQPVGCLECR.EGYKGRVGIYEVMKVTPEISKIIMEDGNALEIAAAS  538
consensus                                     !*  !*****      *  ******  **       **  **!!  *!    !!*!!********  *****   ***  ***  ***   **
```

logo



```
NTDB id 1028 TT RS08215 WP 011173991.1        R.RKGMKTLREDGLYKALQGITTLEEVLARTIE  889
NTDB id 1306 DR RS10060 WP 027479822.1        LGESGLRSLRQDGIEKALQGLTTLEEVLAVTAS  887
NTDB id 1168 A1552VC RS11070 WP 000957200.1   K.ANGMQTLQESGLEKLREGITSFAELQRVLYF  562
NTDB id 1293 VP RS12240 WP 005479695.1        I.ANGMSTLQMSGIEKLKQGITSFSELQRVLYF  561
NTDB id 1401 DSB67 RS12665 WP 010643259.1     I.ANGMQTLQMSGIEKLKQGITSFRELQRVLYF  561
NTDB id 1251 GCO85 RS07725 WP 011946523.1     Q.SEGMLTIFQSGIEKVKEGITTIEEVNRVTVD  574
NTDB id 1110 NGFG RS09235 WP 003689817.1      Y.KEGMVDLRRAGILKIMQGITSLEEVTANTND  558
NTDB id 188336 BSY238 RS07125 WP 069038515.1  R.RDGVRDLRQSGLLKVKQGVTSLAEVLACTNE  571
NTDB id 1018 ACIAD RS01685 WP 004920473.1     E.TLGFNNLRRSGLKKVMQGVTSLQELNRVTSE  570
NTDB id 1058 ABD1 RS01615 WP 001274986.1      E.KLGFNNLRRSGLKKVMQGVTSLQEVNRVTSE  570
consensus                                        !* *** *!**!* *!*!** !***** *
```

X non conserved
X similar
X ≥ 50% conserved