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 188312 BSY15 RS03395 WP 069103615.1   ..........................................................................................      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 188312 BSY15 RS03395 WP 069103615.1   ..........................................................................................      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 188312 BSY15 RS03395 WP 069103615.1   ..........................................................................................      0
NTDB id 1018 ACIAD RS01685 WP 004920473.1     ..........................................................................................      0
NTDB id 1058 ABD1 RS01615 WP 001274986.1      ..........................................................................................      0
consensus
```

logo

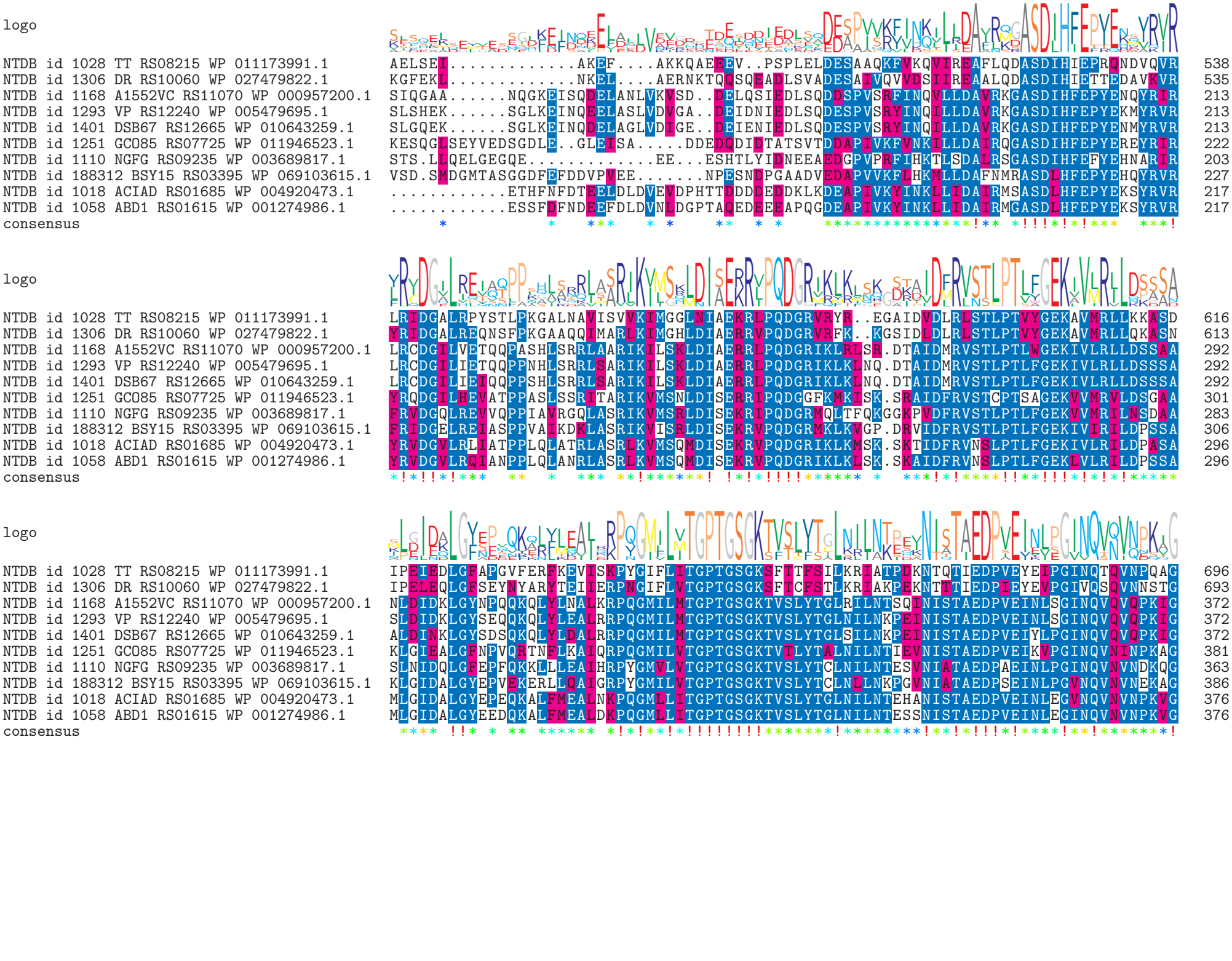
```
NTDB id 1028 TT RS08215 WP 011173991.1          LLLLRSDALRYGAVPIGFQNGEVEVVLSDPRHKEAVAQLLNRPARFYLALPQAWEELFRRAYPQKNRLGEVLVQEGKLSR   317
NTDB id 1306 DR RS10060 WP 027479822.1          GSMLRADALRLLAVPVDETEQGVTVLTSDPRKRPDIDALIGRPVQLMLTRPRDIERLIEQFYPQRGRLGEQLVQEGTLSR   317
NTDB id 1168 A1552VC RS11070 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       ..........................................MAL.......................................     3
NTDB id 1110 NGFG RS09235 WP 003689817.1        ..........................................................................................     0
NTDB id 188312 BSY15 RS03395 WP 069103615.1     ..........................................MAAVDTAPK.................................     9
NTDB id 1018 ACIAD RS01685 WP 004920473.1        ..........................................MSAFTTPPK.................................     9
NTDB id 1058 ABD1 RS01615 WP 001274986.1        ..........................................MSALHTSPK.................................     9
consensus                                                                                 *       *
```

logo

```
NTDB id 1028 TT RS08215 WP 011173991.1          EALKEALEVQKGLPRAKPLGEILVELGLARPEDVEEALQKQRRCGGRLEDTLVQSGKLRPEALAQAVATQLGYPYVDPEE   397
NTDB id 1306 DR RS10060 WP 027479822.1          DQLREALQVQAREGKVKPLGEVITELGFASPDEVDSALQKQNVCGGRLEDTLVQSGKLSPEMLARSLAAQLGYEFLDPIQ   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       .........ATEEYRLQQGIGQLLVLEKLLDKTKAIELHKLAAAEKISLLQYIVKNKILSAEQIALTAAQNFGVPMLDINC    74
NTDB id 1110 NGFG RS09235 WP 003689817.1        ..................MSVGLLRILVQNQVVTVEQAEHYYNESQ.AGKEVLPMLFSDGVISPKSLAALIARVFSYSILDLRH    65
NTDB id 188312 BSY15 RS03395 WP 069103615.1     .........EASAVALPGLGRALISAGKLTQKSAEDIYKKSQIARTSFIGELTGSGAVSAADLAHTVSAVFGAPLLDLEA    80
NTDB id 1018 ACIAD RS01685 WP 004920473.1        ...............FSGFIRRLVEEGYVNAQNMQQALEKAKKFKQDIVPYLIDNFSISPLTIAEIISLEFGEPLLDLGV    74
NTDB id 1058 ABD1 RS01615 WP 001274986.1        ...............FTGFFRRLVEEKHVSAATMQTALDAAKRAKQDTVAYLIEEVHLSPSLLAETISAEFAEPYFDLDV    74
consensus                                                     ****  ***  ****  * * **   * ** **** ** ** ***  *** ** *** * ***
```

logo

```
NTDB id 1028 TT RS08215 WP 011173991.1          DPPDPGAPLLLPEDLCRRYGVFPHRLEGNRLVLLMKDPRNILALDDVRLALKRKGLNYEVAPAVATEAAITKLIERFYGK   477
NTDB id 1306 DR RS10060 WP 027479822.1          NPPDPKVALMIPEATARRYVVVPVRLQGNSLVVAMKDPRNVFALDDLKLITG.....KEILPAVMAEKDIIRLIERYFGE   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 188312 BSY15 RS03395 WP 069103615.1     IDPLRLPRELLDPKICQAYRVIVLSKRNNRLIVATADPTDQEAAEKIKFTTQ.....MGVDWIIAEYDKLSKLVDATTKS   155
NTDB id 1018 ACIAD RS01685 WP 004920473.1        FDPALFLKDKIDEKLIQKYRIMPLVHRGHVLYVATSNPTNIEAMDAIRFNSK.....LKVEPIIVEHDKLERLLSEHFVE   149
NTDB id 1058 ABD1 RS01615 WP 001274986.1        YDTSQIPKDLVDQKLILKHRILPLIQRGQILYVATSNPSNIEAIDAIRFNSK.....LLVEPVIVEHHKLEKVLGQHFAE   149
consensus                                       ** * *   ** **** ** **** **** ***** *!*** **********      * ** ****   **********
```


logo
NTDB id 1028 TT RS08215 WP 011173991.1 AELSET.....AKEF....AKKQAEEEV..PSPLELDESAAQKFVKQVIREAFLQDASDIHIEPRQNDVQVR 538
NTDB id 1306 DR RS10060 WP 027479822.1 KGFEKL.....NKEL....AERNKTQQSQFEADLSVADESAIVQVVDSIIREAALQDASDIHIETTEDAVKVR 535
NTDB id 1168 A1552VC RS11070 WP 000957200.1 SIQGAA.....NQGKEISQDELANLVKVSD..DELQSIEDLSQDDSPVSRFINQVLLDAVRKGASDIHFEPYENQYRIR 213
NTDB id 1293 VP RS12240 WP 005479695.1 SLSHEK.....SGLKEINQEELASLVDVGA..DEIDNIEDLSQDESPVSRYINQILLDAVRKGASDIHFEPYEKMYRVR 213
NTDB id 1401 DSB67 RS12665 WP 010643259.1 SLGQEK.....SGLKEINQDELAGLVDIGE..DEIENIEDLSQDESPVSRYINQILLDAVRKGASDIHFEPYENMYRVR 213
NTDB id 1251 GCO85 RS07725 WP 011946523.1 KESQGLSEYVEDSGDLE..GLEISA.....DDEDQDIDTATSVTDDAPIVKFVNKILLDAIRQGASDIHFEPYEREYRIR 222
NTDB id 1110 NGFG RS09235 WP 003689817.1 STS.LLQELGEGQE.....EE...ESHTLYIDNEEAEDGPVPRFIHKTLSDALRSGASDIHFEFYEHNARIR 203
NTDB id 188312 BSY15 RS03395 WP 069103615.1 VSD.SMDGMTASGGDFEFDDVPVEE.....NPESNDPGAADVEDAPVVKFLHKMLLDAFNMRASDLHFEPYEHQYRVR 227
NTDB id 1018 ACIAD RS01685 WP 004920473.1 .....ETHFNFDTEELDLDVEVDPHTTDDDDEDDKLKDEAPIVKYINKLLIDAIRMSASDLHFEPYEKSYRVR 217
NTDB id 1058 ABD1 RS01615 WP 001274986.1 .....ESSFDFNDEEFDLDVNLDGPTAQEDEEEAPQGDEAPIVKYINKLLIDAIRMGASDLHFEPYEKSYRVR 217
consensus
logo
NTDB id 1028 TT RS08215 WP 011173991.1 LRIDGALRPYSTLPKGALNAVISVVKIMGGLNIAEKRLPQDGRVRYR..EGAIDVDLRLSTLPTVYGEKAVMRLLKKASD 616
NTDB id 1306 DR RS10060 WP 027479822.1 YRIDGALREQNSFPKGAAQQIMARLKIMGHLDIAERRVPQDGRVRFK..KGSIDLDLRLSTLPTVYGEKAVMRLLQKASN 613
NTDB id 1168 A1552VC RS11070 WP 000957200.1 LRCDGILVETQQPASHLSRRLAARIKILSKLDIAERRLPQDGRIKLRLSR.DTAIDMRVSTLPTLWGEKIVLRLLDSSAA 292
NTDB id 1293 VP RS12240 WP 005479695.1 LRCDGILIETQQPPNHLSRRLSARIKILSKLDIAERRLPQDGRIKLKLNQ.DTAIDMRVSTLPTLFGEKIVLRLLDSSSA 292
NTDB id 1401 DSB67 RS12665 WP 010643259.1 LRCDGILIEIQQPPSHLSRRLSARIKILSKLDIAERRLPQDGRIKLKLNQ.DTAIDMRVSTLPTLFGEKIVLRLLDSSSA 292
NTDB id 1251 GCO85 RS07725 WP 011946523.1 YRQDGILHEVATPPASLSSRITARIKVMSNLDISERRIPQDGGFKMKISK.SRAIDFRVSTCPTSAGEKVVMRVLDSGAA 301
NTDB id 1110 NGFG RS09235 WP 003689817.1 FRVDGQLREVVQPPIAVRGQLASRIKVMSRLDISEKRIPQDGRMQLTFQKGGKPVDFRVSTLPTLFGEKVVMRILNSDAA 283
NTDB id 188312 BSY15 RS03395 WP 069103615.1 FRIDGELREIASPPVAIKDKLASRIKVISRLDISEKRVPQDGRMKLKVGP.DRVIDFRVSTLPTLFGEKIVIRILDPSSA 306
NTDB id 1018 ACIAD RS01685 WP 004920473.1 YRVDGVLRLIATPPLQLATRLASRLKVMSQMDISEKRVPQDGRIKLKMSK.SKTIDFRVNSLPTLFGEKIVLRILDPASA 296
NTDB id 1058 ABD1 RS01615 WP 001274986.1 YRVDGVLRQIANPPLQLANRLASRLKVMSQMDISEKRVPQDGRIKLKLSK.SKAIDFRVNSLPTLFGEKLVLRILDPSSA 296
consensus
logo
NTDB id 1028 TT RS08215 WP 011173991.1 IPEIEDLGFAPGVFERFKEVISKPYGIFLITGPTGSGKSFTTFSILKRIATPDKNTQTIEDPVEYEIPGINQTQVNPQAG 696
NTDB id 1306 DR RS10060 WP 027479822.1 IPELEQLGFSEYNYARYTEIIERPNGIFLVTGPTGSGKSFTCFSTLKRIAKPEKNTTTIEDPIEYEVPGIVQSQVNNSTG 693
NTDB id 1168 A1552VC RS11070 WP 000957200.1 NLDIDKLGYNPQQKQLYLNALKRPQGMILMTGPTGSGKTVSLYTGLRILNTSQINISTAEDPVEINLSGINQVQVQPKIG 372
NTDB id 1293 VP RS12240 WP 005479695.1 SLDIDKLGYSEQQKQLYLEALRRPQGMILMTGPTGSGKTVSLYTGLNILNKPEINISTAEDPVEINLSGINQVQVQPKIG 372
NTDB id 1401 DSB67 RS12665 WP 010643259.1 ALDINKLGYSDSQKQLYLDALRRPQGMILMTGPTGSGKTVSLYTGLSILNKPEINISTAEDPVEIYLPGINQVQVQPKIG 372
NTDB id 1251 GCO85 RS07725 WP 011946523.1 KLGIEALGFNPVQRTNFLKAIQRPQGMILVTGPTGSGKTVTLYTALNILNTIEVNISTAEDPVEIKVPGINQVNINPKAG 381
NTDB id 1110 NGFG RS09235 WP 003689817.1 SLNIDQLGFEPFQKKLLLEAIHRPYGMVLVTGPTGSGKTVSLYTCLNILNTESVNIATAEDPAEINLPGINQVNVNDKQG 363
NTDB id 188312 BSY15 RS03395 WP 069103615.1 KLGIDALGYEPVEKERLLQAIGRPYGMILVTGPTGSGKTVSLYTCLNLLNKPGVNIATAEDPSEINLPGVNQVNVNEKAG 386
NTDB id 1018 ACIAD RS01685 WP 004920473.1 MLGIDALGYEPEQKALFMEALNKPQGMLLITGPTGSGKTVSLYTGLNILNTEHANISTAEDPVEINLEGVNQVNVNPKVG 376
NTDB id 1058 ABD1 RS01615 WP 001274986.1 MLGIDALGYEEDQKALFMEALDKPQGMLLITGPTGSGKTVSLYTGLNILNTESSNISTAEDPVEINLEGINQVNVNPKVG 376
consensus

logo

```
NTDB id 1028 TT RS08215 WP 011173991.1      LTFARALRAFLRQDPDIIMVGEIRDSETAKIATEAALTGHLVIATLHTNDAAQAITRLDEMGVEPFNISAALIGVLSQRL  776
NTDB id 1306 DR RS10060 WP 027479822.1      MTFARALRAFLRQDPDIIFVGEIRDQETAKIAVEAALTGHMVLATLHTNDAPGAVTRLEEMGIENFNISAAVMGVLAQRL  773
NTDB id 1168 A1552VC RS11070 WP 000957200.1 FGFAEALRSFLRQDPDVVMVGEIRDLETAEIAVKAAQTGHLVLSTLHTNSAAETVIRLANMGVEPFNLASSLSLIIAQRL  452
NTDB id 1293 VP RS12240 WP 005479695.1      FGFAEALRSFLRQDPDVVMVGEIRDLDTAEIAIKASQTGHLVLSTLHTNSAAETIIRLSNMGVESFNLASSLSLIIAQRL  452
NTDB id 1401 DSB67 RS12665 WP 010643259.1   FGFAEALRSFLRQDPDVVMVGEIRDLDTAEIAIKASQTGHLVLSTLHTNSAAETVIRLSNMGVESFNLASSLSLIIAQRL  452
NTDB id 1251 GCO85 RS07725 WP 011946523.1   LTFSGALRSFLRQDPDIIMVGEIRDLETAEIAIKAAQTGHLVLSTLHTNSAAETLNRLVNMGIPTFNIASSVTLIIAQRL  461
NTDB id 1110 NGFG RS09235 WP 003689817.1    LTFAAALKSFLRQDPDIIMVGEIRDLETADIAIKAAQTGHMVFSTLHTNNAPATLSRMLNMGVAPFNIASSVSLIMAQRL  443
NTDB id 188312 BSY15 RS03395 WP 069103615.1 LTFAVALKSFLRQDPDIIMVGEIRDLETADISIKAAQTGHLVLSTLHTNDAPTTLTRMRNMGIAPFNIASSVILITAQRL  466
NTDB id 1018 ACIAD RS01685 WP 004920473.1   LTFAAALRSFLRQDPDIIMVGEIRDLETAEIAIKAAQTGHLVMSTLHTNNAAETLTRLRNMGVASFNIATSVNLVIAQRL  456
NTDB id 1058 ABD1 RS01615 WP 001274986.1    LTFAAALKSFLRQDPDIIMVGEIRDLETAEIAIKAAQTGHMVMSTLHTNSAPETLTRLRNMGVPSFNIATSVNLVIAQRL  456
consensus                                   **!*  !!**!!!!!!!***!!!!!!**!!*!***!**!!!*!**!!!!!*!*****!*  *!!***!!*********!!!
```

logo

```
NTDB id 1028 TT RS08215 WP 011173991.1      VRRVCEHCKVEVKPDPEI.LRRLGLSEAEIQ..GARLYKGMGCERCGGTGYKGRYAIHELLVVDDEIRHAIVAGKSATEI  853
NTDB id 1306 DR RS10060 WP 027479822.1      VRRVCSECKQPTNADPEV.LRRLGISERDIR..GANLMRGTGCPRCGGTGYKGRMGIHELMVMDDSLRRTIGAGRPAAEI  850
NTDB id 1168 A1552VC RS11070 WP 000957200.1 ARRLCKHCKIAVRPSALL.QSQFAFQPNEI....LYEANAAGCNECT.GGYSGRVGIYEVMAFNTELAEAIMQRASIHQI  526
NTDB id 1293 VP RS12240 WP 005479695.1      ARKLCPYCKQPQEHTVQL..QHLGIQTTDN....IFRANPDGCNECT.HGYSGRTGIYEVMRFDESLSEALIKGASVHEL  525
NTDB id 1401 DSB67 RS12665 WP 010643259.1   ARKLCPYCRQPQEPNSQL..QHIGIANTEQ....IFQANPDGCNECT.HGYSGRTGIYEVMKFDESLSEALIKGASVHEL  525
NTDB id 1251 GCO85 RS07725 WP 011946523.1   ARKLCNQCKAVRDDFTNQGLIELGFKEADLV..NLKLYKAVGCEQCT.SGYRGRVGLFEVLPMTKELGQLIMSGGNSLDI  538
NTDB id 1110 NGFG RS09235 WP 003689817.1    LRRLCSSCKQEVERPSASALKEVGFTDEDLA.KDWKLYRAVGCDRCRGQGYKGRAGVYEVMPISEEMQRVIMNNGTEVGI  522
NTDB id 188312 BSY15 RS03395 WP 069103615.1 ARRLCPNCKAPADIPHET.LVEAGYPEEELD.GTWVTYKPVGCSACN.NGYKGRVGIYQVMPISEEIQRIILRDGSALEI  543
NTDB id 1018 ACIAD RS01685 WP 004920473.1   ARRLCSQCKRPIQVPERS.LLEMGFTPEDLAQPEFQIFEPVGCHDCR.EGYKGRVGIYEVMKITPEISKIIMEDGNALEI  534
NTDB id 1058 ABD1 RS01615 WP 001274986.1    ARRLCSQCKIPADIPKQS.LLEMGFTEQDLAHPDFRVFQPVGCLECR.EGYKGRVGIYEVMKVTPEISKIIMEDGNALEI  534
consensus                                   *!**!  !* * *    * * ******* **      *****!! *!   !!*!!*******  *****  ****  *******
```

logo

```
NTDB id 1028 TT RS08215 WP 011173991.1      KEIAR.RKGMKTLREDGLYKALQGITTLEEVLARTIE  889
NTDB id 1306 DR RS10060 WP 027479822.1      RDVALGESGLRSLRQDGIEKALQGLTTLEEVLAVTAS  887
NTDB id 1168 A1552VC RS11070 WP 000957200.1 ERLAK.ANGMQTLQESGLEKLREGITSFAELQRVLYF  562
NTDB id 1293 VP RS12240 WP 005479695.1      EKLAI.ANGMSTLQMSGIEKLKQGITSFSELQRVLYF  561
NTDB id 1401 DSB67 RS12665 WP 010643259.1   EKLAI.ANGMQTLQMSGIEKLKQGITSFRELQRVLYF  561
NTDB id 1251 GCO85 RS07725 WP 011946523.1   LKLAQ.SEGMLTIFQSGIEKVKEGITTIEEVNRVTVD  574
NTDB id 1110 NGFG RS09235 WP 003689817.1    LDVAY.KEGMVDLRRAGILKIMQGITSLEEVTANTND  558
NTDB id 188312 BSY15 RS03395 WP 069103615.1 AEQAR.AEGVRSLRDSGLYKAKLGLTSLEEVLAVTNE  579
NTDB id 1018 ACIAD RS01685 WP 004920473.1   AATAE.TLGFNNLRRSGLKKVMQGVTSLQEINRVTSE  570
NTDB id 1058 ABD1 RS01615 WP 001274986.1    AAASE.KLGFNNLRRSGLKKVMQGVTSLQEVNRVTSE  570
consensus                                     **     !* *** *!**!* *!*!***!***** *
```

X non conserved
X similar
X ≥ 50% conserved