```
logo
NTDB id 1203 PSJM300 01605 AFN76401.1        ....MEFEKLLRLMVEKGGSDLFITAGVPPSMKVNGKILPVNKTPMSPEMTRETVHGVMNEQQRREFTENHECNFAISAR   76
NTDB id 1177 A1552VC RS01165 WP 000422572.1  ....MELNQYLDGMLTHKASDLYITVGAPILYRVDGELRAQGEA.LSVADVTALLHAMMDDARQAEFKQTREANFAV.VR   74
NTDB id 94554 NGK41 RS17790 WP 022649354.1   ....MDVEEIVALSVKHNVSDLHLCSDSPPRWRRSGRLEPAPFPP...PDVEALLKAWLNDEQQGAWWANGQVDFAVTLT   73
NTDB id 1307 DR RS10055 WP 010888596.1       MTSGIDITDILRLAADKGASDIILAAGLPPQFKLSGDYDAQGFEPLSASDTRKLMYSMMNERQQRIFEEKRELDFSFALG   80
NTDB id 1086 NMV RS00245 WP 002218487.1      ....MQITDLLAFGAKNKASDLHLSSGISPMIRVHGDMRRINLPEMSAEEVGNMVTSVMNDHQRKIYQQNLEVDFSFELP   76
NTDB id 1116 NGFG RS10615 WP 003690200.1     ....MQITDLLAFGAKNKASDLHLSSGISPMIRVHGDMRRINLPEMSAEEVGNMVTSVMNDHQRKIYQQNLEVDFSFELP   76
NTDB id 1185 GTF74 RS11940 WP 000350195.1    ....MDIAELLEFSVKHNASDLHLSAGVPPMVRIDGEVRKLGVPAFTHSDVHRLIFEIMNDAQRSEYEEKLEVDFSFELP   76
NTDB id 1176 A1552VC RS01160 WP 000350195.1 ....MDIAELLEFSVKHNASDLHLSAGVPPMVRIDGEVRKLGVPAFTHSDVHRLIFEIMNDAQRSEYEEKLEVDFSFELP   76
NTDB id 1283 ACE17W RS02630 WP 010947729.1  ....MDIAELLAFSVKNKSSDLHISAGMPPMIRVDGDLRKINLPPLEHKDVIKIIYDIMNDRQRKEYEEFFETDFSFEIA   76
NTDB id 1259 GC085 RS10305 WP 010947729.1   ....MDIAELLAFSVKNKSSDLHISAGMPPMIRVDGDLRKINLPPLEHKDVIKIIYDIMNDRQRKEYEEFFETDFSFEIA   76
NTDB id 1202 PSJM300 01600 AFN76400.1       ....MDITELLAFSAKQGASDLHLSSGLPPMIRVDGDVRRINLPAMDHKQVHALIYDIMNDKQRKDFEEFLETDFSFEVP   76
NTDB id 1194 PAKAF RS01995 WP 003084552.1   ....MDITELLAFSAKQGASDLHLSAGLPPMIRVDGDVRRINLPPLEHKQVHALIYDIMNDKQRKDFEEFLETDFSFEVP   76
NTDB id 1020 ACIAD RS04210 WP 011182164.1   ....MDITELLAFSVQNRASDLHLSAGIPPMIRVDGEVRRINLPAMDHSEVHNLIYDIMNDKQRRDYEEKLETDFSFEVP   76
NTDB id 1060 ABD1 RS04380 WP 000355489.1    ....MDITELLAFSVKNGASDLHLSAGMPPMIRVDGEVRRINLPALEHKDVHRLVYDIMNDKQRRDYEEKLETDFSFEVP   76
NTDB id 1040 HON27 RS13360 WP 000355489.1   ....MDITELLAFSVKNGASDLHLSAGMPPMIRVDGEVRRINLPALEHKDVHRLVYDIMNDKQRRDYEEKLETDFSFEVP   76
NTDB id 1081 FDQ49 RS05335 WP 006581387.1   ....MDITELLAFSVKNGASDLHLSAGMPPMIRVDGEVRRINLPALEHKDVHRLVYDIMNDKQRRDYEEKLETDFSFEVP   76
consensus                                    ************* *!!*************!******** * * **  ***************** ** *!*****
```

```
logo
NTDB id 1203 PSJM300 01605 AFN76401.1        GIGRFRVSAFYQRNLAGMVLRRIETNIPTIEDLKLPDVLKKLALTKRGLVLFVGATGTGKSTSLAAMIGYRNKNSSGHII   156
NTDB id 1177 A1552VC RS01165 WP 000422572.1  DSGRFRVSAFFQRELPGAVIRRIETRIPTFEELKLPEVLQNLAIAKRGLVLVVGATGSGKSTTMAAMTGYRNQHRTGHIL   154
NTDB id 94554 NGK41 RS17790 WP 022649354.1   GGQRLRGSAFKHMHGVSIALRLLPLTCPQLSALGVPRAIPELLSNDNGLILVTGATGSGKSTTLAAMVDFLNHHTDGHIL   153
NTDB id 1307 DR RS10055 WP 010888596.1       DKARFRVNAFMQRGNVGGVMRLIPTTVRTIAEMGLPQTVIDIANAPRGLVLVTGPTGSGKSTTLASMIDHINTTKKLHIL   160
NTDB id 1086 NMV RS00245 WP 002218487.1      NVARFRVNAFNIGRGPAAVFRTIPSTVLSLEELKAPSIFQKIAESPRGMVLVTGPTGSGKSTTLAAMINYINETQPAHIL   156
NTDB id 1116 NGFG RS10615 WP 003690200.1     NVARFRVNAFNTGRGPAAVFRTIPSTVLSLEELKAPSIFQKIAESPRGMVLVTGPTGSGKSTTLAAMINYINETQPAHIL   156
NTDB id 1185 GTF74 RS11940 WP 000350195.1    NVGRFRVNAFHQARGCSAVFRTIPTVIPTLEQLDAPEIFSKIANYEKGLVLVTGPTGSGKSTTLAAMVNYVNAHHNKHIL   156
NTDB id 1176 A1552VC RS01160 WP 000350195.1 NVGRFRVNAFHQARGCSAVFRTIPTVIPTLEQLDAPEIFSKIANYEKGLVLVTGPTGSGKSTTLAAMVNYVNAHHNKHIL   156
NTDB id 1283 ACE17W RS02630 WP 010947729.1  NLARFRVNAFNQSRGAAAVFRTIPSEILSMEDLGLPPIFKEMASFSRGLVLVTGPTGSGKSTTLAAVIDYINSSRYEHIL   156
NTDB id 1259 GC085 RS10305 WP 010947729.1   NLARFRVNAFNQSRGAAAVFRTIPSEILSMEDLGLPPIFKEMASFSRGLVLVTGPTGSGKSTTLAAVIDYINSSRYEHIL   156
NTDB id 1202 PSJM300 01600 AFN76400.1       GVARFRVNAFNQNRGAGAVFRTIPSKVLTMEDLGMGEVFRKITDVPRGLVLVTGPTGSGKSTTLAAMLDYLNNTKYHHIL   156
NTDB id 1194 PAKAF RS01995 WP 003084552.1   GVARFRVNAFNQNRGAGAVFRTIPSKVLTMEELGMGEVFKRVSDVPRGLVLVTGPTGSGKSTTLAAMLDYLNNTKYHHIL   156
NTDB id 1020 ACIAD RS04210 WP 011182164.1   NLARFRVNVFNQNRGAGAVFRTIPSQVLTLEELGLGKIFRDICDYPRGLVLVTGPTGSGKSTTLAAMLDYINNHRYDHIL   156
NTDB id 1060 ABD1 RS04380 WP 000355489.1    NVARFRVNAFNQNRGAGAVFRTIPSKVLTMEDLGLGQIFKDICDYPRGIVLVTGPTGSGKSTTLAAMLDYINENRYDHIL   156
NTDB id 1040 HON27 RS13360 WP 000355489.1   NVARFRVNAFNQNRGAGAVFRTIPSKVLTMEDLGLGQIFKDICDYPRGIVLVTGPTGSGKSTTLAAMLDYINENRYDHIL   156
NTDB id 1081 FDQ49 RS05335 WP 006581387.1   NVARFRVNAFNQNRGAGAVFRTIPSKVLTMEDLGLGQIFKDICDYPRGIVLVTGPTGSGKSTTLAAMLDYINENRYDHIL   156
consensus                                   ***!*!***!** *******!**** ********** *** **  **!**!**!*!!*!!!!**!******!  *  !!*
```

```
logo
NTDB id 1203 PSJM300 01605 AFN76401.1      SIEDPIEFIHQHQNCIVTQREVGIDTDSFEVALKNTLRQAPDVILIGEVRTRETMDHAVAFAETGHLCLATLHANNANQA   236
NTDB id 1177 A1552VC RS01165 WP 000422572.1 TVEDPIEFVHEHKRCIVTQREVGLDTESYEVALKNSLRQAPDMILIGEIRSRETMEYAMTFAETGHLCMATLHANNANQA   234
NTDB id 94554 NGK41 RS17790 WP 022649354.1 TLEDPVEFMYQSERCLIRQREIGQHSPSFAEALRSALREDPDVILLGELRDSETIRLALTAAETGHLVLATLHTRGAAQA   233
NTDB id 1307 DR RS10055 WP 010888596.1     TIEDPIEFMHPNKASIINQREVGSDTLSFDDALRAALRQAPDVILVGEMRDYETIKAAVTAAETGHLVMGTLHTNSAPES   240
NTDB id 1086 NMV RS00245 WP 002218487.1    TIEDPIEFVHQSKKSLINQRELHQHTLSFANALRSALREDPDVILVGEMRDPETIGLALTAAETGHLVFGTLHTTGAAKT   236
NTDB id 1116 NGFG RS10615 WP 003690200.1   TIEDPIEFVHQSKKSLINQRELHQHTLSFANALSSALREDPDVILVGEMRDPETIGLALTAAETGHLVFGTLHTTGAAKT   236
NTDB id 1185 GTF74 RS11940 WP 000350195.1  TIEDPIEFVHSNNKCLINQREVHRDTHSFKNALRSALREDPDVILVGELRDQETISLALTAAETGHLVFGTLHTSSAAKT   236
NTDB id 1176 A1552VC RS01160 WP 000350195.1 TIEDPIEFVHSNNKCLINQREVHRDTHSFKNALRSALREDPDVILVGELRDQETISLALTAAETGHLVFGTLHTSSAAKT   236
NTDB id 1283 ACE17W RS02630 WP 010947729.1 TVEDPIEFVHQSKKCLVNQREVHKDTLSFNAALRSALREDPDIILVGELRDLETIRLAMTAAETGHLVFGTLHTNSATKT   236
NTDB id 1259 GC085 RS10305 WP 010947729.1  TVEDPIEFVHQSKKCLVNQREVHKDTLSFNAALRSALREDPDIILVGELRDLETIRLAMTAAETGHLVFGTLHTNSATKT   236
NTDB id 1202 PSJM300 01600 AFN76400.1      TIEDPIEFVHESKKCLVNQREVHRDTLGFSEALRSALREDPDIILVGEMRDLETIRLALTAAETGHLVFGTLHTTSAAKT   236
NTDB id 1194 PAKAF RS01995 WP 003084552.1  TIEDPIEFVHESKKCLVNQREVHRDTLGFSEALRSALREDPDIILVGEMRDLETIRLALTAAETGHLVFGTLHTTSAAKT   236
NTDB id 1020 ACIAD RS04210 WP 011182164.1  TVEDPIEFVHEPKKCLINQREVHRDTLGFNEALRSALREDPDIILVGEMRDLETIRLALTAAETGHLVFGTLHTTSAAKT   236
NTDB id 1060 ABD1 RS04380 WP 000355489.1   TVEDPIEFVHQSKKCLINQREVHRDTHGFNEALRSALREDPDIILVGEMRDLETIRLALTAAETGHLVFGTLHTTSAAKT   236
NTDB id 1040 HON27 RS13360 WP 000355489.1  TVEDPIEFVHQSKKCLINQREVHRDTHGFNEALRSALREDPDIILVGEMRDLETIRLALTAAETGHLVFGTLHTTSAAKT   236
NTDB id 1081 FDQ49 RS05335 WP 006581387.1  TVEDPIEFVHQSKKCLINQREVHRDTHGFNEALRSALREDPDIILVGEMRDLETIRLALTAAETGHLVFGTLHTTSAAKT   236
consensus                                  **!!!*!!*********!!!***** **  !!***!!**!!*!!*!!*!* !!***!***!!!!!!***!!!***!***
```

```
logo
NTDB id 1203 PSJM300 01605 AFN76401.1      LDRIINFFPADRQNQVWMDLSLNLKAIVAQQLVPTPDCKGRRAVIEVLINTPLAADLIRKGEVHELKGLMKRSTDLGMQT   316
NTDB id 1177 A1552VC RS01165 WP 000422572.1 LERILHLVPKEQREQFLLDLSLNLKGVIAQQLLRDKNGKGRHGVFEVLLNSPRIADLIRRGELHELKATMARSQEVGMQT   314
NTDB id 94554 NGK41 RS17790 WP 022649354.1 IERLVDTFPAQEKDPVRNQLAGSLRAVLAQKLRQD.VQGGRVALYELLVNTSAAANLIREGKTWQLPGIIQTGQQAGMQN   312
NTDB id 1307 DR RS10055 WP 010888596.1     IDRIVDVFPEEQQEQIRVQLANNLVAVMTQQLLPRADGQGRVLAYEILLANPAVRALIREGKTFQITSVMQTGAREGMVT   320
NTDB id 1086 NMV RS00245 WP 002218487.1    VDRIVDVFPAGEKEMVRSMLSESLTAVISQNLLKTHDGNGRVASHEILIANPAVRNLIRENKITQINSVLQTGQASGMQT   316
NTDB id 1116 NGFG RS10615 WP 003690200.1   VDRIVDVFPAGEKEMVRSMLSESLTAVISQNLLKTHDGNGRVASHEILIANPAVRNLIRENKITQINSVLQTGQASGMQT   316
NTDB id 1185 GTF74 RS11940 WP 000350195.1  IDRIIDVFPGSDKDMVRSMLSESLRAVIAQKLLKR.VGGGRVACHEIMLATPAIRNLIREDKVAQMYSIIQTGAAHGMQT   315
NTDB id 1176 A1552VC RS01160 WP 000350195.1 IDRIIDVFPGSDKDMVRSMLSESLRAVIAQKLLKR.VGGGRVACHEIMLATPAIRNLIREDKVAQMYSIIQTGAAHGMQT   315
NTDB id 1283 ACE17W RS02630 WP 010947729.1 INRIIDVFPAEEKSMVRSMLSESLQAVVAQSLLKK.NKGGRVAALEIMMCTGAIRNLIREDKIAQMYSSIQTGQAKGMQT   315
NTDB id 1259 GC085 RS10305 WP 010947729.1  INRIIDVFPAEEKSMVRSMLSESLQAVVAQSLLKK.NKGGRVAALEIMMCTGAIRNLIREDKIAQMYSSIQTGQAKGMQT   315
NTDB id 1202 PSJM300 01600 AFN76400.1      IDRVVDVFPAEEKSMVRSMLSESLQAVISQTLLKK.VGGGRVAAHEIMIGTPAIRNLIREDKVAQMYSSIQTGGSLGMQT   315
NTDB id 1194 PAKAF RS01995 WP 003084552.1  IDRVVDVFPAEEKAMVRSMLSESLQSVISQTLIKK.IGGGRVAAHEIMIGTPAIRNLIREDKVAQMYSAIQTGGSLGMQT   315
NTDB id 1020 ACIAD RS04210 WP 011182164.1  IDRIIDVFPAEEKDMVRTMLSESLQAVISQTLLKK.EGGGRVAAHEIMIGIPAIRNLIREGKVAQMYSSIQTGATHGMTT   315
NTDB id 1060 ABD1 RS04380 WP 000355489.1   IDRVIDVFPAEEKDMVRAMLSESLQAVISQTLLKK.NGGGRVAAHEIMIGIPAIRNLIRENKVAQMYSAIQTGANHGMTT   315
NTDB id 1040 HON27 RS13360 WP 000355489.1  IDRVIDVFPAEEKDMVRAMLSESLQAVISQTLLKK.NGGGRVAAHEIMIGIPAIRNLIRENKVAQMYSAIQTGANHGMTT   315
NTDB id 1081 FDQ49 RS05335 WP 006581387.1  IDRVIDVFPAEEKDMVRAMLSESLQAVISQTLLKK.NGGGRVAAHEIMIGIPAIRNLIRENKVAQMYSAIQTGANHGMTT   315
consensus                                  **!*****!*********!***! *****! !***  **!!*****!**********!!!* ******* *****  !!**
```

```
logo
NTDB id 1203 PSJM300 01605 AFN76401.1        FDQALYNLYVQGEITYEDALLHADSSNDLRLMIKLGSETDG.EHLTSVSQGLTL....EMSDDDPGRSFR..........   381
NTDB id 1177 A1552VC RS01165 WP 000422572.1  FDQALYQLVVDDKISEQDALHSADSANDLRLMLKTKRGDDY.GSG..SLQNVKI....DME...................   368
NTDB id 94554 NGK41 RS17790 WP 022649354.1   FEQSLAERRAQGRL.......................................................................   326
NTDB id 1307 DR RS10055 WP 010888596.1       MDAYLAGLFRRHLITYDKGLERAIDPKEFARLANDASAGLGGASMTPAAPPVPAYNSASSSSTGRGGDFGRGAAAPATPA   400
NTDB id 1086 NMV RS00245 WP 002218487.1      MDQSLQSLVRQGLIAPEVARRRAQNSESMSF.....................................................   347
NTDB id 1116 NGFG RS10615 WP 003690200.1     MDQSLQSLVRQGLIAPEAARRRAQNSESMSF.....................................................   347
NTDB id 1185 GTF74 RS11940 WP 000350195.1    MEQNAKQLIARGVVDAQEVQSKIELDLKAF......................................................   345
NTDB id 1176 A1552VC RS01160 WP 000350195.1  MEQNAKQLIARGVVDAQEVQSKIELDLKAF......................................................   345
NTDB id 1283 ACE17W RS02630 WP 010947729.1   LDQHLTELVNKNIISKHTAHEAALNK.SLF......................................................   344
NTDB id 1259 GCO85 RS10305 WP 010947729.1    LDQHLTELVNKNIISKHTAHEAALNK.SLF......................................................   344
NTDB id 1202 PSJM300 01600 AFN76400.1        LDSCLKGLLAKGLISRDSAKEKAKQP.ENF......................................................   344
NTDB id 1194 PAKAF RS01995 WP 003084552.1    LDMCLKGLVAKGLISRENAREKAKIP.ENF......................................................   344
NTDB id 1020 ACIAD RS04210 WP 011182164.1    LDQSLKQLLAKGIINLPTARAVAKSP.ESF......................................................   344
NTDB id 1060 ABD1 RS04380 WP 000355489.1     LDQSLKGLVARGVISPQTARTAAKQP.ESFL.....................................................   345
NTDB id 1040 HON27 RS13360 WP 000355489.1    LDQSLKGLVARGVISPQTARTAAKQP.ESFL.....................................................   345
NTDB id 1081 FDQ49 RS05335 WP 006581387.1    LDQSLKGLVSRGVISPQTARTAAKQP.ESFL.....................................................   345
consensus                                    *** *  ** *****   *   *    * *
```

```
logo
                                             APAAGRSEPGRAGGFGRR
NTDB id 1203 PSJM300 01605 AFN76401.1        ..................   381
NTDB id 1177 A1552VC RS01165 WP 000422572.1  ..................   368
NTDB id 94554 NGK41 RS17790 WP 022649354.1   ..................   326
NTDB id 1307 DR RS10055 WP 010888596.1       APAAGRSEPGRAGGFGRR   418
NTDB id 1086 NMV RS00245 WP 002218487.1      ..................   347
NTDB id 1116 NGFG RS10615 WP 003690200.1     ..................   347
NTDB id 1185 GTF74 RS11940 WP 000350195.1    ..................   345
NTDB id 1176 A1552VC RS01160 WP 000350195.1  ..................   345
NTDB id 1283 ACE17W RS02630 WP 010947729.1   ..................   344
NTDB id 1259 GCO85 RS10305 WP 010947729.1    ..................   344
NTDB id 1202 PSJM300 01600 AFN76400.1        ..................   344
NTDB id 1194 PAKAF RS01995 WP 003084552.1    ..................   344
NTDB id 1020 ACIAD RS04210 WP 011182164.1    ..................   344
NTDB id 1060 ABD1 RS04380 WP 000355489.1     ..................   345
NTDB id 1040 HON27 RS13360 WP 000355489.1    ..................   345
NTDB id 1081 FDQ49 RS05335 WP 006581387.1    ..................   345
consensus
```

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