```
logo
```

```
NTDB id 996158 AAHC66 RS22200 WP 002742598.1  ..MELMIEDLMEQLVEMGGSDMHIQSRAPVYFRISGKLIPINEKSLTPQDCQKLIFSMLNNTQIKELEQNWELDCSYGVK   78
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 1194 PAKAF RS01995 WP 003084552.1    ....MDITELLAFSAKQGASDLHLSAGLPPMIRVDGDVRRINLPPLEHKQVHALIYDIMNDKQRKDFEEFLETDFSFEVP   76
NTDB id 1202 PSJM300 01600 AFN76400.1        ....MDITELLAFSAKQGASDLHLSSGLPPMIRVDGDVRRINLPAMDHKQVHALIYDIMNDKQRKDFEEFLETDFSFEVP   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 996158 AAHC66 RS22200 WP 002742598.1  GLARFRINVYKERGAYAACLRALSSKMPNFEQLNLPAVIRELSERPRGLILVTGQTGSGKTTLAAILDLINRTSSEHIL  158
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 1194 PAKAF RS01995 WP 003084552.1    GVARFRVNAFNQNRGAGAVFRTIPSKVLTMEELGMGEVFKRVSDVPRGLVLVTGPTGSGKSTTLAAMLDYLNNTKYHHIL  156
NTDB id 1202 PSJM300 01600 AFN76400.1        GVARFRVNAFNQNRGAGAVFRTIPSKVLTMEDLGMGEVFRKITDVPRGLVLVTGPTGSGKSTTLAAMLDYLNNTKYHHIL  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 996158 AAHC66 RS22200 WP 002742598.1  TVEDPIEYVFPNIKSLFHQRQKGEDTKSFANALRSALREDPDIILVGEMRDLETISLAITAAETGHLVFGTLHTSSAAGT  238
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 1194 PAKAF RS01995 WP 003084552.1    TIEDPIEFVHESKKCLVNQREVHRDTLGFSEALRSALREDPDIILVGEMRDLETIRLALTAAETGHLVFGTLHTTSAAKT  236
NTDB id 1202 PSJM300 01600 AFN76400.1        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 996158 AAHC66 RS22200 WP 002742598.1   VDRIIDVFPANQQAQIRAMLSNSLLAVFSQNLVKKKNPKPGEFGRAMVQEIMVVTPAIANLIREGKAPQVYSAIQTGMKL   318
NTDB id 1307 DR RS10055 WP 010888596.1         IDRIVDVFPEEQQFQIRVQLANNLVAVMTQQLLPRAD....GQGRVLAYEILLANPAVRALIREGKTFQITSVMQTGARE   316
NTDB id 1086 NMV RS00245 WP 002218487.1        VDRIVDVFPAGEKEMVRSMLSESLTAVISQNLLKTHD....GNGRVASHEILIANPAVRNLIRENKITQINSVLQTGQAS   312
NTDB id 1116 NGFG RS10615 WP 003690200.1       VDRIVDVFPAGEKEMVRSMLSESLTAVISQNLLKTHD....GNGRVASHEILIANPAVRNLIRENKITQINSVLQTGQAS   312
NTDB id 1185 GTF74 RS11940 WP 000350195.1      IDRIIDVFPGSDKDMVRSMLSESLRAVIAQKLLKR.V....GGGRVACHEIMLATPAIRNLIREDKVAQMYSIIQTGAAH   311
NTDB id 1176 A1552VC RS01160 WP 000350195.1    IDRIIDVFPGSDKDMVRSMLSESLRAVIAQKLLKR.V....GGGRVACHEIMLATPAIRNLIREDKVAQMYSIIQTGAAH   311
NTDB id 1283 ACE17W RS02630 WP 010947729.1     INRIIDVFPAEEKSMVRSMLSESLQAVVAQSLLKK.N....KGGRVAALEIMMCTGAIRNLIREDKIAQMYSSIQTGQAK   311
NTDB id 1259 GC085 RS10305 WP 010947729.1      INRIIDVFPAEEKSMVRSMLSESLQAVVAQSLLKK.N....KGGRVAALEIMMCTGAIRNLIREDKIAQMYSSIQTGQAK   311
NTDB id 1194 PAKAF RS01995 WP 003084552.1      IDRVVDVFPAEEKAMVRSMLSESLQSVISQTLIKK.I....GGGRVAAHEIMIGTPAIRNLIREDKVAQMYSAIQTGGSL   311
NTDB id 1202 PSJM300 01600 AFN76400.1          IDRVVDVFPAEEKSMVRSMLSESLQAVISQTLLKK.V....GGGRVAAHEIMIGTPAIRNLIREDKVAQMYSSIQTGGSL   311
NTDB id 1020 ACIAD RS04210 WP 011182164.1      IDRIIDVFPAEEKDMVRTMLSESLQAVISQTLLKK.E....GGGRVAAHEIMIGIPAIRNLIREGKVAQMYSSIQTGATH   311
NTDB id 1060 ABD1 RS04380 WP 000355489.1       IDRVIDVFPAEEKDMVRAMLSESLQAVISQTLLKK.N....GGGRVAAHEIMIGIPAIRNLIRENKVAQMYSAIQTGANH   311
NTDB id 1040 HON27 RS13360 WP 000355489.1      IDRVIDVFPAEEKDMVRAMLSESLQAVISQTLLKK.N....GGGRVAAHEIMIGIPAIRNLIRENKVAQMYSAIQTGANH   311
NTDB id 1081 FDQ49 RS05335 WP 006581387.1      IDRVIDVFPAEEKDMVRAMLSESLQAVISQTLLKK.N....GGGRVAAHEIMIGIPAIRNLIRENKVAQMYSAIQTGANH   311
consensus                                      **!**!!!!********!**!***!**!**!*!***      **!!*****!!***  *!***!!!!  !**!**!  *!!!*

logo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
NTDB id 996158 AAHC66 RS22200 WP 002742598.1   GMQTMEQGLANLVVSGVISFEEAISKSSK.PDELQRLVAGSVANAKTKA.........RF.....................   368
NTDB id 1307 DR RS10055 WP 010888596.1         GMVTMDAYLAGLFRRHLITYDKGLERAID.PKEFARLANDASAGLGGASMTPAAPPVPAYNSASSSSTGRGGDFGRGAAA   395
NTDB id 1086 NMV RS00245 WP 002218487.1        GMQTMDQSLQSLVRQGLIAPEVARRRAQNSESMSF.............................................   347
NTDB id 1116 NGFG RS10615 WP 003690200.1       GMQTMDQSLQSLVRQGLIAPEAARRRAQNSESMSF.............................................   347
NTDB id 1185 GTF74 RS11940 WP 000350195.1      GMQTMEQNAKQLIARGVVDAQEVQSKIELDLKAF..............................................   345
NTDB id 1176 A1552VC RS01160 WP 000350195.1    GMQTMEQNAKQLIARGVVDAQEVQSKIELDLKAF..............................................   345
NTDB id 1283 ACE17W RS02630 WP 010947729.1     GMQTLDQHLTELVNKNIISKHTAHEAALN.KSLF..............................................   344
NTDB id 1259 GC085 RS10305 WP 010947729.1      GMQTLDQHLTELVNKNIISKHTAHEAALN.KSLF..............................................   344
NTDB id 1194 PAKAF RS01995 WP 003084552.1      GMQTLDMCLKGLVAKGLISRENAREKAKI.PENF..............................................   344
NTDB id 1202 PSJM300 01600 AFN76400.1          GMQTLDSCLKGLLAKGLISRDSAKEKAKQ.PENF..............................................   344
NTDB id 1020 ACIAD RS04210 WP 011182164.1      GMTTLDQSLKQLLAKGIINLPTARAVAKS.PESF..............................................   344
NTDB id 1060 ABD1 RS04380 WP 000355489.1       GMTTLDQSLKGLVARGVISPQTARTAAKQ.PESFL.............................................   345
NTDB id 1040 HON27 RS13360 WP 000355489.1      GMTTLDQSLKGLVARGVISPQTARTAAKQ.PESFL.............................................   345
NTDB id 1081 FDQ49 RS05335 WP 006581387.1      GMTTLDQSLKGLVSRGVISPQTARTAAKQ.PESFL.............................................   345
consensus                                      !!*!***  **  !*  *****    **  **  *  *   *

logo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
NTDB id 996158 AAHC66 RS22200 WP 002742598.1   ........................   368
NTDB id 1307 DR RS10055 WP 010888596.1         PATPAAPAAGRSEPGRAGGFGRR    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 GC085 RS10305 WP 010947729.1      ........................   344
NTDB id 1194 PAKAF RS01995 WP 003084552.1      ........................   344
NTDB id 1202 PSJM300 01600 AFN76400.1          ........................   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