logo



```
NTDB id 1021 ACIAD RS00975 WP 004930462.1    MITILSSHHYHTIKVWYVLQHSLSGFKKLIHYFGDCETALQPQRLSDWQKLGLHANHLKRLEEVH.TLQGQQQFEKMLAQ   79
NTDB id 1094 KZH42 RS01320 WP 002224767.1    ...MTEDERFAWLQLAFTPYIGAESFLLLMRRFGSAQNALS.APAEQVAALIRHKQALEAWRNAEKRALARQAAEAALEW   76
NTDB id 1089 NMB RS00600 WP 002224767.1      ...MTEDERFAWLQLAFTPYIGAESFLLLMRRFGSAQNALS.APAEQVAALIRHKQALEAWRNAEKRALARQAAEAALEW   76
NTDB id 1120 NGFG RS10355 WP 020997408.1     ...MTEDERFAWLQLAFTPYIGAESFLLLMRSFGSAQNALS.APAEQVAPAVRHKHALEAWRNAEKRALARQAAEAALEW   76
NTDB id 1122 OK783 RS09595 WP 003705341.1    ...MTEDERFAWLQLAFTPYIGAESFLLLMRSFGSAQNALS.APAEQVAPAVRHKHALEAWRNAEKRALARQAAEAALEW   76
NTDB id 1361 HI 0985 AAC22646.1              ....MNDITYTLLRLMQVPKLGGVGIDKILSN.ITLNELLN.YDDVAFRQMGWGAIQIRRWFKPE.....AKFIEPALVW   69
NTDB id 1466 ASU2 RS09750 WP 015674213.1     ......MSQTDLLKLLQIPQLGAQRIARLLSE.VDFAQFCQ.YDKRQLQQIGWNEKQIQRWFNPE.....KRWIESALAW   67
NTDB id 1388 A4U84 RS04945 WP 062924099.1    .....MTHLTKLLALLQVPQLGAQRIGRLLSE.VDFGEFCQ.YDKTALKQMGWNERQIQRWFNPE.....HKWIDQALQW   68
NTDB id 1250 GCO85 RS13065 WP 027219989.1    .....MNNLQPLLALNRMKRIGPRTVLKLQKRWPDLNLMFQ.LSSVDLEEAGLPSWLAQTIKNFD.....PDFIKTDLNW   69
NTDB id 1445 BW25113 RS17035 WP 000228551.1  .....MVDTEIWLRLMSISSLYGDDMVRIAHW.V..AKQSH.IDAVVLQQTGLTLRQAQRFLSFP.....RKSIESSLCW   66
NTDB id 1152 A1552VC RS00200 WP 000654772.1  ...MKDQDLAAWLALCFTPKLGSKTISHLLAT.RLPAQLQS.FTPKQWLACGLKPEQLVFLTTQA.....AKQAEQCLQW   70
NTDB id 50390 YZOS03 RS15495 WP 005386649.1  MNRRNNDDLAAWLKLSCLPGIGGVKMNKLLAR.DTPCNIVN.FSPEQLQQLGLTTKQIQAW.AST.....DKEVDACLSW   72
NTDB id 1399 DSB67 RS15600 WP 010645755.1    MTPQNDIDLAAWLKLSCLPGIGGVKMNKLLSK.DTPSNIVQ.YSTEQLQLLGLTAKQLQAW.SQV.....DKEVDACLTW   72
consensus                                                *  ** *  ** *** * ***      * *      **  **     *  *  *        *  ! *
```

logo



```
NTDB id 1021 ACIAD RS00975 WP 004930462.1    LQTHT.DFIVTPDDPAYPSQLIPYQDRPPILFGQGSIQSLIQPQIAVVGSRKPSPHGRQVAYDFSYFLSEKGFYITSGLA   158
NTDB id 1094 KZH42 RS01320 WP 002224767.1    EMRDGC.RLMLLQDEDFPEMLTQGLTAPPVLFLRGNVQLLHKPSAAIVGSRHATPQAMRIAKDFGKSLGGKGIPVVSGMA   155
NTDB id 1089 NMB RS00600 WP 002224767.1      EMRDGC.RLMLLQDEDFPEMLTQGLTAPPVLFLRGNVQLLHKPSAAIVGSRHATPQAMRIAKDFGKSLGGKGIPVVSGMA   155
NTDB id 1120 NGFG RS10355 WP 020997408.1     EMRDGC.RLMLLQDEDFPEMLTQGLTAPPVLFLRGNVRLLHKPSAAIVGSRHATPQAMRIAKDFGRALGGKGIPTVSGMA   155
NTDB id 1122 OK783 RS09595 WP 003705341.1    EMRDGC.RLMLLQDEDFPEMLTQGLTAPPVLFLRGNVRLLHKPSAAIVGSRHATPQAMRIAKDFGRALGGKGIPTVSGMA   155
NTDB id 1361 HI 0985 AAC22646.1              SQKEGN.HLVNYFSPFYPFLLKQTASFPPLLFVKGNLTALSQRQMAMVGSRYCTTYGEYWAKHFATELSLAGFTITSGLA   148
NTDB id 1466 ASU2 RS09750 WP 015674213.1     AEQPNQ.RLLTLFDEEYPFLLRQISTAPPVLFVRGSISSLSLPQIAIVGSRDFSAYGEYWAGYFSEQLIKHHLAVTSGLA   146
NTDB id 1388 A4U84 RS04945 WP 062924099.1    AEQDQQ.QILTLFDEDYPFLLKQISTAPPVLFVRGNVESLSLPQIAIVGSRDYSHYGEHWAGHFSAELVKHQLAVTSGLA   147
NTDB id 1250 GCO85 RS13065 WP 027219989.1    LSSSENHHILTWDSPYYPALLKEIADPPFILYAKGELSALTQPSLAIVGSRNASVTGNENARAFSREISRHGVSIVSGLA   149
NTDB id 1445 BW25113 RS17035 WP 000228551.1  LEQPNH.HLIPADSEFYPPQLLATTDYPGALFVEGELHALHSFQLAVVGSRAHSWYGERWGRLFCETLATRGVTIITSGLA   145
NTDB id 1152 A1552VC RS00200 WP 000654772.1  RSAANNRYIVTPHCPLYPRLLKEINSSPPVLFIEGIWEAVHDPAVAIVGSRNASVDGRQIARQFATELAQSGLVVTSGLA   150
NTDB id 50390 YZOS03 RS15495 WP 005386649.1  LEASTNHHILTLTDPRYPPQLKQIVAPPPLLFVQGNSTCLSLPQIAMVGSRNASIDGLQHARQFAAEFVQHDFIVTSGLA   152
NTDB id 1399 DSB67 RS15600 WP 010645755.1    VAASSHHHILTLADALYPPLLKQTVAPPPLLFVKGEASCLPQPQIAMVGSRNASVDGLQHTRTFASDLVQHDLIVTSGLA   152
consensus                                              ** *  *  *! *! *  * !**!***! *  *  * *!*!!!! **  *   ** !*  *   ** **!!*!
```

logo



```
NTDB id 1021 ACIAD RS00975 WP 004930462.1    HGIDEAAHQGSLVH.HRAIAVVGTGLDLCYPSGNKALKQHIRDQQGAIVSEFLPGTPPLQAHFPRRNRIVSGLSLGVLVV   237
NTDB id 1094 KZH42 RS01320 WP 002224767.1    SGIDTAAHQGALQAEGGTIAVWGTGIDRIYPPVNKNLAYEIAEK.GLIVSEFPIGTRPYAGNFPRRNRLIAALSQVTLVV   234
NTDB id 1089 NMB RS00600 WP 002224767.1      SGIDTAAHQGALQAEGGTIAVWGTGIDRIYPPVNKNLAYEIAEK.GLIVSEFPIGTRPYAGNFPRRNRLIAALSQVTLVV   234
NTDB id 1120 NGFG RS10355 WP 020997408.1     SGIDTAAHQGALEAEGGTIAVWGTGIDRIYPPANKNLAYEIAEK.GLIVSEFPIGTRPYAGNFPRRNRLIAALSQVTLVV   234
NTDB id 1122 OK783 RS09595 WP 003705341.1    SGIDTAAHQGALEAEGGTVAVWGTGIDRIYPPANKNLAYEIAEK.GLIVSEFPIGTRPYAGNFPRRNRLIAALSQVTLVV   234
NTDB id 1361 HI 0985 AAC22646.1              LGIDGHCHQAVVNIQGQTIAVLGSGLEQIYPSKHQRLSAQIIENNGALVSEFLPNQAPIAANFPRRNRIISGLSVGTLVV   228
NTDB id 1466 ASU2 RS09750 WP 015674213.1     IGIDGFCHQRAVAEQGITIAVLGSGLDQVYPARHKKLAEQIVESGGALVSEFFPNHPPLAENFPRRNRIISGLSLGTLVV   226
NTDB id 1388 A4U84 RS04945 WP 062924099.1    IGIDGFCHQRAANENGITIAVLGSGLDQVYPARHKKLAEQIVETSGALVSEFFPSQPPIAENFPRRNRIISGLSLGTLVI   227
NTDB id 1250 GCO85 RS13065 WP 027219989.1    LGIDAHAHLGCLEGGGKTIAVLGTGIDCIYPRRHLKLAEQITEN.GLLLSEFPLKSPPIAGHFPLRNRIISGLSLCILVI   228
NTDB id 1445 BW25113 RS17035 WP 000228551.1  RGIDGVAHKAALQVNGVSIAVLGNGLNTIHPRRHARLAASLLEQGGALVSEFPLDVPPLAYNFPRRNRIISGLSKGVLVV   225
NTDB id 1152 A1552VC RS00200 WP 000654772.1  LGIDGYAHDGALQAQGQTVAVLGSGLAQVYPKQHQGLAERIIAQ.GALVSEFAPHTPPKADHFPRRNRIISGLSLGVVVV   229
NTDB id 50390 YZOS03 RS15495 WP 005386649.1  LGIDGHAHDGALQAGGKTIAVLGSGLANIYPARHRGLAQRVIEH.GALVSEFRPNAKPRPENFPRRNRIISGLSLGVLVV   231
NTDB id 1399 DSB67 RS15600 WP 010645755.1    LGIDGHAHDGALLAGGKTIAVLGSGLEQVYPARHRGLAQRVAEN.GALVSEFRPDAKPRAENFPRRNRIISGLSLGVLVV   231
consensus                                     !!!* *!**** * * **!!*!*!** **!  ** !* * *  !***!!!     ! * *!!*!!!****!!** *!*
```

logo



```
NTDB id 1021 ACIAD RS00975 WP 004930462.1    EATLKSGSLITANKAAEQGKVVFAIPGHIYSEFHQGCHQLIREGAILVDHPFQIIEDLALPTHWHSQSTASGEAN.....   312
NTDB id 1094 KZH42 RS01320 WP 002224767.1    EAALESGSLITARLAAEMGREVMAVPGSIDNPHSKGCHKLIKDGAKLVECLDDILNECPGLLQNTGASSYSINK..GIPE   312
NTDB id 1089 NMB RS00600 WP 002224767.1      EAALESGSLITARLAAEMGREVMAVPGSIDNPHSKGCHKLIKDGAKLVECLDDILNECPGLLQNTGASSYSINK..GIPE   312
NTDB id 1120 NGFG RS10355 WP 020997408.1     EAALESGSLITAGLAAEMGREVMAVPGSIDNPHSKGCHKLIKDGAKLTECLDDILNECPGLLQNTGASSYSINK..DTPD   312
NTDB id 1122 OK783 RS09595 WP 003705341.1    EAALESGSLITAGLAAEMGREVMAVPGSIDNPHSKGCHKLIKDGAKLTECLDDILNECPGLLQNTGASSYSINK..DTPD   312
NTDB id 1361 HI 0985 AAC22646.1              EATEKSGSLITARYALEQNREVFAVPGNIQNKSSQGCHRLIKQGAMLVENAKDILETLYQHSIHSQ.TEIDFD.......   300
NTDB id 1466 ASU2 RS09750 WP 015674213.1     EATVNSGSLITARYALEQGREVFALPNSVQNPYAQGCHKLIKEGAVLTETIEDILQAIQYQLPDQPRQQALFETEQAVEK   306
NTDB id 1388 A4U84 RS04945 WP 062924099.1     EATVNSGSLITARYALEQGREVFALPNSVQNPYSEGCHKLIKEGALLVENVEDILEAIAWQRQSVHIQPSLFDTKPKQ..   305
NTDB id 1250 GCO85 RS13065 WP 027219989.1     EAAIKSGSLITARMALEQNRDVLAIPGSIHNPLARGCHYLLQQGAKLVTSVADVLDELKIEHHQFTSN............   296
NTDB id 1445 BW25113 RS17035 WP 000228551.1   EAALRSGSLVTARCALEQGREVFALPGPIGNPGSEGPHWLIKQGAILVTEPEEILENLQFGLHWLPDAP...........   294
NTDB id 1152 A1552VC RS00200 WP 000654772.1   EAAEKSGSLITARYAAEQGREVFVVPGSIFNAASQGSNQLIRQGACLVQSVQQIHQELKNALTWSLSEQV..........   299
NTDB id 50390 YZOS03 RS15495 WP 005386649.1   EAAKKSGSLITARYALEQGREVFALPASINAPNACGGNQLIRHGACLVEKTKDVLDEIQSLLDWSINQS..........   300
NTDB id 1399 DSB67 RS15600 WP 010645755.1     EAAEKSGSLITARYALEQGREVFALPASINAPNASGGNQLIQNGACLVQNTQEVLNEIQSLLDWSINQS..........   300
consensus                                    !!** !!!!*!!* ! !****!***!*** ** * !** !** !! !** ***** ** * *
```

logo



```
NTDB id 1021 ACIAD RS00975 WP 004930462.1    ........ADDSGK....TDDADLPDDLLPLYQLL...DWQGQDLDQLAQHYQGSTAELTAQLMELELLGVCIQQSGRYL   377
NTDB id 1094 KZH42 RS01320 WP 002224767.1    KRITAVQTASDQLSLPEGKMPSEKTENRPVGGSILDRMGFDPVHPDVLAGQLAMPAADLYAALLELELDGSVAAMPGGRY   392
NTDB id 1089 NMB RS00600 WP 002224767.1      KRITAVQTASDQLSLPEGKMPSEKTENRPVGGSILDRMGFDPVHPDVLAGQLAMPAADLYAALLELELDGSVAAMPGGRY   392
NTDB id 1120 NGFG RS10355 WP 020997408.1     TGRRTVQTAY..APPPAAKMPSEGAAGGTAVGGILDKMGFDPIHPDVLAGQLAMPAADLYAALLELELDGSVAAMPGGRY   390
NTDB id 1122 OK783 RS09595 WP 003705341.1    TGRRAVQTAY..APPPAAKMPSEGAAGGTAVGGILDKMGFDPVHPDVLAGQLAMPAADLYAALLELELDGSVAAMPGGRY   390
NTDB id 1361 HI 0985 AAC22646.1              .....QIAVPNYTP....PPDPRRLVEAPSHPKLYSRIGYTPVSIDDLAEEFNLSVDVLLVQLLDLELQDLIISENGLYK   371
NTDB id 1466 ASU2 RS09750 WP 015674213.1     TQFFAKANMPNKVN....HFAKKLPEMTACQQQIVEHIGLNPISIDDLAKATALEVETLLVELLGLELLSVIKQVSGGYV   382
NTDB id 1388 A4U84 RS04945 WP 062924099.1     ........AVKSEP....KFAKNLPELTACQQQLFEQISLEPISVDDLAKATDMAVETALIELLNLELLGVVKQVRGGYV   373
NTDB id 1250 GCO85 RS13065 WP 027219989.1     ...........KP....IFSLASGK.....ENLVKFIGFETTTIDQIIDRSGYGMEQVTSGLAELELKGAVIAVPGGYI   355
NTDB id 1445 BW25113 RS17035 WP 000228551.1   ..........ENS....FYSPDQQDVALPFPELLANVGDEVTPVDVVAERAGQPVPEVVTQLLELELAGWIAAVPGGYV   359
NTDB id 1152 A1552VC RS00200 WP 000654772.1   .........PYQAT....LFSAVQSDEELPFPELLANVGIEATPIDILASRTQIPVQDIMMQLLELELLGHVVAVPGGYI   366
NTDB id 50390 YZOS03 RS15495 WP 005386649.1   ............TD....LFSTLNDEEELPFPQLLANVGSEATPVDILANRTNIPVQEVMMQLLELELSGHVVAVSGGYI   364
NTDB id 1399 DSB67 RS15600 WP 010645755.1     ............LD....LFSAPIDEEELPFPQLLANVGNEATPVDILASRTNIPVQEVMMQLLELELSGHVVAVSGGYI   364
consensus                                                  *       **  **  *   *!***     *** **    !**!!! * * ** !***
```

logo



```
NTDB id 1021 ACIAD RS00975 WP 004930462.1    RCRSPY.........   383
NTDB id 1094 KZH42 RS01320 WP 002224767.1    QRIRT..........   397
NTDB id 1089 NMB RS00600 WP 002224767.1      QRIRT..........   397
NTDB id 1120 NGFG RS10355 WP 020997408.1     QRIRT..........   395
NTDB id 1122 OK783 RS09595 WP 003705341.1    QRIRT..........   395
NTDB id 1361 HI 0985 AAC22646.1              RV.............   373
NTDB id 1466 ASU2 RS09750 WP 015674213.1     RQ.............   384
NTDB id 1388 A4U84 RS04945 WP 062924099.1     IT.............   375
NTDB id 1250 GCO85 RS13065 WP 027219989.1     RCEYER.........   361
NTDB id 1445 BW25113 RS17035 WP 000228551.1   RLRRACHVRRTNVFV   374
NTDB id 1152 A1552VC RS00200 WP 000654772.1   RKGRG..........   371
NTDB id 50390 YZOS03 RS15495 WP 005386649.1   RKGRG..........   369
NTDB id 1399 DSB67 RS15600 WP 010645755.1     RKGRG..........   369
consensus                                    *  *
```

X non conserved

X similar

X $\geq$ 50% conserved