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|---------------------------------------------|-----------------------------------------------------------------------------------|----|
| NTDB id 1410 SGL RS13950 WP 010873519.1     | MSVLTIGDKRLGAALLDAGLLTDEELQRALERHREVGGSLAEVLVDMGLLSERRIAQTTIEDRFGIPLVELHRVEIPPKVK | 0  |
| NTDB id 1028 TT RS08215 WP 011173991.1      | MSVLTIGDKRLGAALLDAGLLTDEELQRALERHREVGGSLAEVLVDMGLLSERRIAQTTIEDRFGIPLVELHRVEIPPKVK | 80 |
| NTDB id 1366 NTHI RS01950 WP 011271972.1    | .....                                                                             | 0  |
| NTDB id 1355 HI 0298 AAC21962.1             | .....                                                                             | 0  |
| NTDB id 121947 EN18 RS09285 WP 000957200.1  | .....                                                                             | 0  |
| NTDB id 1168 A1552VC RS11070 WP 000957200.1 | .....                                                                             | 0  |
| NTDB id 1401 DSB67 RS12665 WP 010643259.1   | .....                                                                             | 0  |
| NTDB id 1293 VP RS12240 WP 005479695.1      | .....                                                                             | 0  |
| NTDB id 1110 NGFG RS09235 WP 003689817.1    | .....                                                                             | 0  |
| NTDB id 1251 GC085 RS07725 WP 011946523.1   | .....                                                                             | 0  |
| NTDB id 1058 ABD1 RS01615 WP 001274986.1    | .....                                                                             | 0  |
| NTDB id 1018 ACIAD RS01685 WP 004920473.1   | .....                                                                             | 0  |
| consensus                                   |                                                                                   |    |

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| NTDB id 1410 SGL RS13950 WP 010873519.1     | ALLPAEKAKELKAIPFALDEEAGVVRVAFNLPLDTLSLEEVEDLTGLVVEPYQTTKSAFLYALAKHYPELGLPVPPPPSG | 0   |
| NTDB id 1028 TT RS08215 WP 011173991.1      | ALLPAEKAKELKAIPFALDEEAGVVRVAFNLPLDTLSLEEVEDLTGLVVEPYQTTKSAFLYALAKHYPELGLPVPPPPSG | 160 |
| NTDB id 1366 NTHI RS01950 WP 011271972.1    | .....                                                                            | 0   |
| NTDB id 1355 HI 0298 AAC21962.1             | .....                                                                            | 0   |
| NTDB id 121947 EN18 RS09285 WP 000957200.1  | .....                                                                            | 0   |
| NTDB id 1168 A1552VC RS11070 WP 000957200.1 | .....                                                                            | 0   |
| NTDB id 1401 DSB67 RS12665 WP 010643259.1   | .....                                                                            | 0   |
| NTDB id 1293 VP RS12240 WP 005479695.1      | .....                                                                            | 0   |
| NTDB id 1110 NGFG RS09235 WP 003689817.1    | .....                                                                            | 0   |
| NTDB id 1251 GC085 RS07725 WP 011946523.1   | .....                                                                            | 0   |
| NTDB id 1058 ABD1 RS01615 WP 001274986.1    | .....                                                                            | 0   |
| NTDB id 1018 ACIAD RS01685 WP 004920473.1   | .....                                                                            | 0   |
| consensus                                   |                                                                                  |     |

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| NTDB id 1410 SGL RS13950 WP 010873519.1     | EGQKDLKLGELLLQKGWISREALEEALVEQEKTGDLLGRILVRKGLPEEALYRALAEQKGLEFLESTEGIVPDPSAALLL | 0   |
| NTDB id 1028 TT RS08215 WP 011173991.1      | EGQKDLKLGELLLQKGWISREALEEALVEQEKTGDLLGRILVRKGLPEEALYRALAEQKGLEFLESTEGIVPDPSAALLL | 240 |
| NTDB id 1366 NTHI RS01950 WP 011271972.1    | .....                                                                            | 0   |
| NTDB id 1355 HI 0298 AAC21962.1             | .....                                                                            | 0   |
| NTDB id 121947 EN18 RS09285 WP 000957200.1  | .....                                                                            | 0   |
| NTDB id 1168 A1552VC RS11070 WP 000957200.1 | .....                                                                            | 0   |
| NTDB id 1401 DSB67 RS12665 WP 010643259.1   | .....                                                                            | 0   |
| NTDB id 1293 VP RS12240 WP 005479695.1      | .....                                                                            | 0   |
| NTDB id 1110 NGFG RS09235 WP 003689817.1    | .....                                                                            | 0   |
| NTDB id 1251 GC085 RS07725 WP 011946523.1   | .....                                                                            | 0   |
| NTDB id 1058 ABD1 RS01615 WP 001274986.1    | .....                                                                            | 0   |
| NTDB id 1018 ACIAD RS01685 WP 004920473.1   | .....                                                                            | 0   |
| consensus                                   |                                                                                  |     |

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| NTDB id 1410 SGL RS13950 WP 010873519.1     | LRSDALRYGAVPIGFGNGEVEVVLSDPRHKEAVAQLLNRPARFYALALPQAWHEELFRRAYPQKNRLGEVLVQEGKLSREAL | 6   |
| NTDB id 1028 TT RS08215 WP 011173991.1      | LRSDALRYGAVPIGFGNGEVEVVLSDPRHKEAVAQLLNRPARFYALALPQAWHEELFRRAYPQKNRLGEVLVQEGKLSREAL | 320 |
| NTDB id 1366 NTHI RS01950 WP 011271972.1    | .....                                                                              | 0   |
| NTDB id 1355 HI 0298 AAC21962.1             | .....                                                                              | 0   |
| NTDB id 121947 EN18 RS09285 WP 000957200.1  | .....                                                                              | 0   |
| NTDB id 1168 A1552VC RS11070 WP 000957200.1 | .....                                                                              | 0   |
| NTDB id 1401 DSB67 RS12665 WP 010643259.1   | .....                                                                              | 0   |
| NTDB id 1293 VP RS12240 WP 005479695.1      | .....                                                                              | 0   |
| NTDB id 1110 NGFG RS09235 WP 003689817.1    | .....                                                                              | 0   |
| NTDB id 1251 GC085 RS07725 WP 011946523.1   | .....                                                                              | 0   |
| NTDB id 1058 ABD1 RS01615 WP 001274986.1    | .....                                                                              | 0   |
| NTDB id 1018 ACIAD RS01685 WP 004920473.1   | .....                                                                              | 0   |
| consensus                                   | .....                                                                              | 0   |

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| NTDB id 1410 SGL RS13950 WP 010873519.1     | SKKSRAVALRNYFSPFGNKLIVAGGHVDAEQLRQALIVQVKKTGRSLPEELKAVTGRELSPELIRQYKKNQLFELKVLVGVVD | 86  |
| NTDB id 1028 TT RS08215 WP 011173991.1      | KEALEVQKGLPRAKPLGEILVELGLARPEDVEEALQKQRRGGGRLEDTLVQS..GKLRPEALAAQA.....VATQLGYD     | 391 |
| NTDB id 1366 NTHI RS01950 WP 011271972.1    | .....                                                                               | 21  |
| NTDB id 1355 HI 0298 AAC21962.1             | .....                                                                               | 21  |
| NTDB id 121947 EN18 RS09285 WP 000957200.1  | .....                                                                               | 60  |
| NTDB id 1168 A1552VC RS11070 WP 000957200.1 | .....                                                                               | 60  |
| NTDB id 1401 DSB67 RS12665 WP 010643259.1   | .....                                                                               | 60  |
| NTDB id 1293 VP RS12240 WP 005479695.1      | .....                                                                               | 60  |
| NTDB id 1110 NGFG RS09235 WP 003689817.1    | .....                                                                               | 59  |
| NTDB id 1251 GC085 RS07725 WP 011946523.1   | ...MALATEEYRLQGIGQLLVLEKLLDKTKAIELHKLAAAEKISLLQYIVKN..KILSAEQIALT.....AAQNFQVP      | 68  |
| NTDB id 1058 ABD1 RS01615 WP 001274986.1    | ...MSALHTSPKFTIGFFRRLLVEEKHVSAAATMQTALDAAKRAKQDTPVAYLIEE..VHLSPSLLAET.....ISAEFAEP  | 68  |
| NTDB id 1018 ACIAD RS01685 WP 004920473.1   | ...MSAFTTPPKFTSGFIRRLVEEGYVNAQNMQQALEKAKKFKQDTPVYLIDN..FSISPLTIAEI.....ISLEFGEP     | 68  |
| consensus                                   | .....                                                                               |     |

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| NTDB id 1410 SGL RS13950 WP 010873519.1     | SVDPPEVAPIATQQMAELIGRFFPLDTCRRFKFLPLAQQEGDPPSVLVAMVDPDNLAQAQDELNRILRVKGF..ELRRLVVT | 164 |
| NTDB id 1028 TT RS08215 WP 011173991.1      | YVDPPEEDPPDP.....GAPLLLPEDLCRRYGVFPHRLEG...NRLVLLMKDPRNIALALDDVRLALKRKGLNVEVAPAVAT | 463 |
| NTDB id 1366 NTHI RS01950 WP 011271972.1    | .....ISPD.....WERNQQQSSLLRLRYFALPLKEEN...NRLWLGVDLSLNSACETIAFITG.....KPVEPILLE     | 82  |
| NTDB id 1355 HI 0298 AAC21962.1             | .....ISPD.....WERNQQQSSLLRLRYFALPLKEEN...NRLWLGVDLSLNSACETIAFITG.....KPVEPILLE     | 82  |
| NTDB id 121947 EN18 RS09285 WP 000957200.1  | ETDLRSRYDYAN.....LCQQGLGLRELITRYDALPIAKQG...NLLLLAVSDPTLLQAEFFRFRATG.....LQVELALAD | 127 |
| NTDB id 1168 A1552VC RS11070 WP 000957200.1 | ETDLRSRYDYAN.....LCQQGLGLRELITRYDALPIAKQG...NLLLLAVSDPTLLQAEFFRFRATG.....LQVELALAD | 127 |
| NTDB id 1401 DSB67 RS12665 WP 010643259.1   | CTSLNQYEYAS.....LCQTLGLRLDITRHNALPLNRTS...STLILAVADPTNLQAEDDFRFRATG.....LQVELVLAD  | 127 |
| NTDB id 1293 VP RS12240 WP 005479695.1      | QPELSQYEYAS.....LCQQGLGLRELITRHNALPLHRTS...STLLLAVADPTNQAEDDFRFRATG.....LQVELVLAD  | 127 |
| NTDB id 1110 NGFG RS09235 WP 003689817.1    | ILDRLHYPRHR.....VLMGVLTEEQMVFEHCVPVFRRG...DKVFFAVSDPTQMPQIQKTVSAAG.....LAVELVIVE   | 126 |
| NTDB id 1251 GC085 RS07725 WP 011946523.1   | MLDINCIDVGT.....IPVNLVNEKLIKRRHAMVPLFSRG...TNLYLATDDPSKQASLKEIQFHTG.....LNTHAIVVE  | 135 |
| NTDB id 1058 ABD1 RS01615 WP 001274986.1    | YFDLDVYDTSQ.....IPKDLVDQKLILKHRILPLIQRG...QILYVATSNPSNIEAIDAIRFNSK.....LLVEPVIVE   | 135 |
| NTDB id 1018 ACIAD RS01685 WP 004920473.1   | LLDLGVFDPAL.....FLKDKIDEKLIQKYRIMPLVHRG...HVLVYATSNPTNIEAMDIAIRFNSK.....LKVEPIIVE  | 135 |
| consensus                                   | .....                                                                              |     |





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| NTDB id 1410 SGL RS13950 WP 010873519.1     | EDPVEINLGINQVQVQPKIGLFAAALRSFLRQDPDVVVGGEIRDLETAIAKAAQTGHLVLSLHTNSAAETLRL         | 482 |
| NTDB id 1028 TT RS08215 WP 011173991.1      | EDPVEYEIPGINQTVQVNPQAGLTFARALRAFLRQDPDIIMVGEIRDSEAKIATEAALTGHLVLTATLHTNDAQAITRLD  | 755 |
| NTDB id 1366 NTHI RS01950 WP 011271972.1    | EDPIEIELDGIHQSQINPQIGLDFSRLLRAFLRQDPDIIMLGEIRDEESARIALRAAQTGHLVLSLHTNDAISAIISRLQ  | 371 |
| NTDB id 1355 HI 0298 AAC21962.1             | EDPIEIELDGIHQSQINPQIGLDFSRLLRRTFLRQDPDIIMLGEIRDEESAMIALRAAQTGHLVLSLHTNDAISAIISRLQ | 371 |
| NTDB id 121947 EN18 RS09285 WP 000957200.1  | EDPVEINLSGINQVQVQPKIGFGFAEALRSFLRQDPDVVVGGEIRDLETAIEIAVKAAQTGHLVLSLHTNSAAETVIRLA  | 431 |
| NTDB id 1168 A1552VC RS11070 WP 000957200.1 | EDPVEINLSGINQVQVQPKIGFGFAEALRSFLRQDPDVVVGGEIRDLETAIEIAVKAAQTGHLVLSLHTNSAAETVIRLA  | 431 |
| NTDB id 1401 DSB67 RS12665 WP 010643259.1   | EDPVEIYLPGINQVQVQPKIGFGFAEALRSFLRQDPDVVVGGEIRDLDTAEIAIKASQTGHLVLSLHTNSAAETVIRLS   | 431 |
| NTDB id 1293 VP RS12240 WP 005479695.1      | EDPVEINLSGINQVQVQPKIGFGFAEALRSFLRQDPDVVVGGEIRDLDTAEIAIKASQTGHLVLSLHTNSAAETVIRLS   | 431 |
| NTDB id 1110 NGFG RS09235 WP 003689817.1    | EDPAEINLPGINQVNVNDKQGLTFAAALKSFLRQDPDIIMVGEIRDLETAIAKAAQTGHMVVSTLHTNNAPATLSRML    | 422 |
| NTDB id 1251 GC085 RS07725 WP 011946523.1   | EDPVEIKVPGINQVNTNPKAGLTFSGALRSFLRQDPDIIMVGEIRDLETAIEIAKAAQTGHLVLSLHTNSAAETLNRLV   | 440 |
| NTDB id 1058 ABD1 RS01615 WP 001274986.1    | EDPVEINLEGINQVNVNPKVGLTFAAALKSFLRQDPDIIMVGEIRDLETAIEIAKAAQTGHMVVSTLHTNSAPETLTRLR  | 435 |
| NTDB id 1018 ACIAD RS01685 WP 004920473.1   | EDPVEINLEGVNQVNVNPKVGLTFAAALRSFLRQDPDIIMVGEIRDLETAIEIAKAAQTGHLVMSTLHTNNAAETLTRLR  | 435 |
| consensus                                   | !!!** * !!!*****!* * !!!*!!!!!!*****!!!!!!*****!!!!!!*****!!!!!! ***** !*         |     |

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| NTDB id 1410 SGL RS13950 WP 010873519.1     | EMGVFENLASSLYIAQRLARRLCKK                               | 561 |
| NTDB id 1028 TT RS08215 WP 011173991.1      | EMGVFENLASSLYIAQRLARRLCKK                               | 819 |
| NTDB id 1366 NTHI RS01950 WP 011271972.1    | QLGIQQHEIENSLLLVIAQRLVRKICPKCGGNL                       | 410 |
| NTDB id 1355 HI 0298 AAC21962.1             | QLGIQQYEIKNSLLLIVIAQRLVRKLCSCGGNL                       | 410 |
| NTDB id 121947 EN18 RS09285 WP 000957200.1  | NMGVEPFNLASSLSLIAQRLARRLCKHCKIAV                        | 493 |
| NTDB id 1168 A1552VC RS11070 WP 000957200.1 | NMGVEPFNLASSLSLIAQRLARRLCKHCKIAV                        | 493 |
| NTDB id 1401 DSB67 RS12665 WP 010643259.1   | NMGVESFNLASSLSLIAQRLARRLCPYCRQPQ                        | 492 |
| NTDB id 1293 VP RS12240 WP 005479695.1      | NMGVESFNLASSLSLIAQRLARRLCPYCRQPQ                        | 492 |
| NTDB id 1110 NGFG RS09235 WP 003689817.1    | NMGVAPFNIASSVSLIAQRLRLRLCSSCKQEVERPSASALKEVGFTDEDLAK.DW | 488 |
| NTDB id 1251 GC085 RS07725 WP 011946523.1   | NMGITPTFNIASSVTLIAQRLARRLCNQCKAVRDDFTNQGLIELGFKEADLV.NL | 505 |
| NTDB id 1058 ABD1 RS01615 WP 001274986.1    | NMGVASFNIATSVNLVIAQRLARRLCSQCKIPA                       | 501 |
| NTDB id 1018 ACIAD RS01685 WP 004920473.1   | NMGVASFNIATSVNLVIAQRLARRLCSQCKRPT                       | 501 |
| consensus                                   | **!* ***** *****!!!!!!* !* * ****                       |     |

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| NTDB id 1410 SGL RS13950 WP 010873519.1     | SGSGYKGRVGVYEVMRNSERTIAELINQGAATTDR     | 641 |
| NTDB id 1028 TT RS08215 WP 011173991.1      | GGTGYKGRYAIHELVLVDDAIRHAI               | 889 |
| NTDB id 1366 NTHI RS01950 WP 011271972.1    | H.QGYRGRIGVYQFLHWQQ                     | 464 |
| NTDB id 1355 HI 0298 AAC21962.1             | H.QGYRGRIGVYQFLHWQQ                     | 464 |
| NTDB id 121947 EN18 RS09285 WP 000957200.1  | T.GGYSGRVGIYEVMAFNTIELAEAIMQRASIHQ      | 562 |
| NTDB id 1168 A1552VC RS11070 WP 000957200.1 | T.GGYSGRVGIYEVMAFNTIELAEAIMQRASIHQ      | 562 |
| NTDB id 1401 DSB67 RS12665 WP 010643259.1   | T.HGYSGRGTGIYEVMMKFDESLEALIKGASVHELEKLA | 561 |
| NTDB id 1293 VP RS12240 WP 005479695.1      | T.HGYSGRGTGIYEVMMKFDESLEALIKGASVHELEKLA | 561 |
| NTDB id 1110 NGFG RS09235 WP 003689817.1    | RGQGYKGRAGVYEVMPISEEMQVRVIMNNGTEVGLD    | 558 |
| NTDB id 1251 GC085 RS07725 WP 011946523.1   | T.SGYRGRVGLFEVLPMTKELGQLIMSGGNSLDILKLA  | 574 |
| NTDB id 1058 ABD1 RS01615 WP 001274986.1    | R.EGYKGRVGIYEVMMKVTPETISKIIMEDGNALEIAAA | 570 |
| NTDB id 1018 ACIAD RS01685 WP 004920473.1   | R.EGYKGRVGIYEVMMKITPETISKIIMEDGNALEIAAT | 570 |
| consensus                                   | !!!!***** ** ** ** * ** ** ** **        |     |

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| NTDB id 1410 SGL RS13950 WP 010873519.1     | KRKSALTCRTCAAELQQEWLDCPYCMTSRFS | 672 |
| NTDB id 1028 TT RS08215 WP 011173991.1      | .....                           | 889 |
| NTDB id 1366 NTHI RS01950 WP 011271972.1    | .....                           | 464 |
| NTDB id 1355 HI 0298 AAC21962.1             | .....                           | 464 |
| NTDB id 121947 EN18 RS09285 WP 000957200.1  | .....                           | 562 |
| NTDB id 1168 A1552VC RS11070 WP 000957200.1 | .....                           | 562 |
| NTDB id 1401 DSB67 RS12665 WP 010643259.1   | .....                           | 561 |
| NTDB id 1293 VP RS12240 WP 005479695.1      | .....                           | 561 |
| NTDB id 1110 NGFG RS09235 WP 003689817.1    | .....                           | 558 |
| NTDB id 1251 GC085 RS07725 WP 011946523.1   | .....                           | 574 |
| NTDB id 1058 ABD1 RS01615 WP 001274986.1    | .....                           | 570 |
| NTDB id 1018 ACIAD RS01685 WP 004920473.1   | .....                           | 570 |
| consensus                                   |                                 |     |

-  non conserved
-  similar
-  ≥ 50% conserved