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|                                             |                              |     |
|---------------------------------------------|------------------------------|-----|
| NTDB id 1177 A1552VC RS01165 WP 000422572.1 | ....MEINQYLDGMITHKASDLYITVGA | 153 |
| NTDB id 1019 ACIAD RS04205 WP 004922051.1   | EKNERFRVSAFQQRDM             | 156 |
| NTDB id 393436 FIV08 RS02165 WP 061332594.1 | G.IGFRFRVSAFFQRNLCGMVLRRIE   | 155 |
| NTDB id 1203 PSJM300 01605 AFN76401.1       | G.IGFRFRVSAFYQRNLAGMVLRIE    | 155 |
| NTDB id 1307 DR RS10055 WP 010888596.1      | D.KARFRVNAFMQRGNVGV          | 159 |
| NTDB id 1185 GTF74 RS11940 WP 000350195.1   | N.VGRFRVNAFHQA               | 155 |
| NTDB id 1176 A1552VC RS01160 WP 000350195.1 | N.VGRFRVNAFHQA               | 155 |
| NTDB id 1283 ACE17W RS02630 WP 010947729.1  | N.LARFRVNAFNQSRGAA           | 155 |
| NTDB id 1259 GC085 RS10305 WP 010947729.1   | N.LARFRVNAFNQSRGAA           | 155 |
| NTDB id 1060 ABD1 RS04380 WP 000355489.1    | N.VARFRVNAFNQNRGAGAV         | 155 |
| NTDB id 1040 HON27 RS13360 WP 000355489.1   | N.VARFRVNAFNQNRGAGAV         | 155 |
| NTDB id 1081 FDQ49 RS05335 WP 006581387.1   | N.VARFRVNAFNQNRGAGAV         | 155 |
| NTDB id 1202 PSJM300 01600 AFN76400.1       | G.VARFRVNAFNQNRGAGAV         | 155 |
| NTDB id 1194 PAKAF RS01995 WP 003084552.1   | G.VARFRVNAFNQNRGAGAV         | 155 |
| consensus                                   | *****                        |     |

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| NTDB id 1177 A1552VC RS01165 WP 000422572.1 | ..S                        | 153 |
| NTDB id 1019 ACIAD RS04205 WP 004922051.1   | EKNERFRVSAFQQRDM           | 156 |
| NTDB id 393436 FIV08 RS02165 WP 061332594.1 | G.IGFRFRVSAFFQRNLCGMVLRRIE | 155 |
| NTDB id 1203 PSJM300 01605 AFN76401.1       | G.IGFRFRVSAFYQRNLAGMVLRIE  | 155 |
| NTDB id 1307 DR RS10055 WP 010888596.1      | D.KARFRVNAFMQRGNVGV        | 159 |
| NTDB id 1185 GTF74 RS11940 WP 000350195.1   | N.VGRFRVNAFHQA             | 155 |
| NTDB id 1176 A1552VC RS01160 WP 000350195.1 | N.VGRFRVNAFHQA             | 155 |
| NTDB id 1283 ACE17W RS02630 WP 010947729.1  | N.LARFRVNAFNQSRGAA         | 155 |
| NTDB id 1259 GC085 RS10305 WP 010947729.1   | N.LARFRVNAFNQSRGAA         | 155 |
| NTDB id 1060 ABD1 RS04380 WP 000355489.1    | N.VARFRVNAFNQNRGAGAV       | 155 |
| NTDB id 1040 HON27 RS13360 WP 000355489.1   | N.VARFRVNAFNQNRGAGAV       | 155 |
| NTDB id 1081 FDQ49 RS05335 WP 006581387.1   | N.VARFRVNAFNQNRGAGAV       | 155 |
| NTDB id 1202 PSJM300 01600 AFN76400.1       | G.VARFRVNAFNQNRGAGAV       | 155 |
| NTDB id 1194 PAKAF RS01995 WP 003084552.1   | G.VARFRVNAFNQNRGAGAV       | 155 |
| consensus                                   | *****                      |     |

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| NTDB id 1177 A1552VC RS01165 WP 000422572.1 | LTIEDPIEFVHEH            | 233 |
| NTDB id 1019 ACIAD RS04205 WP 004922051.1   | ITIEDPIEFIEHEHAGCIITQREV | 236 |
| NTDB id 393436 FIV08 RS02165 WP 061332594.1 | ISIEDPIEFVHQHGQCIIVTQREV | 235 |
| NTDB id 1203 PSJM300 01605 AFN76401.1       | ISIEDPIEFIEHQHQCIVTQREV  | 235 |
| NTDB id 1307 DR RS10055 WP 010888596.1      | LTIEDPIEFVHHPNKASII      | 239 |
| NTDB id 1185 GTF74 RS11940 WP 000350195.1   | LTIEDPIEFVHSNNKCLINQREV  | 235 |
| NTDB id 1176 A1552VC RS01160 WP 000350195.1 | LTIEDPIEFVHSNNKCLINQREV  | 235 |
| NTDB id 1283 ACE17W RS02630 WP 010947729.1  | LTIEDPIEFVHQS            | 235 |
| NTDB id 1259 GC085 RS10305 WP 010947729.1   | LTIEDPIEFVHQS            | 235 |
| NTDB id 1060 ABD1 RS04380 WP 000355489.1    | LTIEDPIEFVHQS            | 235 |
| NTDB id 1040 HON27 RS13360 WP 000355489.1   | LTIEDPIEFVHQS            | 235 |
| NTDB id 1081 FDQ49 RS05335 WP 006581387.1   | LTIEDPIEFVHQS            | 235 |
| NTDB id 1202 PSJM300 01600 AFN76400.1       | LTIEDPIEFVHES            | 235 |
| NTDB id 1194 PAKAF RS01995 WP 003084552.1   | LTIEDPIEFVHES            | 235 |
| consensus                                   | *****                    |     |

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| NTDB id 1177 A1552VC RS01165 WP 000422572.1 | ALERIITHIVPKEEQREQFLLDLSLNLKGVIAQQLLRDKNGKGRHGVFEVLINSPRIADLIRRGELHELKATMARSQEVGMQ | 313 |
| NTDB id 1019 ACIAD RS04205 WP 004922051.1   | TLERIITHFFDADRHQQIFMDLSLNLKAVISQQLIPTHDGQSRRAAVEVLINTPLLSDYIRQGEIYKIKELMARSQELGMQ  | 316 |
| NTDB id 393436 FIV08 RS02165 WP 061332594.1 | ALDRIIQFFPPEQHNQIWMDSLNLRAIVAQQLVPTPDGKGRKAVIEVLINTPLVADLIRKAEVHKLKELMAKSNESGMQ    | 315 |
| NTDB id 1203 PSJM300 01605 AFN76401.1       | ALDRIINFFPADRQNGQVWMDLSLNLKAIVAQQLVPTPDGKGRRAVIEVLINTPLAADLIRKGEVHELKGLMKRSTDLMQ   | 315 |
| NTDB id 1307 DR RS10055 WP 010888596.1      | SIDRIVDVFPPEEQEQIRVQLANNLVAVMTQQLLPADGQGRVLAYEILLANPAVRALIREGKTFQITSVMTGAREGMV     | 319 |
| NTDB id 1185 GTF74 RS11940 WP 000350195.1   | TIDRIIDVFPGSDKDMVRSMLSESLRAVIAQKLLKR.VGGGRVACHEIMLATPAIRNLIREDKVAQMYSIIQTGAAHGMQ   | 314 |
| NTDB id 1176 A1552VC RS01160 WP 000350195.1 | TIDRIIDVFPGSDKDMVRSMLSESLRAVIAQKLLKR.VGGGRVACHEIMLATPAIRNLIREDKVAQMYSIIQTGAAHGMQ   | 314 |
| NTDB id 1283 ACE17W RS02630 WP 010947729.1  | TINRIIDVFPAEEKSMVRSMLSESLQAVVAQSLLKK.NKGGRVAALEIMMCTGAIRNLIREDKIAQMYSIIQTGQAKGMQ   | 314 |
| NTDB id 1259 GC085 RS10305 WP 010947729.1   | TINRIIDVFPAEEKSMVRSMLSESLQAVVAQSLLKK.NKGGRVAALEIMMCTGAIRNLIREDKIAQMYSIIQTGQAKGMQ   | 314 |
| NTDB id 1060 ABD1 RS04380 WP 000355489.1    | TIDRVIDVFPAEEKDMVRAMLSESLQAVISQTLLKK.NGGGRVAAHEIMIGIPAIRNLIRENKVQMYSIIQTGANHGMT    | 314 |
| NTDB id 1040 HON27 RS13360 WP 000355489.1   | TIDRVIDVFPAEEKDMVRAMLSESLQAVISQTLLKK.NGGGRVAAHEIMIGIPAIRNLIRENKVQMYSIIQTGANHGMT    | 314 |
| NTDB id 1081 FDQ49 RS05335 WP 006581387.1   | TIDRVIDVFPAEEKDMVRAMLSESLQAVISQTLLKK.NGGGRVAAHEIMIGIPAIRNLIRENKVQMYSIIQTGANHGMT    | 314 |
| NTDB id 1202 PSJM300 01600 AFN76400.1       | TIDRVVDVFPAEEKSMVRSMLSESLQAVISQTLLKK.VGGGRVAAHEIMIGTPAIRNLIREDKVAQMYSIIQTGGSLGMQ   | 314 |
| NTDB id 1194 PAKAF RS01995 WP 003084552.1   | TIDRVVDVFPAEEKAMVRSMLSESLQSVISQTLIKK.IGGGRVAAHEIMIGTPAIRNLIREDKVAQMYSIIQTGGSLGMQ   | 314 |
| consensus                                   | ***!***** ** !***! *** ! !*** ***!*** !*****!!!!* **** * * * ! ! *                 |     |

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| NTDB id 1177 A1552VC RS01165 WP 000422572.1 | TFDQALYQLVVDKDISEQDALHSADSANDLRLMLKTKRGDDY...GSGSLQNVKI.....DME.....              | 368 |
| NTDB id 1019 ACIAD RS04205 WP 004922051.1   | TFDQALFDLYDHQHSYADALKHADSPNNRLQIKLSEEANKPLDNRERMSEMER.....KMTFDGQRRNLK.....       | 383 |
| NTDB id 393436 FIV08 RS02165 WP 061332594.1 | TFDQALYRLYAEGSITYEDALAHADSANDLRLMIKLGADAQGADKLSSSV.DK.L.....TIQDD.....            | 373 |
| NTDB id 1203 PSJM300 01605 AFN76401.1       | TFDQALYNLYVQGEITYEDALLHADSSNDLRLMIKLGSETDGEHLTSVSQ.GLTL.....EMSDDDPGRSFR.....     | 381 |
| NTDB id 1307 DR RS10055 WP 010888596.1      | TMDAYLAGLFRHLLITYDKGLERAID.P..KEFARLANDASAGLGG.ASMTPAAPPVPAYNSASSSSSTGRGGDFGRGAAA | 395 |
| NTDB id 1185 GTF74 RS11940 WP 000350195.1   | TMEQNAKQLIARGVVDAQEVQSKIETDL..KAF.....                                            | 345 |
| NTDB id 1176 A1552VC RS01160 WP 000350195.1 | TMEQNAKQLIARGVVDAQEVQSKIETDL..KAF.....                                            | 345 |
| NTDB id 1283 ACE17W RS02630 WP 010947729.1  | TLDQHLTELVNKNIISKHTAHEAALN.K..SLF.....                                            | 344 |
| NTDB id 1259 GC085 RS10305 WP 010947729.1   | TLDQHLTELVNKNIISKHTAHEAALN.K..SLF.....                                            | 344 |
| NTDB id 1060 ABD1 RS04380 WP 000355489.1    | TLDQSLKGLVARGVISPQTARTAAKQ.P..ESFL.....                                           | 345 |
| NTDB id 1040 HON27 RS13360 WP 000355489.1   | TLDQSLKGLVARGVISPQTARTAAKQ.P..ESFL.....                                           | 345 |
| NTDB id 1081 FDQ49 RS05335 WP 006581387.1   | TLDQSLKGLVSRGVISPQTARTAAKQ.P..ESFL.....                                           | 345 |
| NTDB id 1202 PSJM300 01600 AFN76400.1       | TLDQSLKGLVSRGVISPQTARTAAKQ.P..ENF.....                                            | 344 |
| NTDB id 1194 PAKAF RS01995 WP 003084552.1   | TLDQSLKGLVSRGVISPQTARTAAKQ.P..ENF.....                                            | 344 |
| consensus                                   | !*** * !* ***** * *                                                               |     |

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|---------------------------------------------|-------------------------|-----|
| NTDB id 1177 A1552VC RS01165 WP 000422572.1 | PATPAAPAAGRSEPGRAGGFGRR | 368 |
| NTDB id 1019 ACIAD RS04205 WP 004922051.1   | .....                   | 383 |
| NTDB id 393436 FIV08 RS02165 WP 061332594.1 | .....                   | 373 |
| NTDB id 1203 PSJM300 01605 AFN76401.1       | .....                   | 381 |
| NTDB id 1307 DR RS10055 WP 010888596.1      | PATPAAPAAGRSEPGRAGGFGRR | 418 |
| 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 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 |
| NTDB id 1202 PSJM300 01600 AFN76400.1       | .....                   | 344 |
| NTDB id 1194 PAKAF RS01995 WP 003084552.1   | .....                   | 344 |
| consensus                                   |                         |     |

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  $\geq 50\%$  conserved