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NTDB id 1177 A1552VC RS01165 WP 000422572.1
NTDB id 268047 C2124 RS03975 WP 003263110.1
NTDB id 1203 PSJM300 01605 AFN76401.1
NTDB id 1019 ACIAD RS04205 WP 004922051.1
NTDB id 1307 DR RS10055 WP 01088596.1
NTDB id 1185 GTF74 RS11940 WP 000350195.1
NTDB id 1176 A1552VC RS01160 WP 000350195.1
NTDB id 1283 ACE17W RS02630 WP 010947729.1
NTDB id 1259 GC085 RS10305 WP 010947729.1
NTDB id 1194 PAKAF RS01995 WP 003084552.1
NTDB id 1202 PSJM300 01600 AFN76400.1
NTDB id 1020 ACIAD RS04210 WP 011182164.1
NTDB id 1081 FDQ49 RS05335 WP 006581387.1
NTDB id 1060 ABD1 RS04380 WP 000355489.1
NTDB id 1040 HON27 RS13360 WP 000355489.1
consensus

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[illegible]

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NTDB id 1177 A1552VC RS01165 WP 000422572.1
NTDB id 268047 C2124 RS03975 WP 003263110.1
NTDB id 1203 PSJM300 01605 AFN76401.1
NTDB id 1019 ACIAD RS04205 WP 004922051.1
NTDB id 1307 DR RS10055 WP 010888596.1
NTDB id 1185 GTF74 RS11940 WP 000350195.1
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NTDB id 1060 ABD1 RS04380 WP 000355489.1
NTDB id 1040 HON27 RS13360 WP 000355489.1
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| FEV  | PN  | VARFRVNAF | QNRGAGAV  | ERT     | PS     | IK     | LT     | ME     | ED    | GL   | PE   | IF    | KD  | IA   | CD  | YP  | RGLVLVT | GPT | SG | KST | TLA | MD    | Y   | IN | HR  |     |   |     |     |     |    |   |   |   |   |   |   |   |   |   |   |     |     |     |     |     |    |   |   |   |   |   |   |   |     |     |   |     |
|------|-----|-----------|-----------|---------|--------|--------|--------|--------|-------|------|------|-------|-----|------|-----|-----|---------|-----|----|-----|-----|-------|-----|----|-----|-----|---|-----|-----|-----|----|---|---|---|---|---|---|---|---|---|---|-----|-----|-----|-----|-----|----|---|---|---|---|---|---|---|-----|-----|---|-----|
| VVRD | ..  | SCRFRVS   | SAFFQRELP | CAVIRRI | ETRIPT | FEEL   | KL     | PEVL   | LQN   | LAI  | AK   | RGLVL | VVG | ATG  | SGK | STT | MA      | AMT | G  | YRN | Q   | HR    |     |    | 149 |     |   |     |     |     |    |   |   |   |   |   |   |   |   |   |   |     |     |     |     |     |    |   |   |   |   |   |   |   |     |     |   |     |
| ITA  | PT  | ..        | ACRFRVS   | AFMQQGR | AGMVL  | RTINT  | KIPT   | IT     | ELDL  | PPIL | NE   | VAM   | SK  | RGLV | VVG | ATG | SGK     | STT | LA | AM  | V   | G     | YRN | HA | HS  | 159 |   |     |     |     |    |   |   |   |   |   |   |   |   |   |   |     |     |     |     |     |    |   |   |   |   |   |   |   |     |     |   |     |
| IS   | ARG | ..        | IGRFRVS   | AFYQORN | L      | AGMVL  | RTI    | ETNIPT | IED   | KL   | PD   | V     | LK  | AL   | T   | K   | RGLV    | LV  | FV | GAT | G   | T     | G   | K  | SLA | MI  | G | YRN | KNS | 151 |    |   |   |   |   |   |   |   |   |   |   |     |     |     |     |     |    |   |   |   |   |   |   |   |     |     |   |     |
| ILN  | REK | NER       | FRVS      | AFQQR   | DMPC   | GVIRRI | ETNIPT | KIP    | SPDDL | HL   | PPIL | KE    | LAM | SK   | R   | GI  | I       | F   | S  | GAT | G   | T     | G   | K  | SLA | MI  | Q | HRN | QHS | 152 |    |   |   |   |   |   |   |   |   |   |   |     |     |     |     |     |    |   |   |   |   |   |   |   |     |     |   |     |
| FAL  | GD  | ..        | KARFRVNAF | MQRGNV  | GV     | MRL    | IP     | TTV    | RTIA  | EMGL | P    | Q     | T   | V    | I   | D   | I       | A   | N  | A   | P   | RGLVL | V   | T  | G   | P   | T | G   | SGK | STT | LA | S | M | I | D | H | I | N | T | T | K | 155 |     |     |     |     |    |   |   |   |   |   |   |   |     |     |   |     |
| FEL  | PN  | ..        | VGRFRVNAF | HQARG   | CSA    | V      | F      | R      | T     | I    | P    | T     | V   | I    | P   | T   | L       | E   | Q  | L   | D   | A     | P   | E  | I   | F   | S | K   | I   | A   | N  | Y | E | K | G | L | V | L | V | T | G | P   | T   | G   | SGK | STT | LA | A | M | V | N | Y | V | N | A   | H   | H | 151 |
| FEL  | PN  | ..        | VGRFRVNAF | HQARG   | CSA    | V      | F      | R      | T     | I    | P    | T     | V   | I    | P   | T   | L       | E   | Q  | L   | D   | A     | P   | E  | I   | F   | S | K   | I   | A   | N  | Y | E | K | G | L | V | L | V | T | G | P   | T   | G   | SGK | STT | LA | A | M | V | N | Y | V | N | A   | H   | H | 151 |
| FEI  | AN  | ..        | LARFRVNAF | NQSRGA  | A      | V      | F      | R      | T     | I    | P    | S     | E   | I    | L   | S   | M       | E   | D  | L   | G   | L     | P   | P  | I   | F   | K | E   | M   | A   | S  | F | S | R | G | L | V | L | V | T | G | P   | T   | G   | SGK | STT | LA | A | V | I | D | Y | I | N | S   | S   | R | 151 |
| FEI  | AN  | ..        | LARFRVNAF | NQSRGA  | A      | V      | F      | R      | T     | I    | P    | S     | E   | I    | L   | S   | M       | E   | D  | L   | G   | L     | P   | P  | I   | F   | K | E   | M   | A   | S  | F | S | R | G | L | V | L | V | T | G | P   | T   | G   | SGK | STT | LA | A | V | I | D | Y | I | N | S   | S   | R | 151 |
| FEV  | PG  | ..        | VARFRVNAF | NQNRGAG | AV     | F      | R      | T      | I     | P    | S    | K     | V   | L    | T   | M   | E       | D   | L  | G   | M   | G     | E   | V  | F   | K   | R | V   | S   | D   | V  | R | G | L | V | L | V | T | G | P | T | G   | SGK | STT | LA  | A   | M  | D | Y | L | N | N | T | K | 151 |     |   |     |
| FEV  | PG  | ..        | VARFRVNAF | NQNRGAG | AV     | F      | R      | T      | I     | P    | S    | K     | V   | L    | T   | M   | E       | D   | L  | G   | M   | G     | E   | V  | F   | K   | R | I   | T   | D   | V  | P | R | G | L | V | L | V | T | G | P | T   | G   | SGK | STT | LA  | A  | M | D | Y | L | N | N | T | K   | 151 |   |     |
| FEV  | PN  | ..        | LARFRVNAF | NQNRGAG | AV     | F      | R      | T      | I     | P    | S    | K     | V   | L    | T   | M   | E       | D   | L  | G   | L   | G     | K   | I  | F   | R   | D | I   | C   | D   | Y  | P | R | G | L | V | L | V | T | G | P | T   | G   | SGK | STT | LA  | A  | M | D | Y | I | N | N | H | R   | 151 |   |     |
| FEV  | PN  | ..        | VARFRVNAF | NQNRGAG | AV     | F      | R      | T      | I     | P    | S    | K     | V   | L    | T   | M   | E       | D   | L  | G   | L   | G     | K   | I  | F   | K   | D | I   | C   | D   | Y  | P | R | G | I | V | L | V | T | G | P | T   | G   | SGK | STT | LA  | A  | M | D | Y | I | N | E | N | R   | 151 |   |     |
| FEV  | PN  | ..        | VARFRVNAF | NQNRGAG | AV     | F      | R      | T      | I     | P    | S    | K     | V   | L    | T   | M   | E       | D   | L  | G   | L   | G     | K   | I  | F   | K   | D | I   | C   | D   | Y  | P | R | G | I | V | L | V | T | G | P | T   | G   | SGK | STT | LA  | A  | M | D | Y | I | N | E | N | R   | 151 |   |     |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----|-----|-----|-----|-----|-----|-----|
| Y | H | I | L | T | E | D | P | I | E | F | V | H | Q | S | K | K | C | L | N | Q | R | E | V | H | R | D | T | S | F | E | N | E | A | L | R | S | A | L | R | E | D | P | D | V | I | L | V | G | E | R | D | L | E | T | I | R | L | A | T | A | A | E | T | G | H | L | V | F | G | T | L | H | T | N   | 229 |     |     |     |     |     |
| Y | G | H | I | T | I | E | D | P | V | E | Y | V | H | A | H | N | C | V | T | Q | R | E | V | G | V | D | T | S | E | W | H | V | A | L | K | N | T | L | R | Q | A | P | D | V | I | L | G | E | I | R | D | R | D | T | M | E | Y | A | I | Q | Y | A | E | T | G | H | L | C | L | A | T | L | H | A   | N   | 239 |     |     |     |     |
| S | G | H | I | S | I | E | D | P | I | E | F | I | H | Q | H | N | C | I | V | T | Q | R | E | V | G | I | D | T | S | F | E | V | A | L | K | N | T | L | R | Q | A | P | D | V | I | L | G | E | V | R | T | R | E | M | D | H | A | V | A | F | A | E | T | G | H | L | C | L | A | T | L | H | A | N   | 231 |     |     |     |     |     |
| K | G | H | I | T | I | E | D | P | I | E | F | I | H | E | H | A | G | C | I | T | Q | R | E | V | G | I | D | T | S | F | E | A | L | K | N | T | L | R | Q | A | P | D | V | I | L | G | E | I | R | S | R | E | V | M | D | A | L | A | F | A | E | T | G | H | L | V | F | A | T | L | H | A | N | 232 |     |     |     |     |     |     |
| K | L | H | I | L | T | I | E | D | P | I | E | F | M | H | P | N | K | A | S | I | I | N | Q | R | E | V | G | S | D | T | L | S | F | D | A | L | R | A | L | R | Q | A | P | D | V | I | L | V | G | E | M | R | D | Y | E | T | I | K | A | A | V | T | A | A | E | T | G | H | L | V | M | G | T | L   | H   | T   | N   | 235 |     |     |
| N | K | H | I | L | T | I | E | D | P | I | E | F | V | H | S | N | N | K | C | L | I | N | Q | R | E | V | H | R | D | T | H | S | F | K | N | A | L | R | S | A | L | R | E | D | P | D | V | I | L | V | G | E | L | R | D | Q | E | T | I | S | L | A | T | A | A | E | T | G | H | L | V | F | G | T   | L   | H   | T   | S   | 231 |     |
| N | K | H | I | L | T | I | E | D | P | I | E | F | V | H | S | N | N | K | C | L | I | N | Q | R | E | V | H | R | D | T | H | S | F | K | N | A | L | R | S | A | L | R | E | D | P | D | V | I | L | V | G | E | L | R | D | Q | E | T | I | S | L | A | T | A | A | E | T | G | H | L | V | F | G | T   | L   | H   | T   | S   | 231 |     |
| Y | E | H | I | L | T | V | E | D | P | I | E | F | V | H | Q | S | K | K | C | L | V | N | Q | R | E | V | H | K | D | T | L | S | F | N | A | A | L | R | S | A | L | R | E | D | P | D | I | I | L | V | G | E | L | R | D | L | E | T | I | R | L | A | M | T | A | A | E | T | G | H | L | V | F | G   | T   | L   | H   | T   | N   | 231 |
| Y | E | H | I | L | T | V | E | D | P | I | E | F | V | H | Q | S | K | K | C | L | V | N | Q | R | E | V | H | K | D | T | L | S | F | N | A | A | L | R | S | A | L | R | E | D | P | D | I | I | L | V | G | E | L | R | D | L | E | T | I | R | L | A | M | T | A | A | E | T | G | H | L | V | F | G   | T   | L   | H   | T   | N   | 231 |
| Y | H | H | I | L | T | I | E | D | P | I | E | F | V | H | S | K | K | C | L | V | N | Q | R | E | V | H | R | D | T | L | G | F | S | E | A | L | R | S | A | L | R | E | D | P | D | I | I | L | V | G | E | M | R | D | L | E | T | I | R | L | A | T | A | A | E | T | G | H | L | V | F | G | T | L   | H   | T   | 231 |     |     |     |
| Y | H | H | I |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |     |     |     |     |     |     |     |

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NTDB id 1060 ABD1 RS04380 WP 000355489.1
NTDB id 1040 HON27 RS13360 WP 000355489.1
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|                                                                                        |     |
|----------------------------------------------------------------------------------------|-----|
| SAAKTIDRIIDVFPAEEKMVRMLSESLQAVISQTLLKKVGGGRVAACHEIMIGTPAIRNLIREDKVAQMYSIIQTGAA         |     |
| NANQALERIHLIVPKEQREQFLLDLSLNLKGVIAQQQLIRDKNGKGRHGVFEVLINSPRIADLIIRGELHELKATMARSQE      | 309 |
| SSNQAIIDRIIVNFFPEERRRQQLLIDLNSLNLRAMIAQRLLIPRKGGKGRAPIEILLGTPLVSDLI FKGEVHELKEVMKKRSRE | 319 |
| NANQALDRIIINFFPADRQNQWMDLSLNLKAIVAQQLVPTPDGCKGRAVIEVLINTPLAADI LRKGEVHELKGLMKRSTD      | 311 |
| NANQTLERIITHFDDADRHHQIFMDLSLNLKAVISQQLIPTHDGQSRRAAAEVLINTPLISDIYRGGEITYIKELMARSGE      | 312 |
| SAPESSIDRIIDVFPEEQQEQRVQLANNLVAVMTQQLLPRADGQGRVLAYEILLANPAVRALIREGKTFQITSVMQTGAR       | 315 |
| SAAKTIDRIIDVFPGSDKDMVRSMLSESLRAVIAAQKLLKR.VGGGRVACHEIMLATPAIRNLIREDKVAQMYSIIQTGAA      | 310 |
| SAAKTIDRIIDVFPGSDKDMVRSMLSESLRAVIAAQKLLKR.VGGGRVACHEIMLATPAIRNLIREDKVAQMYSIIQTGAA      | 310 |
| SATKTIINRIIDVFPAEEKSMVRSMLSESLQAVVAQSLLKK.NKGGRVAALEIMMCTGAIRNLIREDKIAQMYSIIQTGQA      | 310 |
| SATKTIINRIIDVFPAEEKSMVRSMLSESLQAVVAQSLLKK.NKGGRVAALEIMMCTGAIRNLIREDKIAQMYSIIQTGQA      | 310 |
| SAAKTIDRVVDVFPAEEKAMVRSMLSESLQAVISQTSITLLKK.IGGGRVAAHEIMIGTPAIRNLIREDKVAQMYSIIQTGGS    | 310 |
| SAAKTIDRVVDVFPAEEKSMVRSMLSESLQAVISQTSITLLKK.VGGGRVAAHEIMIGTPAIRNLIREDKVAQMYSIIQTGGS    | 310 |
| SAAKTIDRIIDVFPAEEKDMVRTMLSESLQAVISQTSITLLKK.EGGGRVAAHEIMIGIPAIRNLIREGKVAQMYSIIQTGAT    | 310 |
| SAAKTIDRVIDVFPAEEKDMVRAMLSESLQAVISQTSITLLKK.NGGGRVAAHEIMIGIPAIRNLIRENKVAQMYSIIQTGAN    | 310 |
| SAAKTIDRVIDVFPAEEKDMVRAMLSESLQAVISQTSITLLKK.NGGGRVAAHEIMIGIPAIRNLIRENKVAQMYSIIQTGAN    | 310 |
| SAAKTIDRVIDVFPAEEKDMVRAMLSESLQAVISQTSITLLKK.NGGGRVAAHEIMIGIPAIRNLIRENKVAQMYSIIQTGAN    | 310 |
| * * * * *                                                                              |     |

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|                                             |                                                                                  |     |
|---------------------------------------------|----------------------------------------------------------------------------------|-----|
| NTDB id 1177 A1552VC RS01165 WP 000422572.1 | VGMQTFDQALYQLVVDKISEQDALHSADSAND..LRLMLKTKRGDDYG...SGSLQ..NVK.IDME.....          | 368 |
| NTDB id 268047 C2124 RS03975 WP 003263110.1 | QGMVTFDQALFELYEADKITIEDALRNADSLND..LRLQIKLHGKRGGPADLTAGTE..HLN.VM.....           | 379 |
| NTDB id 1203 PSJM300 01605 AFN76401.1       | LGMQTFDQALYNLYVQGEITYEDALLHADSSND..LRLMIKLGSETDGEHLTSVS.Q..GLT.LEMSDDDPGRSFR.... | 381 |
| NTDB id 1019 ACIAD RS04205 WP 004922051.1   | LGMQTFDQALFDLYDHQHISYADALKHADSPNN..LRLQIKLSEEANKPLDNRERMS..EME.RKMTFDGQRRNLK.... | 383 |
| NTDB id 1307 DR RS10055 WP 010888596.1      | EGMVTMDAYLAGLFRHLITYDKGLERAID.PKEFARLANDASAGLGASMTPAAPPVPAYNSASSSSTGRGGDFGRGAA   | 394 |
| NTDB id 1185 GTF74 RS11940 WP 000350195.1   | HGMQTMENAKQLIARGVVDAQEVQSKIELDLKAF.....                                          | 345 |
| NTDB id 1176 A1552VC RS01160 WP 000350195.1 | HGMQTMENAKQLIARGVVDAQEVQSKIELDLKAF.....                                          | 345 |
| NTDB id 1283 ACE17W RS02630 WP 010947729.1  | KGMQTLDDHLTELNVKNIIISKHTAHEAALN.KSLF.....                                        | 344 |
| NTDB id 1259 GC085 RS10305 WP 010947729.1   | KGMQTLDDHLTELNVKNIIISKHTAHEAALN.KSLF.....                                        | 344 |
| NTDB id 1194 PAKAF RS01995 WP 003084552.1   | LGMQTLDMCLKGLVAKGLISRAREKAKI.PENF.....                                           | 344 |
| NTDB id 1202 PSJM300 01600 AFN76400.1       | LGMQTLDSCLKGLIAKGLISRDSAKEKAKQ.PENF.....                                         | 344 |
| NTDB id 1020 ACIAD RS04210 WP 011182164.1   | HGMTTLDDQSLKQLLAKGIINLPTARAVAKS.PESF.....                                        | 344 |
| NTDB id 1081 FDQ49 RS05335 WP 006581387.1   | HGMTTLDDQSLKGLVSRGVISPQTARTAAKQ.PESFL.....                                       | 345 |
| NTDB id 1060 ABD1 RS04380 WP 000355489.1    | HGMTTLDDQSLKGLVARGVISPQTARTAAKQ.PESFL.....                                       | 345 |
| NTDB id 1040 HON27 RS13360 WP 000355489.1   | HGMTTLDDQSLKGLVARGVISPQTARTAAKQ.PESFL.....                                       | 345 |
| consensus                                   | !!*!*** * !* ***** * * * *                                                       |     |

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|                                             |                           |     |
|---------------------------------------------|---------------------------|-----|
| NTDB id 1177 A1552VC RS01165 WP 000422572.1 | APATPAAPAAAGRSEPGRAGGFGRR | 368 |
| NTDB id 268047 C2124 RS03975 WP 003263110.1 | .....                     | 379 |
| NTDB id 1203 PSJM300 01605 AFN76401.1       | .....                     | 381 |
| NTDB id 1019 ACIAD RS04205 WP 004922051.1   | .....                     | 383 |
| NTDB id 1307 DR RS10055 WP 010888596.1      | APATPAAPAAAGRSEPGRAGGFGRR | 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 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 1081 FDQ49 RS05335 WP 006581387.1   | .....                     | 345 |
| NTDB id 1060 ABD1 RS04380 WP 000355489.1    | .....                     | 345 |
| NTDB id 1040 HON27 RS13360 WP 000355489.1   | .....                     | 345 |
| consensus                                   |                           |     |

- non conserved
- similar
- ≥ 50% conserved