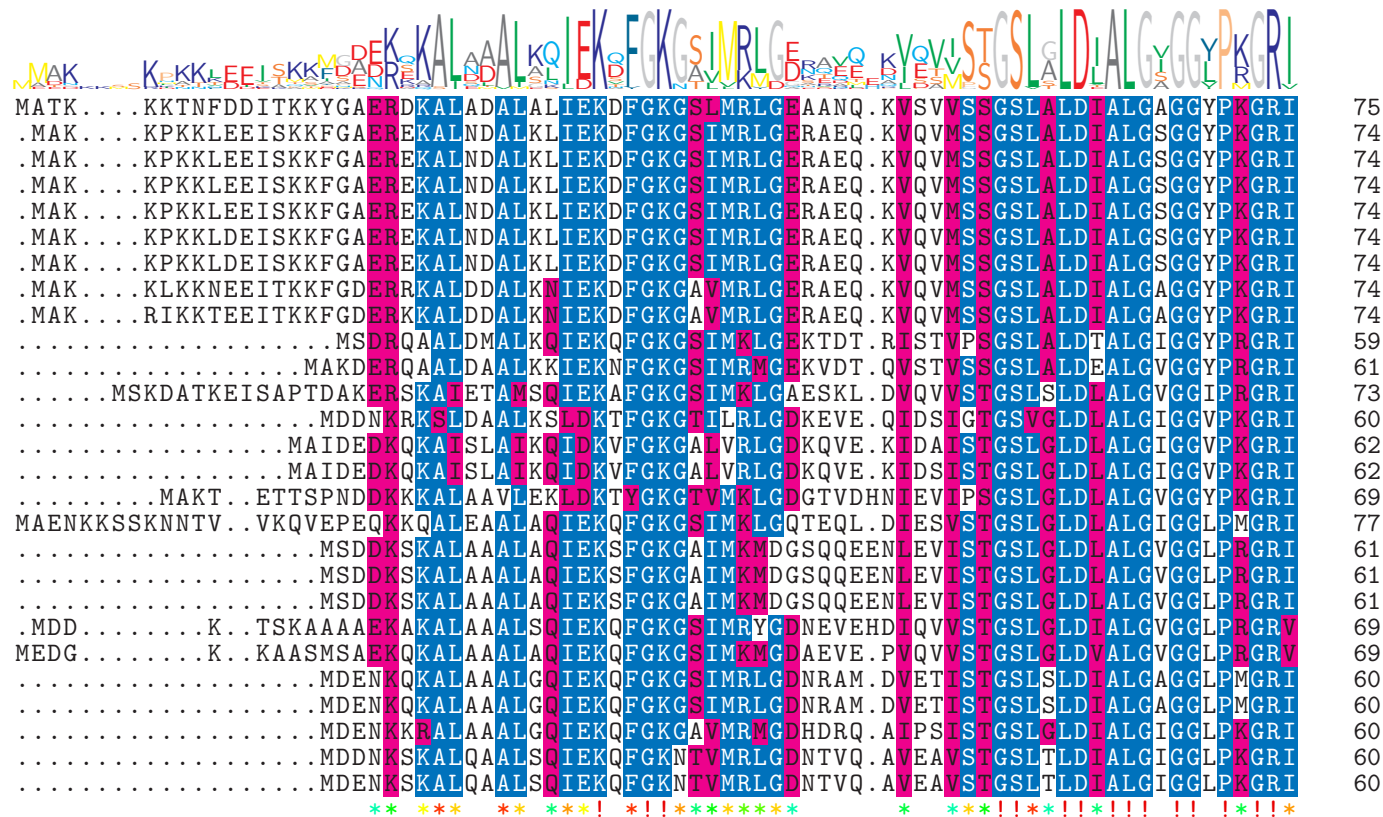


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NTDB id 159 SP RS09750 WP 001085462.1
NTDB id 527 SMSK321 RS11065 WP 001085454.1
NTDB id 499 SM12261 RS08315 WP 078228268.1
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consensus

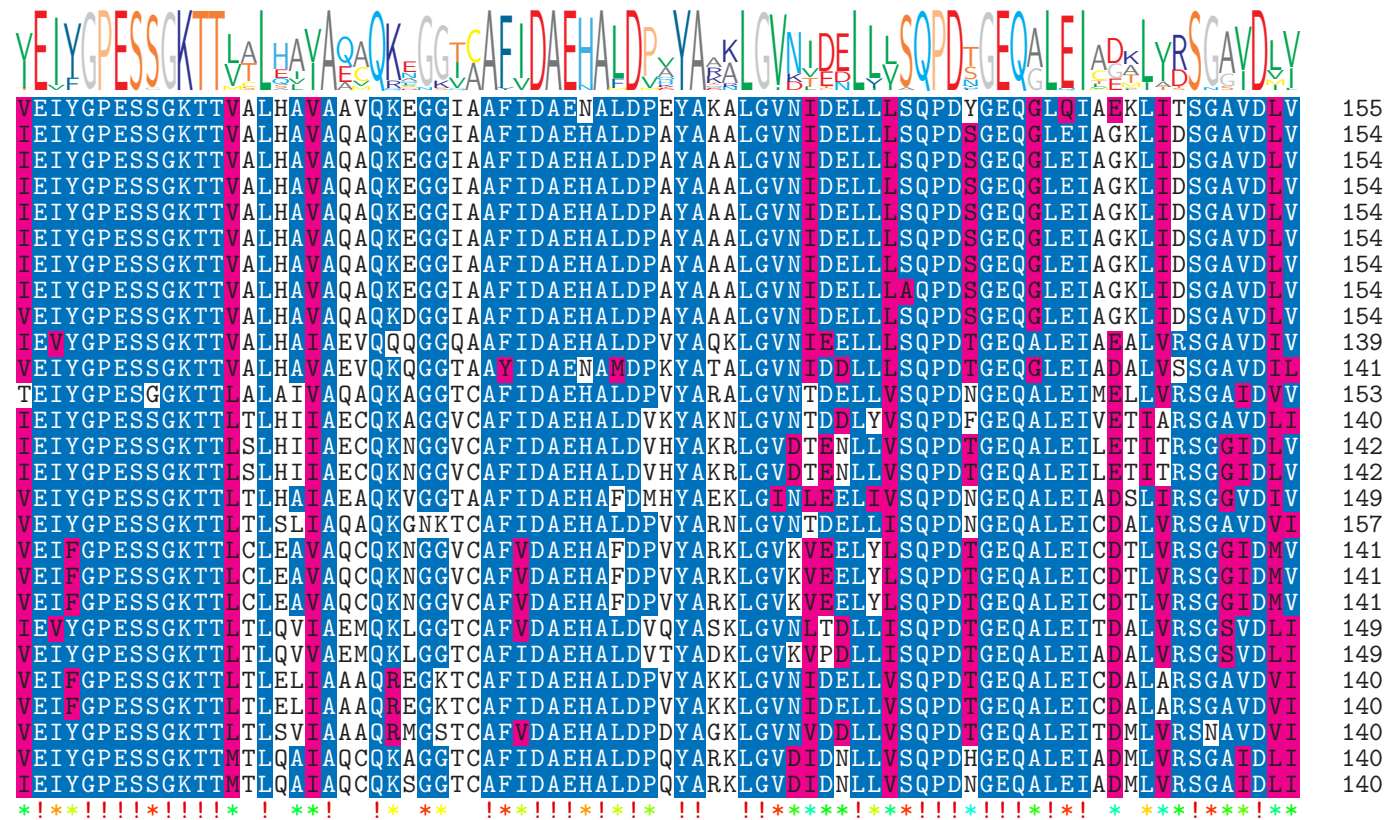
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consensus

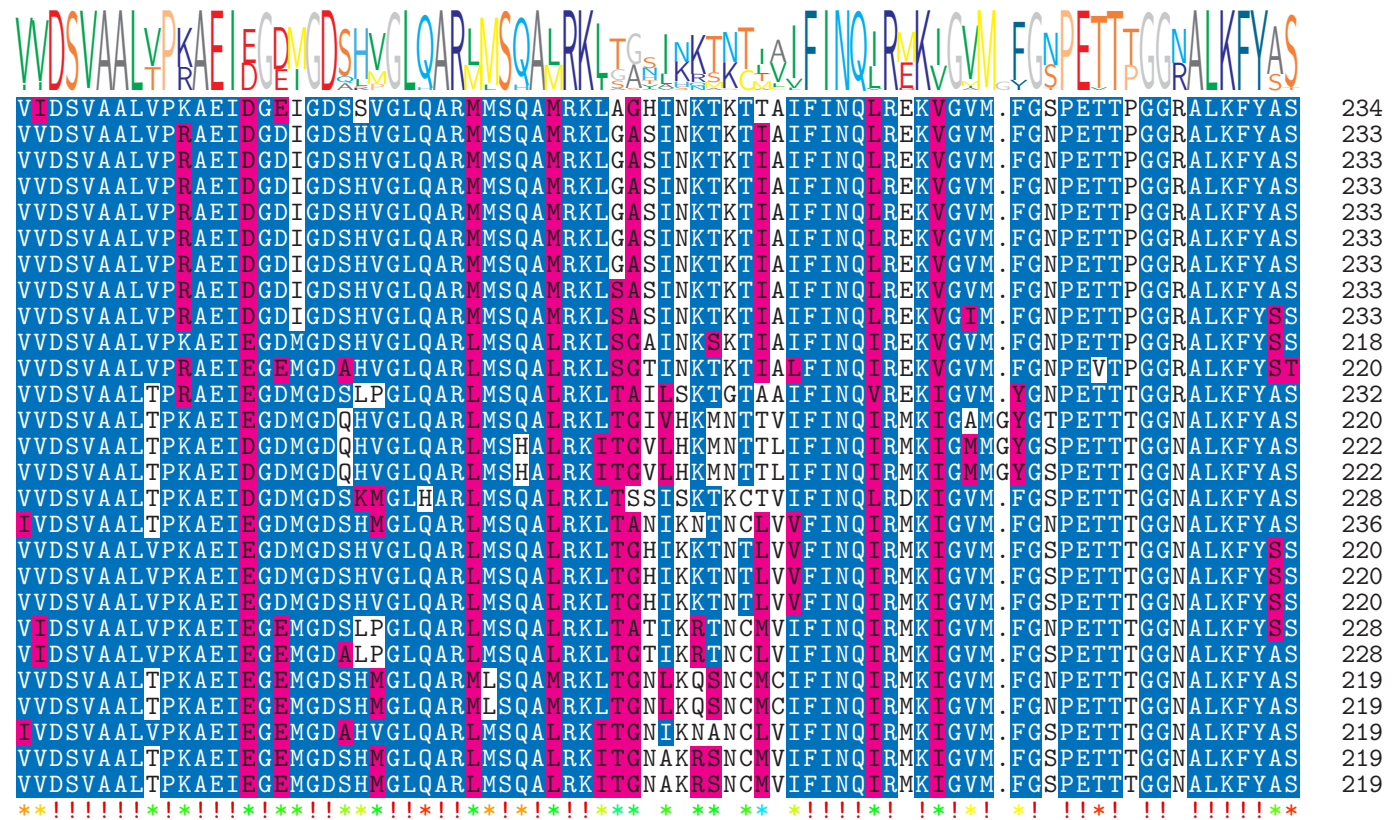
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consensus

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|---------------------------------------------|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----|-----|-----|---|---|---|-----|-----|-----|
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| NTDB id 269 KZH43 RS08665 WP 001085462.1    | VR | L | D | V | R | G | N | T | Q | I | K | G | T | G | . | D | Q | K | E | T | N | V | G | K | E | T | K | I | K | V | V | K | N | K | V | A | P | P | F | K | E | A | V | V | E | I | M | Y | G | E | G | I | S | K | T | G | E | L | L | K | I | A | S | D | L | D | I | I | K | K | A | G | A | W | Y | S | Y | K | D   | 312 |     |   |   |   |     |     |     |
| NTDB id 228 SPD RS09265 WP 001085462.1      | VR | L | D | V | R | G | N | T | Q | I | K | G | T | G | . | D | Q | K | E | T | N | V | G | K | E | T | K | I | K | V | V | K | N | K | V | A | P | P | F | K | E | A | V | V | E | I | M | Y | G | E | G | I | S | K | T | G | E | L | L | K | I | A | S | D | L | D | I | I | K | K | A | G | A | W | Y | S | Y | K | D   | 312 |     |   |   |   |     |     |     |
| NTDB id 194 SPR RS08825 WP 001085462.1      | VR | L | D | V | R | G | N | T | Q | I | K | G | T | G | . | D | Q | K | E | T | N | V | G | K | E | T | K | I | K | V | V | K | N | K | V | A | P | P | F | K | E | A | V | V | E | I | M | Y | G | E | G | I | S | K | T | G | E | L | L | K | I | A | S | D | L | D | I | I | K | K | A | G | A | W | Y | S | Y | K | D   | 312 |     |   |   |   |     |     |     |
| NTDB id 159 SP RS09750 WP 001085462.1       | VR | L | D | V | R | G | N | T | Q | I | K | G | T | G | . | D | Q | K | E | T | N | V | G | K | E | T | K | I | K | V | V | K | N | K | V | A | P | P | F | K | E | A | V | V | E | I | M | Y | G | E | G | I | S | K | T | G | E | L | L | K | I | A | S | D | L | D | I | I | K | K | A | G | A | W | Y | S | Y | K | D   | 312 |     |   |   |   |     |     |     |
| NTDB id 527 SMSK321 RS11065 WP 001085454.1  | VR | L | D | V | R | G | S | T | Q | I | K | G | T | G | . | D | Q | K | D | T | N | V | G | K | E | T | K | I | K | V | V | K | N | K | V | A | P | P | F | K | E | A | F | V | E | I | M | Y | G | E | G | I | S | K | T | G | E | L | L | K | I | A | S | D | L | D | I | I | K | K | A | G | A | W | Y | S | Y | K | D   | 312 |     |   |   |   |     |     |     |
| NTDB id 499 SM12261 RS08315 WP 078228268.1  | VR | L | D | V | R | G | S | T | Q | I | K | G | T | G | . | D | Q | K | D | T | N | V | G | K | E | T | K | I | K | V | V | K | N | K | V | A | P | P | F | K | E | A | F | V | E | I | M | Y | G | E | G | I | S | K | T | G | E | L | L | K | I | A | S | D | L | D | I | I | K | K | A | G | A | W | Y | S | Y | K | D   | 312 |     |   |   |   |     |     |     |
| NTDB id 453 Spy49 1753c ACI62003.1          | VR | L | D | V | R | G | T | T | Q | I | K | G | T | G | . | D | Q | K | D | S | S | I | G | K | E | T | K | I | K | V | V | K | N | K | V | A | P | P | F | K | V | A | E | V | E | I | M | Y | G | E | G | I | S | R | T | G | E | L | V | K | I | A | S | D | L | D | I | I | Q | K | A | G | A | W | F | S | Y | N | G   | 312 |     |   |   |   |     |     |     |
| NTDB id 408 SMU RS09530 WP 002262392.1      | VR | L | D | V | R | G | N | T | Q | I | K | G | T | G | . | E | Q | K | D | S | N | I | G | K | E | T | K | I | K | V | V | K | N | K | V | A | P | P | F | K | E | A | F | V | E | I | I | Y | G | E | G | I | S | R | T | G | E | L | V | K | I | A | S | D | L | G | I | I | Q | K | A | G | A | W | Y | S | Y | N | G   | 312 |     |   |   |   |     |     |     |
| NTDB id 115 BSU 16940 NP 389576.2           | VR | L | E | V | R | R | A | E | Q | L | K | Q | G | N | . | . | . | . | . | . | D | M | G | N | K | T | K | I | K | V | V | K | N | K | V | A | P | P | F | R | T | A | E | V | D | I | M | Y | G | E | G | I | S | K | E | G | E | I | I | D | L | G | T | E | L | D | I | V | Q | K | S | G | S | W | Y | S | Y | E | E   | 293 |     |   |   |   |     |     |     |
| NTDB id 625 LCA RS02525 WP 011374196.1      | VR | L | E | V | R | R | A | E | T | I | K | N | G | T | . | . | . | . | . | . | D | M | I | G | N | R | A | R | I | K | V | V | K | N | K | V | A | P | P | F | K | V | A | E | V | D | I | M | Y | G | Q | G | I | S | R | T | G | E | L | V | D | M | A | V | E | K | D | I | I | N | K | S | G | S | W | Y | S | Y | G   | S   | 295 |   |   |   |     |     |     |
| NTDB id 1313 DR RS12030 WP 010888966.1      | VR | L | D | V | R | K | I | G | Q | . | . | . | . | . | . | . | . | . | . | P | T | K | V | G | N | D | A | V | A | N | T | V | K | I | K | T | V | K | N | K | V | A | A | P | F | K | E | V | E | L | A | L | V | Y | G | K | G | F | D | Q | L | S | D | L | V | L | G | A | A | D | M | D | I | I | K | K | A | G | S   | F   | Y   | S | Y | G | D   | 308 |     |
| NTDB id 1245 Cj1673c YP 002345041.1         | VR | L | D | V | R | K | V | A | T | . | . | . | . | . | . | . | . | . | . | L | . | K | Q | N | . | E | E | P | I | G | N | R | V | K | V | V | K | N | K | V | A | P | P | F | R | Q | A | E | F | D | V | M | F | G | E | G | L | S | R | E | G | E | L | I | D | Y | G | V | K | L | D | I | V | D | K | S | G | A | W   | F   | S   | Y | K | D | 295 |     |     |
| NTDB id 1214 NCTC11637 00359 SQJ03206.1     | VR | I | D | I | R | R | I | A | A | . | . | . | . | . | . | . | . | . | . | L | . | K | Q | N | . | E | Q | H | I | G | N | R | A | K | A | K | V | V | K | N | K | V | A | P | P | F | R | E | A | E | F | D | I | M | F | G | E | G | I | S | K | E | G | E | I | I | D | Y | G | V | K | L | D | I | V | D | K | S | G   | A   | W   | L | S | Y | Q   | D   | 297 |
| NTDB id 1211 C694 RS00795 WP 000963128.1    | VR | I | D | I | R | R | I | A | S | . | . | . | . | . | . | . | . | . | . | L | . | K | Q | N | . | E | Q | H | I | G | N | R | A | K | A | K | V | V | K | N | K | V | A | P | P | F | R | E | A | E | F | D | I | M | F | G | E | G | I | S | K | E | G | E | I | I | D | Y | G | V | K | L | D | I | V | D | K | S | G   | A   | W   | L | S | Y | Q   | D   | 297 |
| NTDB id 1334 RAOC RS04870 WP 004918236.1    | VR | I | D | I | R | R | S | L | S | D | T | G | K | I | K | D | K | S | G | E | V | I | G | N | R | T | K | V | K | V | V | K | N | K | V | A | P | P | F | K | S | A | E | F | D | I | M | Y | G | E | G | V | S | K | V | G | E | I | L | D | V | A | T | D | L | D | I | I | Q | K | S | G | S | W | F | S | Y | Q | D   | 308 |     |   |   |   |     |     |     |
| NTDB id 1389 A4U84 RS07560 WP 021112712.1   | VR | L | D | I | R | R | C | G | V | . | . | . | . | . | . | . | . | . | . | V | . | K | D | G | . | D | E | I | I | G | S | E | T | K | V | K | V | V | K | N | K | V | A | P | P | F | R | E | V | Q | F | D | I | M | Y | G | E | G | I | S | R | M | N | E | L | L | I | L | A | E | A | N | G | F | I | K | K | S | G   | A   | W   | F | S | Y | D   | G   | 311 |
| NTDB id 1130 NGFG RS03960 WP 003688695.1    | VR | L | D | I | R | R | T | G | S | . | . | . | . | . | . | . | . | . | . | I | . | K | K | G | . | E | E | V | L | G | N | E | T | R | V | K | V | I | K | N | K | V | A | P | P | F | R | Q | A | E | F | D | I | L | Y | G | E | G | I | S | W | E | G | E | L | I | D | I | G | V | K | N | D | I | I | N | K | S | G   | A   | W   | Y | S | Y | N   | G   | 295 |
| NTDB id 1124 NGFG RS03960 WP 003688695.1    | VR | L | D | I | R | R | T | G | S | . | . | . | . | . | . | . | . | . | . | I | . | K | K | G | . | E | E | V | L | G | N | E | T | R | V | K | V | I | K | N | K | V | A | P | P | F | R | Q | A | E | F | D | I | L | Y | G | E | G | I | S | W | E | G | E | L | I | D | I | G | V | K | N | D | I | I | N | K | S | G   | A   | W   | Y | S | Y | N   | G   | 295 |
| NTDB id 1123 OK783 RS03845 WP 003688695.1   | VR | L | D | I | R | R | T | G | S | . | . | . | . | . | . | . | . | . | . | I | . | K | K | G | . | E | E | V | L | G | N | E | T | R | V | K | V | I | K | N | K | V | A | P | P | F | R | Q | A | E | F | D | I | L | Y | G | E | G | I | S | W | E | G | E | L | I | D | I | G | V | K | N | D | I | I | N | K | S | G   | A   | W   | Y | S | Y | N   | G   | 295 |
| NTDB id 260559 CXD98 RS06795 WP 003812760.1 | VR | L | D | I | R | R | I | G | A | . | . | . | . | . | . | . | . | . | . | I | . | K | K | G | . | D | E | V | V | G | N | E | T | R | V | K | V | V | K | N | K | V | A | P | P | F | K | Q | A | E | F | D | I | M | Y | G | S | G | I | S | R | E | G | E | I | I | D | L | G | V | Q | A | N | V | V | D | K | S | G   | A   | W   | Y | S | Y | S   | G   | 303 |
| NTDB id 1427 RS RS02760 WP 011000510.1      | VR | L | D | I | R | R | I | G | S | . | . | . | . | . | . | . | . | . | . | I | . | K | K | G | . | D | E | V | V | G | N | E | T | K | V | K | V | V | K | N | K | V | A | P | P | F | R | E | A | I | F | D | I | L | Y | G | A | G | V | S | R | E | G | E | I | I | D | L | G | V | E | A | K | V | V | E | K | S | G   | A   | W   | Y | S | Y | N   | G   | 303 |
| NTDB id 1165 A1552VC RS01565 WP 000344154.1 | VR | L | D | I | R | R | T | G | A | . | . | . | . | . | . | . | . | . | . | I | . | K | E | G | . | E | E | V | V | G | N | E | T | R | I | K | V | V | K | N | K | I | A | A | P | F | K | E | A | N | T | Q | I | M | Y | G | Q | G | F | N | R | E | G | E | L | I | D | L | G | V | K | H | K | M | V | E | K | S | G   | A   | W   | Y | S | Y | N   | G   | 294 |
| NTDB id 1142 GTF74 RS11550 WP 000344154.1   | VR | L | D | I | R | R | T | G | A | . | . | . | . | . | . | . | . | . | . | I | . | K | E | G | . | E | E | V | V | G | N | E | T | R | I | K | V | V | K | N | K | I | A | A | P | F | K | E | A | N | T | Q | I | M | Y | G | Q | G | F | N | R | E | G | E | L | I | D | L | G | V | K | H | K | M | V | E | K | S | G   | A   | W   | Y | S | Y | N   | G   | 294 |
| NTDB id 1205 PSJM300 05545 AFN77183.1       | VR | L | D | I | R | R | T | G | A | . | . | . | . | . | . | . | . | . | . | V | . | K | E | G | . | D | E | V | V | G | S | E | T | R | V | K | V | V | K | N | K | V | A | P | P | F | R | Q | A | E | F | Q | I | L | Y | G | K | G | I | Y | R | N | G | E | I | I | D | L | G | V | Q | Q | L | V | E | K | S | G | A   | W   | Y   | A | Y | K | G   | 294 |     |
| NTDB id 1022 ACIAD RS06390 WP 004925639.1   | VR | L | D | I | R | R | I | G | Q | . | . | . | . | . | . | . | . | . | . | V | . | K | E | G | . | D | E | I | I | G | S | E | T | K | V | K | V | V | K | N | K | M | A | P | P | F | R | E | A | I | F | Q | I | L | Y | G | K | G | V | N | Q | L | G | E | L | V | D | L | A | V | Q | Q | N | I | V | Q | K | A | G   | A   | W   | Y | S | Y | Q   | G   | 294 |
| NTDB id 1074 ABD1 RS10195 WP 000344167.1    | VR | L | D | I | R | R | I | G | Q | . | . | . | . | . | . | . | . | . | . | V | . | K | E | G | . | D | E | I | I | V | G | S | E | T | K | V | K | V | V | K | N | K | M | A | P | P | F | K | E | A | I | F | Q | I | L | Y | G | K | G | T | N | Q | L | G | E | L | V | D | L | A | V | Q |   |   |   |   |   |   |     |     |     |   |   |   |     |     |     |

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|---------------------------------------------|---------|---------------|--------------|-------------|-----------------|--------------|------------|-------------------------|---------|-----|
| NTDB id 600 KW2 RS01765 WP 011675413.1      | EKIGQGA | EKAKNYLKEHQDV | DEIDHKVRAAHG | LDDSEVAE..  | TEEETTAS        | TKAKAKKEEK   | AVETEEIELE | LED....                 | 387     |     |
| NTDB id 269 KZH43 RS08665 WP 001085462.1    | EKIGQGS | ENAKKYLA      | EHPEIF       | DEIDKQVRSKF | GLIDGEEVSE..    | QDTENKK      | DE....     | PKKEEA..VNEEVPLDLGDELEI | 384     |     |
| NTDB id 228 SPD RS09265 WP 001085462.1      | EKIGQGS | ENAKKYLA      | EHPEIF       | DEIDKQVRSKF | GLIDGEEVSE..    | QDTENKK      | DE....     | PKKEEA..VNEEVPLDLGDELEI | 384     |     |
| NTDB id 194 SPR RS08825 WP 001085462.1      | EKIGQGS | ENAKKYLA      | EHPEIF       | DEIDKQVRSKF | GLIDGEEVSE..    | QDTENKK      | DE....     | PKKEEA..VNEEVPLDLGDELEI | 384     |     |
| NTDB id 159 SP RS09750 WP 001085462.1       | EKIGQGS | ENAKKYLA      | EHPEIF       | DEIDKQVRSKF | GLIDGEEVSE..    | QDTENKK      | DE....     | PKKEEA..VNEEVPLDLGDELEI | 384     |     |
| NTDB id 527 SMSK321 RS11065 WP 001085454.1  | EKIGQGS | ENAKKYLADN    | PEVFAE       | IDHQVRVQF   | GLIDGEEAAE..... | SKK          | DE....     | VAQVDS..VNEEVTLDLGDELEI | 380     |     |
| NTDB id 499 SM12261 RS08315 WP 078228268.1  | EKIGQGS | ENAKKYLADN    | PEIF         | DEIDHQVRVQF | GLIDGEEIAE..... | SKK          | DE....     | AAQVDS..VNEEVTLDLGDELEI | 380     |     |
| NTDB id 453 Spy49 1753c ACI62003.1          | EKIGQGS | ENAKRYLADHP   | QLF          | DEIDRKVRVKF | GLLEEESEES..    | AMAVASE..... | E.....     | TDDLALDLN               | NGIEI   | 376 |
| NTDB id 408 SMU RS09530 WP 002262392.1      | EKIGQGS | ENAKKFLADN    | PEIF         | DDIDHKVRVQY | GLIEEDNTEE..    | KQSSKEK..... | ETDEK..    | ADKNLVLE                | DDTIEL  | 381 |
| NTDB id 115 BSU 16940 NP 389576.2           | ERLGGG  | RENAKQFLKEN   | KDIMLM       | IQEQIREHY   | GLDNNGVV        | QQ..         | QAEETQEEL  | EFE.E                   | .....   | 348 |
| NTDB id 625 LCA RS02525 WP 011374196.1      | ERIGQG  | RENAKNYLADH   | EDVE         | DEVRLKVRAAY | GISDVPEEDL..    | PTTEDE       | QI.NILP    | DDST....                | EE..... | 355 |
| NTDB id 1313 DR RS12030 WP 010888966.1      | ERIGQG  | KEKTIA        | YTAERPEME    | QEIRDRVMAA  | IRAGNAGEA       | PALAPAPA     | AAPEAA     | ..EA                    | .....   | 363 |
| NTDB id 1245 Cj1673c YP 002345041.1         | KKLGGG  | RENSKAFLKEN   | PEIA         | DEITKAIQNS  | MGIEGMIS..      | GSE....      | DDEGE.E    | .....                   | .....   | 343 |
| NTDB id 1214 NCTC11637 00359 SQJ03206.1     | KKLGGG  | RENAKALLKED   | KALADEIT     | LKIKESIGS   | NEEIM..         | PLP....      | DEPLE.EME  | .....                   | .....   | 347 |
| NTDB id 1211 C694 RS00795 WP 000963128.1    | KKLGGG  | RENAKALLKED   | KALADEIT     | LKIKESIGS   | NEEIM..         | PLP....      | DEPLE.EME  | .....                   | .....   | 347 |
| NTDB id 1334 RAOC RS04870 WP 004918236.1    | TKLGGG  | RDTVVKELIK    | DNPELA       | EELEAKIRE   | KLQAK           | .....        | .....      | .....                   | .....   | 343 |
| NTDB id 1389 A4U84 RS07560 WP 021112712.1   | TKIGQG  | KNNAVKWLKEN   | PEIADKLE     | QEIRNTLAS   | NPNSV..         | LKATAS       | DSNDES     | ..DVEEF                 | .....   | 372 |
| NTDB id 1130 NGFG RS03960 WP 003688695.1    | AKIGQG  | KDNVRVWLKEN   | PEISDE       | IDAKIRALNG  | VEMHIT..        | E.....       | GTQDE      | ..TDGER                 | .....   | 348 |
| NTDB id 1124 NGFG RS03960 WP 003688695.1    | AKIGQG  | KDNVRVWLKEN   | PEISDE       | IDAKIRALNG  | VEMHIT..        | E.....       | GTQDE      | ..TDGER                 | .....   | 348 |
| NTDB id 1123 OK783 RS03845 WP 003688695.1   | AKIGQG  | KDNVRVWLKEN   | PEISDE       | IDAKIRALNG  | VEMHIT..        | E.....       | GTQDE      | ..TDGER                 | .....   | 348 |
| NTDB id 260559 CXD98 RS06795 WP 003812760.1 | NRIGQG  | KDNVREYLKEH   | KEMAI        | EIENKVR     | ENQCI           | VSRAA..      | T.FPASEA   | EDGE                    | .....   | 353 |
| NTDB id 1427 RS RS02760 WP 011000510.1      | ERIGQG  | RDNCR         | REFLRENAEL   | AREIENKVR   | REHLGV          | TPMGA..      | V.TLAE     | EEVEED                  | .....   | 352 |
| NTDB id 1165 A1552VC RS01565 WP 000344154.1 | DKIGQG  | KANACKY       | LKENPEIA     | KTLDKKL     | REMLLN          | PENMQ..      | LIAETSSA   | ADDV.EFGAV              | .....   | 354 |
| NTDB id 1142 GTF74 RS11550 WP 000344154.1   | DKIGQG  | KANACKY       | LKENPEIA     | KTLDKKL     | REMLLN          | PENMQ..      | LIAETSSA   | ADDV.EFGAV              | .....   | 354 |
| NTDB id 1205 PSJM300 05545 AFN77183.1       | SKIGQG  | KANAAYLEEN    | PEIGQ        | EIEQQIRAK   | LLVTSANT..      | KATPVA       | EDLADA     | ..DI                    | .....   | 347 |
| NTDB id 1022 ACIAD RS06390 WP 004925639.1   | NKIGQG  | KNNVIRYLEEN   | PQISTE       | IEAVIRE     | QLLT            | TKASDQ..     | TAA.HDETE  | EEP.DLL                 | .....   | 349 |
| NTDB id 1074 ABD1 RS10195 WP 000344167.1    | NKIGQG  | KNNVIRYFEEN   | NQIAEEI      | ERNIRE      | QLLT            | TGTNG..      | AVQ.I.ED   | EEP.DLL                 | .....   | 349 |
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