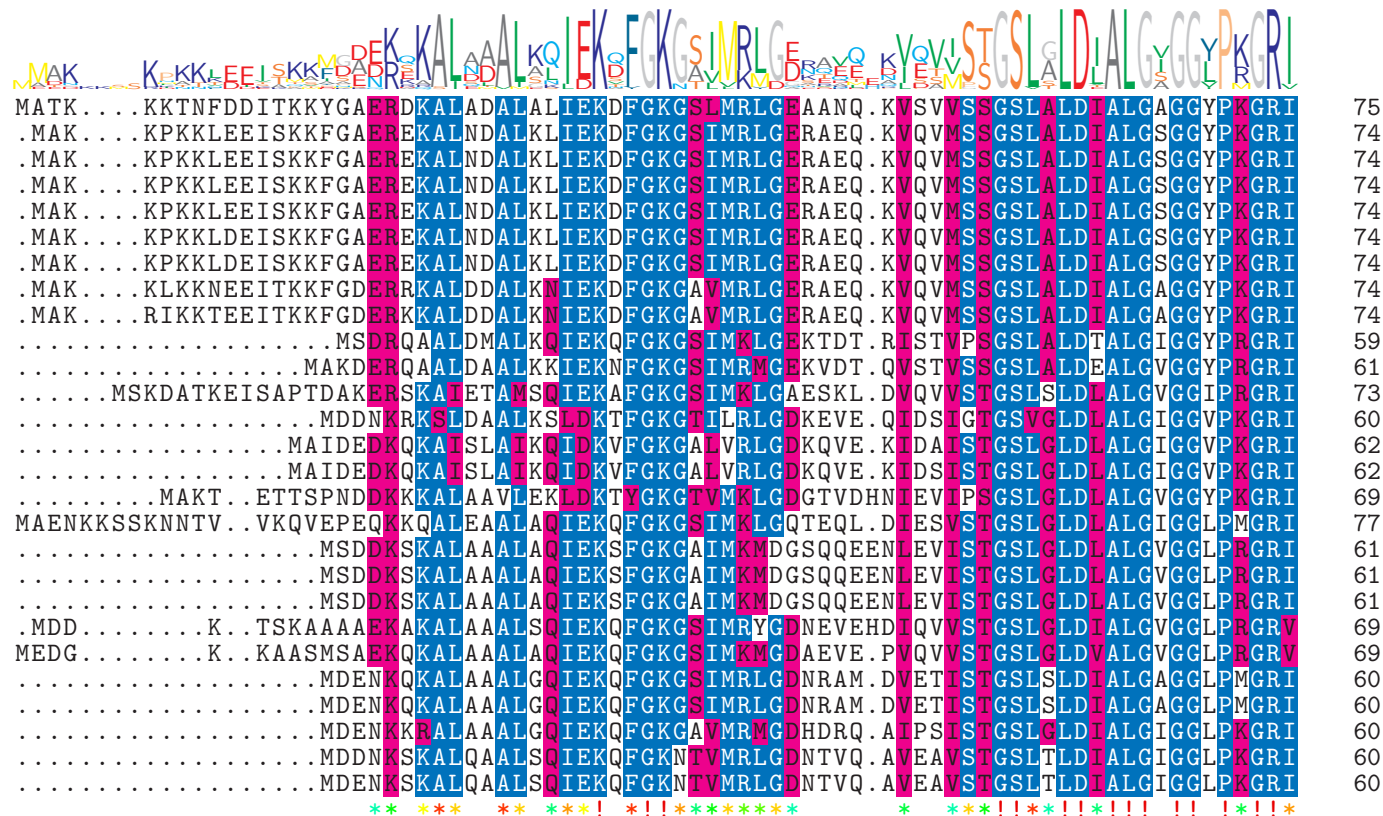


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NTDB id 527 SMSK321 RS11065 WP 001085454.1
NTDB id 499 SM12261 RS08315 WP 078228268.1
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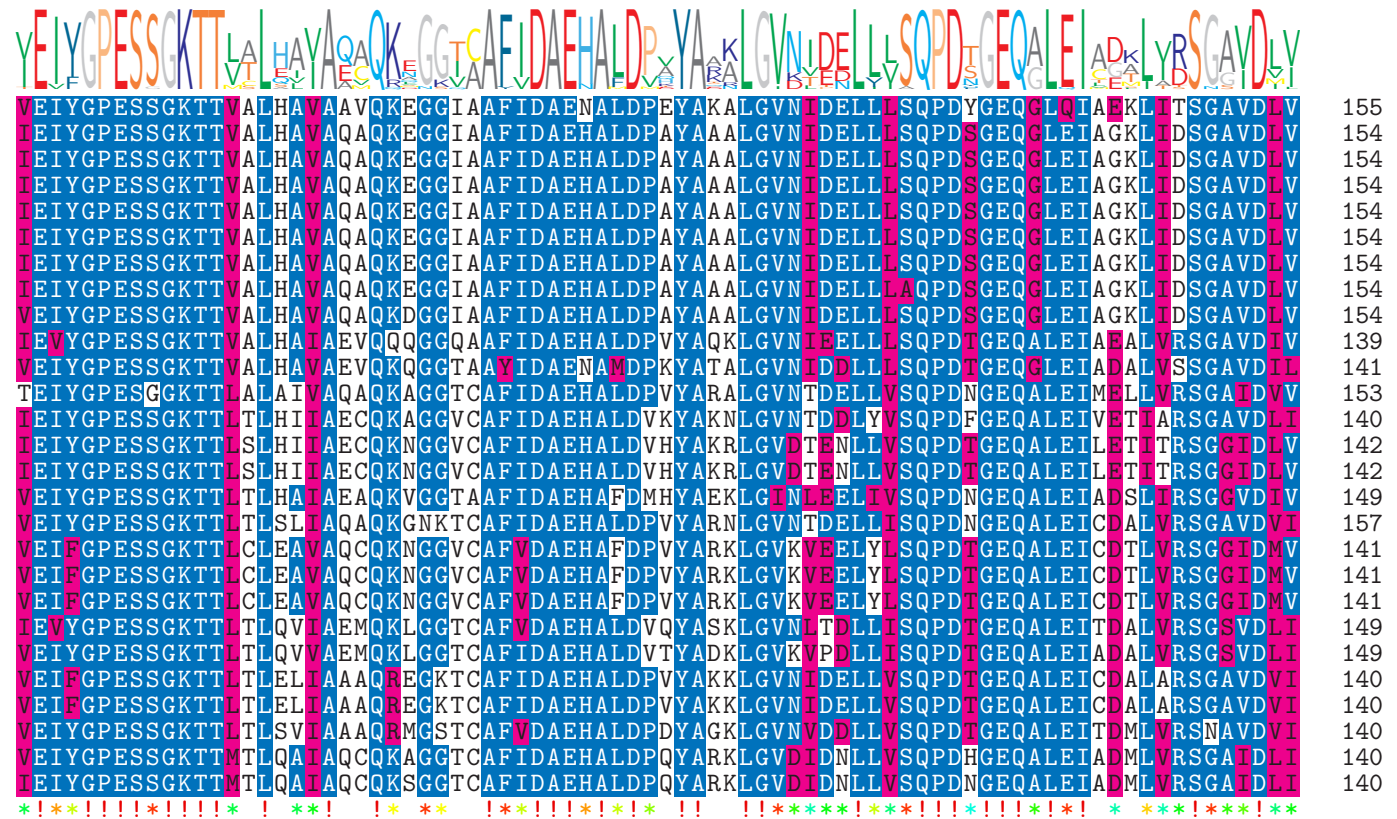
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NTDB id 1074 ABD1 RS10195 WP 000344167.1
consensus

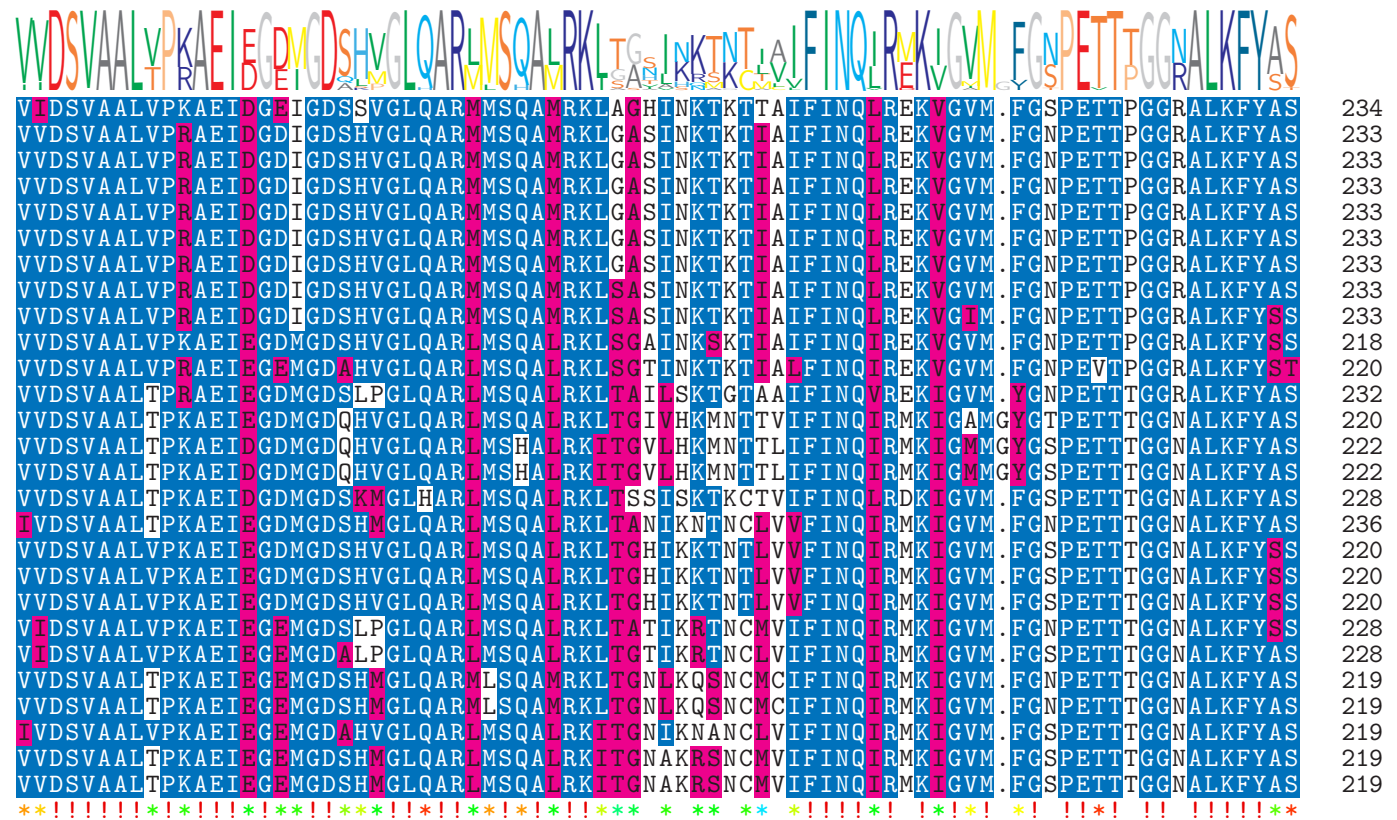
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NTDB id 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1074 ABD1 RS10195 WP 000344167.1
consensus

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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 |     |   |   |   |     |     |     |
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| 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 |     |   |   |   |     |     |     |
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| 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 151697 ADU67 RS06645 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..        | TEEET                   | ASKTKAKAKKEEKAVETEEIELELED.... | 387 |
| NTDB id 269 KZH43 RS08665 WP 001085462.1    | EKIGQGS     | ENAKKYLAEHPEIF    | DEIDKQVRSKFGL      | IDGEEVSE..        | QDTENKKDE....           | PKKEEA..VNEEVPLDLGDELEI        | 384 |
| NTDB id 228 SPD RS09265 WP 001085462.1      | EKIGQGS     | ENAKKYLAEHPEIF    | DEIDKQVRSKFGL      | IDGEEVSE..        | QDTENKKDE....           | PKKEEA..VNEEVPLDLGDELEI        | 384 |
| NTDB id 194 SPR RS08825 WP 001085462.1      | EKIGQGS     | ENAKKYLAEHPEIF    | DEIDKQVRSKFGL      | IDGEEVSE..        | QDTENKKDE....           | PKKEEA..VNEEVPLDLGDELEI        | 384 |
| NTDB id 159 SP RS09750 WP 001085462.1       | EKIGQGS     | ENAKKYLAEHPEIF    | DEIDKQVRSKFGL      | IDGEEVSE..        | QDTENKKDE....           | PKKEEA..VNEEVPLDLGDELEI        | 384 |
| NTDB id 527 SMSK321 RS11065 WP 001085454.1  | EKIGQGS     | ENAKKYLADNPEVFAE  | IDHQVRVQFGL        | IDGEEAAE.....     | SKKDE....               | VAQVDS..VNEEVTLDLGDELEI        | 380 |
| NTDB id 499 SM12261 RS08315 WP 078228268.1  | EKIGQGS     | ENAKKYLADNPEIF    | DEIDHQVRVQFGL      | IDGEEIAE.....     | SKKDE....               | AAQVDS..VNEEVTLDLGDELEI        | 380 |
| NTDB id 453 Spy49 1753c ACI62003.1          | EKIGQGS     | ENAKRYLADHPQLF    | DEIDRKVRVKFGL      | LEESEEEES..       | AMAVASE.....            | E.....TDDLALDLNNGIEI           | 376 |
| NTDB id 408 SMU RS09530 WP 002262392.1      | EKIGQGS     | ENAKKFLADNPEIF    | DDIDHKVRVQYGL      | IEEDNTEE..        | KQSSKEK.....            | ETDEK..ADKNLVLELDDTIEL         | 381 |
| NTDB id 115 BSU 16940 NP 389576.2           | ERLGGG      | RENAKQFLKENKDIMLM | IQEQIREHYGL        | DNNGVVQQ..        | QAEETQEEL               | EFE.E.....                     | 348 |
| NTDB id 625 LCA RS02525 WP 011374196.1      | ERIGQG      | RENAKNYLADHEDVE   | DEVRLKVRAAYG       | ISDVPEEDL..       | PTTEDE.QI.NILPDDST..... | EE.....                        | 355 |
| NTDB id 1313 DR RS12030 WP 010888966.1      | ERIGQG      | KEKTIAIYTAERP     | EMEQEIRDRVMAA      | IRAGNAGEAPALAPAPA | AAPEAA.EA.....          |                                | 363 |
| NTDB id 1245 Cj1673c YP 002345041.1         | KKLGGG      | RENSKAFLKENPEIA   | DEITKAIQNSMG       | IEGMIS..          | GSE....DDEGE.E.....     |                                | 343 |
| NTDB id 1214 NCTC11637 00359 SQJ03206.1     | KKLGGG      | RENAKALLKEDKAL    | ADEITLKIKESIGS     | NEEIM..           | PLP...DEPLE.EME.....    |                                | 347 |
| NTDB id 1211 C694 RS00795 WP 000963128.1    | KKLGGG      | RENAKALLKEDKAL    | ADEITLKIKESIGS     | NEEIM..           | PLP...DEPLE.EME.....    |                                | 347 |
| NTDB id 1334 RAOC RS04870 WP 004918236.1    | TKLGGG      | RDTVKELIKDNPELA   | ELEAKIREKLQAK..... |                   |                         |                                | 343 |
| NTDB id 1389 A4U84 RS07560 WP 021112712.1   | TKIGQG      | KNNAVKWLKENPEIA   | DKLEQEIRNTLAS      | NPNSV..           | LKATASDSNDES            | DVEEF.....SEEL.....            | 372 |
| NTDB id 1130 NGFG RS03960 WP 003688695.1    | AKIGQG      | KDNVRVWLKENPEIS   | DEIDAKIRALNGV      | EMHIT..E.....     | GTQDE.TDGER.....        | PEE.....                       | 348 |
| NTDB id 1124 NGFG RS03960 WP 003688695.1    | AKIGQG      | KDNVRVWLKENPEIS   | DEIDAKIRALNGV      | EMHIT..E.....     | GTQDE.TDGER.....        | PEE.....                       | 348 |
| NTDB id 1123 OK783 RS03845 WP 003688695.1   | AKIGQG      | KDNVRVWLKENPEIS   | DEIDAKIRALNGV      | EMHIT..E.....     | GTQDE.TDGER.....        | PEE.....                       | 348 |
| NTDB id 151697 ADU67 RS06645 WP 003812760.1 | NRIGQG      | KDNVREYLKEHKEM    | AIIEIENKVREN       | QIVSRAA..         | T.FPASEAEDGE.....       |                                | 353 |
| NTDB id 1427 RS RS02760 WP 011000510.1      | ERIGQG      | RDNCRFLRENAEL     | AREIENKVREHLG      | VTPMGA..          | V.TLAEVEED.....         |                                | 352 |
| NTDB id 1165 A1552VC RS01565 WP 000344154.1 | DKIGQG      | KANACKYLLKENPEIA  | KTLDKKLREMLLN      | PENMQ..           | LIAETSSAADDV            | EFGAV.....PEEF.....            | 354 |
| NTDB id 1142 GTF74 RS11550 WP 000344154.1   | DKIGQG      | KANACKYLLKENPEIA  | KTLDKKLREMLLN      | PENMQ..           | LIAETSSAADDV            | EFGAV.....PEEF.....            | 354 |
| NTDB id 1205 PSJM300 05545 AFN77183.1       | SKIGQG      | KANAAYLEENPEIG    | QIEQQIRAKLL        | VSANT..           | KATPVAEDLADA            | DI.....                        | 347 |
| NTDB id 1022 ACIAD RS06390 WP 004925639.1   | NKIGQG      | KNNVIRYLEENPQI    | STEIEAVIREQLL      | TKASDQ..          | TAA.HDETEEEP            | DLL.....ES.....                | 349 |
| NTDB id 1074 ABD1 RS10195 WP 000344167.1    | NKIGQG      | KNNVIRYFEENNQIA   | EIEIRNIREQLL       | TTGTNG..          | AVQ.I.EDEEEP            | DLL.....LES.....               | 349 |
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