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NTDB id 600 KW2 RS01765 WP 011675413.1
NTDB id 269 KZH43 RS08665 WP 001085462.1
NTDB id 228 SPD RS09265 WP 001085462.1
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NTDB id 408 SMU RS09530 WP 002262392.1
NTDB id 115 BSU 16940 NP 389576.2
NTDB id 625 LCA RS02525 WP 011374196.1
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NTDB id 1211 C694 RS00795 WP 000963128.1
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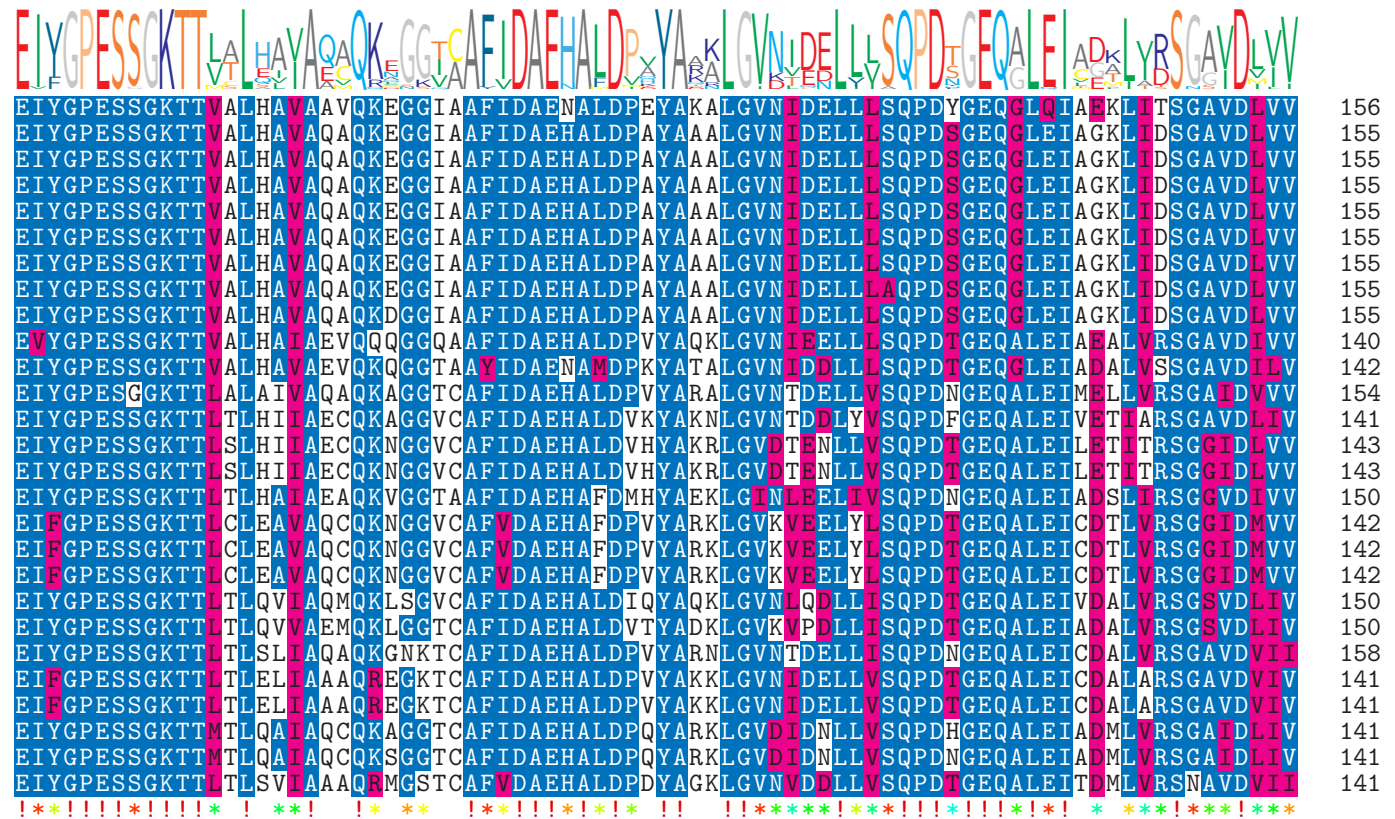
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|           | MAKKPK  | KL         | EEISKKFGA | EREKALND       | ALKLIEKD       | FGKGSIMRLGERAE | QKVQVMS   | SGSLALD   | IALGAGGYP | KGRI      |      |    |
|-----------|---------|------------|-----------|----------------|----------------|----------------|-----------|-----------|-----------|-----------|------|----|
| MATKKKT   | .NF     | .DDITKKYGA | ERDKALAD  | ALALIEKD       | FGKGSIMRLGERAE | QKVQVMS        | SGSLALD   | IALGAGGYP | KGRI      | 76        |      |    |
| .MAKKPK   | .KL     | .EEISKKFGA | EREKALND  | ALKLIEKD       | FGKGSIMRLGERAE | QKVQVMS        | SGSLALD   | IALGAGGYP | KGRI      | 75        |      |    |
| .MAKKPK   | .KL     | .EEISKKFGA | EREKALND  | ALKLIEKD       | FGKGSIMRLGERAE | QKVQVMS        | SGSLALD   | IALGAGGYP | KGRI      | 75        |      |    |
| .MAKKPK   | .KL     | .EEISKKFGA | EREKALND  | ALKLIEKD       | FGKGSIMRLGERAE | QKVQVMS        | SGSLALD   | IALGAGGYP | KGRI      | 75        |      |    |
| .MAKKPK   | .KL     | .EEISKKFGA | EREKALND  | ALKLIEKD       | FGKGSIMRLGERAE | QKVQVMS        | SGSLALD   | IALGAGGYP | KGRI      | 75        |      |    |
| .MAKKPK   | .KL     | .DEISKKFGA | EREKALND  | ALKLIEKD       | FGKGSIMRLGERAE | QKVQVMS        | SGSLALD   | IALGAGGYP | KGRI      | 75        |      |    |
| .MAKKPK   | .KL     | .DEISKKFGA | EREKALND  | ALKLIEKD       | FGKGSIMRLGERAE | QKVQVMS        | SGSLALD   | IALGAGGYP | KGRI      | 75        |      |    |
| .MAKKPK   | .KL     | .DEISKKFGA | EREKALND  | ALKLIEKD       | FGKGSIMRLGERAE | QKVQVMS        | SGSLALD   | IALGAGGYP | KGRI      | 75        |      |    |
| .MAKKLK   | .KN     | .EEITKKFGD | ERRKALDD  | ALKNIEKD       | FGKGAVMRLGERAE | QKVQVMS        | SGSLALD   | IALGAGGYP | KGRI      | 75        |      |    |
| .MAKRIK   | .KT     | .EEITKKFGD | ERRKALDD  | ALKNIEKD       | FGKGAVMRLGERAE | QKVQVMS        | SGSLALD   | IALGAGGYP | KGRI      | 75        |      |    |
| .....     | MS      | DRQAALDM   | ALKQIEKQ  | FGKGSIMRLGEKTD | TRISTVPS       | SGSLALD        | IALGAGGYP | KGRI      | 60        |           |      |    |
| .....     | MAKD    | ERQAALDA   | ALKKIEKN  | FGKGSIMRLGEKVD | TQVSTVSS       | SGSLALD        | IALGAGGYP | KGRI      | 62        |           |      |    |
| .MSKD     | ....    | ATKEISAPTD | AKERSKAT  | ETAMSLQIEKA    | FGKGSIMRLGAESK | LDVQVST        | SGSLALD   | IALGAGGYP | KGRI      | 74        |      |    |
| .....     | MDDN    | KRKS       | LDAAALSK  | LDKT           | FGKGTILRLGDKV  | EKIDS          | ISTGSLGLD | IALGAGGYP | KGRI      | 61        |      |    |
| .....     | MAIDE   | DKQK       | KAISLA    | IKQIDKV        | FGKGAIVRLGDKV  | EKIDS          | ISTGSLGLD | IALGAGGYP | KGRI      | 63        |      |    |
| .....     | MAIDE   | DKQK       | KAISLA    | IKQIDKV        | FGKGAIVRLGDKV  | EKIDS          | ISTGSLGLD | IALGAGGYP | KGRI      | 63        |      |    |
| .....     | MAKTETT | SPND       | DKK       | KALAAVLEK      | LDKT           | YGKGTIVMLG     | GDVTDHNT  | IEV       | IPSGSLGLD | IALGAGGYP | KGRI | 70 |
| .....     | MSD     | DKS        | KALAAAL   | LAQIEKS        | FGKGAIVMLG     | GDVTDHNT       | IEV       | IPSGSLGLD | IALGAGGYP | KGRI      | 70   |    |
| .....     | MSD     | DKS        | KALAAAL   | LAQIEKS        | FGKGAIVMLG     | GDVTDHNT       | IEV       | IPSGSLGLD | IALGAGGYP | KGRI      | 70   |    |
| .....     | MSD     | DKS        | KALAAAL   | LAQIEKS        | FGKGAIVMLG     | GDVTDHNT       | IEV       | IPSGSLGLD | IALGAGGYP | KGRI      | 70   |    |
| .....     | MEATAKS | SALSG      | EKAKALQ   | VALAQIEKQ      | FGKGSIMRLGE    | GEVIED         | IQVST     | SGSLGLD   | IALGAGGYP | KGRI      | 70   |    |
| .....     | MEDGKKA | ASMSA      | EKQK      | KALAAAL        | LAQIEKQ        | FGKGSIMRLGE    | GEVIED    | IQVST     | SGSLGLD   | IALGAGGYP | KGRI | 70 |
| .MAENKKSS | NNNTVV  | KQVEP      | EQKQ      | QALEAAL        | LAQIEKQ        | FGKGSIMRLGE    | GEVIED    | IQVST     | SGSLGLD   | IALGAGGYP | KGRI | 78 |
| .....     | MDEN    | KQK        | KALAAAL   | LGQIEKQ        | FGKGSIMRLGNRA  | MDVET          | ISTGSLGLD | IALGAGGYP | KGRI      | 61        |      |    |
| .....     | MDEN    | KQK        | KALAAAL   | LGQIEKQ        | FGKGSIMRLGNRA  | MDVET          | ISTGSLGLD | IALGAGGYP | KGRI      | 61        |      |    |
| .....     | MDDN    | KSKAL      | QAALS     | QIEKQ          | FGKNTIVMLG     | DNNTV          | QAVEAV    | STGSLTLD  | IALGAGGYP | KGRI      | 61   |    |
| .....     | MDEN    | KSKAL      | QAALS     | QIEKQ          | FGKNTIVMLG     | DNNTV          | QAVEAV    | STGSLTLD  | IALGAGGYP | KGRI      | 61   |    |
| .....     | MDEN    | KKR        | KALAAAL   | LGQIEKQ        | FGKGAIVMLG     | MDHNR          | QAIPST    | ISTGSLGLD | IALGAGGYP | KGRI      | 61   |    |

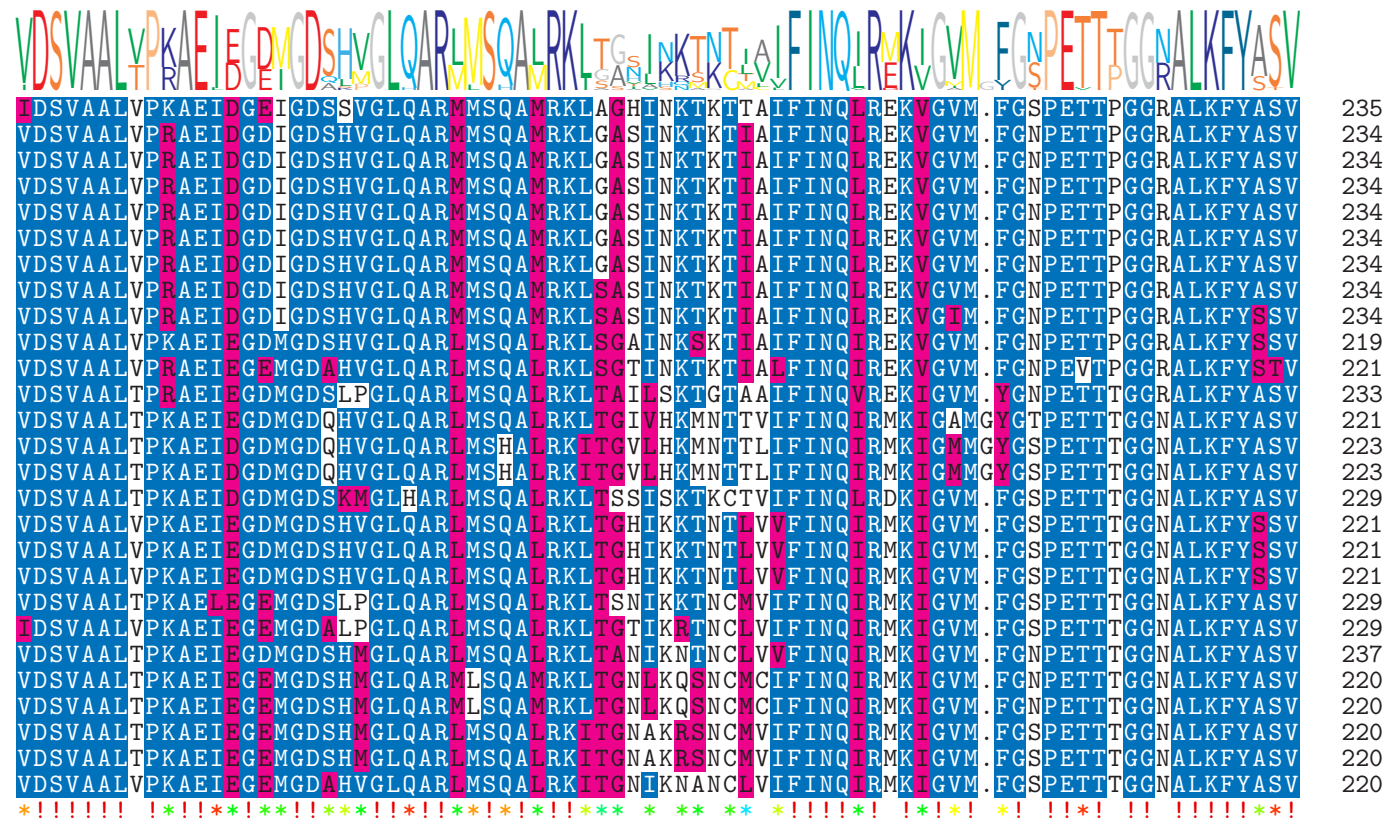
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consensus

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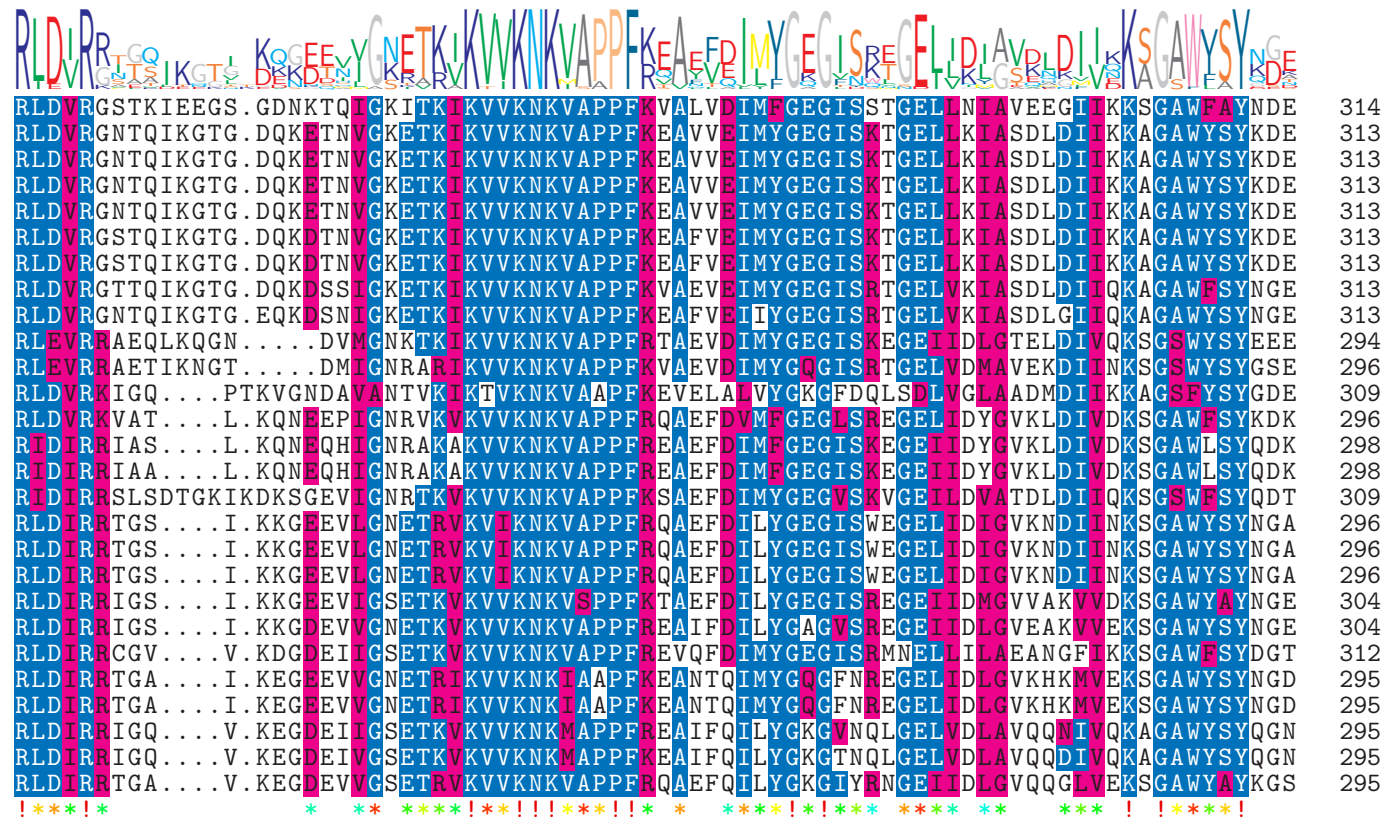
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consensus



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NTDB id 1205 PSJM300 05545 AFN77183.1
consensus

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|                                             |        |                   |                |                                                 |                                   |     |   |
|---------------------------------------------|--------|-------------------|----------------|-------------------------------------------------|-----------------------------------|-----|---|
| NTDB id 600 KW2 RS01765 WP 011675413.1      | KIGQGA | EKAKNYLKEHQDV     | DEIDHKVRAAHG   | LDDSEVAETEEETT                                  | .ASKTKAKAKKEEKAVETEEIELELED.....  | 387 |   |
| NTDB id 269 KZH43 RS08665 WP 001085462.1    | KIGQGS | ENAKKYLAEHPEIF    | DEIDKQVRSKFGL  | IDGEEVSEQDTENK                                  | .KDE....PKKEEA..VNEEVPLDLGDELEIEI | 386 |   |
| NTDB id 228 SPD RS09265 WP 001085462.1      | KIGQGS | ENAKKYLAEHPEIF    | DEIDKQVRSKFGL  | IDGEEVSEQDTENK                                  | .KDE....PKKEEA..VNEEVPLDLGDELEIEI | 386 |   |
| NTDB id 194 SPR RS08825 WP 001085462.1      | KIGQGS | ENAKKYLAEHPEIF    | DEIDKQVRSKFGL  | IDGEEVSEQDTENK                                  | .KDE....PKKEEA..VNEEVPLDLGDELEIEI | 386 |   |
| NTDB id 159 SP RS09750 WP 001085462.1       | KIGQGS | ENAKKYLAEHPEIF    | DEIDKQVRSKFGL  | IDGEEVSEQDTENK                                  | .KDE....PKKEEA..VNEEVPLDLGDELEIEI | 386 |   |
| NTDB id 499 SM12261 RS08315 WP 078228268.1  | KIGQGS | ENAKKYLADNPEIF    | DEIDHQVRVQFGL  | IDGEEIAES....K.KDE....AAQVDS..VNEEVTLDLGDELEIEI |                                   | 382 |   |
| NTDB id 527 SMSK321 RS11065 WP 001085454.1  | KIGQGS | ENAKKYLADNPEVFAE  | IDHQVRVQFGL    | IDGEEAAES....K.KDE....VAQVDS..VNEEVTLDLGDELEIEI |                                   | 382 |   |
| NTDB id 453 Spy49 1753c ACI62003.1          | KIGQGS | ENAKRYLADHPQLF    | DEIDRKVRVKFGL  | LEESEEEESAMAVAS                                 | .E.....E.....TDDLALDLNGIEIED      | 378 |   |
| NTDB id 408 SMU RS09530 WP 002262392.1      | KIGQGS | ENAKKFLADNPEIF    | DDIDHKVRVQYGL  | IEEDNTEEKQSSKE                                  | .K.....ETDEK..ADKNLVLELDDTIELED   | 383 |   |
| NTDB id 115 BSU 16940 NP 389576.2           | RLGQGR | ENAKQFLKENKDIMLMI | QEQIREHYGL     | DNNGVVQQAEETQ                                   | .EEL.EFE.E.....                   | 348 |   |
| NTDB id 625 LCA RS02525 WP 011374196.1      | RIGQGR | ENAKNYLADHEDVE    | DEVRLKVRVQYGL  | ISDVPEEDLPTTEDE                                 | ..QI.NILPDDST.....EE.....         | 355 |   |
| NTDB id 1313 DR RS12030 WP 010888966.1      | RIGQGK | EKTIAIYTAERP      | EMEQEIRDRVMAA  | IRAGNAGEAPALAPAPA                               | APAEAAEA.....                     | 363 |   |
| NTDB id 1245 Cj1673c YP 002345041.1         | KLGGGR | ENSKAFLKENPEIA    | DEITKAIQNSMG   | IEGMIS..GSEDDEGEE                               | .....                             | 343 |   |
| NTDB id 1211 C694 RS00795 WP 000963128.1    | KLGGGR | ENAKALLKEDKAL     | ADEITLKI       | KESIGSNEEIM..PLPDEPLEEME                        | .....                             | 347 |   |
| NTDB id 1214 NCTC11637 00359 SQJ03206.1     | KLGGGR | ENAKALLKEDKAL     | ADEITLKI       | KESIGSNEEIM..PLPDEPLEEME                        | .....                             | 347 |   |
| NTDB id 1334 RAOC RS04870 WP 004918236.1    | KLGGGR | DTVKELIKDNPELA    | EELEAKIREKLQAK | .....                                           |                                   | 343 |   |
| NTDB id 1130 NGFG RS03960 WP 003688695.1    | KIGQGD | NVRVWLKENPEIS     | DEIDAKIRALNG   | VEMHIT..EGTQDET                                 | DGERP.....EE.....                 | 348 |   |
| NTDB id 1124 NGFG RS03960 WP 003688695.1    | KIGQGD | NVRVWLKENPEIS     | DEIDAKIRALNG   | VEMHIT..EGTQDET                                 | DGERP.....EE.....                 | 348 |   |
| NTDB id 1123 OK783 RS03845 WP 003688695.1   | KIGQGD | NVRVWLKENPEIS     | DEIDAKIRALNG   | VEMHIT..EGTQDET                                 | DGERP.....EE.....                 | 348 |   |
| NTDB id 30433 LCHO RS02510 WP 012345534.1   | KIGQGD | NCREFLRENPA       | LAHEIENKIRESLG | ISLLPP..QNGAAAAAPAA                             | .....                             | 353 |   |
| NTDB id 1427 RS RS02760 WP 011000510.1      | RIGQGR | DNCREFLRENAEL     | AREIENKVREHL   | GVTMPGA..VTLAEEVEED                             | .....                             | 352 |   |
| NTDB id 1389 A4U84 RS07560 WP 021112712.1   | KIGQGN | NAVKWLKENPEIA     | DKLEQEI        | RNTLASNPNSV..LKATASDSN                          | DESVDVEE.....FSEEEEL.....         | 372 |   |
| NTDB id 1165 A1552VC RS01565 WP 000344154.1 | KIGQGN | ANACKYLVKENPEI    | AKTLDKKLREMLLN | PENMQ..LIAETSSAAD                               | DVEFGA.....VPEEF.....             | 354 |   |
| NTDB id 1142 GTF74 RS11550 WP 000344154.1   | KIGQGN | ANACKYLVKENPEI    | AKTLDKKLREMLLN | PENMQ..LIAETSSAAD                               | DVEFGA.....VPEEF.....             | 354 |   |
| NTDB id 1022 ACIAD RS06390 WP 004925639.1   | KIGQGN | NVIRYLEENPQIS     | TEIEAVIREQLLT  | KASDQ..TAA.HDETEE                               | EPDLL.....ES.....                 | 349 |   |
| NTDB id 1074 ABD1 RS10195 WP 000344167.1    | KIGQGN | NVIRYFEENNQIA     | EEIERNIREQLLT  | TGTNG..AVQ.I.EDEE                               | EPDLL.....LES.....                | 349 |   |
| NTDB id 1205 PSJM300 05545 AFN77183.1       | KIGQGN | ANAACKYLEENPEI    | GQIEEQIRAKLL   | VTSANT..KATPVAED                                | LADADI.....                       | 347 |   |
| consensus                                   | **!!!  | *****             | **             | *****                                           | *****                             | **  | * |

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|                                             |    |     |
|---------------------------------------------|----|-----|
| NTDB id 600 KW2 RS01765 WP 011675413.1      | .. | 387 |
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consensus

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 similar  
 ≥ 50% conserved