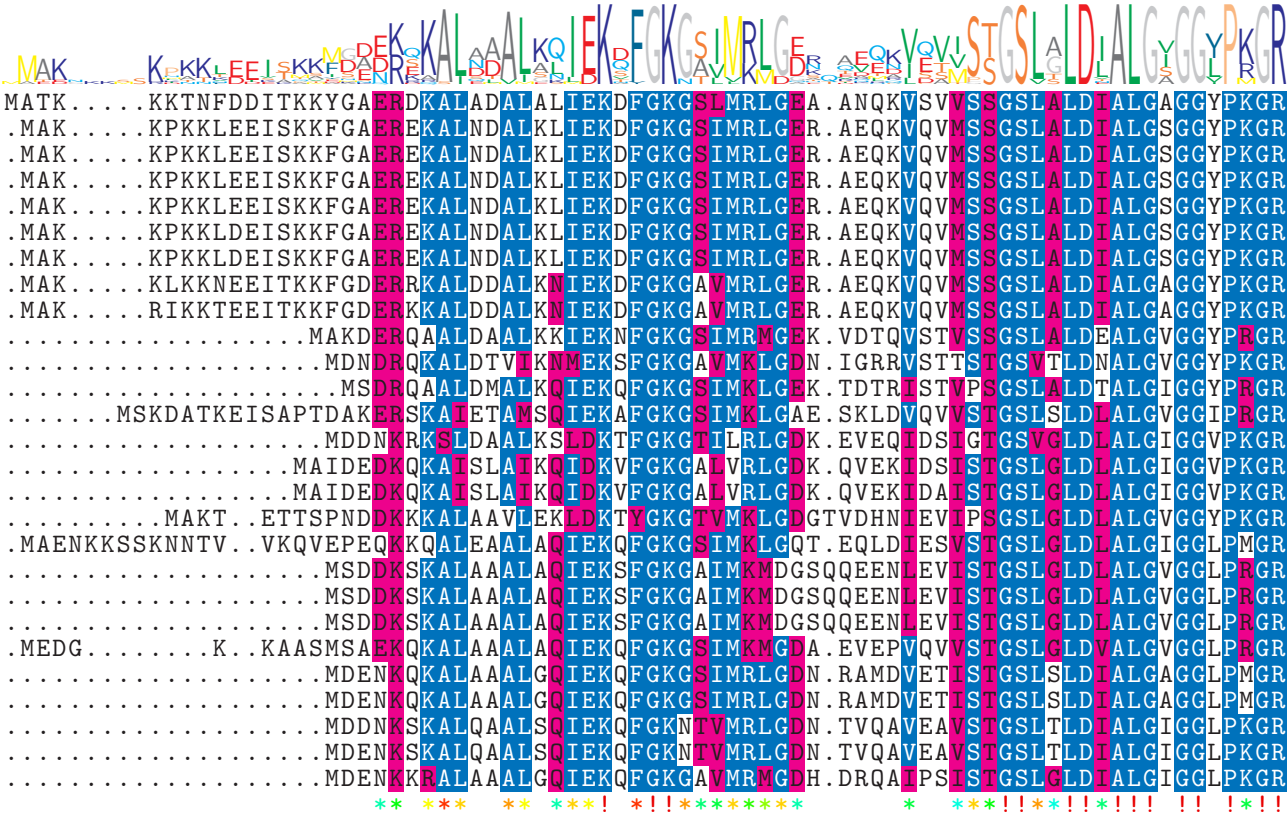


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NTDB id 973285 UXQ34 RS06380 WP 000368166.1  
NTDB id 115 BSU 16940 NP 389576.2  
NTDB id 1313 DR RS12030 WP 010888966.1  
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consensus

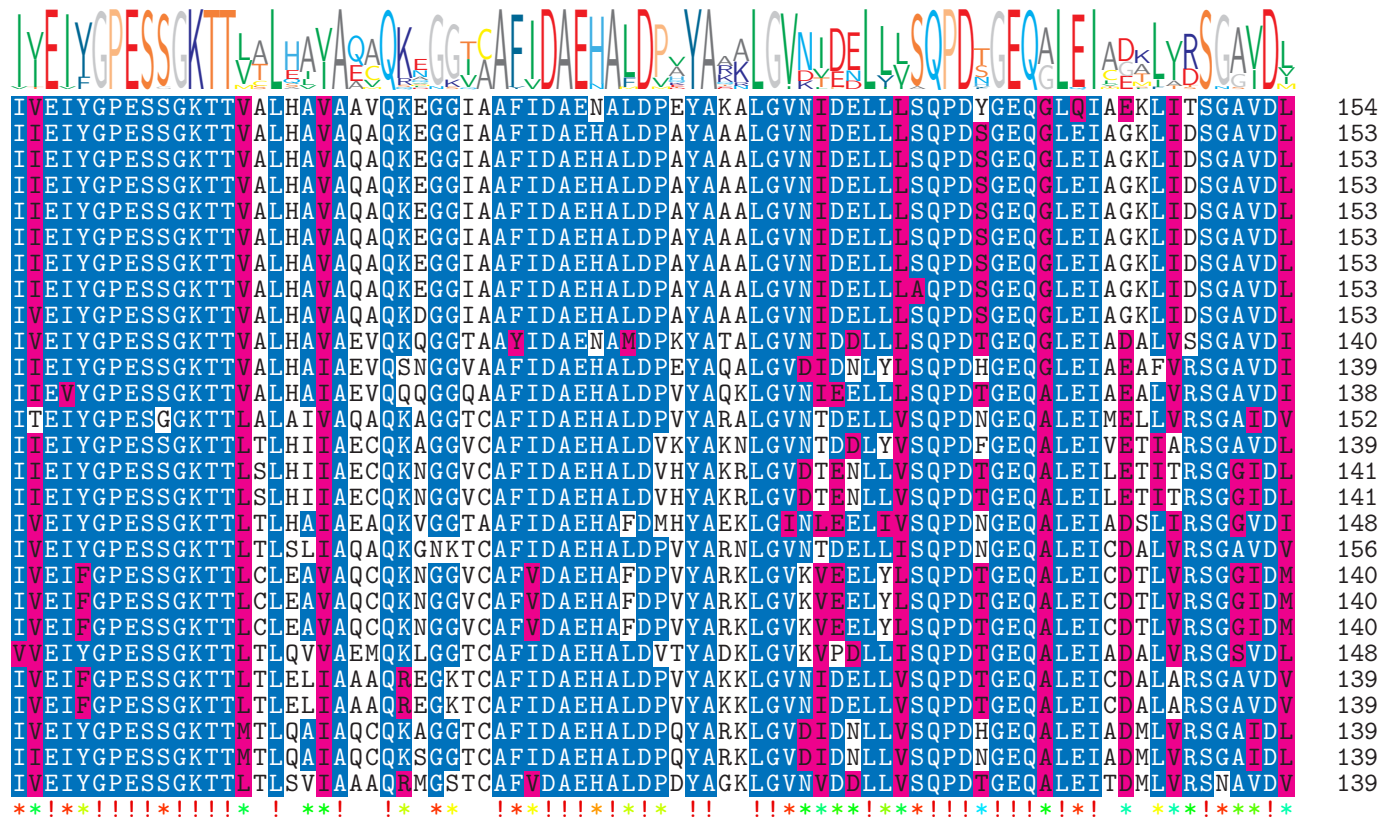


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NTDB id 600 KW2 RS01765 WP 011675413.1
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consensus

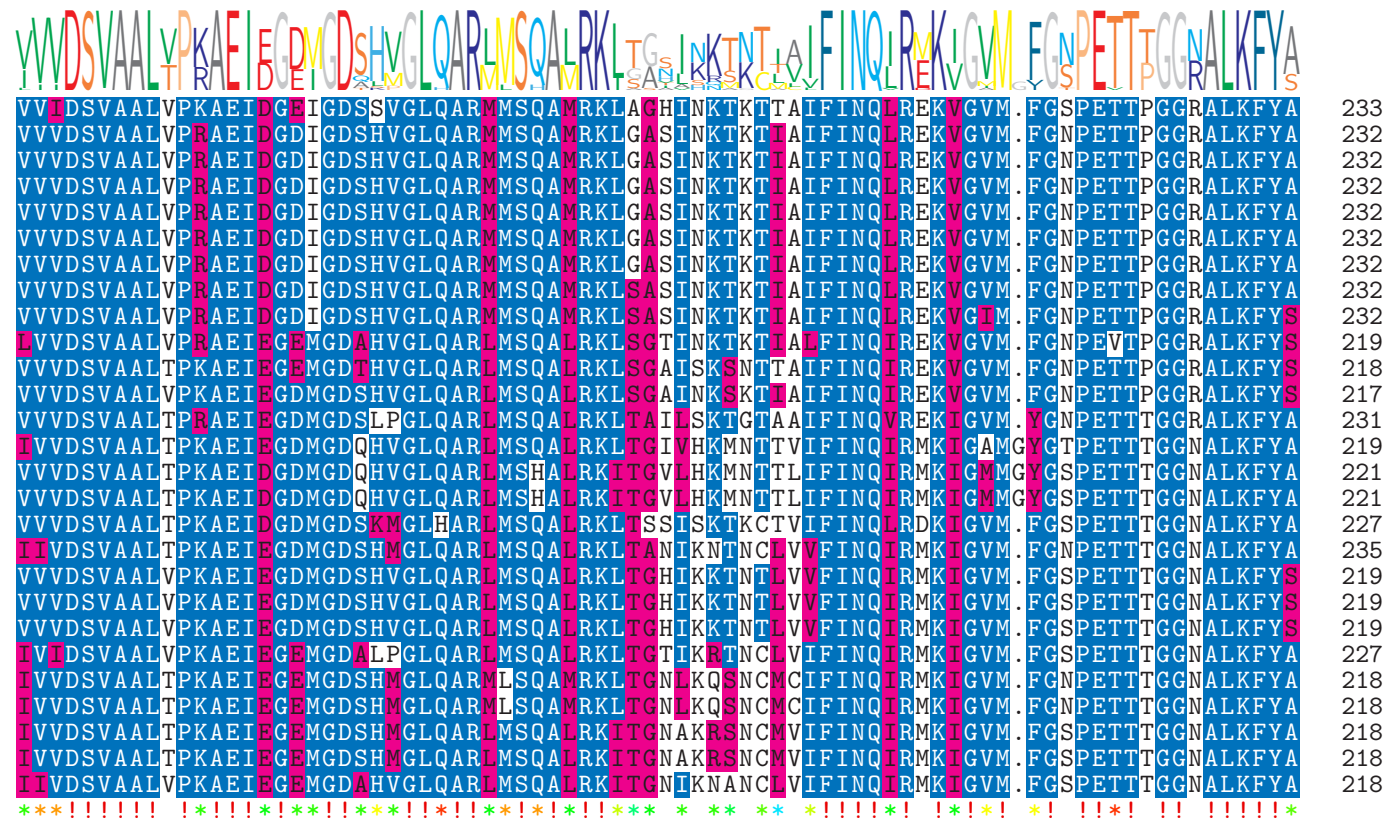
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consensus

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| NTDB id 600 KW2 RS01765 WP 011675413.1      | SVRLDVRGSTKIEEGS.GDNKTQIGKITKIKVVKNKVAPPFKEAVALVDIMFGEGISSTGELINIAVEEGITIKKSGAWFAYN | 312 |
| NTDB id 269 KZH43 RS08665 WP 001085462.1    | SVRLDVRGNTQIKGTG.DQKETNVGKETKIKVVKNKVAPPFKEAVVEIMYEGEGISKTGELLKIASDLDIKKAGAWYSYK    | 311 |
| NTDB id 228 SPD RS09265 WP 001085462.1      | SVRLDVRGNTQIKGTG.DQKETNVGKETKIKVVKNKVAPPFKEAVVEIMYEGEGISKTGELLKIASDLDIKKAGAWYSYK    | 311 |
| NTDB id 194 SPR RS08825 WP 001085462.1      | SVRLDVRGNTQIKGTG.DQKETNVGKETKIKVVKNKVAPPFKEAVVEIMYEGEGISKTGELLKIASDLDIKKAGAWYSYK    | 311 |
| NTDB id 159 SP RS09750 WP 001085462.1       | SVRLDVRGNTQIKGTG.DQKETNVGKETKIKVVKNKVAPPFKEAVVEIMYEGEGISKTGELLKIASDLDIKKAGAWYSYK    | 311 |
| NTDB id 499 SM12261 RS08315 WP 078228268.1  | SVRLDVRGSTQIKGTG.DQKDTNVGKETKIKVVKNKVAPPFKEAFVEIMYEGEGISKTGELLKIASDLDIKKAGAWYSYK    | 311 |
| NTDB id 527 SMSK321 RS11065 WP 001085454.1  | SVRLDVRGSTQIKGTG.DQKDTNVGKETKIKVVKNKVAPPFKEAFVEIMYEGEGISKTGELLKIASDLDIKKAGAWYSYK    | 311 |
| NTDB id 453 Spy49 1753c ACI62003.1          | SVRLDVRGTTQIKGTG.DQKDSIGKETKIKVVKNKVAPPFKEAEVEIMYEGEGISRTGELVKIASDLDIQKAGAWFSYN     | 311 |
| NTDB id 408 SMU RS09530 WP 002262392.1      | SVRLDVRGNTQIKGTG.EQKDSNIGKETKIKVVKNKVAPPFKEAFVEIIMYEGEGISRTGELVKIASDLGIQKAGAWYSYN   | 311 |
| NTDB id 625 LCA RS02525 WP 011374196.1      | TVRLEVRRRAETIKNGT.....DMIGNRARIKVVKNKVAPPFKEAEVDIMYGGGISRTGELVDMAVEKDIINKSGSWYSYG   | 294 |
| NTDB id 973285 UXQ34 RS06380 WP 000368166.1 | SVRLEVRRAEQLKQGQ.....EIVGNRTKIKVVKNKVAPPFRVAEVDIMYGGGISKEGELIDLGVENDIVDKSGAWYSYN    | 293 |
| NTDB id 115 BSU 16940 NP 389576.2           | SVRLEVRRAEQLKQGN.....DVMGNKTKIKVVKNKVAPPFRTAEVDIMYEGEGISKEGETIIDLGTELIDIVQKSGSWYSYE | 292 |
| NTDB id 1313 DR RS12030 WP 010888966.1      | SVRLDVRKIGQ....PTKVGNDAAVANTVKIKTVKNKVAAPFKEVELALVYGKGFQDQLSDLVGLAADMDIINKAGSFYSYG  | 307 |
| NTDB id 1245 Cj1673c YP 002345041.1         | SVRLDVRKVAT....L.KQNEEPIGNRVKVVKNKVAPPFRQAEFDVMFGEGLSREGELIDYGVKLDIVDKSGAWFSYK      | 294 |
| NTDB id 1211 C694 RS00795 WP 000963128.1    | SVRIDIRRIAS....L.KQNEQHIGNRAKAKVVKNKVAPPFREAEFDIMFGEGISKEGETIIDYGVKLDIVDKSGAWLSYQ   | 296 |
| NTDB id 1214 NCTC11637 00359 SQJ03206.1     | SVRIDIRRIAA....L.KQNEQHIGNRAKAKVVKNKVAPPFREAEFDIMFGEGISKEGETIIDYGVKLDIVDKSGAWLSYQ   | 296 |
| NTDB id 1334 RAOC RS04870 WP 004918236.1    | SVRIDIRRLSDTGKIKDKSGEVIGNRTKVVVVKNKVAPPFKSAEFDIMYEGEVSKVGEILDVATDLDIQKSGSWFSYQ      | 307 |
| NTDB id 1389 A4U84 RS07560 WP 021112712.1   | SVRLDIRRCGV....V.KDGDEIIGSETKVVVVKNKVAPPFREVFQDIMYEGEGISRMNELLILAEANGFIKKSGAWFSYD   | 310 |
| NTDB id 1130 NGFG RS03960 WP 003688695.1    | SVRLDIRRTGS....I.KKGEVVLGNETRKKVKNKVAPPFRQAEFDILYEGEGISWEGELIDIGVKNDIINKSGAWYSYN    | 294 |
| NTDB id 1124 NGFG RS03960 WP 003688695.1    | SVRLDIRRTGS....I.KKGEVVLGNETRKKVKNKVAPPFRQAEFDILYEGEGISWEGELIDIGVKNDIINKSGAWYSYN    | 294 |
| NTDB id 1123 OK783 RS03845 WP 003688695.1   | SVRLDIRRTGS....I.KKGEVVLGNETRKKVKNKVAPPFRQAEFDILYEGEGISWEGELIDIGVKNDIINKSGAWYSYN    | 294 |
| NTDB id 1427 RS RS02760 WP 011000510.1      | SVRLDIRRIGS....I.KKGEDEVGNETKVVVVKNKVAPPFREAIFFDILYGAGVSREGEIIDLGVEAKVVEKSGAWYSYN   | 302 |
| NTDB id 1165 A1552VC RS01565 WP 000344154.1 | SVRLDIRRTGA....I.KEGEEVVGNETRIKVVKNKIAAPFKEANTQIMYGGGFNREGELIDLGVKHKMVEKSGAWYSYN    | 293 |
| NTDB id 1142 GTF74 RS11550 WP 000344154.1   | SVRLDIRRTGA....I.KEGEEVVGNETRIKVVKNKIAAPFKEANTQIMYGGGFNREGELIDLGVKHKMVEKSGAWYSYN    | 293 |
| NTDB id 1022 ACIAD RS06390 WP 004925639.1   | SVRLDIRRIGQ....V.KEGDEIIGSETKVVVVKNKMAPPFREAIFFQILYGKGYNQLGELVDLAVQQNIVQKAGAWYSYQ   | 293 |
| NTDB id 1074 ABD1 RS10195 WP 000344167.1    | SVRLDIRRIGQ....V.KEGDEIIGSETKVVVVKNKMAPPFREAIFFQILYGKGYNQLGELVDLAVQQNIVQKAGAWYSYQ   | 293 |
| NTDB id 1205 PSJM300 05545 AFN77183.1       | SVRLDIRRTGA....V.KEGDEVVGSETRKKVVKNKVAPPFRQAEFFQILYGKGIIYRNGEIIDLGVQQGLVEKSGAWAYK   | 293 |
| consensus                                   | *!!**!* * ** *****!*****!!*!!*!!* * *****!*!*** ***** ** ***** ! !*****!            |     |



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|---------------------------------------------|----------|------------------|----------------|-----------------|-----------------|---------------|------|-----|
| NTDB id 600 KW2 RS01765 WP 011675413.1      | DEKIGQGA | EKAKNYLKEHQDV    | DEIDHKVRAAHG   | LDDSEVAETEEETT  | ASKTKAKAKKEEK   | AVETEEIELELED | .... | 387 |
| NTDB id 269 KZH43 RS08665 WP 001085462.1    | DEKIGQGS | ENAKKYLAEHPEIF   | DEIDKQVRSKFGL  | IDGEEVSEQDTEN   | KKDE....PKKEEA  | .VNEEVPLDLGDE | LEIE | 385 |
| NTDB id 228 SPD RS09265 WP 001085462.1      | DEKIGQGS | ENAKKYLAEHPEIF   | DEIDKQVRSKFGL  | IDGEEVSEQDTEN   | KKDE....PKKEEA  | .VNEEVPLDLGDE | LEIE | 385 |
| NTDB id 194 SPR RS08825 WP 001085462.1      | DEKIGQGS | ENAKKYLAEHPEIF   | DEIDKQVRSKFGL  | IDGEEVSEQDTEN   | KKDE....PKKEEA  | .VNEEVPLDLGDE | LEIE | 385 |
| NTDB id 159 SP RS09750 WP 001085462.1       | DEKIGQGS | ENAKKYLAEHPEIF   | DEIDKQVRSKFGL  | IDGEEVSEQDTEN   | KKDE....PKKEEA  | .VNEEVPLDLGDE | LEIE | 385 |
| NTDB id 499 SM12261 RS08315 WP 078228268.1  | DEKIGQGS | ENAKKYLAADNPEIF  | DEIDHQVRVQFGL  | IDGEEIAES....   | KKDE....AAQVDS  | .VNEEVTLDLGDE | LEIE | 381 |
| NTDB id 527 SMSK321 RS11065 WP 001085454.1  | DEKIGQGS | ENAKKYLAADNPEV   | FAEIDHQVRVQFGL | IDGEEAAES....   | KKDE....VAQVDS  | .VNEEVTLDLGDE | LEIE | 381 |
| NTDB id 453 Spy49 1753c ACI62003.1          | GEKIGQGS | ENAKRYLADHPQLF   | DEIDRKVRVKFGL  | LEESEEEESAMAV   | ASE.....E.....  | TDDLALDLNNGIE | IEIE | 377 |
| NTDB id 408 SMU RS09530 WP 002262392.1      | GEKIGQGS | ENAKKFLADNPEIF   | DDIDHKVRVQYGL  | IEEDNTEEEKQSS   | KEK.....ETDEK   | .ADKNLVLELDDT | IEIE | 382 |
| NTDB id 625 LCA RS02525 WP 011374196.1      | SERIGQGS | ENAKNYLADHEDVE   | DEVRLKVRAAYG   | ISDVPEEDLPTTE   | DEQINILPDDSTEE  | .....         |      | 355 |
| NTDB id 973285 UXQ34 RS06380 WP 000368166.1 | GERMGQGS | ENVMKMYLKENPQ    | IKKEIDRKLRKLG  | ISDGDVEETEDA    | ...PKSLFDEE     | .....         |      | 347 |
| NTDB id 115 BSU 16940 NP 389576.2           | EERLGQGS | ENAKQFLKENKDI    | MLMIQEIQREHYG  | LDNNGVVQQAEET   | QEELEFEE        | .....         |      | 348 |
| NTDB id 1313 DR RS12030 WP 010888966.1      | DERIGQGS | KEKTIAYIAERP     | EMEIEIRDRVMAA  | IRAGNAGEAPAL    | APAPAAPEAAEA    | .....         |      | 363 |
| NTDB id 1245 Cj1673c YP 002345041.1         | DKKLGQGS | ENSKAFLKENPEI    | ADEITKAIQNSMG  | IEGMI....SGSEDD | .EGEE.....      |               |      | 343 |
| NTDB id 1211 C694 RS00795 WP 000963128.1    | DKKLGQGS | ENAKALLKEDKAL    | ADEITLKIKESIG  | SNEEI....MPLPDE | .PLEEME.....    |               |      | 347 |
| NTDB id 1214 NCTC11637 00359 SQJ03206.1     | DKKLGQGS | ENAKALLKEDKAL    | ADEITLKIKESIG  | SNEEI....MPLPDE | .PLEEME.....    |               |      | 347 |
| NTDB id 1334 RAOC RS04870 WP 004918236.1    | DTKLGQGR | DTVKELIKDNPEL    | AEELEAKIREKLQ  | AK.....         |                 |               |      | 343 |
| NTDB id 1389 A4U84 RS07560 WP 021112712.1   | GTKIGQGS | KNNAVKWLKENPEI   | ADKLEQEI RNTLA | SNPNS....VLKAT  | ASDSNDESD..VEEF | SEEEL.....    |      | 372 |
| NTDB id 1130 NGFG RS03960 WP 003688695.1    | GAKIGQGS | KDNVRVWLKENPEI   | SDAIDAKIRALNG  | VEMHI....TEGTQ  | DETDGER.....PEE | .....         |      | 348 |
| NTDB id 1124 NGFG RS03960 WP 003688695.1    | GAKIGQGS | KDNVRVWLKENPEI   | SDAIDAKIRALNG  | VEMHI....TEGTQ  | DETDGER.....PEE | .....         |      | 348 |
| NTDB id 1123 OK783 RS03845 WP 003688695.1   | GAKIGQGS | KDNVRVWLKENPEI   | SDAIDAKIRALNG  | VEMHI....TEGTQ  | DETDGER.....PEE | .....         |      | 348 |
| NTDB id 1427 RS RS02760 WP 011000510.1      | GERIGQGR | DNCREFLRENAEL    | AREIENKVREHLG  | VTPMG....AVTLA  | .EEVEED.....    |               |      | 352 |
| NTDB id 1165 A1552VC RS01565 WP 000344154.1 | GDKIGQGS | KANACKY LKENPEI  | AKTLDKKLREMLLN | PENM....QLIAET  | SSAADDVE..FGAV  | PEEF.....     |      | 354 |
| NTDB id 1142 GTF74 RS11550 WP 000344154.1   | GDKIGQGS | KANACKY LKENPEI  | AKTLDKKLREMLLN | PENM....QLIAET  | SSAADDVE..FGAV  | PEEF.....     |      | 354 |
| NTDB id 1022 ACIAD RS06390 WP 004925639.1   | GNKIGQGS | KNNVIRYFEENPQ    | ISTEIEAVIREQLL | TKASD....QTAA   | .HDETEEEPD..LL  | .ES.....      |      | 349 |
| NTDB id 1074 ABD1 RS10195 WP 000344167.1    | GNKIGQGS | KNNVIRYFEENPQ    | ISTEIEAVIREQLL | TTGTN....GAVQ   | .I.EDEEEPD..LL  | .LES.....     |      | 349 |
| NTDB id 1205 PSJM300 05545 AFN77183.1       | GSKIGQGS | KANAACKY LKENPEI | IGQIEIEQIRAKLL | VTSAN....TKATP  | VAAEDLADAD..I   | .....         |      | 347 |
| consensus                                   | ***!!!   | *****            | **             | *****           | *****           | **            | **   |     |

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| NTDB id 228 SPD RS09265 WP 001085462.1      | IEE | 388 |  |
| NTDB id 194 SPR RS08825 WP 001085462.1      | IEE | 388 |  |
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| NTDB id 408 SMU RS09530 WP 002262392.1      | D.. | 383 |  |
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| NTDB id 1205 PSJM300 05545 AFN77183.1       | ... | 347 |  |
| consensus                                   |     |     |  |

- X non conserved
- X similar
- X ≥ 50% conserved