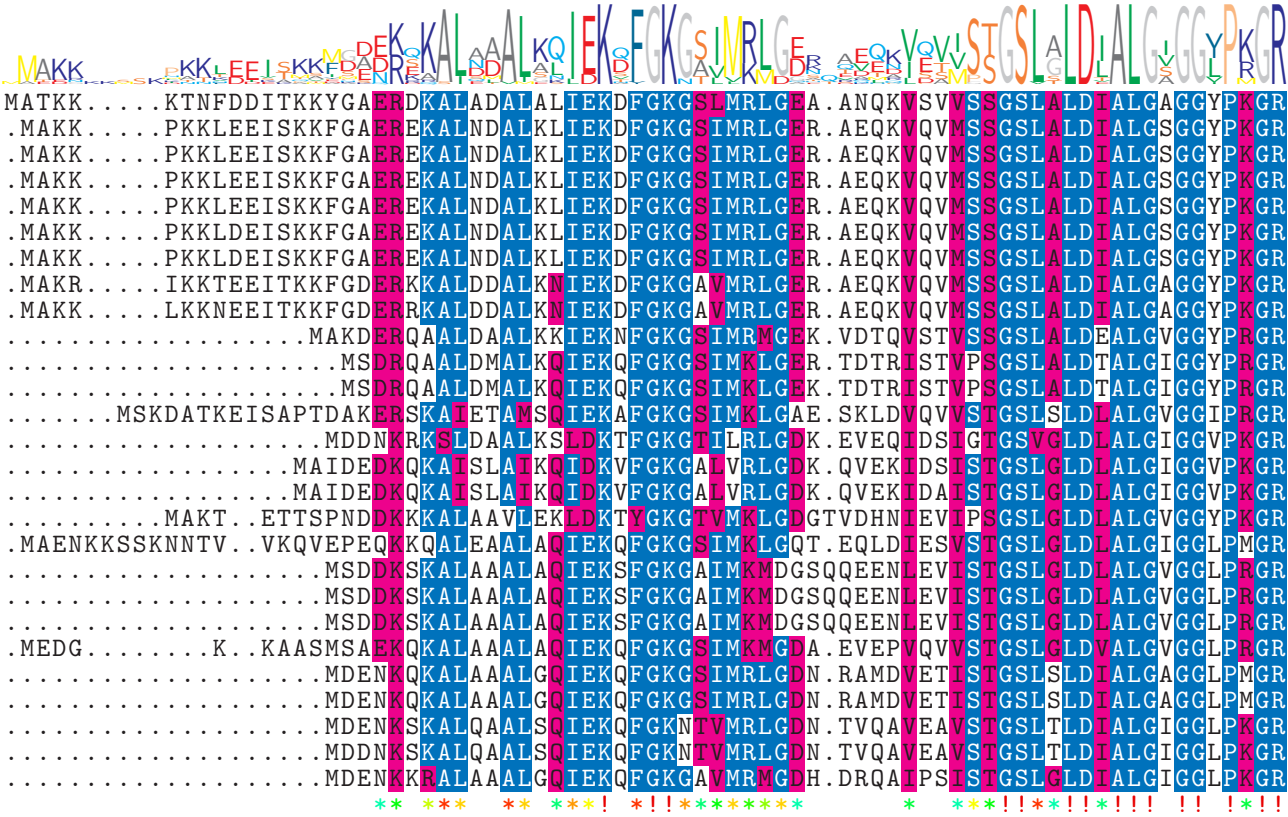


logo

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NTDB id 159 SP RS09750 WP 001085462.1  
NTDB id 499 SM12261 RS08315 WP 078228268.1  
NTDB id 527 SMSK321 RS11065 WP 001085454.1  
NTDB id 408 SMU RS09530 WP 002262392.1  
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NTDB id 1334 RAOC RS04870 WP 004918236.1  
NTDB id 1389 A4U84 RS07560 WP 021112712.1  
NTDB id 1130 NGFG RS03960 WP 003688695.1  
NTDB id 1124 NGFG RS03960 WP 003688695.1  
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NTDB id 1427 RS RS02760 WP 011000510.1  
NTDB id 1165 A1552VC RS01565 WP 000344154.1  
NTDB id 1142 GTF74 RS11550 WP 000344154.1  
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NTDB id 1022 ACIAD RS06390 WP 004925639.1  
NTDB id 1205 PSJM300 05545 AFN77183.1  
consensus



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logo

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| NTDB id 269 KZH43 RS08665 WP 001085462.1    | I | I | E | I | Y | G | P | E | S | S | G | K | T | T | V | A | L | H | A | V | A | Q | A | Q | K | E | G | G | I | A | A | F | I | D | A | E | H | A | L | D | P | A   | Y | A | A | A | L | G | V | N | I | D | E | L | L | S | Q | P | D | S | G | E | Q | G | L | E | I | A | G | K | L | I | D | S | G | A | V | D | L   | 153 |     |     |
| NTDB id 228 SPD RS09265 WP 001085462.1      | I | I | E | I | Y | G | P | E | S | S | G | K | T | T | V | A | L | H | A | V | A | Q | A | Q | K | E | G | G | I | A | A | F | I | D | A | E | H | A | L | D | P | A   | Y | A | A | A | L | G | V | N | I | D | E | L | L | S | Q | P | D | S | G | E | Q | G | L | E | I | A | G | K | L | I | D | S | G | A | V | D | L   | 153 |     |     |
| NTDB id 194 SPR RS08825 WP 001085462.1      | I | I | E | I | Y | G | P | E | S | S | G | K | T | T | V | A | L | H | A | V | A | Q | A | Q | K | E | G | G | I | A | A | F | I | D | A | E | H | A | L | D | P | A   | Y | A | A | A | L | G | V | N | I | D | E | L | L | S | Q | P | D | S | G | E | Q | G | L | E | I | A | G | K | L | I | D | S | G | A | V | D | L   | 153 |     |     |
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| NTDB id 527 SMSK321 RS11065 WP 001085454.1  | I | I | E | I | Y | G | P | E | S | S | G | K | T | T | V | A | L | H | A | V | A | Q | A | Q | K | E | G | G | I | A | A | F | I | D | A | E | H | A | L | D | P | A   | Y | A | A | A | L | G | V | N | I | D | E | L | L | S | Q | P | D | S | G | E | Q | G | L | E | I | A | G | K | L | I | D | S | G | A | V | D | L   | 153 |     |     |
| NTDB id 408 SMU RS09530 WP 002262392.1      | I | V | E | I | Y | G | P | E | S | S | G | K | T | T | V | A | L | H | A | V | A | Q | A | Q | K | D | G | G | I | A | A | F | I | D | A | E | H | A | L | D | P | A   | Y | A | A | A | L | G | V | N | I | D | E | L | L | S | Q | P | D | S | G | E | Q | G | L | E | I | A | G | K | L | I | D | S | G | A | V | D | L   | 153 |     |     |
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| NTDB id 1313 DR RS12030 WP 010888966.1      | I | T | E | I | Y | G | P | E | S | G | K | T | T | L | A | L | A | I | V | A | Q | A | Q | K | A | G | G | T | C | A | F | I | D | A | E | H | A | L | D | P | V | Y   | A | R | A | L | G | V | N | T | D | E | L | L | V | S | Q | P | D | N | G | E | Q | A | L | E | I | M | E | L | L | V | R | S | G | A | I | D | V   | 152 |     |     |
| NTDB id 1245 Cj1673c YP 002345041.1         | I | I | E | I | Y | G | P | E | S | S | G | K | T | T | L | T | L | H | I | I | A | E | C | Q | K | A | G | G | V | C | A | F | I | D | A | E | H | A | L | D | V | K   | Y | A | K | N | L | G | V | N | T | D | D | L | Y | V | S | Q | P | D | F | G | E | Q | A | L | E | I | V | E | T | I | A | R | S | G | A | V | D   | L   | 139 |     |
| NTDB id 1211 C694 RS00795 WP 000963128.1    | I | I | E | I | Y | G | P | E | S | S | G | K | T | T | L | S | L | H | I | I | A | E | C | Q | K | N | G | G | V | C | A | F | I | D | A | E | H | A | L | D | V | H   | Y | A | K | R | L | G | V | D | T | E | N | L | L | V | S | Q | P | D | T | G | E | Q | A | L | E | I | L | E | T | I | T | R | S | G | G | I | D   | L   | 141 |     |
| NTDB id 1214 NCTC11637 00359 SQJ03206.1     | I | I | E | I | Y | G | P | E | S | S | G | K | T | T | L | S | L | H | I | I | A | E | C | Q | K | N | G | G | V | C | A | F | I | D | A | E | H | A | L | D | V | H   | Y | A | K | R | L | G | V | D | T | E | N | L | L | V | S | Q | P | D | T | G | E | Q | A | L | E | I | L | E | T | I | T | R | S | G | G | I | D   | L   | 141 |     |
| NTDB id 1334 RAOC RS04870 WP 004918236.1    | I | V | E | I | Y | G | P | E | S | S | G | K | T | T | L | T | L | H | A | I | A | E | A | Q | K | V | G | G | T | A | A | F | I | D | A | E | H | A | L | D | F | M   | H | Y | A | E | K | L | G | I | N | L | E | E | L | I | V | S | Q | P | D | N | G | E | Q | A | L | E | I | A | D | S | L | I | R | S | G | G | V   | D   | I   | 148 |
| NTDB id 1389 A4U84 RS07560 WP 021112712.1   | I | V | E | I | Y | G | P | E | S | S | G | K | T | T | L | T | L | S | L | I | A | Q | A | Q | K | G | N | K | T | C | A | F | I | D | A | E | H | A | L | D | P | V   | Y | A | R | N | L | G | V | N | T | D | E | L | L | I | S | Q | P | D | N | G | E | Q | A | L | E | I | C | D | A | L | V | R | S | G | A | V | D   | V   | 156 |     |
| NTDB id 1130 NGFG RS03960 WP 003688695.1    | I | V | E | I | F | G | P | E | S | S | G | K | T | T | L | C | L | E | A | V | A | Q | C | Q | K | N | G | G | V | C | A | F | V | D | A | E | H | A | F | D | P | V   | Y | A | R | K | L | G | V | K | V | E | E | L | Y | L | S | Q | P | D | T | G | E | Q | A | L | E | I | C | D | T | L | V | R | S | G | G | I | D   | M   | 140 |     |
| NTDB id 1124 NGFG RS03960 WP 003688695.1    | I | V | E | I | F | G | P | E | S | S | G | K | T | T | L | C | L | E | A | V | A | Q | C | Q | K | N | G | G | V | C | A | F | V | D | A | E | H | A | F | D | P | V   | Y | A | R | K | L | G | V | K | V | E | E | L | Y | L | S | Q | P | D | T | G | E | Q | A | L | E | I | C | D | T | L | V | R | S | G | G | I | D   | M   | 140 |     |
| NTDB id 1123 OK783 RS03845 WP 003688695.1   | I | V | E | I | F | G | P | E | S | S | G | K | T | T | L | C | L | E | A | V | A | Q | C | Q | K | N | G | G | V | C | A | F | V | D | A | E | H | A | F | D | P | V   | Y | A | R | K | L | G | V | K | V | E | E | L | Y | L | S | Q | P | D | T | G | E | Q | A | L | E | I | C | D | T | L | V | R | S | G | G | I | D   | M   | 140 |     |
| NTDB id 1427 RS RS02760 WP 011000510.1      | V | V | E | I | Y | G | P | E | S | S | G | K | T | T | L | T | L | Q | V | V | A | E | M | Q | K | L | G | G | T | C | A | F | I | D | A | E | H | A | L | D | V | T   | Y | A | D | K | L | G | V | K | V | P | D | L | L | I | S | Q | P | D | T | G | E | Q | A | L | E | I | A | D | A | L | V | R | S | G | S | V | D   | L   | 148 |     |
| NTDB id 1165 A1552VC RS01565 WP 000344154.1 | I | V | E | I | F | G | P | E | S | S | G | K | T | T | L | T | L | E | L | I | A | A | A | Q | R | E | G | K | T | C | A | F | I | D | A | E | H | A | L | D | P | V   | Y | A | K | K | L | G | V | N | I | D | E | L | L | V | S | Q | P | D | T | G | E | Q | A | L | E | I | C | D | A | L | A | R | S | G | A | V | D   | V   | 139 |     |
| NTDB id 1142 GTF74 RS11550 WP 000344154.1   | I | V | E | I | F | G | P | E | S | S | G | K | T | T | L | T | L | E | L | I | A | A | A | Q | R | E | G | K | T | C | A | F | I | D | A | E | H | A | L | D | P | V   | Y | A | K | K | L | G | V | N | I | D | E | L | L | V | S | Q | P | D | T | G | E | Q | A | L | E | I | C | D | A | L | A | R | S | G | A | V | D   | V   | 139 |     |
| NTDB id 1074 ABD1 RS10195 WP 000344167.1    | I | I | E | I | Y | G | P | E | S | S | G | K | T | T | M | T | L | Q | A | I | A | Q | C | Q | K | S | G | G | T | C | A | F | I | D | A | E | H | A | L | D | P | Q   | Y | A | R | K | L | G | V | D | I | D | N | L | L | V | S | Q | P | D | N | G | E | Q | A | L | E | I | A | D | M | L | V | R | S | G | A | I | D   | L   | 139 |     |
| NTDB id 1022 ACIAD RS06390 WP 004925639.1   | I | V | E | I | Y | G | P | E | S | S | G | K | T | T | M | T | L | Q | A | I | A | Q | C | Q | K | A | G | G | T | C | A | F | I | D | A | E | H | A | L | D | P | Q   | Y | A | R | K | L | G | V | D | I | D | N | L | L | V | S | Q | P | D | H | G | E | Q | A | L | E | I | A | D | M | L | V | R | S | G | A | I | D   | L   | 139 |     |
| NTDB id 1205 PSJM300 05545 AFN77183.1       | I | V | E | I | Y | G | P | E | S | S | G | K | T | T | L | T | L | S | V | I | A | A | A | Q | R | M | G | S | T | C | A | F | V | D | A | E | H | A | L | D | P | D   | Y | A | G | K | L | G | V | N | V | D | D | L | L | V | S | Q | P | D | T | G | E | Q | A | L | E | I | T | D | M | L | V | R | S | N | A | V | D   | V   | 139 |     |
| consensus                                   | * | * | ! | * | * | ! | ! | ! | ! | ! | ! | * | ! | * | ! | * | * | ! | * | * | ! | * | * | ! | * | * | ! | * | * | * | ! | * | ! | ! | * | * | * | ! | * | ! | * | *</ |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |     |     |     |     |

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NTDB id 1427 RS RS02760 WP 011000510.1
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| VV  | I | D | S | V | A | A | L | V | P | K | A | E | I | G | D | M | G | D | S | H | V | G | L | Q | A | R | L | M | S | Q | A | R | K | L | T | G | S | I | N | K | T | K | T | I | A | F | I | N | Q | L | R | E | K | V | G | M | . | F | G | S | P | E | T | T | P | G | G | R | A | L | K | F | Y   | A |  | 233 |
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| VVV | D | S | V | A | A | L | V | P | R | A | E | I | D | G | I | D | S | H | V | G | L | Q | A | R | M | S | Q | A | R | K | L | G | A | S | I | N | K | T | K | T | I | A | F | I | N | Q | L | R | E | K | V | G | M | . | F | G | N | P | E | T | T | P | G | G | R | A | L | K | F | Y | A |   | 232 |   |  |     |
| VVV | D | S | V | A | A | L | V | P | R | A | E | I | D | G | I | D | S | H | V | G | L | Q | A | R | M | S | Q | A | R | K | L | G | A | S | I | N | K | T | K | T | I | A | F | I | N | Q | L | R | E | K | V | G | M | . | F | G | N | P | E | T | T | P | G | G | R | A | L | K | F | Y | A |   | 232 |   |  |     |
| VVV | D | S | V | A | A | L | V | P | R | A | E | I | D | G | I | D | S | H | V | G | L | Q | A | R | M | S | Q | A | R | K | L | G | A | S | I | N | K | T | K | T | I | A | F | I | N | Q | L | R | E | K | V | G | M | . | F | G | N | P | E | T | T | P | G | G | R | A | L | K | F | Y | A |   | 232 |   |  |     |
| VVV | D | S | V | A | A | L | V | P | R | A | E | I | D | G | I | D | S | H | V | G | L | Q | A | R | M | S | Q | A | R | K | L | G | A | S | I | N | K | T | K | T | I | A | F | I | N | Q | L | R | E | K | V | G | M | . | F | G | N | P | E | T | T | P | G | G | R | A | L | K | F | Y | A |   | 232 |   |  |     |
| VVV | D | S | V | A | A | L | V | P | R | A | E | I | D | G | I | D | S | H | V | G | L | Q | A | R | M | S | Q | A | R | K | L | G | A | S | I | N | K | T | K | T | I | A | F | I | N | Q | L | R | E | K | V | G | M | . | F | G | N | P | E | T | T | P | G | G | R | A | L | K | F | Y | A |   | 232 |   |  |     |
| VVV | D | S | V | A | A | L | V | P | R | A | E | I | D | G | I | D | S | H | V | G | L | Q | A | R | M | S | Q | A | R | K | L | G | A | S | I | N | K | T | K | T | I | A | F | I | N |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |     |   |  |     |

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|                                             |          |                  |                         |                       |                             |                      |                     |     |
|---------------------------------------------|----------|------------------|-------------------------|-----------------------|-----------------------------|----------------------|---------------------|-----|
| NTDB id 600 KW2 RS01765 WP 011675413.1      | SVRLDVRG | STKIEEGS         | .GDNKTQ                 | IGKITKIKVVKNKVAPPFKEA | VALVDIMFGEGISSTGELINIAVEEGI | IKKSGAWFAYN          | 312                 |     |
| NTDB id 269 KZH43 RS08665 WP 001085462.1    | SVRLDVRG | NTQIKGTG         | .DQKETN                 | VGKETKIKVVKNKVAPPFKEA | AVVEIMY GEGISKTGEL          | LKIASDLDIKKAGAWYSYK  | 311                 |     |
| NTDB id 228 SPD RS09265 WP 001085462.1      | SVRLDVRG | NTQIKGTG         | .DQKETN                 | VGKETKIKVVKNKVAPPFKEA | AVVEIMY GEGISKTGEL          | LKIASDLDIKKAGAWYSYK  | 311                 |     |
| NTDB id 194 SPR RS08825 WP 001085462.1      | SVRLDVRG | NTQIKGTG         | .DQKETN                 | VGKETKIKVVKNKVAPPFKEA | AVVEIMY GEGISKTGEL          | LKIASDLDIKKAGAWYSYK  | 311                 |     |
| NTDB id 159 SP RS09750 WP 001085462.1       | SVRLDVRG | NTQIKGTG         | .DQKETN                 | VGKETKIKVVKNKVAPPFKEA | AVVEIMY GEGISKTGEL          | LKIASDLDIKKAGAWYSYK  | 311                 |     |
| NTDB id 499 SM12261 RS08315 WP 078228268.1  | SVRLDVRG | STQIKGTG         | .DQKDTN                 | VGKETKIKVVKNKVAPPFKEA | AFVEIMY GEGISKTGEL          | LKIASDLDIKKAGAWYSYK  | 311                 |     |
| NTDB id 527 SMSK321 RS11065 WP 001085454.1  | SVRLDVRG | STQIKGTG         | .DQKDTN                 | VGKETKIKVVKNKVAPPFKEA | AFVEIMY GEGISKTGEL          | LKIASDLDIKKAGAWYSYK  | 311                 |     |
| NTDB id 408 SMU RS09530 WP 002262392.1      | SVRLDVRG | NTQIKGTG         | .EQKDSN                 | IGKETKIKVVKNKVAPPFKEA | AFVEIITYGEGISRTGEL          | VKIASDLGIQKAGAWYSYN  | 311                 |     |
| NTDB id 453 Spy49 1753c ACI62003.1          | SVRLDVRG | TTQIKGTG         | .DQKDSN                 | IGKETKIKVVKNKVAPPFKEA | AFVEIMY GEGISRTGEL          | VKIASDLDIQKAGAWFSYN  | 311                 |     |
| NTDB id 625 LCA RS02525 WP 011374196.1      | TVRLEV   | RRRAETIKNGT      | .....DM                 | IGNRARIKVVKNKVAPPFKEA | AEVDIMY GQGISRTGEL          | VDMAVEKDIINKSGSWYSYG | 294                 |     |
| NTDB id 982845 NSS78 RS08280 WP 050944976.1 | SVRLEV   | RRAEQLKQGN       | .....DIM                | GNKTRIKVVKNKVAPPFR    | IAEVDIMY GEGISKEGE          | IIDLGSEL             | DIVQKSGAWYSYQ       | 292 |
| NTDB id 115 BSU 16940 NP 389576.2           | SVRLEV   | RRAEQLKQGN       | .....DV                 | MGNKTKIKVVKNKVAPPFR   | TAEVDIMY GEGISKEGE          | IIDLGTEL             | DIVQKSGSWYSYE       | 292 |
| NTDB id 1313 DR RS12030 WP 010888966.1      | SVRLDVRK | IGQ....PTKVG     | NDAVANTVKIKTKVNKVAAPFKE | VELALVY GKG           | GFDQLSDLVGL                 | AADMDI               | IKKAGSFYSYG         | 307 |
| NTDB id 1245 Cj1673c YP 002345041.1         | SVRLDVRK | VAT....L.KQNE    | EEPIGNRVKVVKNKVAPPFRQAE | FDV MFGEGLS           | REGELIDYGVKL                | DIVDKSGAWFSYK        | 294                 |     |
| NTDB id 1211 C694 RS00795 WP 000963128.1    | SVRIDIR  | RIAS....L.KQNE   | EQHIGNRAKAKVVKNKVAPPFR  | EAFFDIMFGEGISKEGE     | IIDYGVKL                    | DIVDKSGAWLSYQ        | 296                 |     |
| NTDB id 1214 NCTC11637 00359 SQJ03206.1     | SVRIDIR  | RIAA....L.KQNE   | EQHIGNRAKAKVVKNKVAPPFR  | EAFFDIMFGEGISKEGE     | IIDYGVKL                    | DIVDKSGAWLSYQ        | 296                 |     |
| NTDB id 1334 RAOC RS04870 WP 004918236.1    | SVRIDIR  | RSLSDTGKIKDKSGEV | IGNRTKVVKNKVAPPFKSAE    | FDIMY GEGVSKV         | GEILDVATDL                  | DIQKSGSWFSYQ         | 307                 |     |
| NTDB id 1389 A4U84 RS07560 WP 021112712.1   | SVRLDIR  | RCGV....V.KDG    | DEIIGSETKVVKNKVAPPFR    | EVQFDIMY GEGISRM      | NELLILAEANGFI               | IKKSGAWFSYD          | 310                 |     |
| NTDB id 1130 NGFG RS03960 WP 003688695.1    | SVRLDIR  | RRTGS....I.KKG   | EEVLGNETRVKVIKNKVAPPFR  | QAEFDILY GEGISW       | EGELIDIGVKN                 | DIINKSGAWYSYN        | 294                 |     |
| NTDB id 1124 NGFG RS03960 WP 003688695.1    | SVRLDIR  | RRTGS....I.KKG   | EEVLGNETRVKVIKNKVAPPFR  | QAEFDILY GEGISW       | EGELIDIGVKN                 | DIINKSGAWYSYN        | 294                 |     |
| NTDB id 1123 OK783 RS03845 WP 003688695.1   | SVRLDIR  | RRTGS....I.KKG   | EEVLGNETRVKVIKNKVAPPFR  | QAEFDILY GEGISW       | EGELIDIGVKN                 | DIINKSGAWYSYN        | 294                 |     |
| NTDB id 1427 RS RS02760 WP 011000510.1      | SVRLDIR  | RIGS....I.KKG    | DEVVGNETKVVKNKVAPPFR    | EAIFDILY GAGVS        | REGEIIDLGVEAK               | VVEKSGAWYSYN         | 302                 |     |
| NTDB id 1165 A1552VC RS01565 WP 000344154.1 | SVRLDIR  | RRTGA....I.KEG   | EEVVGNETRIKVVKNKIAAPFKE | ANTQIMY GQGFN         | REGELIDLGVKHK               | MVEKSGAWYSYN         | 293                 |     |
| NTDB id 1142 GTF74 RS11550 WP 000344154.1   | SVRLDIR  | RRTGA....I.KEG   | EEVVGNETRIKVVKNKIAAPFKE | ANTQIMY GQGFN         | REGELIDLGVKHK               | MVEKSGAWYSYN         | 293                 |     |
| NTDB id 1074 ABD1 RS10195 WP 000344167.1    | SVRLDIR  | RIGQ....V.KEG    | DEIVGSETKVVKNKMAPPFKEA  | IFQILY GKG            | TNQLGELVDLAVQQ              | DIVQKAGAWYSYQ        | 293                 |     |
| NTDB id 1022 ACIAD RS06390 WP 004925639.1   | SVRLDIR  | RIGQ....V.KEG    | DEIVGSETKVVKNKMAPPFKEA  | IFQILY GKG            | TNQLGELVDLAVQQ              | NIVQKAGAWYSYQ        | 293                 |     |
| NTDB id 1205 PSJM300 05545 AFN77183.1       | SVRLDIR  | RRTGA....V.KEG   | DEVVGSETRVKNKVAPPFR     | QAEFQILY GKG          | GIYRNGEIIDLG                | VQQGLVEKSGAWAYK      | 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 | ENAKKYLADNPEIF | DEIDHQVRVQFGL  | IDGEEIAES....  | KKDE....AAQVDS | .VNEEVTLDLGDE | LEIE     | 381   |     |
| NTDB id 527 SMSK321 RS11065 WP 001085454.1  | DEKIGQGS | ENAKKYLADNPEV  | FAEIDHQVRVQFGL | IDGEEAAES....  | KKDE....VAQVDS | .VNEEVTLDLGDE | LEIE     | 381   |     |
| NTDB id 408 SMU RS09530 WP 002262392.1      | GEKIGQGS | ENAKKFLADNPEIF | DDIDHKVRVQYGL  | IEEDNTEEKQSS   | KEK.....ETDEK  | .ADKNLVLELDDT | IELE     | 382   |     |
| NTDB id 453 Spy49 1753c ACI62003.1          | GEKIGQGS | ENAKRYLADHPQLF | DEIDRKVRVKFGL  | LEESEESAMAVASE | .....E.....    | TDDLALDLDN    | GIEIE    | 377   |     |
| NTDB id 625 LCA RS02525 WP 011374196.1      | SERIGQGR | ENAKNYLADHED   | VEDEVRLKVRAAY  | GISDVPEEDLPT   | TEDE.QIN.ILP   | DDS.....TEE   | .....    | 355   |     |
| NTDB id 982845 NSS78 RS08280 WP 050944976.1 | EERLGQGR | ENAKQFLKENKD   | IMLMIQEQTREHY  | GLDNNGVAQQA    | EEALEELE       | .....         | .....    | 345   |     |
| NTDB id 115 BSU 16940 NP 389576.2           | EERLGQGR | ENAKQFLKENKD   | IMLMIQEQTREHY  | GLDNNGVVQQQA   | EETQEELE.F     | .....EE       | .....    | 348   |     |
| NTDB id 1313 DR RS12030 WP 010888966.1      | DERIGQGG | KEKTIAYIAERP   | EMEQUEIRDRV    | MAAIRAGNAGE    | APALAPAPAA     | PEAAE..A      | .....    | 363   |     |
| NTDB id 1245 Cj1673c YP 002345041.1         | DKKLGQGR | ENSKAFLENPEI   | ADEITKAIQNS    | MGIEGMI....    | SGSEDDE..GE    | .E            | .....    | 343   |     |
| NTDB id 1211 C694 RS00795 WP 000963128.1    | DKKLGQGR | ENAKALLKED     | KALADEITLKIKES | IGSNEEI....    | MPLPDEP..LE    | .EME          | .....    | 347   |     |
| NTDB id 1214 NCTC11637 00359 SQJ03206.1     | DKKLGQGR | ENAKALLKED     | KALADEITLKIKES | IGSNEEI....    | MPLPDEP..LE    | .EME          | .....    | 347   |     |
| NTDB id 1334 RAOC RS04870 WP 004918236.1    | DTKLGQGR | DTVKELIKDN     | PELAEELEAKIRE  | KLQAK          | .....          | .....         | .....    | 343   |     |
| NTDB id 1389 A4U84 RS07560 WP 021112712.1   | GTKIGQGN | NAVKWLKENPEI   | ADKLEQEIRNT    | LASNPN         | ....VLKATAS    | DSND..ESDV    | EEFSEEL  | ..... | 372 |
| NTDB id 1130 NGFG RS03960 WP 003688695.1    | GAKIGQGD | NVRVWLKENPEI   | SDEIDAKIRAL    | NGVEMHI....    | TEGTQDET       | .....GERPEE   | .....    | 348   |     |
| NTDB id 1124 NGFG RS03960 WP 003688695.1    | GAKIGQGD | NVRVWLKENPEI   | SDEIDAKIRAL    | NGVEMHI....    | TEGTQDET       | .....GERPEE   | .....    | 348   |     |
| NTDB id 1123 OK783 RS03845 WP 003688695.1   | GAKIGQGD | NVRVWLKENPEI   | SDEIDAKIRAL    | NGVEMHI....    | TEGTQDET       | .....GERPEE   | .....    | 348   |     |
| NTDB id 1427 RS RS02760 WP 011000510.1      | GERIGQGR | DNCREFLRENA    | EELAREIENK     | VREHLGVTP      | MG....AV.TL    | AEEVEE..D     | .....    | 352   |     |
| NTDB id 1165 A1552VC RS01565 WP 000344154.1 | GDKIGQGN | KANACKYLLKEN   | PEIAKTLDKKL    | REMLLNPEN      | M....QLIAET    | SSAAD..DVE    | FGAVPEEF | ..... | 354 |
| NTDB id 1142 GTF74 RS11550 WP 000344154.1   | GDKIGQGN | KANACKYLLKEN   | PEIAKTLDKKL    | REMLLNPEN      | M....QLIAET    | SSAAD..DVE    | FGAVPEEF | ..... | 354 |
| NTDB id 1074 ABD1 RS10195 WP 000344167.1    | GNKIGQGN | NVIRYFEEN      | NQIAEEIERN     | IREQLLTGTN     | ....GAVQ.I     | .EDEE..EPD    | .LLLES   | ..... | 349 |
| NTDB id 1022 ACIAD RS06390 WP 004925639.1   | GNKIGQGN | NVIRYLEEN      | PQISTEIEAV     | IREQLLTKASD    | ....QTAA.H     | DETEE..EPD    | .LLES    | ..... | 349 |
| NTDB id 1205 PSJM300 05545 AFN77183.1       | GSKIGQGN | ANAACKYLEEN    | PEIGQIEEQ      | IRAKLLVTSAN    | ....TKATP      | VAAEDLA..DAD  | .I       | ..... | 347 |
| consensus                                   | ***!!!   | *****          | **             | *****          | *****          | **            | **       |       |     |

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|---------------------------------------------|-----|-----|--|
|                                             |     | IEE |  |
| NTDB id 600 KW2 RS01765 WP 011675413.1      | ... | 387 |  |
| NTDB id 269 KZH43 RS08665 WP 001085462.1    | IEE | 388 |  |
| NTDB id 228 SPD RS09265 WP 001085462.1      | IEE | 388 |  |
| NTDB id 194 SPR RS08825 WP 001085462.1      | IEE | 388 |  |
| NTDB id 159 SP RS09750 WP 001085462.1       | IEE | 388 |  |
| NTDB id 499 SM12261 RS08315 WP 078228268.1  | IEE | 384 |  |
| NTDB id 527 SMSK321 RS11065 WP 001085454.1  | IEE | 384 |  |
| NTDB id 408 SMU RS09530 WP 002262392.1      | D.. | 383 |  |
| NTDB id 453 Spy49 1753c ACI62003.1          | D.. | 378 |  |
| NTDB id 625 LCA RS02525 WP 011374196.1      | ... | 355 |  |
| NTDB id 982845 NSS78 RS08280 WP 050944976.1 | ... | 345 |  |
| NTDB id 115 BSU 16940 NP 389576.2           | ... | 348 |  |
| NTDB id 1313 DR RS12030 WP 010888966.1      | ... | 363 |  |
| NTDB id 1245 Cj1673c YP 002345041.1         | ... | 343 |  |
| NTDB id 1211 C694 RS00795 WP 000963128.1    | ... | 347 |  |
| NTDB id 1214 NCTC11637 00359 SQJ03206.1     | ... | 347 |  |
| NTDB id 1334 RAOC RS04870 WP 004918236.1    | ... | 343 |  |
| NTDB id 1389 A4U84 RS07560 WP 021112712.1   | ... | 372 |  |
| NTDB id 1130 NGFG RS03960 WP 003688695.1    | ... | 348 |  |
| NTDB id 1124 NGFG RS03960 WP 003688695.1    | ... | 348 |  |
| NTDB id 1123 OK783 RS03845 WP 003688695.1   | ... | 348 |  |
| NTDB id 1427 RS RS02760 WP 011000510.1      | ... | 352 |  |
| NTDB id 1165 A1552VC RS01565 WP 000344154.1 | ... | 354 |  |
| NTDB id 1142 GTF74 RS11550 WP 000344154.1   | ... | 354 |  |
| NTDB id 1074 ABD1 RS10195 WP 000344167.1    | ... | 349 |  |
| NTDB id 1022 ACIAD RS06390 WP 004925639.1   | ... | 349 |  |
| NTDB id 1205 PSJM300 05545 AFN77183.1       | ... | 347 |  |
| consensus                                   |     |     |  |

- non conserved
- similar
- ≥ 50% conserved