



logo

|                                             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |     |     |     |
|---------------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----|-----|-----|
| NTDB id 600 KW2 RS01765 WP 011675413.1      | I | V | E | I | Y | G | P | E | S | S | G | K | T | T | V | A | L | H | A | V | A | A | V | Q | K | E | G | G | I | A | A | F | I | D | A | E | N | A | L | D | P | E | Y | A | K | A | L | G | V | N | I | D | E | L | L | S | Q | P | D | Y | G | E | Q | G | L | I | A | E | K | L | I | T | S | G | A | V | D | L | 154 |     |     |
| 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 |     |
| NTDB id 159 SP RS09750 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 499 SM12261 RS08315 WP 078228268.1  | 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 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 453 Spy49 1753c ACI62003.1          | 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 | A | 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 |     |
| NTDB id 625 LCA RS02525 WP 011374196.1      | I | V | E | I | Y | G | P | E | S | S | G | K | T | T | V | A | L | H | A | V | A | E | V | Q | K | Q | G | G | T | A | A | Y | I | D | A | E | N | A | M | D | P | K | Y | A | T | A | L | G | V | N | I | D | D | L | L | S | Q | P | D | T | G | E | Q | G | L | E | I | A | D | A | L | V | S | S | G | A | V | D | I   | 140 |     |
| NTDB id 373524 F0458 RS06080 WP 002478267.1 | I | I | E | I | Y | G | P | E | S | S | G | K | T | T | V | A | L | H | A | I | A | E | V | Q | K | N | G | G | I | A | A | F | I | D | A | E | H | A | L | D | P | E | Y | A | A | A | L | G | V | D | I | D | N | L | Y | L | S | Q | P | D | H | G | E | Q | G | L | E | I | A | E | A | F | V | R | S | G | A | V | D   | I   | 139 |
| NTDB id 115 BSU 16940 NP 389576.2           | I | I | E | V | Y | G | P | E | S | S | G | K | T | T | V | A | L | H | A | I | A | E | V | Q | Q | G | G | G | A | A | F | I | D | A | E | H | A | L | D | P | V | Y | A | Q | K | L | G | V | N | I | E | E | L | L | S | Q | P | D | T | G | E | Q | A | L | E | I | A | E | A | L | V | R | S | G | A | V | D | I | 138 |     |     |
| 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 |   |   |   |   |   |   |   |   |   |   |   |   |   |     |     |     |

logo

|                                             |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |     |   |   |   |     |   |     |
|---------------------------------------------|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----|---|---|---|-----|---|-----|
| NTDB id 600 KW2 RS01765 WP 011675413.1      | VV | I | D | S | V | A | A | L | V | P | K | A | E | I | D | G | S | S | V | G | L | Q | A | R | M | S | Q | A | M | R | K | L | A | G | H | I | N | K | T | K | T | T | A | I | F | I | N | Q | L | R | E | K | V | G | V | M | . | F | G | S | P | E | T | T | P | G | G | R | A | L | K | F | Y | A | 233 |   |   |   |     |   |     |
| NTDB id 269 KZH43 RS08665 WP 001085462.1    | V  | V | V | D | S | V | A | A | L | V | P | R | A | E | I | D | G | I | G | D | S | H | V | G | L | Q | A | R | M | S | Q | A | M | R | K | L | G | A | S | I | N | K | T | K | T | I | A | I | F | I | N | Q | L | R | E | K | V | G | V | M | . | F | G | N | P | E | T | T | P | G | G | R | A | L | K   | F | Y | A | 232 |   |     |
| NTDB id 228 SPD RS09265 WP 001085462.1      | V  | V | V | D | S | V | A | A | L | V | P | R | A | E | I | D | G | I | G | D | S | H | V | G | L | Q | A | R | M | S | Q | A | M | R | K | L | G | A | S | I | N | K | T | K | T | I | A | I | F | I | N | Q | L | R | E | K | V | G | V | M | . | F | G | N | P | E | T | T | P | G | G | R | A | L | K   | F | Y | A | 232 |   |     |
| NTDB id 194 SPR RS08825 WP 001085462.1      | V  | V | V | D | S | V | A | A | L | V | P | R | A | E | I | D | G | I | G | D | S | H | V | G | L | Q | A | R | M | S | Q | A | M | R | K | L | G | A | S | I | N | K | T | K | T | I | A | I | F | I | N | Q | L | R | E | K | V | G | V | M | . | F | G | N | P | E | T | T | P | G | G | R | A | L | K   | F | Y | A | 232 |   |     |
| NTDB id 159 SP RS09750 WP 001085462.1       | V  | V | V | D | S | V | A | A | L | V | P | R | A | E | I | D | G | I | G | D | S | H | V | G | L | Q | A | R | M | S | Q | A | M | R | K | L | G | A | S | I | N | K | T | K | T | I | A | I | F | I | N | Q | L | R | E | K | V | G | V | M | . | F | G | N | P | E | T | T | P | G | G | R | A | L | K   | F | Y | A | 232 |   |     |
| NTDB id 499 SM12261 RS08315 WP 078228268.1  | V  | V | V | D | S | V | A | A | L | V | P | R | A | E | I | D | G | I | G | D | S | H | V | G | L | Q | A | R | M | S | Q | A | M | R | K | L | G | A | S | I | N | K | T | K | T | I | A | I | F | I | N | Q | L | R | E | K | V | G | V | M | . | F | G | N | P | E | T | T | P | G | G | R | A | L | K   | F | Y | A | 232 |   |     |
| NTDB id 527 SMSK321 RS11065 WP 001085454.1  | V  | V | V | D | S | V | A | A | L | V | P | R | A | E | I | D | G | I | G | D | S | H | V | G | L | Q | A | R | M | S | Q | A | M | R | K | L | G | A | S | I | N | K | T | K | T | I | A | I | F | I | N | Q | L | R | E | K | V | G | V | M | . | F | G | N | P | E | T | T | P | G | G | R | A | L | K   | F | Y | A | 232 |   |     |
| NTDB id 453 Spy49 1753c ACI62003.1          | V  | V | V | D | S | V | A | A | L | V | P | R | A | E | I | D | G | I | G | D | S | H | V | G | L | Q | A | R | M | S | Q | A | M | R | K | L | S | A | S | I | N | K | T | K | T | I | A | I | F | I | N | Q | L | R | E | K | V | G | V | M | . | F | G | N | P | E | T | T | P | G | G | R | A | L | K   | F | Y | A | 232 |   |     |
| NTDB id 408 SMU RS09530 WP 002262392.1      | V  | V | V | D | S | V | A | A | L | V | P | R | A | E | I | D | G | I | G | D | S | H | V | G | L | Q | A | R | M | S | Q | A | M | R | K | L | S | A | S | I | N | K | T | K | T | I | A | I | F | I | N | Q | L | R | E | K | V | G | I | M | . | F | G | N | P | E | T | T | P | G | G | R | A | L | K   | F | Y | S | 232 |   |     |
| NTDB id 625 LCA RS02525 WP 011374196.1      | L  | V | V | D | S | V | A | A | L | V | P | R | A | E | I | E | G | E | M | G | D | A | H | V | G | L | Q | A | R | L | M | S | Q | A | L | R | K | L | S | G | T | I | N | K | T | K | T | I | A | L | F | I | N | Q | I | R | E | K | V | G | V | M | . | F | G | N | P | E | V | T | P | G | G | R | A   | L | K | F | Y   | S | 219 |
| NTDB id 373524 F0458 RS06080 WP 002478267.1 | V  | V | V | D | S | V | A | A | L | T | P | K | A | E | I | E | G | E | M | G | D | T | H | V | G | L | Q | A | R | L | M | S | Q | A | L | R | K | L | S | G | A | I | S | K | S | N | T | T | A | I | F | I | N | Q | I | R | E | K | V | G | V | M | . | F | G | N | P | E | T | T | P | G | G | R | A   | L | K | F | Y   | S | 218 |
| NTDB id 115 BSU 16940 NP 389576.2           | V  | V | V | D | S | V | A | A | L | V | P | K | A | E | I | E | G | D | M | G | D | S | H | V | G | L | Q | A | R | L | M | S | Q | A | L | R | K | L | S | G | A | I | N | K | S | K | T | I | A | I | F | I | N | Q | I | R | E | K | V | G | V | M | . | F | G | N | P | E | T | T | P | G | G | R | A   | L | K | F | Y   | S | 217 |
| NTDB id 1313 DR RS12030 WP 010888966.1      | V  | V | V | D | S | V | A | A | L | T | P | R | A | E | I | E | G | D | M | G | D | S | L | P | G | L | Q | A | R | L | M | S | Q | A | L | R | K | L | T | A | I | L | S | K | T | G | T | A | A | I | F | I | N | Q | V | R | E | K | I | G | V | M | . | Y | G | N | P | E | T | T | T | G | G | R | A   | L | K | F | Y   | A | 231 |
| NTDB id 1245 Cj1673c YP 002345041.1         | I  | V | V | D | S | V | A | A | L | T | P | K | A | E | I | E | G | D | M | G | D | Q | H | V | G | L | Q | A | R | L | M | S | Q | A | L | R | K | L | T | G | I | V | H | K | M | N | T | T | V | I | F | I | N | Q | I | R | M | K | I | G | A | M | G | Y | G | T | P | E | T | T | T | G | G | N | A   | L | K | F | Y   | A | 219 |
| NTDB id 1211 C694 RS00795 WP 000963128.1    | V  | V | V | D | S | V | A | A | L | T | P | K | A | E | I | E | G | D | M | G | D | Q | H | V | G | L | Q | A | R | L | M | S | H | A | L | R | K | I | T | G | V | L | H | K | M | N | T | T | L | I | F | I | N | Q | I | R | M | K | I | G | M | M | G | Y | G | S | P | E | T | T | T | G | G | N | A   | L | K | F | Y   | A | 221 |
|                                             |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |     |   |   |   |     |   |     |

logo

|                                             |                                                                                     |     |
|---------------------------------------------|-------------------------------------------------------------------------------------|-----|
| NTDB id 600 KW2 RS01765 WP 011675413.1      | SVRLDVRGSTKIEEGS.GDNKTQIGKITKIKVVKNKVAPPFKEAVALVDIMFGEGISSTGELINIAVEEGITIKKSGAWFAYN | 312 |
| NTDB id 269 KZH43 RS08665 WP 001085462.1    | SVRLDVRGNTQIKGTG.DQKETNKGKETKIKVVKNKVAPPFKEAVVEIMYGGEGISKTGELLKIASDLDIKKAGAWYSYK    | 311 |
| NTDB id 228 SPD RS09265 WP 001085462.1      | SVRLDVRGNTQIKGTG.DQKETNKGKETKIKVVKNKVAPPFKEAVVEIMYGGEGISKTGELLKIASDLDIKKAGAWYSYK    | 311 |
| NTDB id 194 SPR RS08825 WP 001085462.1      | SVRLDVRGNTQIKGTG.DQKETNKGKETKIKVVKNKVAPPFKEAVVEIMYGGEGISKTGELLKIASDLDIKKAGAWYSYK    | 311 |
| NTDB id 159 SP RS09750 WP 001085462.1       | SVRLDVRGNTQIKGTG.DQKETNKGKETKIKVVKNKVAPPFKEAVVEIMYGGEGISKTGELLKIASDLDIKKAGAWYSYK    | 311 |
| NTDB id 499 SM12261 RS08315 WP 078228268.1  | SVRLDVRGSTQIKGTG.DQKDTNKGKETKIKVVKNKVAPPFKEAFVEIMYGGEGISKTGELLKIASDLDIKKAGAWYSYK    | 311 |
| NTDB id 527 SMSK321 RS11065 WP 001085454.1  | SVRLDVRGSTQIKGTG.DQKDTNKGKETKIKVVKNKVAPPFKEAFVEIMYGGEGISKTGELLKIASDLDIKKAGAWYSYK    | 311 |
| NTDB id 453 Spy49 1753c ACI62003.1          | SVRLDVRGTTQIKGTG.DQKDSIGKETKIKVVKNKVAPPFKEAEVEIMYGGEGISRTGELVKIASDLDIQKAGAWFSYN     | 311 |
| NTDB id 408 SMU RS09530 WP 002262392.1      | SVRLDVRGNTQIKGTG.EQKDSNIGKETKIKVVKNKVAPPFKEAFVEIIMYGGEGISRTGELVKIASDLGIQKAGAWYSYN   | 311 |
| NTDB id 625 LCA RS02525 WP 011374196.1      | TVRLEVRRRAETIKNGT.....DMIGNRARIKVVKNKVAPPFKEAEVDIMYGGGISRTGELVDMAVEKDIINKSGSWYSYG   | 294 |
| NTDB id 373524 F0458 RS06080 WP 002478267.1 | SVRLEVRRAEQLKQGQ.....DIVGNRTKIKVVKNKVAPPFKEAEVDIMYGGGISKEGELIDLGVHDIQKAGAWYSYN      | 293 |
| NTDB id 115 BSU 16940 NP 389576.2           | SVRLEVRRAEQLKQGN.....DVMGNKTKIKVVKNKVAPPFRTAEVDIMYGGEGISKEGETIDLGTELQDIVQKSGSWYSYE  | 292 |
| NTDB id 1313 DR RS12030 WP 010888966.1      | SVRLDVRKIGQ....PTKVGNDAAVANTVKIKTVKNKVAAPFKEVELALVYGKGFQDLSDLVGLAADMDIINKAGSFYSYG   | 307 |
| NTDB id 1245 Cj1673c YP 002345041.1         | SVRLDVRKVAT....L.KQNEEPIGNRVKVVKNKVAPPFRQAEFDVDMFGEGLSREGELIDYGVKLDIVDKSGAWFSYK     | 294 |
| NTDB id 1211 C694 RS00795 WP 000963128.1    | SVRIDIRRIAS....L.KQNEQHIGNRAKAKVVKNKVAPPFREAEFDIMFGEGISKEGETIDYGVKLDIVDKSGAWLSYQ    | 296 |
| NTDB id 1214 NCTC11637 00359 SQJ03206.1     | SVRIDIRRIAA....L.KQNEQHIGNRAKAKVVKNKVAPPFREAEFDIMFGEGISKEGETIDYGVKLDIVDKSGAWLSYQ    | 296 |
| NTDB id 1334 RAOC RS04870 WP 004918236.1    | SVRIDIRRLSDTGKIKDKSGEVIGNRTKVVKNKVAPPFKSAEFDIMYGGEGVSKVGEILDVATDLDIQKSGSWFSYQ       | 307 |
| NTDB id 1389 A4U84 RS07560 WP 021112712.1   | SVRLDIRRCGV....V.KDGDEIIGSETKVVKNKVAPPFREVQFDIMYGGEGISRMNELLILAEANGFIKKSGAWFSYD     | 310 |
| NTDB id 1130 NGFG RS03960 WP 003688695.1    | SVRLDIRRTGS....I.KKGEVVLGNETRKKVKNKVAPPFRQAEFDILYGGEGISWEGELIDIGVKNDIINKSGAWYSYN    | 294 |
| NTDB id 1124 NGFG RS03960 WP 003688695.1    | SVRLDIRRTGS....I.KKGEVVLGNETRKKVKNKVAPPFRQAEFDILYGGEGISWEGELIDIGVKNDIINKSGAWYSYN    | 294 |
| NTDB id 1123 OK783 RS03845 WP 003688695.1   | SVRLDIRRTGS....I.KKGEVVLGNETRKKVKNKVAPPFRQAEFDILYGGEGISWEGELIDIGVKNDIINKSGAWYSYN    | 294 |
| NTDB id 1427 RS RS02760 WP 011000510.1      | SVRLDIRRIGS....I.KKGEDEVGNETKVVKNKVAPPFREAIFFDILYGAGVSREGEIDLGVKAKVVEKSGAWYSYN      | 302 |
| NTDB id 1165 A1552VC RS01565 WP 000344154.1 | SVRLDIRRTGA....I.KKGEVVLGNETRKKVKNKIAAPFKEANTQIMYGGGFNREGELIDLGVKHKMVEKSGAWYSYN     | 293 |
| NTDB id 1142 GTF74 RS11550 WP 000344154.1   | SVRLDIRRTGA....I.KKGEVVLGNETRKKVKNKIAAPFKEANTQIMYGGGFNREGELIDLGVKHKMVEKSGAWYSYN     | 293 |
| NTDB id 1022 ACIAD RS06390 WP 004925639.1   | SVRLDIRRIGQ....V.KEGDEIIGSETKVVKNKMAAPPFREAIFFQILYGGKGVNQLGELVDLAVQQNIVQKAGAWYSYQ   | 293 |
| NTDB id 1074 ABD1 RS10195 WP 000344167.1    | SVRLDIRRIGQ....V.KEGDEIIGSETKVVKNKMAAPPFREAIFFQILYGGKGTNQLGELVDLAVQQDIVQKAGAWYSYQ   | 293 |
| NTDB id 1205 PSJM300 05545 AFN77183.1       | SVRLDIRRTGA....V.KEGDEVVGSETRKKVKNKVAPPFRQAEFFQILYGGKIYRNGEIDLGVQQGLVEKSGAWAYK      | 293 |
| consensus                                   | *!!**!* * ** *****!*****!!*!!*!!* * *****!*!*** ***** ** ***** ! !*****!            |     |

logo

|                                             |          |                 |                |                |                |               |          |     |
|---------------------------------------------|----------|-----------------|----------------|----------------|----------------|---------------|----------|-----|
| NTDB id 600 KW2 RS01765 WP 011675413.1      | DEKIGQGA | EKAKNYLKEHQDV   | FDEIDHKVRAAHG  | LDDSEVAETEEETT | ASKTKAKAKKEEK  | AVETEEIELELED | ....     | 387 |
| NTDB id 269 KZH43 RS08665 WP 001085462.1    | DEKIGQGS | ENAKKYLAEHPEIF  | DEIDKQVRSKFGL  | IDGEEVSEQDTEN  | KKDE....PKKEEA | ..VNEEVPLDLG  | DELEIE   | 385 |
| NTDB id 228 SPD RS09265 WP 001085462.1      | DEKIGQGS | ENAKKYLAEHPEIF  | DEIDKQVRSKFGL  | IDGEEVSEQDTEN  | KKDE....PKKEEA | ..VNEEVPLDLG  | DELEIE   | 385 |
| NTDB id 194 SPR RS08825 WP 001085462.1      | DEKIGQGS | ENAKKYLAEHPEIF  | DEIDKQVRSKFGL  | IDGEEVSEQDTEN  | KKDE....PKKEEA | ..VNEEVPLDLG  | DELEIE   | 385 |
| NTDB id 159 SP RS09750 WP 001085462.1       | DEKIGQGS | ENAKKYLAEHPEIF  | DEIDKQVRSKFGL  | IDGEEVSEQDTEN  | KKDE....PKKEEA | ..VNEEVPLDLG  | DELEIE   | 385 |
| NTDB id 499 SM12261 RS08315 WP 078228268.1  | DEKIGQGS | ENAKKYLAADNPEIF | DEIDHQVRVQFGL  | IDGEEIAES....  | KKDE....AAQVDS | ..VNEEVTLDLG  | DELEIE   | 381 |
| NTDB id 527 SMSK321 RS11065 WP 001085454.1  | DEKIGQGS | ENAKKYLAADNPEV  | FAEIDHQVRVQFGL | IDGEEAAES....  | KKDE....VAQVDS | ..VNEEVTLDLG  | DELEIE   | 381 |
| NTDB id 453 Spy49 1753c ACI62003.1          | GEKIGQGS | ENAKRYLADHPQLF  | DEIDRKVRVKFGL  | LEESEEEESAMAV  | ASE.....E..... | TDDLALDLDN    | GIEIE    | 377 |
| NTDB id 408 SMU RS09530 WP 002262392.1      | GEKIGQGS | ENAKKFLADNPEIF  | DDIDHKVRVQYGL  | IEEDNTEEKQSS   | KEK.....ETDEK  | ..ADKNLVLELD  | DDTIELE  | 382 |
| NTDB id 625 LCA RS02525 WP 011374196.1      | SERIGQG  | RENAKNYLADHED   | VEDEVRLKVRAAY  | GISDVPEEDLPTT  | EDEQINILPDD    | STEE.....     |          | 355 |
| NTDB id 373524 F0458 RS06080 WP 002478267.1 | GDRMGQG  | KENVKTYLKENPE   | VRDDIDRKLREKL  | GIFDGDVVEEKE   | AKAPES..LFDEE  | .....         |          | 348 |
| NTDB id 115 BSU 16940 NP 389576.2           | EERLGQG  | RENAKQFLKENKD   | IMLMIQEQIREHY  | GLDNNGVVQQAE   | ETQEELEFEE     | .....         |          | 348 |
| NTDB id 1313 DR RS12030 WP 010888966.1      | DERIGQG  | KEKTIAYIAERP    | EMEQEIRDRVMAA  | IRAGNAGEAPAL   | APAPAAPEAAEA   | .....         |          | 363 |
| NTDB id 1245 Cj1673c YP 002345041.1         | DKKLGQG  | RENSKAFLENPEI   | ADEITKAIQNSMG  | IEGMI....SG    | SEDD..EGEE     | .....         |          | 343 |
| NTDB id 1211 C694 RS00795 WP 000963128.1    | DKKLGQG  | RENAKALLKEDKA   | LADEITLKIKESI  | GSNEEI....M    | PLPDE..PLEE    | ME.....       |          | 347 |
| NTDB id 1214 NCTC11637 00359 SQJ03206.1     | DKKLGQG  | RENAKALLKEDKA   | LADEITLKIKESI  | GSNEEI....M    | PLPDE..PLEE    | ME.....       |          | 347 |
| NTDB id 1334 RAOC RS04870 WP 004918236.1    | DTKLGQG  | RDTVKELIKDNPE   | LAELEAKIREKL   | QAK.....       |                |               |          | 343 |
| NTDB id 1389 A4U84 RS07560 WP 021112712.1   | GTKIGQG  | KNNAVKWLKENPE   | IADKLEQEIRNTL  | ASNPN....VL    | KATASDSNDES    | ..VEEFSEEL    | .....    | 372 |
| NTDB id 1130 NGFG RS03960 WP 003688695.1    | GAKIGQG  | KDNVRVWLKENPE   | ISDEIDAKIRALN  | GVEMHI....     | TEGTQDET       | DGER.....     | PEE..... | 348 |
| NTDB id 1124 NGFG RS03960 WP 003688695.1    | GAKIGQG  | KDNVRVWLKENPE   | ISDEIDAKIRALN  | GVEMHI....     | TEGTQDET       | DGER.....     | PEE..... | 348 |
| NTDB id 1123 OK783 RS03845 WP 003688695.1   | GAKIGQG  | KDNVRVWLKENPE   | ISDEIDAKIRALN  | GVEMHI....     | TEGTQDET       | DGER.....     | PEE..... | 348 |
| NTDB id 1427 RS RS02760 WP 011000510.1      | GERIGQG  | RDNCREFLRENAE   | LAREIENKVREHL  | GVTPMG....     | AVTLA.EEVEE    | D.....        |          | 352 |
| NTDB id 1165 A1552VC RS01565 WP 000344154.1 | GDKIGQG  | KANACKYILKENPE  | IAKTLDKKLREML  | LNPNM....QL    | IAETSSAADD     | VE..FGAVPEE   | F.....   | 354 |
| NTDB id 1142 GTF74 RS11550 WP 000344154.1   | GDKIGQG  | KANACKYILKENPE  | IAKTLDKKLREML  | LNPNM....QL    | IAETSSAADD     | VE..FGAVPEE   | F.....   | 354 |
| NTDB id 1022 ACIAD RS06390 WP 004925639.1   | GNKIGQG  | KNNVIRYLEENPQ   | ISTEIEAVIREQL  | LTTKASD....    | QTAA.HDETEE    | EPD..LL..ES   | .....    | 349 |
| NTDB id 1074 ABD1 RS10195 WP 000344167.1    | GNKIGQG  | KNNVIRYFEENNQ   | IAEIEIRNIREQL  | LTGTN....GAV   | Q.I.EDEEE      | PD..LL..LES   | .....    | 349 |
| NTDB id 1205 PSJM300 05545 AFN77183.1       | GSKIGQG  | KANAACYLEENPE   | IGQIEEQIRAKLL  | VTSAN....TK    | ATPVAEDLAD     | AD..I.....    |          | 347 |
| consensus                                   | ***!!!   | *****           | **             | *****          | *****          | **            | **       |     |

logo

|                                             |     |     |  |
|---------------------------------------------|-----|-----|--|
|                                             |     | 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 453 Spy49 1753c ACI62003.1          | D.. | 378 |  |
| NTDB id 408 SMU RS09530 WP 002262392.1      | D.. | 383 |  |
| NTDB id 625 LCA RS02525 WP 011374196.1      | ... | 355 |  |
| NTDB id 373524 F0458 RS06080 WP 002478267.1 | ... | 348 |  |
| 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 1022 ACIAD RS06390 WP 004925639.1   | ... | 349 |  |
| NTDB id 1074 ABD1 RS10195 WP 000344167.1    | ... | 349 |  |
| NTDB id 1205 PSJM300 05545 AFN77183.1       | ... | 347 |  |
| consensus                                   |     |     |  |

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