

logo

|                                             |                                                                                    |    |
|---------------------------------------------|------------------------------------------------------------------------------------|----|
| NTDB id 601 KW2 RS02615 WP 021036805.1      | .....MLCQNCNINEAT.....                                                             | 12 |
| NTDB id 378 SMU RS02690 WP 002263569.1      | .....MLCQNCNINEAT.....                                                             | 12 |
| NTDB id 241 SP RS04015 WP 000882523.1       | .....MLCQNCNINEAT.....                                                             | 12 |
| NTDB id 281 KZH43 RS03550 WP 000882517.1    | .....MLCQNCNINEAT.....                                                             | 12 |
| NTDB id 245 SPD RS03860 WP 000882517.1      | .....MLCQNCNINEAT.....                                                             | 12 |
| NTDB id 243 SPR RS03635 WP 000882517.1      | .....MLCQNCNINEAT.....                                                             | 12 |
| NTDB id 984656 MKY18 RS00585 WP 034665649.1 | ..MMFGRFTERAQKVLALAQEEAIRLGHKNIGTEHILLGLVREGEGIAAKALEALGLVSDKIQKEVESLIGRG.....     | 71 |
| NTDB id 85 BSU 00860 NP 387967.1            | ..MMFGRFTERAQKVLALAQEEAIRLGHNNIGTEHILLGLVREGEGIAAKALQALGLGSEKIQKEVESLIGRG.....     | 71 |
| NTDB id 610 V4T04 RS10165 WP 012897346.1    | MKFENIKYPTLDRILEKAEYAHQYQYGTIESAHLLAAMATTSGSIAYSLLAGMNVDSDDLIDL.....EDLSSH         | 72 |
| NTDB id 290 KZH43 RS10025 WP 001109677.1    | .....MNYSKALNECIESAYMVAGHFGARYLESWHLLIAMSNSYSVAGATLNDYPYEMDRLE.....EVALELTETDYS    | 70 |
| NTDB id 289 SPD RS10700 WP 001109677.1      | .....MNYSKALNECIESAYMVAGHFGARYLESWHLLIAMSNSYSVAGATLNDYPYEMDRLE.....EVALELTETDYS    | 70 |
| NTDB id 287 SP RS11210 WP 001109712.1       | .....MNYSKALNECIESAYMVAGHFGARYLESWHLLIAMSNSYSVAGATLNDYPYEMDRLE.....EVALELTETDYS    | 70 |
| NTDB id 377 SMU RS09275 WP 002262344.1      | ....MTDYSLKMQEVFRLAQFEAARFESSYLESWHVLLAMVEIDSSVAGLSFAEFEADVRFEDYQAAAILAIGKKPKSSS   | 76 |
| NTDB id 297 STER RS00545 WP 011680614.1     | ....MTIYSRKMQAIFHRAQLEAERFESPFLTETHVLLAMVEVTPGSVAYLTFTDFEDRIHSEEIETA AVLAMEKRPKDLS | 76 |
| NTDB id 329 STU RS10020 WP 011225298.1      | ....MTIYSRKMQAIFHRAQLEAERFESPFLTETHVLLAMVEVTPGSVAYLTFTDFEDRIHSEEIETA AVLAMEKRPKDLS | 76 |
| consensus                                   | *** * *                                                                            |    |

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|---------------------------------------------|------------------------------------------------------------------------------------|-----|
| NTDB id 601 KW2 RS02615 WP 021036805.1      | ....IHLYTSVNGQKQKIDLCQNCYQ...IMKSGGQEALEFGAGNASNGNSD.....EPFNP.FNDIFSALQGGQ        | 72  |
| NTDB id 378 SMU RS02690 WP 002263569.1      | ....IHLYANVNGQKQKIDLCQNCYQ...IMKTDPENGPLNHLSSQNSSS.....INPFFDFFFGDLNMF             | 70  |
| NTDB id 241 SP RS04015 WP 000882523.1       | ....IHLYTNLNGKQKQIDLCQNCYK...IIKTDPNNSLFKGMTDLNMRD.....FDP.FGDDFFNDLNNF            | 69  |
| NTDB id 281 KZH43 RS03550 WP 000882517.1    | ....IHLYTNLNGKQKQIDLCQNCYK...IIKTDPNNSLFKGMTDLNMRD.....FDP.FGDDFFNDLNNF            | 69  |
| NTDB id 245 SPD RS03860 WP 000882517.1      | ....IHLYTNLNGKQKQIDLCQNCYK...IIKTDPNNSLFKGMTDLNMRD.....FDP.FGDDFFNDLNNF            | 69  |
| NTDB id 243 SPR RS03635 WP 000882517.1      | ....IHLYTNLNGKQKQIDLCQNCYK...IIKTDPNNSLFKGMTDLNMRD.....FDP.FGDDFFNDLNNF            | 69  |
| NTDB id 984656 MKY18 RS00585 WP 034665649.1 | QEVSAIIPHYTPRAKKVTELSMDEARKLGHSYVGTEHILLGLIREGEGVAARVLNNLGVSLNKAQQVLQL..L.....     | 143 |
| NTDB id 85 BSU 00860 NP 387967.1            | QEMSQTIIHYTPRAKKVTELSMDEARKLGHSYVGTEHILLGLIREGEGVAARVLNNLGVSLNKAQQVLQL..L.....     | 142 |
| NTDB id 610 V4T04 RS10165 WP 012897346.1    | VKVKRSTLRFSPRAEEVMTAASFLAIHNNSEAVGTEHLLYALLQVEDGFGQLLLKL.....QKINIVSLRKELEKR       | 143 |
| NTDB id 290 KZH43 RS10025 WP 001109677.1    | QDETFTTELPFSRRLQILFDEAEYVASVVHAKVLGTEHVLYAILHDGNALATRIILERAGFSYEDKKDQVKIAALRRNLEER | 150 |
| NTDB id 289 SPD RS10700 WP 001109677.1      | QDETFTTELPFSRRLQILFDEAEYVASVVHAKVLGTEHVLYAILHDGNALATRIILERAGFSYEDKKDQVKIAALRRNLEER | 150 |
| NTDB id 287 SP RS11210 WP 001109712.1       | QDETFTTELPFSRRLQVLFDEAEYVASVVHAKVLGTEHVLYAILHDSNALATRIILERAGFSYEDKKDQVKIAALRRNLEER | 150 |
| NTDB id 377 SMU RS09275 WP 002262344.1      | N..DIMLLEQSHALKRTLAEEAAISQVTHAKEVGTEHVLFAFLLNPNLLATRIILELVGFHAKDDGESIRLLDLRKVIERY  | 154 |
| NTDB id 297 STER RS00545 WP 011680614.1     | ESDIIDLRAQSPALEAMLQEAQEIASVTGAVEVGSEHVLMAFLLHKDLMVCRLLEVAGFQYKDDSDKPRIIDLRRSLERN   | 156 |
| NTDB id 329 STU RS10020 WP 011225298.1      | ESDIIDLRAQSPALEAMLQEAQGIASVTGAVEVGSEHVLMAFLLHKDLMVCRLLEVAGFQYKDDSDKPRIIDLRRSLERN   | 156 |
| consensus                                   | * * * * *                                                                          |     |

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|                                             |             |            |                           |                                  |     |
|---------------------------------------------|-------------|------------|---------------------------|----------------------------------|-----|
| NTDB id 601 KW2 RS02615 WP 021036805.1      | AGSSNEDLKA  | PPTQSGG    | QNSSSAQMPPQ               | TGLLEFETDLTEARGLDPVIGRDEIRV      | 136 |
| NTDB id 378 SMU RS02690 WP 002263569.1      | DFNGAASNQ   | TPPTQTG    | RGPRGPQNPRAKQPKGML        | EEFGINITESARRGEIDPVIGRDEEIKRV    | 143 |
| NTDB id 241 SP RS04015 WP 000882523.1       | RAFNNQDLPN  | TPPTQAGG   | GNGNGGN.N.RRPGGPQQQASQKPN | GLLEEFGINLTDIARKGEIDPVIGRDEEITRV | 142 |
| NTDB id 281 KZH43 RS03550 WP 000882517.1    | RPSSN..TPP  | IPPTQSGG   | GYGGNGGYGSQNRGSAQT        | PPPSQEKGLLEEFGINVTEIARRGDI       | 142 |
| NTDB id 245 SPD RS03860 WP 000882517.1      | RPSSN..TPP  | IPPTQSGG   | GYGGNGGYGSQNRGSAQT        | PPPSQEKGLLEEFGINVTEIARRGDI       | 142 |
| NTDB id 243 SPR RS03635 WP 000882517.1      | RPSSN..TPP  | IPPTQSGG   | GYGGNGGYGSQNRGSAQT        | PPPSQEKGLLEEFGINVTEIARRGDI       | 142 |
| NTDB id 984656 MKY18 RS00585 WP 034665649.1 | .GSN        | ETGASAAGS  | NSNANTPTL                 | DSLARDLTAIAKEDSLDPVIGRSKEIQRV    | 193 |
| NTDB id 85 BSU 00860 NP 387967.1            | .GSN        | ETGSSAAGT  | NSNANTPTL                 | DSLARDLTAIAKEDSLDPVIGRSKEIQRV    | 192 |
| NTDB id 610 V4T04 RS10165 WP 012897346.1    | TGLKVPESKKA | VTPMSKRMAK | GVAENST                   | PTLDSVSSDLTEEARLGKLDPMIGREAEIDRL | 205 |
| NTDB id 290 KZH43 RS10025 WP 001109677.1    | AGWTREDLKA  | LRQRHRTV   | ADK                       | QNSMANMMGMPQTPSGGLEDYTHDLTEQARS  | 218 |
| NTDB id 289 SPD RS10700 WP 001109677.1      | AGWTREDLKA  | LRQRHRTV   | ADK                       | QNSMANMMGMPQTPSGGLEDYTHDLTEQARS  | 218 |
| NTDB id 287 SP RS11210 WP 001109712.1       | AGWTREDLKA  | LRQRHRTV   | ADK                       | QNSMANMMGMPQTPSGGLEDYTHDLTEQARS  | 218 |
| NTDB id 377 SMU RS09275 WP 002262344.1      | AGFSKEDIKA  | IFEMRK     | PKKVK                     | NSSSFSDLMKPP.SVTGELADFT          | 222 |
| NTDB id 297 STER RS00545 WP 011680614.1     | AGLSKQDLKA  | IHDLRK     | PKKSKA                    | SANFANMMQPPQSS                   | 225 |
| NTDB id 329 STU RS10020 WP 011225298.1      | AGLSKQDLKA  | IHDLRK     | PKKSKA                    | SANFANMMQPPQSS                   | 225 |
| consensus                                   | * *         | * *        | ** **                     | !*** **!*!*!* * **!*!!!!* !! !*  |     |

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|                                             |                |                |           |                 |            |                |                    |                       |             |        |
|---------------------------------------------|----------------|----------------|-----------|-----------------|------------|----------------|--------------------|-----------------------|-------------|--------|
| NTDB id 601 KW2 RS02615 WP 021036805.1      | IEILNRRTKNNPVL | IGEPGVGKTA     | VEGLAQKIV | DGDVPQKQLQNK    | EVIRLDVVS  | LVQGTGIRGQ     | FEERM              | QKLMDEIRKRN           | 216         |        |
| NTDB id 378 SMU RS02690 WP 002263569.1      | IEILNRRTKNNPVL | IGEPGVGKTA     | VEGLAQKIV | DGDVPQKQLHGKN   | VIRLDVVS   | LVQGTGIRGQ     | FEERM              | QKLMDEIRQRQ           | 223         |        |
| NTDB id 241 SP RS04015 WP 000882523.1       | IEILNRRTKNNPVL | IGEPGVGKTA     | VEGLAQKIV | DGDVPHKLQGGKQ   | VIRLDVVS   | LVQGTGIRGQ     | FEERM              | QKLMDEIRKRE           | 222         |        |
| NTDB id 281 KZH43 RS03550 WP 000882517.1    | IEILNRRTKNNPVL | IGEPGVGKTA     | VEGLAQKIV | DGDVPHKLQGGKQ   | VIRLDVVS   | LVQGTGIRGQ     | FEERM              | QKLMDEIRKRE           | 222         |        |
| NTDB id 245 SPD RS03860 WP 000882517.1      | IEILNRRTKNNPVL | IGEPGVGKTA     | VEGLAQKIV | DGDVPHKLQGGKQ   | VIRLDVVS   | LVQGTGIRGQ     | FEERM              | QKLMDEIRKRE           | 222         |        |
| NTDB id 243 SPR RS03635 WP 000882517.1      | IEILNRRTKNNPVL | IGEPGVGKTA     | VEGLAQKIV | DGDVPHKLQGGKQ   | VIRLDVVS   | LVQGTGIRGQ     | FEERM              | QKLMDEIRKRE           | 222         |        |
| NTDB id 984656 MKY18 RS00585 WP 034665649.1 | IEVLSRRTKNNPVL | IGEPGVGKTA     | IAEGLAQ   | QIHN            | EVPEILRDKR | VMTLDMGTVVAGT  | KYRGEFEDRLKK       | VMDEIRQAG             | 273         |        |
| NTDB id 85 BSU 00860 NP 387967.1            | IEVLSRRTKNNPVL | IGEPGVGKTA     | IAEGLAQ   | QIINN           | EVPEILRDKR | VMTLDMGTVVAGT  | KYRGEFEDRLKK       | VMDEIRQAG             | 272         |        |
| NTDB id 610 V4T04 RS10165 WP 012897346.1    | IHILSRRTKNNPVL | VGEPGVGK       | SAII      | IEGLAQ          | RI         | VNGQVPIGLMNS   | RIMALNMATVVAGT     | KFRGEFEDRLTAIVEEVSSDP | 285         |        |
| NTDB id 290 KZH43 RS10025 WP 001109677.1    | IQILSRKTKNNPVL | VGDAGVGKTAL    | ALGLAQ    | RIASGDVPAEMAKMR | VLELDLMNV  | VAGTRFRGDFEERM | MNNIIKDIEEDG       |                       | 298         |        |
| NTDB id 289 SPD RS10700 WP 001109677.1      | IQILSRKTKNNPVL | VGDAGVGKTAL    | ALGLAQ    | RIASGDVPAEMAKMR | VLELDLMNV  | VAGTRFRGDFEERM | MNNIIKDIEEDG       |                       | 298         |        |
| NTDB id 287 SP RS11210 WP 001109712.1       | IQILSRKTKNNPVL | VGDAGVGKTAL    | ALGLAQ    | RIASGDVPAEMAKMR | VLELDLMNV  | VAGTRFRGDFEERM | MNNIIKDIEEDG       |                       | 298         |        |
| NTDB id 377 SMU RS09275 WP 002262344.1      | VQILSRKTKNNPVL | VGDAGVGKTAL    | AYGLAQ    | RI              | VDSAVPFEL  | ADMKVLELD      | MMSVVAGTRFRGDFEERM | NQIIADIEADG           | 302         |        |
| NTDB id 297 STER RS00545 WP 011680614.1     | IQVLSRRTKNNPVL | VGEAGVGKTAL    | ALGLAQ    | RIASGEV         | VPFEL      | ADMRI          | LELD               | MMSVVAGTRFRGDFEERM    | NQIIDEIEADG | 305    |
| NTDB id 329 STU RS10020 WP 011225298.1      | IQVLSRRTKNNPVL | VGEAGVGKTAL    | ALGLAQ    | RIASGEV         | VPFEL      | ADMRI          | LELD               | MMSVVAGTRFRGDFEERM    | NQIIDEIEADG | 305    |
| consensus                                   | *              | *!*!*!*!!!!!!* | *!*!!!!*  | *!*             | *!!!!*!*   | ****           | !*****!            | *****!                | *****!      | *****! |

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NTDB id 378 SMU RS02690 WP 002263569.1
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NTDB id 329 STU RS10020 WP 011225298.1
consensus

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NTDB id 329 STU RS10020 WP 011225298.1
consensus

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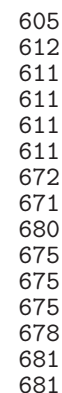
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consensus

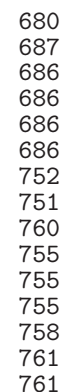
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consensus

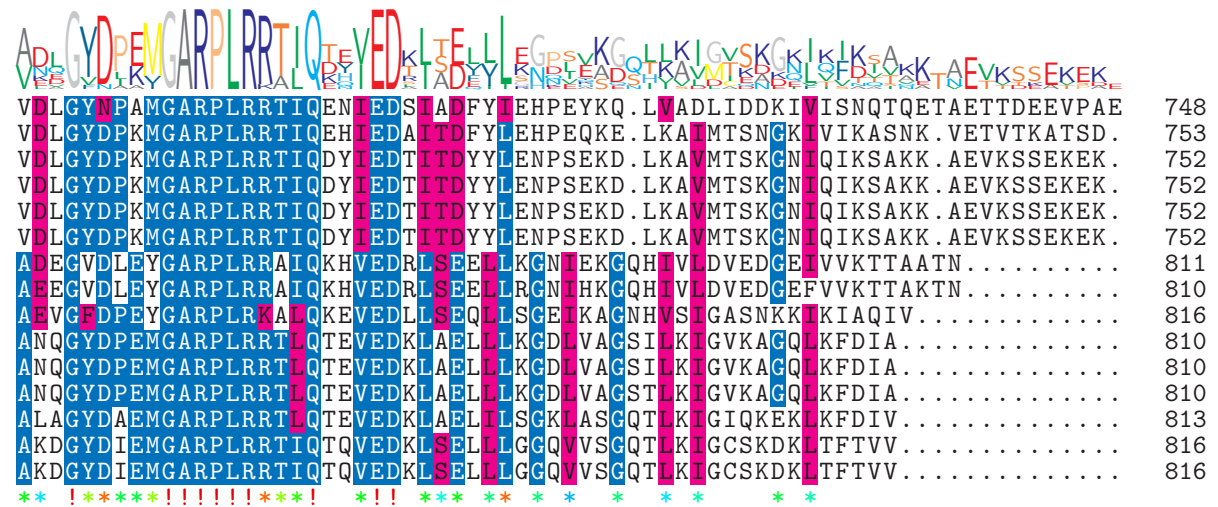
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NTDB id 297 STER RS00545 WP 011680614.1
NTDB id 329 STU RS10020 WP 011225298.1
consensus

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|-----------------------------------------------------------------------------------|-----------------------|
|  | non conserved         |
|  | similar               |
|  | $\geq 50\%$ conserved |