```
logo
NTDB id 462 GPW51 RS00385 WP 012774894.1    ....MKAELIAVGTEILTGQIINTNAQFLSEKCAELGIDVYFHTAVGDNEGRLLSTLEVASKRSNMVVLCGGLGPTEDDLTKQTL   81
NTDB id 412 SMU RS09535 WP 002262393.1      ....MKSEIIAVGTEILTGQIVNTNSQFLSEKFAELGIDVYFQTAVGDNEERLLSVLKIAKERSDLIVLCGGLGPTEDDLTKQTL   81
NTDB id 170 SP RS09755 WP 000642718.1       ....MKAEIIAVGTEILTGQIVNTNAQFLSEKLAEIGVDVYFQTAVGDNEVRLLSLLEIASQRSSLVILTGGLGPTEDDLTKQTL   81
NTDB id 280 KZH43 RS08670 WP 000642700.1    ....MKAEIIAVGTEILTGQIVNTNAQFLSEKLAEIGVDVYFQTAVGDNEVRLLSLLEIASQRSSLVILTGGLGATEDDLTKQTL   81
NTDB id 205 SPR RS08830 WP 000642700.1      ....MKAEIIAVGTEILTGQIVNTNAQFLSEKLAEIGVDVYFQTAVGDNEVRLLSLLEIASQRSSLVILTGGLGATEDDLTKQTL   81
NTDB id 239 SPD RS09270 WP 000642701.1      ....MKAEIIAVGTEILTGQIVNTNAQFLSEKLAEIGVDVYFQTAVGDNEVRLLSLLEIASQRSSLVILTGGLGATEDDLTKQTL   81
NTDB id 538 SMSK321 RS11060 WP 000642686.1  ....MKAEIIAVGTEILTGQIVNTNAQFLSEKLAEIGVDVYFQTAVGDNEARLLSLLEIASQRSSLVILTGGLGPTEDDLTKQTL   81
NTDB id 510 SM12261 RS08320 WP 000642690.1  ....MKAEIIAVGTEILTGQIVNTNAQFLSEKLAEIGVDVYFQTAVGDNEARLLSLLEIASQRSSLVILTGGLGPTEDDLTKQTL   81
NTDB id 42419 LIV RS06895 WP 014092777.1   ...MANAEIIAVGTELLLGQIVNSNAAFISQELAADGIYVYHHTVVGDNPERLKKVIKIAENRSDILIFTGGLGPTEDDITKQIL   82
NTDB id 124 BSU 16930 NP 389575.2          MEFPKKAEIIAVGSELLLGQIANTNAQFISKQLAEIGVNVFYHTAVGDNPERLKQVIRIAEERSDFIIFSGGLGPTKDDLTKETI   85
consensus                                   ***!*!!!!*!*!*!!!*!*!**!*!***!**!**!***!*!!!!* !!******!**!!******!!!!*!*!!*!!***

logo
NTDB id 462 GPW51 RS00385 WP 012774894.1    ATFLGRNLVFDELAMAKLDRFFASRPGRVRTPNNERQAQIVEGSQALQNPAGLAVGGMIEQDGVTYIVLPGPPSELKAMFSESLL   166
NTDB id 412 SMU RS09535 WP 002262393.1      AKFLKRELVFDKTAQERLDEFFASRPTSMRTPNNECQAQIIAGSQPLSNKTGLAVGGLLEADGVTYVVLPGPPSELKPMVNKELL   166
NTDB id 170 SP RS09755 WP 000642718.1       AKFLGKALVFDPQAQEKLDIFFTLRPDYARTPNNERQAQIVEGAIPLPNETGLAVGGKLEVDGVTYVVLPGPPSELKPMVLNQLL   166
NTDB id 280 KZH43 RS08670 WP 000642700.1    AKFLGKALVFDPQAQEKLDIFFALRPDYARTPNNERQAQIVEGAIPLPNETGLAVGGKLEVDGVTYVVLPGPPSELKPMVLNQLL   166
NTDB id 205 SPR RS08830 WP 000642700.1      AKFLGKALVFDPQAQEKLDIFFALRPDYARTPNNERQAQIVEGAIPLPNETGLAVGGKLEVDGVTYVVLPGPPSELKPMVLNQLL   166
NTDB id 239 SPD RS09270 WP 000642701.1      AKFLGKALVFDPQAQEKLDIFFALRPDYARTPNNERQVQIVEGAIPLPNETGLAVGGKLEVDGVTYVVLPGPPSELKPMVLNQLL   166
NTDB id 538 SMSK321 RS11060 WP 000642686.1  AKFLGKELVFDPQAQEKLDVFFAQRPDYARTPNNERQAQIVEGATPLPNETGLAVGGILEVDGVTYVVLPGPPSELKPMVLNQLL   166
NTDB id 510 SM12261 RS08320 WP 000642690.1  AKFLGKELVFDPQAQEKLDVFFAQRPDYARTPNNERQAQLVEGAIPLPNETGLAVGGILEVDGVTYVVLPGPPSELKPMVLNQLL   166
NTDB id 42419 LIV RS06895 WP 014092777.1   AEHLQKNLVIDPFHMNKITEHFASRSR.TMTENNKLQAVIIEGAIVLNNDYGFAAGMFLQQNNHTYILLPGPPSEMKPMFSHYAN   166
NTDB id 124 BSU 16930 NP 389575.2          ANTLGRPLVLNDEAFQSIEDYFKRTKR.TMSPNNRKQALVIEGSDVLANHFGMAPGMLTEHESRYYMLLPGPPSELRPMFENEAK   169
consensus                                   !**!** !!*************!* ********!!**!*****!***!*!**!*!*!*********!**!!!!!!!***!******

logo
NTDB id 462 GPW51 RS00385 WP 012774894.1    PLLSQ...SQQQLYSRVLRFFGIGESQLVTVLADVIDKQTDPTLAPYAKVGEVTLRLSTKATSQEEANLRLNQLEEDILQHD...   245
NTDB id 412 SMU RS09535 WP 002262393.1      PYLSK...TSEKLYSRVLRFFGIGESHLVTLLHDLIAEQTDPTIAPYAKTGEVTIRLSTKAHRQKEADSKLDKLEKKIITID...   245
NTDB id 170 SP RS09755 WP 000642718.1       PKLM....TGSKLYSRVLRFFGIGESQLVTILADLIDNQIDPTLAPYAKTGEVTLRLSTKASSQEEANQALDILENQILDCQTFE   247
NTDB id 280 KZH43 RS08670 WP 000642700.1    PKLM....TGSKLYSRVLRFFGIGESQLVTILADLIDNQIDPTLAPYAKTGEVTLRLSTKASSQEEANQALDILENQILDCQTFE   247
NTDB id 205 SPR RS08830 WP 000642700.1      PKLM....TGSKLYSRVLRFFGIGESQLVTILADLIDNQIDPTLAPYAKTGEVTLRLSTKASSQEEANQALDILENQILDCQTFE   247
NTDB id 239 SPD RS09270 WP 000642701.1      PKLM....TGSKLYSRVLRFFGIGESQLVTILADLIDNQIDPTLAPYAKTGEVTLRLSTKASSQEEANQALDILENQILDCQTFE   247
NTDB id 538 SMSK321 RS11060 WP 000642686.1  PKLM....TGSKLYSRVLRFFGIGESQLVTILSDLIDNQTDPTLAPYAKTGEVTLRLSTKASSQEEANQVLDILENQILGRQTFE   247
NTDB id 510 SM12261 RS08320 WP 000642690.1  PKLM....TGSKLHSRVLRFFGIGESQLVTILSDLIDNQTDPTLAPYAKTGEVTLRLSTKASSQEEANQVLDILENQILGRQTFE   247
NTDB id 42419 LIV RS06895 WP 014092777.1   PLLVEDNGAENILESKIMRFFGIGESQLAADLNDLIVTQVNPTIATYAGDNEVIVRITATAKTKEEAANLVNETEQEILQRD...   248
NTDB id 124 BSU 16930 NP 389575.2          PLLLKKMGSNEKIVSTVLRFFGIGESQLEADLEDIIDAQTNPTIAPLAADGEVTLRLTAKHADEKETERLLKETEAVILERV...   251
consensus                                   !*!*    ******!***!!!!!!!!*!***!*!*!**!**!!*!**!***!!**!*********!*** ****!**!** ****
```

```
logo
NTDB id 462 GPW51 RS00385 WP 012774894.1     ..KLADYFYAYGEDNSLVKTVATRLAEKRQTIAIVEQGTGGLLQAELSLALADQPYFSGGKVVGQLGIES.............. 313
NTDB id 412 SMU RS09535 WP 002262393.1       ..NLADYFYGYGEENSLPQVVFDLLKEKGKTITAAESLTAGLFQARLADFAGASDIFKGGFITYSIEEKARMLGIPFEDLQLHGV 328
NTDB id 170 SP RS09755 WP 000642718.1        GISLRDFCYGYGEETSLASIVVEELKRQGKTIAAAESLTAGLFQATVANFSGVSSIFKGGFVTYSLEEKSRMLDIPAKNLEEHGV 332
NTDB id 280 KZH43 RS08670 WP 000642700.1     GISLRDFCYGYGEETSLASIVVEELKRQGKTIAAAESLTAGLFQATVANFSGVSSIFEGGFVTYSLEEKSRMLDIPAKNLEEHGV 332
NTDB id 205 SPR RS08830 WP 000642700.1       GISLRDFCYGYGEETSLASIVVEELKRQGKTIAAAESLTAGLFQATVANFSGVSSIFEGGFVTYSLEEKSRMLDIPAKNLEEHGV 332
NTDB id 239 SPD RS09270 WP 000642701.1       GISLRDFCYGYGEETSLASIVVEELKRQGKTIAAAESLTAGLFQATVANFSGVSSIFEGGFVTYSLEEKSRMLDIPAKNLEEHGV 332
NTDB id 538 SMSK321 RS11060 WP 000642686.1   GLSLRDLCYGYGEEASLASIVVEELKKQGKTITAAESLTAGLFQATVADFSGASSIFKGGFVTYSLEEKSKMLDIPVKDLEEQGV 332
NTDB id 510 SM12261 RS08320 WP 000642690.1   GLSLRDLCYGYGEETSLASIVVEELKRQGKTITSAESLTAGLFQARVADFSGASSIFKGGFVTYSLEEKSKMLDIPVKDLEEQGV 332
NTDB id 42419 LIV RS06895 WP 014092777.1     ....GAFLYGYGE.VSLPELVTAMLLEKNITISAAESFTAGLFQAEIARFPGISKIFKGGIVTYSAETKQSILQVSKQIIADKGV 328
NTDB id 124 BSU 16930 NP 389575.2            ....GEFFYGYDD.TSLVKELSIACKEKGITISAAESFTGGLFSEWLTDHSGASKLFAGGVVCYTNDVKQNVLGVKKETLDRFGA 331
consensus                                    ********!*!****!!*************!!***!**!*!!****** *******!*!!**************** * ******

logo
NTDB id 462 GPW51 RS00385 WP 012774894.1     ..GWLS.EEADCIRQELQADLGLAVSVLIKPESTEDNVLAKVYLTLATPSGISQKEIDLGGYSWQYLRQLACLQAWDFVRNTL.. 393
NTDB id 412 SMU RS09535 WP 002262393.1       VSAFTAEKMAERSRQLTQADLAISLTGVAGPDSLEGQPAGTVFIGLSSSKRTMAIKVLIGGRSRSDVRYIAVLHAFNLVRQTLLS 413
NTDB id 170 SP RS09755 WP 000642718.1        VSEFTAQKMAEQARSKTQSDFGISLTGVAGPDSLEGHPVGTVFIGLAQDQGTEVIKVNIGGRSRADVRHIAVMHAFNLVRKALLS 417
NTDB id 280 KZH43 RS08670 WP 000642700.1     VSEFTAQKMAEQARSKTQSDFGISLTGVAGPDSLEGHPVGTVFIGLAQDQGTEVIKVNIGGRSRADVRHIAVMHAFNLVRKALLS 417
NTDB id 205 SPR RS08830 WP 000642700.1       VSEFTAQKMAEQARSKTQSDFGISLTGVAGPDSLEGHPVGTVFIGLAQDQGTEVIKVNIGGRSRADVRHIAVMHAFNLVRKALLS 417
NTDB id 239 SPD RS09270 WP 000642701.1       VSEFTAQKMAEQARSKTQSDFGISLTGVAGPDSLEGHPVGTVFIGLAQDQGTEVIKVNIGGRSRADVRHIAVMHAFNLVRKALLS 417
NTDB id 538 SMSK321 RS11060 WP 000642686.1   VSEFTAQKMAEQARSKTQSDFGISLTGVAGPDSLEGHPAGTVFIGLAQEHGTKVIKVNIGGRSRADVRHIAVMHAFNLVRKALLS 417
NTDB id 510 SM12261 RS08320 WP 000642690.1   VSEFTAQKMAEQARIKTQSDFGLSLTGVAGPDSLEGHPAGTVFIGLAQEQGTEVIKVNIGGRSRADVRHIAVMHAFNLVRKALLS 417
NTDB id 42419 LIV RS06895 WP 014092777.1     VSSECATEMADNVRRLCNTDLGISFTGVAGPDSLEGHPAGTIWIGLSVKGYKTEAYQFVYGRDRNHNRRRAVKQGFQLIKQFLDT 413
NTDB id 124 BSU 16930 NP 389575.2            VSKECASELAKGVQKLTGSDIGISFTGVAGPDAQEGHEPGHVFIGISANGKE.EVHEFHFAGSRTGIRKRGAKYGCHLILKLLEQ 415
consensus                                    *********!*********!**********!***!*****************************!**************!**

logo
NTDB id 462 GPW51 RS00385 WP 012774894.1     .......   393
NTDB id 412 SMU RS09535 WP 002262393.1       HKNLV..   418
NTDB id 170 SP RS09755 WP 000642718.1        D......   418
NTDB id 280 KZH43 RS08670 WP 000642700.1     D......   418
NTDB id 205 SPR RS08830 WP 000642700.1       D......   418
NTDB id 239 SPD RS09270 WP 000642701.1       D......   418
NTDB id 538 SMSK321 RS11060 WP 000642686.1   D......   418
NTDB id 510 SM12261 RS08320 WP 000642690.1   D......   418
NTDB id 42419 LIV RS06895 WP 014092777.1     NASFSFK   420
NTDB id 124 BSU 16930 NP 389575.2            K......   416
consensus                                    *
```

X non conserved

X similar

X $\geq$ 50% conserved