```
logo
NTDB id 114 BSU 16110 NP 389493.1              ..MDQAAVCLTICRINQL....LSPSLLLKWWKADP...SMSLTS.........PVLQTVTRDQIKAAALKNEIEQFYPK   62
NTDB id 1250 GC085 RS13065 WP 027219989.1      ..MNNLQPLLALNRMKRIG.....PRTVLKLQKRWPDLNLMFQLSSVDLEEAGLPSWLAQTIKNFDPDFIKTDLNWL...   70
NTDB id 599 KW2 RS05940 WP 021037268.1         .MITNFDL....FRWKKAGMTNLGVNKLLKFFRKYDRKISLRQMG..QVAQVKSIPNFIEQYKNQDVKKLRADYKKF...   70
NTDB id 525 SMSK321 RS06295 WP 000705298.1     MKITNYEI....YKLKKSGLTNQQILKVLEYGENVDQELLLGDIA..DISGCRNPAVFMERYFQIDDAHLEKEFKKI...   71
NTDB id 267 KZH43 RS05590 WP 000705306.1       MKITNYEI....YKLKKSGLTNQQILKVLEYGENVDQELLLGDIA..DISGCRNPAVFMERYFQIDDAHLSKEFQKF...   71
NTDB id 226 SPD RS05990 WP 000705306.1         MKITNYEI....YKLKKSGLTNQQILKVLEYGENVDQELLLGDIA..DISGCRNPAVFMERYFQIDDAHLSKEFQKF...   71
NTDB id 192 SPR RS05715 WP 000705306.1         MKITNYEI....YKLKKSGLTNQQILKVLEYGENVDQELLLGDIA..DISGCRNPAVFMERYFQIDDAHLSKEFQKF...   71
NTDB id 157 SP RS06205 WP 000705306.1          MKITNYEI....YKLKKSGLTNQQILKVLEYGENVDQELLLGDIA..DISGCRNPAVFMERYFQIDDAHLSKEFQKF...   71
NTDB id 497 SM12261 RS05565 WP 000705318.1     MKITNYEI....YKLKKSGLTNQQVLAVLEYGENVDQELLLGDIA..EISGCRNPAVFMERYFQIDDAHLEKEFQKF...   71
NTDB id 1067669 ACFSN5 RS04185 WP 165212818.1  ..MNNFEL....FKLKQAGLTNLQIINILDYQKEVGKSLSLRDMA..VVSQTSKAGHFMESYKHLDLKYLRQQFNQF...   69
NTDB id 407 SMU RS04605 WP 002262865.1         ..MDNFQL....FKLKKAGLTNLNILNIIDYEERTQKSLSLRDMA..VVSKNKKPLIFMEHYKNLDSKALRKEFNRF...   69
consensus                                      ********    ******************************  ********************** ******
```

```
logo
NTDB id 114 BSU 16110 NP 389493.1              LPRVLAAYREQGINTIPISSKQYPFWLKSIYDPPAVLFAKGDMTLLSKGRKIGIVGTRNPTAYGKQVVNHLTKEICRKGW   142
NTDB id 1250 GC085 RS13065 WP 027219989.1      .S......SSENHHILTWDSPYYPALLKEIADPPFILYAKGELSALTQ.PSLAIVGSRNASVTGNENARAFSREISRHGV   142
NTDB id 599 KW2 RS05940 WP 021037268.1         .S............SFSILDDLYPERLREIYNPPVLIFYQGNIDLLKN.PKLAFVGSRLAGQSGIKSVQKIVTELNQ.SF   135
NTDB id 525 SMSK321 RS06295 WP 000705298.1     .P............SFSILDDCYPWDLSEIYDAPVLLFYKGNLDLLKF.PKVAVVGSRSCSKQGAKSVEKIIQGLEN.EL   136
NTDB id 267 KZH43 RS05590 WP 000705306.1       .P............SFSILDDCYPWDLSEIYDAPVLLFYKGNLDLLKF.PKVAVVGSRACSKQGAKSVEKVIQGLEN.EL   136
NTDB id 226 SPD RS05990 WP 000705306.1         .P............SFSILDDCYPWDLSEIYDAPVLLFYKGNLDLLKF.PKVAVVGSRACSKQGAKSVEKVIQGLEN.EL   136
NTDB id 192 SPR RS05715 WP 000705306.1         .P............SFSILDDCYPWDLSEIYDAPVLLFYKGNLDLLKF.PKVAVVGSRACSKQGAKSVEKVIQGLEN.EL   136
NTDB id 157 SP RS06205 WP 000705306.1          .P............SFSILDDCYPWDLSEIYDAPVLLFYKGNLDLLKF.PKVAVVGSRACSKQGAKSVEKVIQGLEN.EL   136
NTDB id 497 SM12261 RS05565 WP 000705318.1     .P............SFSILDDCYPWDLSEIYDAPVLLFYKGNLDLLKF.PKVAVVGSRACSKQGAKSVEKVIQGLEN.EL   136
NTDB id 1067669 ACFSN5 RS04185 WP 165212818.1  .P............SLSILDKEYPENLAQIYNPPVLLFYQGDLTLLDA.PKLSIVGSRDCTNLGTKSVQKIVRELAN.HF   134
NTDB id 407 SMU RS04605 WP 002262865.1         .P............SLSILDKEYPLELKNIYNPPVLLFYQGDLDLLAR.PKLAVVGSRNASQMGVAAVKKIIQDLSK.QF   134
consensus                                       *            ********!!**!**!***!******!****!** *****!!*! ****!************* **
```

```
logo
NTDB id 114 BSU 16110 NP 389493.1              VIVSGLASGIDGMSHAASIKAKGRTIGVIAGGFQHIYPRENLQLADHMAKHHLLLSEHPPETKPQKWHFPMRNRIISGLS   222
NTDB id 1250 GC085 RS13065 WP 027219989.1      SIVSGLALGIDAHAHLGCLEGGGKTIAVLGTGIDCIYPRRHLKLAEQITENGLLLSEFPLKSPPIAGHFPLRNRIISGLS   222
NTDB id 599 KW2 RS05940 WP 021037268.1         TIVSGLAKGIDTASHLSAIKTKTPTIAVIGTGLDIFYPLENRKIQEYLAKYQLVLSEYSLGEKPLKYHFPERNRIIAGLS   215
NTDB id 525 SMSK321 RS06295 WP 000705298.1     VIVSGLAKGIDTAAHMAALQNGGKTIAVIGTGLDVFYPKANKRLQDYISNDHLVLSEYGPGEQPLKFHFPARNRIIAGLC   216
NTDB id 267 KZH43 RS05590 WP 000705306.1       VIVSGLAKGIDTAAHMAALQNGGKTIAVIGTGLDVFYPKANKRLQDYIGNDHLVLSEYGPGEQPLKFHFPARNRIIAGLC   216
NTDB id 226 SPD RS05990 WP 000705306.1         VIVSGLAKGIDTAAHMAALQNGGKTIAVIGTGLDVFYPKANKRLQDYIGNDHLVLSEYGPGEQPLKFHFPARNRIIAGLC   216
NTDB id 192 SPR RS05715 WP 000705306.1         VIVSGLAKGIDTAAHMAALQNGGKTIAVIGTGLDVFYPKANKRLQDYIGNDHLVLSEYGPGEQPLKFHFPARNRIIAGLC   216
NTDB id 157 SP RS06205 WP 000705306.1          VIVSGLAKGIDTAAHMAALQNGGKTIAVIGTGLDVFYPKANKRLQDYIGNDHLVLSEYGPGEQPLKFHFPARNRIIAGLC   216
NTDB id 497 SM12261 RS05565 WP 000705318.1     VIVSGLAKGIDTAAHMAALQNGGKTIAVIGTGLDVFYPKANKRLQDYIGNDHLVLSEYGPGEQPLKFHFPARNRIIAGLC   216
NTDB id 1067669 ACFSN5 RS04185 WP 165212818.1  VIVSGLARGIDTGAHIACLKNGGKSIAVIGTGLDIFYPKENHDLQEYLAKHHLVLTEYEPGQQPLKFHFPERNRIIAGLS   214
NTDB id 407 SMU RS04605 WP 002262865.1         VIISGLARGIDTAAHLASLKSGGATIAVIGTGLDVHYPKENRRLQDYIAKNHLLLSEYEAQSQPLKYHFPERNRIIAGLS   214
consensus                                      *!*!!!!*!!!***!**********!*!***!****!!****************!*!******!***!!!*!!!!!*!!*
```

```
logo

NTDB id 114 BSU 16110 NP 389493.1              EGVIVVQGKEKSGSLITAYQALEQGREVFAVPGSLFDPYAGGPIKLIQQGAKAIWSAEDIFEELPERNVQYTEPF.....   297
NTDB id 1250 GC085 RS13065 WP 027219989.1      LCILVIEAAIKSGSLITARMALEQNRDVLAIPGSIHNPLARGCHYLLQQGAKLVTSVADVLDELKIEHHQFTSNKPIFSL   302
NTDB id 599 KW2 RS05940 WP 021037268.1         RGVVVVEAKLRSGSLITCERALEEGRDIFAIPGNIADGTSDGCNHLIQQGAKLVYQAQDILEEYLYN.............   282
NTDB id 525 SMSK321 RS06295 WP 000705298.1     RGVIVAEAKMRSGSLITCERAMEEGRDVFAIPGSILDGLSDGCHHLIQEGAKLVTSGQDVLAEFEF...............   282
NTDB id 267 KZH43 RS05590 WP 000705306.1       RGVIVAEAKMRSGSLITCERAMEEGRDVFAIPGSILDGLSDGCHHLIQEGAKLVTSGQDVLAEFEF...............   282
NTDB id 226 SPD RS05990 WP 000705306.1         RGVIVAEAKMRSGSLITCERAMEEGRDVFAIPGSILDGLSDGCHHLIQEGAKLVTSGQDVLAEFEF...............   282
NTDB id 192 SPR RS05715 WP 000705306.1         RGVIVAEAKMRSGSLITCERAMEEGRDVFAIPGSILDGLSDGCHHLIQEGAKLVTSGQDVLAEFEF...............   282
NTDB id 157 SP RS06205 WP 000705306.1          RGVIVAEAKMRSGSLITCERAMEEGRDVFAIPGSILDGLSDGCHHLIQEGAKLVTSGQDVLAEFEF...............   282
NTDB id 497 SM12261 RS05565 WP 000705318.1     RGVIVAEAKMRSGSLITCERAMEEGRDVFAIPGSILDGLSDGCHHLIQEGAKLVTSGQDVLAEFEF...............   282
NTDB id 1067669 ACFSN5 RS04185 WP 165212818.1  QGTVVVEAKQRSGSLITCERAMEEGRDVFAVPGNILDGRSDGCHHLIQEGAKCIMTGLDILEEFD................   279
NTDB id 407 SMU RS04605 WP 002262865.1         QGVMVAEAKIRSGSLITCERAMEEGRDVFVVPGNILDGQSEGCHHLIQEGAKCITSGFDILNEFNF...............   280
consensus                                      ****!******!!!!!!***!*!**!*****!!********!***!*!*!!!******!***!***

logo

                                               ASGKENLVKFIGFETTTIDQIIDRSGYGMEQVTSGLAELELKGAVIAVPGGYIRCEYER
NTDB id 114 BSU 16110 NP 389493.1              ..........................................................   297
NTDB id 1250 GC085 RS13065 WP 027219989.1      ASGKENLVKFIGFETTTIDQIIDRSGYGMEQVTSGLAELELKGAVIAVPGGYIRCEYER   361
NTDB id 599 KW2 RS05940 WP 021037268.1         ..........................................................   282
NTDB id 525 SMSK321 RS06295 WP 000705298.1     ..........................................................   282
NTDB id 267 KZH43 RS05590 WP 000705306.1       ..........................................................   282
NTDB id 226 SPD RS05990 WP 000705306.1         ..........................................................   282
NTDB id 192 SPR RS05715 WP 000705306.1         ..........................................................   282
NTDB id 157 SP RS06205 WP 000705306.1          ..........................................................   282
NTDB id 497 SM12261 RS05565 WP 000705318.1     ..........................................................   282
NTDB id 1067669 ACFSN5 RS04185 WP 165212818.1  ..........................................................   279
NTDB id 407 SMU RS04605 WP 002262865.1         ..........................................................   280
consensus
```

X non conserved

X similar

X $\geq$ 50% conserved