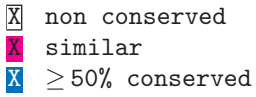
```
NTDB id 599 KW2 RS05940 WP 021037268.1      .MITNFDLFRWKKAGMTNLGVNKLLKFFRKYDRKISLRQMGQVAQVKSIPNFIEQYKNQDVKKLRADYKKFSSFSILDDLYPERL   84
NTDB id 525 SMSK321 RS06295 WP 000705298.1  MKITNYEIYKLKKSGLTNQQILKVLEYGENVDQELLLGDIADISGCRNPAVFMERYFQIDDAHLEKEFKKIPSFSILDDCYPWDL   85
NTDB id 497 SM12261 RS05565 WP 000705318.1  MKITNYEIYKLKKSGLTNQQVLAVLEYGENVDQELLLGDIAEISGCRNPAVFMERYFQIDDAHLEKEFQKFPSFSILDDCYPWDL   85
NTDB id 267 KZH43 RS05590 WP 000705306.1    MKITNYEIYKLKKSGLTNQQILKVLEYGENVDQELLLGDIADISGCRNPAVFMERYFQIDDAHLSKEFQKFPSFSILDDCYPWDL   85
NTDB id 226 SPD RS05990 WP 000705306.1      MKITNYEIYKLKKSGLTNQQILKVLEYGENVDQELLLGDIADISGCRNPAVFMERYFQIDDAHLSKEFQKFPSFSILDDCYPWDL   85
NTDB id 192 SPR RS05715 WP 000705306.1      MKITNYEIYKLKKSGLTNQQILKVLEYGENVDQELLLGDIADISGCRNPAVFMERYFQIDDAHLSKEFQKFPSFSILDDCYPWDL   85
NTDB id 157 SP RS06205 WP 000705306.1       MKITNYEIYKLKKSGLTNQQILKVLEYGENVDQELLLGDIADISGCRNPAVFMERYFQIDDAHLSKEFQKFPSFSILDDCYPWDL   85
NTDB id 120896 DK92 RS04210 WP 047235811.1  ..MNHFELYKLKKAGLTNKNILNILDYQKQQEKSLSLRDMAVVSGCKHPSHFIEAYKQLDIQKLKMEFKQFPSISILDKHYPMAL   83
NTDB id 407 SMU RS04605 WP 002262865.1      ..MDNFQLFKLKKAGLTNLNILNIIDYEERTQKSLSLRDMAVVSKNKKPLIFMEHYKNLDSKALRKEFNRFPSLSILDKEYPLEL   83
consensus                                   ***********!!*!*!!*********************!*************!*!*!***!***!  ********!*!!!!**!!**!
```

```
NTDB id 599 KW2 RS05940 WP 021037268.1      REIYNPPVLIFYQGNIDLLKNPKLAFVGSRLAGQSGIKSVQKIVTELNQSFTIVSGLAKGIDTASHLSAIKTKTPTIAVIGTGLD   169
NTDB id 525 SMSK321 RS06295 WP 000705298.1  SEIYDAPVLLFYKGNLDLLKFPKVAVVGSRSCSKQGAKSVEKIIQGLENELVIVSGLAKGIDTAAHMAALQNGGKTIAVIGTGLD   170
NTDB id 497 SM12261 RS05565 WP 000705318.1  SEIYDAPVLLFYKGNLDLLKFPKVAVVGSRACSKQGAKSVEKVIQGLENELVIVSGLAKGIDTAAHMAALQNGGKTIAVIGTGLD   170
NTDB id 267 KZH43 RS05590 WP 000705306.1    SEIYDAPVLLFYKGNLDLLKFPKVAVVGSRACSKQGAKSVEKVIQGLENELVIVSGLAKGIDTAAHMAALQNGGKTIAVIGTGLD   170
NTDB id 226 SPD RS05990 WP 000705306.1      SEIYDAPVLLFYKGNLDLLKFPKVAVVGSRACSKQGAKSVEKVIQGLENELVIVSGLAKGIDTAAHMAALQNGGKTIAVIGTGLD   170
NTDB id 192 SPR RS05715 WP 000705306.1      SEIYDAPVLLFYKGNLDLLKFPKVAVVGSRACSKQGAKSVEKVIQGLENELVIVSGLAKGIDTAAHMAALQNGGKTIAVIGTGLD   170
NTDB id 157 SP RS06205 WP 000705306.1       SEIYDAPVLLFYKGNLDLLKFPKVAVVGSRACSKQGAKSVEKVIQGLENELVIVSGLAKGIDTAAHMAALQNGGKTIAVIGTGLD   170
NTDB id 120896 DK92 RS04210 WP 047235811.1  KEIYNPPVLLFRQGNLDLLEKPKLAIVGSRRSSDTGVKSVRKILKELGNRFVIISGLARGIDTSAHLACLKNGGQTIAIIGTGLD   168
NTDB id 407 SMU RS04605 WP 002262865.1      KNIYNPPVLLFYQGDLDLLARPKLAVVGSRNASQMGVAAVKKIIQDLSKQFVIISGLARGIDTAAHLASLKSGGATIAVIGTGLD   168
consensus                                   **!!**!!!*!**!**!!!**!!*!*!!!!*****!***!*!****!*****!*!!!!*!!!!**!*********!!!*!!!!!!
```

```
NTDB id 599 KW2 RS05940 WP 021037268.1      IFYPLENRKIQEYLAKYQLVLSEYSLGEKPLKYHFPERNRIIAGLSRGVVVVEAKLRSGSLITCERALEEGRDIFAIPGNIADGT   254
NTDB id 525 SMSK321 RS06295 WP 000705298.1  VFYPKANKRLQDYISNDHLVLSEYGPGEQPLKFHFPARNRIIAGLCRGVIVAEAKMRSGSLITCERAMEEGRDVFAIPGSILDGL   255
NTDB id 497 SM12261 RS05565 WP 000705318.1  VFYPKANKRLQDYIGNDHLVLSEYGPGEQPLKFHFPARNRIIAGLCRGVIVAEAKMRSGSLITCERAMEEGRDVFAIPGSILDGL   255
NTDB id 267 KZH43 RS05590 WP 000705306.1    VFYPKANKRLQDYIGNDHLVLSEYGPGEQPLKFHFPARNRIIAGLCRGVIVAEAKMRSGSLITCERAMEEGRDVFAIPGSILDGL   255
NTDB id 226 SPD RS05990 WP 000705306.1      VFYPKANKRLQDYIGNDHLVLSEYGPGEQPLKFHFPARNRIIAGLCRGVIVAEAKMRSGSLITCERAMEEGRDVFAIPGSILDGL   255
NTDB id 192 SPR RS05715 WP 000705306.1      VFYPKANKRLQDYIGNDHLVLSEYGPGEQPLKFHFPARNRIIAGLCRGVIVAEAKMRSGSLITCERAMEEGRDVFAIPGSILDGL   255
NTDB id 157 SP RS06205 WP 000705306.1       VFYPKANKRLQDYIGNDHLVLSEYGPGEQPLKFHFPARNRIIAGLCRGVIVAEAKMRSGSLITCERAMEEGRDVFAIPGSILDGL   255
NTDB id 120896 DK92 RS04210 WP 047235811.1  RFYPKENRELQTFLGKNHLVITEYGPGEEALSYHFPERNRIIAGLSRGILVVEAKNRSGSLITCQIGIEEGRDIFAVPGNILDGK   253
NTDB id 407 SMU RS04605 WP 002262865.1      VHYPKENRRLQDYIAKNHLLLSEYEAQSQPLKYHFPERNRIIAGLSQGVMVAEAKIRSGSLITCERAMEEGRDVFVVPGNILDGQ   253
consensus                                   **!!**!***!*******!***!!******!**!!!*!!!!!!!!**!**!*!!!*!!!!!!!!!****!!!!!*!**!!*!*!!*
```

```
NTDB id 599 KW2 RS05940 WP 021037268.1      SDGCNHLIQQGAKLVYQAQDILEEYLYN   282
NTDB id 525 SMSK321 RS06295 WP 000705298.1  SDGCHHLIQEGAKLVTSGQDVLAEFEF.   282
NTDB id 497 SM12261 RS05565 WP 000705318.1  SDGCHHLIQEGAKLVTSGQDVLAEFEF.   282
NTDB id 267 KZH43 RS05590 WP 000705306.1    SDGCHHLIQEGAKLVTSGQDVLAEFEF.   282
NTDB id 226 SPD RS05990 WP 000705306.1      SDGCHHLIQEGAKLVTSGQDVLAEFEF.   282
NTDB id 192 SPR RS05715 WP 000705306.1      SDGCHHLIQEGAKLVTSGQDVLAEFEF.   282
NTDB id 157 SP RS06205 WP 000705306.1       SDGCHHLIQEGAKLVTSGQDVLAEFEF.   282
NTDB id 120896 DK92 RS04210 WP 047235811.1  SEGCLQLIKEGATCVTSGMDILSEY...   278
NTDB id 407 SMU RS04605 WP 002262865.1      SEGCHHLIQEGAKCITSGFDILNEFNF.   280
consensus                                   !*!!**!!**!!*******!*!*!***
```


X non conserved
X similar
X ≥ 50% conserved