```
logo
NTDB id 419 DQL23 RS10745 WP 060553298.1      .MILKIIIAFFPTIIQVVSYEIFHKKIMQSKKIDIKFIGLFFSIVFGISIISSILIEIPSFGDVISSIFHYIFLFIQPLI   79
NTDB id 416 SGO RS10505 WP 012131078.1        .MIFTIILSLFPVIIQVFSYDFFYNKINRKKKINIKLIILFWGLIMVISFLYSLFLLLPDYWKIFRDIFHYLFLLIQPLI   79
NTDB id 216288 BWR56 RS00035 WP 049505018.1   MSLLGFGIVILHIFILTISYELICK.....VTK..KERYLFIACIFVYQSVAEFFFDFISLGGL......GIEKFIFPFI   67
NTDB id 486 SM12261 RS09375 WP 020902616.1    MDFLAVLVVILHIFIISKSYYLICK.....NKINIKELCFFGGYTFLVESVFELSFYFIYLDGL......GIEKFLFPLV   69
NTDB id 138 SP RS11430 WP 000364845.1         MDLLGFGTVIVHFLIISHSYRLICK.....GRINRKELYVFGAYTLLTEIVLEFSFYLLYLDKI......GIERFLFPLG   69
NTDB id 249 KZH43 RS10250 WP 000362880.1      MDLFGFGTVIVHFLIISHSYHFICK.....GQINRKELFVFGAYTLLTEIVFDFPLYILYLDGL......GIERFLFPLG   69
NTDB id 208 SPD RS10925 WP 000362880.1        MDLFGFGTVIVHFLIISHSYHFICK.....GQINRKELFVFGAYTLLTEIVFDFPLYILYLDGL......GIERFLFPLG   69
NTDB id 174 SPR RS10405 WP 000362880.1        MDLFGFGTVIVHFLIISHSYHFICK.....GQINRKELFVFGAYTLLTEIVFDFPLYILYLDGL......GIERFLFPLG   69
NTDB id 514 SMSK321 RS10615 WP 001048129.1    MNLFGVGLVIVYFLIISHSYRLICK.....GQINRKELYVFSAYILLTEIVLDFPSYLLHLDDL......GIVKFLFPLV   69
consensus                                     **************!***!!  ****     *  ***!****!************ *********      *******!**
```

```
logo
NTDB id 419 DQL23 RS10745 WP 060553298.1      FYKYFL.KRKEYDNYLNLFLSFVIYLSVETSETFLSVIISSITGDYFVKQHYDIFYIIINLLSLFIILKVVDFFDFYFEY   158
NTDB id 416 SGO RS10505 WP 012131078.1        FYKYFLIKRKEYENYLNLFLSFVIYLSVETSETFLSVIISSITGDSFVKQHYDIFYIIINLLSLFIILKVVDFFDFYFEY   159
NTDB id 216288 BWR56 RS00035 WP 049505018.1   LYTSIVV.LKKYDKHKGMFISLLLSLLYHSTHTFLSVTLSSITGDAFVIEHEVMFYLGVLLLTYLIIKKIITYFHLELTY   146
NTDB id 486 SM12261 RS09375 WP 020902616.1    LYSYFRF.IKKYEKYRGVFLSLLLSLLYNSTHTFLSVTLSSIIGDDTALQYHSLFFLVVVALTYVVIVTIIRYFHLELNY   148
NTDB id 138 SP RS11430 WP 000364845.1         LYSYFRW.MKQYERDRGLFLSLLLSLLYESTHNFLSVIFSSITGDNFVLQYHFPFFFVVTVLTYFVTLKIIYYFHLELAY   148
NTDB id 249 KZH43 RS10250 WP 000362880.1      LYSYFRW.MKQYERDRGLFLSLLLSLLYESTHNFLSVTFSSITGDNFVLQYHFPFFFVVTVLTYFVTLKIIYYFHLELAY   148
NTDB id 208 SPD RS10925 WP 000362880.1        LYSYFRW.MKQYERDRGLFLSLLLSLLYESTHNFLSVTFSSITGDNFVLQYHFPFFFVVTVLTYFVTLKIIYYFHLELAY   148
NTDB id 174 SPR RS10405 WP 000362880.1        LYSYFRW.MKQYERDRGLFLSLLLSLLYESTHNFLSVTFSSITGDNFVLQYHFPFFFVVTVLTYFVTLKIIYYFHLELAY   148
NTDB id 514 SMSK321 RS10615 WP 001048129.1    LYSYFRW.IKQYERDRGLFLSLLLSLLYESTHNFLSVTLSSLTGDNFVLQYYEPFFFLVTVLTYVVILKIIHYFHLDLNY   148
consensus                                     *!***** *!*!******!*!****!******!!!!**!!**!!******* *!******!********* *!**** !
```

```
logo
NTDB id 419 DQL23 RS10745 WP 060553298.1      YKEPIYKNDLYNVNKSYIVIHILLNISHWFSENAHLNSFASMIATIGFIMFLSTLFYLKSAREQHEKAKEIQQKKEEQRQ   238
NTDB id 416 SGO RS10505 WP 012131078.1        YKEPIYKNDLYNVNKSYIVIHILLNISHWFSENAHLNSFASMIATIGFIMFLSTLFYLKSAREQYEKAKEIQQKKEEQRQ   239
NTDB id 216288 BWR56 RS00035 WP 049505018.1   FDKDYLYPFLKKVIVAFFGLHILLFISDIVSTTHHLNSFGSILSTIVFICLLLIFFAMNSHKVQIEKEIALKQKKFEQKH   226
NTDB id 486 SM12261 RS09375 WP 020902616.1    FDKDYLYPFLKKVFFALLLLHVVSFISDMVSTIKHLNSFGSILSSIVFISLLLTFFAMNSHKEKMEKEIALKQKKFEQKH   228
NTDB id 138 SP RS11430 WP 000364845.1         FDKDYLYPFLKKVFFALLLLHIVSFVSDMVSTIKHLNSFGSILSSIVFISLLLTFFAMNSHKVQMEKEIALKQKKFEQKH   228
NTDB id 249 KZH43 RS10250 WP 000362880.1      FDEDYLYPFLKKVFFALLLLHIVSFVSDMVSTIKHLNSFGSILSSIVFISLLLTFFAMNSHKVQMEKEIALKQKKFEQKH   228
NTDB id 208 SPD RS10925 WP 000362880.1        FDEDYLYPFLKKVFFALLLLHIVSFVSDMVSTIKHLNSFGSILSSIVFISLLLTFFAMNSHKVQMEKEIALKQKKFEQKH   228
NTDB id 174 SPR RS10405 WP 000362880.1        FDEDYLYPFLKKVFFALLLLHIVSFVSDMVSTIKHLNSFGSILSSIVFISLLLTFFAMNSHKVQMEKEIALKQKKFEQKH   228
NTDB id 514 SMSK321 RS10615 WP 001048129.1    FDKDYLYPFLTKVFFALLLLHIVSFVSDMVSTIKHLNSFGSILSSIVFISLLLTFFAMNSHKDQMEKEIALKQKKFEQKH   228
consensus                                     *********!**!*******!*****!***!***!!!!!*!****!*!!**!***!***!*****!!*****!!!*!!**
```

```
logo
NTDB id 419 DQL23 RS10745 WP 060553298.1      LQLYTDEIVGLYNEIRGFRHDYAGMLISLQTGINSGDMKEVERIFHNVLSQANISLRSDDYTFFELNNVQDTALRSVLIQ   318
NTDB id 416 SGO RS10505 WP 012131078.1        LQLYTDEIVGLYNEIRGFRHDYAGMLTSLQTGINSGDMKEVERIFHNVLSQANISLRSDDYTFFELNNVQDTALRSVLIQ   319
NTDB id 216288 BWR56 RS00035 WP 049505018.1   LQTYTDEIVELYNEIRGFRHDYAGMLVSMQMAIDSGDLQEINRVYNEVLVKANQKLRSEKYTYFDLNNIEDSALRSLIAQ   306
NTDB id 486 SM12261 RS09375 WP 020902616.1    LQNYTDEIVGLYNEIRGFRHDYAGMLVSMQMAIDSGDLQEIDRVYNEVLVKANHKLRSDKYTYFDLNNIEDSALRSLVAQ   308
NTDB id 138 SP RS11430 WP 000364845.1         LQNYTDEIVGLYNEIRGFRHDYAGMLVSMQMAIDSGNLQEIDRIYNEVLVKANHKLRSDKYTYFDLNNIEDSALRSLVAQ   308
NTDB id 249 KZH43 RS10250 WP 000362880.1      LQNYTDEIVGLYNEIRGFRHDYAGMLVSMQMAIDSGNLQEIDRIYNEVLVKANHKLRSDKYTYFDLNNIEDSALRSLVAQ   308
NTDB id 208 SPD RS10925 WP 000362880.1        LQNYTDEIVGLYNEIRGFRHDYAGMLVSMQMAIDSGNLQEIDRIYNEVLVKANHKLRSDKYTYFDLNNIEDSALRSLVAQ   308
NTDB id 174 SPR RS10405 WP 000362880.1        LQNYTDEIVGLYNEIRGFRHDYAGMLVSMQMAIDSGNLQEIDRIYNEVLVKANHKLRSDKYTYFDLNNIEDSALRSLVAQ   308
NTDB id 514 SMSK321 RS10615 WP 001048129.1    LQNYTDEIVGLYNEIRGFRHDYAGMLVSMQMAIDSGNLQEIDRVYNEVLVKANHKLRSDKYTYFDLNNIEDSALRSLVAQ   308
consensus                                     !!*!!!!!!*!!!!!!!!!!!!!!!!*!*!**!*!!***!**!****!!**!!**!!!**!!*!*!!!**!*!!!!***!
```

```
logo
NTDB id 419 DQL23 RS10745 WP 060553298.1      TIFKARECGVEIVFEMKDVIETLPMKLLDLVRVASVLLNNAVEGAAESPSKTMNVSLVKLDKEIVFVIQNSRQSRYINLE   398
NTDB id 416 SGO RS10505 WP 012131078.1        TIFKARECGVEIVFEMKDVIETLPMKLLDLVRVASVLLNNAVEGAAESPSKTMNVSLVKLDKEIVFVIQNSRQSRYINLE   399
NTDB id 216288 BWR56 RS00035 WP 049505018.1   SIVYARKNDVEFTLEVKDIITRLSIDLLDLVRIMSILLNNAVEGAADSYLKQMEVAVIKMDFETVIVIQNSCKITMTPSE   386
NTDB id 486 SM12261 RS09375 WP 020902616.1    SIVYARNNGVEFTLEVKDKITKLPIELLDLVRIMSVLLNNAVEGSADSYKKQMEVAVIKMETETVIVIQNSCKMTMTPSG   388
NTDB id 138 SP RS11430 WP 000364845.1         SIVYARNNGVEFTLEVKDTITKLPIELLDLVRIMSVLLNNAVEGSADSYKKQMEVAVIKMETETVIVIQNSCKMTMTPSG   388
NTDB id 249 KZH43 RS10250 WP 000362880.1      SIVYARNNGVEFTLEVKDTITKLPIELLDLVRIMSVLLNNAVEGSADSYKKQMEVAVIKMETETVIVIQNSCKMTMTPSG   388
NTDB id 208 SPD RS10925 WP 000362880.1        SIVYARNNGVEFTLEVKDTITKLPIELLDLVRIMSVLLNNAVEGSADSYKKQMEVAVIKMETETVIVIQNSCKMTMTPSG   388
NTDB id 174 SPR RS10405 WP 000362880.1        SIVYARNNGVEFTLEVKDTITKLPIELLDLVRIMSVLLNNAVEGSADSYKKQMEVAVIKMETETVIVIQNSCKMTMTPSG   388
NTDB id 514 SMSK321 RS10615 WP 001048129.1    SIVYARNNGVEFTLEVKDIITRLPIDLLDLVRIMSVLLNNAVEGSADSYKKQMEVAVIKMETETVIVIQNSCKMTMTPSG   388
consensus                                     *!**!!***!!***!*!! !**!***!!!!!!**!*!!!!!!!!*!*!**!*!*!***!***!*!*!!!!!********

logo
NTDB id 419 DQL23 RS10745 WP 060553298.1      EIYEVGFSTKGENRGLGLNNVKEIIDKYDEVILETDIETNYFIQVVRFKRKEKI   452
NTDB id 416 SGO RS10505 WP 012131078.1        EIYEVGFSTKGENRGLGLNNVKEIIDKYDEVILETDIETNYFIQVVRFKRKEKI   453
NTDB id 216288 BWR56 RS00035 WP 049505018.1   DLFALGFSTKGRNRGLGLNNVKEILDKYDNIILETEMEDNTFRQIIRFKREFE.   439
NTDB id 486 SM12261 RS09375 WP 020902616.1    DLFALGFSTKGRNRGVGLNNVKELLDKYNNIILETEMEGSTFRQIIRFKREFE.   441
NTDB id 138 SP RS11430 WP 000364845.1         DLFALGFSTKGRNRGVGLNNVKELLDKYNNIILETEMEGSTFRQIIRFKREFE.   441
NTDB id 249 KZH43 RS10250 WP 000362880.1      DLFALGFSTKGRNRGVGLNNVKELLDKYNNIILETEMEGSTFRQIIRFKREFE.   441
NTDB id 208 SPD RS10925 WP 000362880.1        DLFALGFSTKGRNRGVGLNNVKELLDKYNNIILETEMEGSTFRQIIRFKREFE.   441
NTDB id 174 SPR RS10405 WP 000362880.1        DLFALGFSTKGRNRGVGLNNVKELLDKYNNIILETEMEGSTFRQIIRFKREFE.   441
NTDB id 514 SMSK321 RS10615 WP 001048129.1    DLFALGFSTKGRNRGVGLNNVKELLDKYNNIILETEMEGSTFRQIIRFKREFE.   441
consensus                                     *****!!!!!!*!!!!*!!!!!!!**!!!***!!!!**!***!*!**!!!!***
```

X non conserved

X similar

X $\geq$ 50% conserved