```
logo
NTDB id 419 DQL23 RS10745 WP 060553298.1    .MILKIIIAFFPTIIQVVSYEIFHKKIMQSKKIDIKFIGLFFSIVFGISIISSILIEIPSFGDVISSIFHYIFLFIQPLIFYKYF   84
NTDB id 416 SGO RS10505 WP 012131078.1      .MIFTIILSLFPVIIQVFSYDFFYNKINRKKKINIKLIILFWGLIMVISFLYSLFLLLPDYWKIFRDIFHYLFLLIQPLIFYKYF   84
NTDB id 486 SM12261 RS09375 WP 020902616.1  MDFLAVLVVILHIFIISKSYYLI.....CKNKINIKELCFFGGYTFL....VESVFELSFYFIYLDGL..GIEKFLFPLVLYSYF   74
NTDB id 97843 R8619 RS10815 WP 000362880.1  MDLFGFGTVIVHFLIISHSYHFI.....CKGQINRKELFVFGAYTLL....TEIVFDFPLYILYLDGL..GIERFLFPLGLYSYF   74
NTDB id 249 KZH43 RS10250 WP 000362880.1    MDLFGFGTVIVHFLIISHSYHFI.....CKGQINRKELFVFGAYTLL....TEIVFDFPLYILYLDGL..GIERFLFPLGLYSYF   74
NTDB id 208 SPD RS10925 WP 000362880.1      MDLFGFGTVIVHFLIISHSYHFI.....CKGQINRKELFVFGAYTLL....TEIVFDFPLYILYLDGL..GIERFLFPLGLYSYF   74
NTDB id 174 SPR RS10405 WP 000362880.1      MDLFGFGTVIVHFLIISHSYHFI.....CKGQINRKELFVFGAYTLL....TEIVFDFPLYILYLDGL..GIERFLFPLGLYSYF   74
NTDB id 138 SP RS11430 WP 000364845.1       MDLLGFGTVIVHFLIISHSYRLI.....CKGRINRKELYVFGAYTLL....TEIVLEFSFYLLYLDKI..GIERFLFPLGLYSYF   74
NTDB id 514 SMSK321 RS10615 WP 001048129.1  MNLFGVGLVIVYFLIISHSYRLI.....CKGQINRKELYVFSAYILL....TEIVLDFPSYLLHLDDL..GIVKFLFPLVLYSYF   74
consensus                                   **************!***!!  **     ****!**!****!******    ******** ********  *******!!**!*!!

logo
NTDB id 419 DQL23 RS10745 WP 060553298.1    L.KRKEYDNYLNLFLSFVIYLSVETSETFLSVIISSITGDYFVKQHYDIFYIIINLLSLFIILKVVDFFDFYFEYYKEPIYKNDL  168
NTDB id 416 SGO RS10505 WP 012131078.1      LIKRKEYENYLNLFLSFVIYLSVETSETFLSVIISSITGDSFVKQHYDIFYIIINLLSLFIILKVVDFFDFYFEYYKEPIYKNDL  169
NTDB id 486 SM12261 RS09375 WP 020902616.1  RF.IKKYEKYRGVFLSLLLSLLYNSTHTFLSVTLSSIIGDDTALQYHSLFFLVVVALTYVVIVTIIRYFHLELNYFDKDYLYPFL  158
NTDB id 97843 R8619 RS10815 WP 000362880.1  RW.MKQYERDRGLFLSLLLSLLYESTHNFLSVTFSSITGDNFVLQYHFPFFFVVTVLTYFVTLKIIYYFHLELAYFDEDYLYPFL  158
NTDB id 249 KZH43 RS10250 WP 000362880.1    RW.MKQYERDRGLFLSLLLSLLYESTHNFLSVTFSSITGDNFVLQYHFPFFFVVTVLTYFVTLKIIYYFHLELAYFDEDYLYPFL  158
NTDB id 208 SPD RS10925 WP 000362880.1      RW.MKQYERDRGLFLSLLLSLLYESTHNFLSVTFSSITGDNFVLQYHFPFFFVVTVLTYFVTLKIIYYFHLELAYFDEDYLYPFL  158
NTDB id 174 SPR RS10405 WP 000362880.1      RW.MKQYERDRGLFLSLLLSLLYESTHNFLSVTFSSITGDNFVLQYHFPFFFVVTVLTYFVTLKIIYYFHLELAYFDEDYLYPFL  158
NTDB id 138 SP RS11430 WP 000364845.1       RW.MKQYERDRGLFLSLLLSLLYESTHNFLSVIFSSITGDNFVLQYHFPFFFVVTVLTYFVTLKIIYYFHLELAYFDKDYLYPFL  158
NTDB id 514 SMSK321 RS10615 WP 001048129.1  RW.IKQYERDRGLFLSLLLSLLYESTHNFLSVTLSSLTGDNFVLQYYEPFFFLVTVLTYVVILKIIHYFHLDLNYFDKDYLYPFL  158
consensus                                   ** *!*!******!!!****!*******!!!!!**!!**!!****!****!******!***********!*****!*********!

logo
NTDB id 419 DQL23 RS10745 WP 060553298.1    YNVNKSYIVIHILLNISHWFSENAHLNSFASMIATIGFIMFLSTLFYLKSAREQHEKAKEIQQKKEEQRQLQLYTDEIVGLYNEI  253
NTDB id 416 SGO RS10505 WP 012131078.1      YNVNKSYIVIHILLNISHWFSENAHLNSFASMIATIGFIMFLSTLFYLKSAREQYEKAKEIQQKKEEQRQLQLYTDEIVGLYNEI  254
NTDB id 486 SM12261 RS09375 WP 020902616.1  KKVFFALLLLHVVSFISDMVSTIKHLNSFGSILSSIVFISLLLTFFAMNSHKEKMEKEIALKQKKFEQKHLQNYTDEIVGLYNEI  243
NTDB id 97843 R8619 RS10815 WP 000362880.1  KKVFFALLLLHIVSFVSDMVSTIKHLNSFGSILSSIVFISLLLTFFAMNSHKVQMEKEIALKQKKFEQKHLQNYTDEIVGLYNEI  243
NTDB id 249 KZH43 RS10250 WP 000362880.1    KKVFFALLLLHIVSFVSDMVSTIKHLNSFGSILSSIVFISLLLTFFAMNSHKVQMEKEIALKQKKFEQKHLQNYTDEIVGLYNEI  243
NTDB id 208 SPD RS10925 WP 000362880.1      KKVFFALLLLHIVSFVSDMVSTIKHLNSFGSILSSIVFISLLLTFFAMNSHKVQMEKEIALKQKKFEQKHLQNYTDEIVGLYNEI  243
NTDB id 174 SPR RS10405 WP 000362880.1      KKVFFALLLLHIVSFVSDMVSTIKHLNSFGSILSSIVFISLLLTFFAMNSHKVQMEKEIALKQKKFEQKHLQNYTDEIVGLYNEI  243
NTDB id 138 SP RS11430 WP 000364845.1       KKVFFALLLLHIVSFVSDMVSTIKHLNSFGSILSSIVFISLLLTFFAMNSHKVQMEKEIALKQKKFEQKHLQNYTDEIVGLYNEI  243
NTDB id 514 SMSK321 RS10615 WP 001048129.1  TKVFFALLLLHIVSFVSDMVSTIKHLNSFGSILSSIVFISLLLTFFAMNSHKDQMEKEIALKQKKFEQKHLQNYTDEIVGLYNEI  243
consensus                                   **!*******!*****!***!***!!!!!*!****!*!!**!*!*!***!****!!*****!!!*!!**!!*!!!!!!!!!!!!

logo
NTDB id 419 DQL23 RS10745 WP 060553298.1    RGFRHDYAGMLISLQTGINSGDMKEVERIFHNVLSQANISLRSDDYTFFELNNVQDTALRSVLIQTIFKARECGVEIVFEMKDVI  338
NTDB id 416 SGO RS10505 WP 012131078.1      RGFRHDYAGMLTSLQTGINSGDMKEVERIFHNVLSQANISLRSDDYTFFELNNVQDTALRSVLIQTIFKARECGVEIVFEMKDVI  339
NTDB id 486 SM12261 RS09375 WP 020902616.1  RGFRHDYAGMLVSMQMAIDSGDLQEIDRVYNEVLVKANHKLRSDKYTYFDLNNIEDSALRSLVAQSIVYARNNGVEFTLEVKDKI  328
NTDB id 97843 R8619 RS10815 WP 000362880.1  RGFRHDYAGMLVSMQMAIDSGNLQEIDRIYNEVLVKANHKLRSDKYTYFDLNNIEDSALRSLVAQSIVYARNNGVEFTLEVKDTI  328
NTDB id 249 KZH43 RS10250 WP 000362880.1    RGFRHDYAGMLVSMQMAIDSGNLQEIDRIYNEVLVKANHKLRSDKYTYFDLNNIEDSALRSLVAQSIVYARNNGVEFTLEVKDTI  328
NTDB id 208 SPD RS10925 WP 000362880.1      RGFRHDYAGMLVSMQMAIDSGNLQEIDRIYNEVLVKANHKLRSDKYTYFDLNNIEDSALRSLVAQSIVYARNNGVEFTLEVKDTI  328
NTDB id 174 SPR RS10405 WP 000362880.1      RGFRHDYAGMLVSMQMAIDSGNLQEIDRIYNEVLVKANHKLRSDKYTYFDLNNIEDSALRSLVAQSIVYARNNGVEFTLEVKDTI  328
NTDB id 138 SP RS11430 WP 000364845.1       RGFRHDYAGMLVSMQMAIDSGNLQEIDRIYNEVLVKANHKLRSDKYTYFDLNNIEDSALRSLVAQSIVYARNNGVEFTLEVKDTI  328
NTDB id 514 SMSK321 RS10615 WP 001048129.1  RGFRHDYAGMLVSMQMAIDSGNLQEIDRVYNEVLVKANHKLRSDKYTYFDLNNIEDSALRSLVAQSIVYARNNGVEFTLEVKDII  328
consensus                                   !!!!!!!!!!!!*!*!***!*!!***!**!****!!**!!**!!!!*!!*!*!!!!**!*!!!!***!*!**!!**!!!***!*!!*!
```

```
logo
NTDB id 419 DQL23 RS10745 WP 060553298.1    ETLPMKLLDLVRVASVLLNNAVEGAAESPSKTMNVSLVKLDKEIVFVIQNSRQSRYINLEEIYEVGFSTKGENRGLGLNNVKEII   423
NTDB id 416 SGO RS10505 WP 012131078.1      ETLPMKLLDLVRVASVLLNNAVEGAAESPSKTMNVSLVKLDKEIVFVIQNSRQSRYINLEEIYEVGFSTKGENRGLGLNNVKEII   424
NTDB id 486 SM12261 RS09375 WP 020902616.1  TKLPIELLDLVRIMSVLLNNAVEGSADSYKKQMEVAVIKMETETVIVIQNSCKMTMTPSGDLFALGFSTKGRNRGVGLNNVKELL   413
NTDB id 97843 R8619 RS10815 WP 000362880.1  TKLPIELLDLVRIMSVLLNNAVEGSADSYKKQMEVAVIKMETETVIVIQNSCKMTMTPSGDLFALGFSTKGRNRGVGLNNVKELL   413
NTDB id 249 KZH43 RS10250 WP 000362880.1    TKLPIELLDLVRIMSVLLNNAVEGSADSYKKQMEVAVIKMETETVIVIQNSCKMTMTPSGDLFALGFSTKGRNRGVGLNNVKELL   413
NTDB id 208 SPD RS10925 WP 000362880.1      TKLPIELLDLVRIMSVLLNNAVEGSADSYKKQMEVAVIKMETETVIVIQNSCKMTMTPSGDLFALGFSTKGRNRGVGLNNVKELL   413
NTDB id 174 SPR RS10405 WP 000362880.1      TKLPIELLDLVRIMSVLLNNAVEGSADSYKKQMEVAVIKMETETVIVIQNSCKMTMTPSGDLFALGFSTKGRNRGVGLNNVKELL   413
NTDB id 138 SP RS11430 WP 000364845.1       TKLPIELLDLVRIMSVLLNNAVEGSADSYKKQMEVAVIKMETETVIVIQNSCKMTMTPSGDLFALGFSTKGRNRGVGLNNVKELL   413
NTDB id 514 SMSK321 RS10615 WP 001048129.1  TRLPIDLLDLVRIMSVLLNNAVEGSADSYKKQMEVAVIKMETETVIVIQNSCKMTMTPSGDLFALGFSTKGRNRGVGLNNVKELL   413
consensus                                   **!!**!!!!!!**!!!!!!!!!!*!*!**!*!*!***!***!*!*!!!!!**************!!!!!!*!!!*!!!!!!!**
```

```
logo
NTDB id 419 DQL23 RS10745 WP 060553298.1    DKYDEVILETDIETNYFIQVVRFKRKEKI   452
NTDB id 416 SGO RS10505 WP 012131078.1      DKYDEVILETDIETNYFIQVVRFKRKEKI   453
NTDB id 486 SM12261 RS09375 WP 020902616.1  DKYNNIILETEMEGSTFRQIIRFKREFE.   441
NTDB id 97843 R8619 RS10815 WP 000362880.1  DKYNNIILETEMEGSTFRQIIRFKREFE.   441
NTDB id 249 KZH43 RS10250 WP 000362880.1    DKYNNIILETEMEGSTFRQIIRFKREFE.   441
NTDB id 208 SPD RS10925 WP 000362880.1      DKYNNIILETEMEGSTFRQIIRFKREFE.   441
NTDB id 174 SPR RS10405 WP 000362880.1      DKYNNIILETEMEGSTFRQIIRFKREFE.   441
NTDB id 138 SP RS11430 WP 000364845.1       DKYNNIILETEMEGSTFRQIIRFKREFE.   441
NTDB id 514 SMSK321 RS10615 WP 001048129.1  DKYNNIILETEMEGSTFRQIIRFKREFE.   441
consensus                                   !!!***!!!!**!***!*!**!!!!***
```

X non conserved

X similar

X $\geq$ 50% conserved