```
logo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
NTDB id 320 STU RS10340 WP 002949220.1        ..................................................MEQEVFVKAYEKVRPIVLKAFRQYFIQLWDQ    31
NTDB id 47 STER RS00925 WP 002949220.1        ..................................................MEQEVFVKAYEKVRPIVLKAFRQYFIQLWDQ    31
NTDB id 44 SMU RS09085 WP 002263585.1         ..................................................MEEDFEIVFNKVKPIVWKLSRYYFIKMWTR    30
NTDB id 457 SSUD9 RS00080 WP 002936602.1      ....................................................MEFEKVYASVKGIVNKARKEFYIKLWDR    28
NTDB id 461 GPW51 RS00080 WP 011921639.1      ....................................................MEFEKVYASVKGIVNKARKEFYIKLWDR    28
NTDB id 454 SSU RS00080 WP 011921639.1        ....................................................MEFEKVYASVKGIVNKARKEFYIKLWDR    28
NTDB id 424 SGO RS10430 WP 012130755.1        ....................................................MKFEDVYKQVEGIVKRCYKDYYLHLWEY    28
NTDB id 423 SGO RS08370 WP 012130755.1        ....................................................MKFEDVYKQVEGIVKRCYKDYYLHLWEY    28
NTDB id 141 SP RS10155 WP 000588925.1         ....................................................MIKELYEEVQGTVYKCRNEYYLHLWEL    27
NTDB id 140 SP RS00070 WP 000588925.1         ....................................................MIKELYEEVQGTVYKCRNEYYLHLWEL    27
NTDB id 252 KZH43 RS09050 WP 000588897.1      ....................................................MIKELYEEVQGTVYKCRNEYYLHLWEL    27
NTDB id 251 KZH43 RS09050 WP 000588897.1      ....................................................MIKELYEEVQGTVYKCRNEYYLHLWEL    27
NTDB id 211 SPD RS09675 WP 000588897.1        ....................................................MIKELYEEVQGTVYKCRNEYYLHLWEL    27
NTDB id 210 SPD RS00065 WP 000588897.1        ....................................................MIKELYEEVQGTVYKCRNEYYLHLWEL    27
NTDB id 177 SPR RS09210 WP 000588897.1        ....................................................MIKELYEEVQGTVYKCRNEYYLHLWEL    27
NTDB id 176 SPR RS00065 WP 000588897.1        ....................................................MIKELYEEVQGTVYKCRNEYYLHLWEL    27
NTDB id 489 SM12261 RS01070 WP 000471940.1    ....................................................MFKELYEEVQGIVYKCRNEYYLHLWEL    27
NTDB id 488 SM12261 RS00065 WP 000471939.1    ....................................................MFKELYEEVQGIVYKCRNEYHLHLWEL    27
NTDB id 517 SMSK321 RS10700 WP 000471945.1    ....................................................MFKELYKEVQGIVYKSRNEYYLHLWEL    27
NTDB id 516 SMSK321 RS09125 WP 000471944.1    ....................................................MFKELYKEVQGIVYKSRNEYYLHLWEL    27
NTDB id 582 DLJ51 RS00505 WP 002962720.1      MDKEKLKEIFNKHSALPEEVEEFDDGMVKEVITAGLLFCLKEVL....DMDDSSFVSAFSRVEKTVSKLAKDYYIKLWTY    76
NTDB id 261165 SPSF3K RS03115 WP 004234846.1  ..................................................MDQFDKCFKTVKPTIYKFMRFYYIHLWEK    29
NTDB id 442 SPYM3 RS08515 WP 011106595.1      ............................MS..CCFFVVLFILGIVKKKRRLKMSIETRAVFEKVKPIILKLKRHYYIQLWDR    52
NTDB id 441 SPYM3 RS01385 WP 011106595.1      ............................MS..CCFFVVLFILGIVKKKRRLKMSIETRAVFEKVKPIILKLKRHYYIQLWDR    52
NTDB id 448 SpyM6JRS4 RS07800 WP 010921894.1 ............................MS..CCFFVVLFILGIVKKKRRLKMSIETRAAFEKVKPIILKLKRHYYIQLWDR    52
NTDB id 447 SpyM6JRS4 RS01370 WP 010921894.1 ............................MS..CCFFVVLFILGIVKKKRRLKMSIETRAAFEKVKPIILKLKRHYYIQLWDR    52
NTDB id 450 SPYM18 RS08475 WP 011018214.1     ............................MS..CCFFVVLFILGIVKKKRRLKMSIETRAAFEKVKPIILKLKRHYYIQLWDR    52
NTDB id 449 SPYM18 RS01395 WP 011018214.1     ............................MS..CCFFVVLFILGIVKKKRRLKMSIETRAAFEKVKPIILKLKRHYYIQLWDR    52
NTDB id 554 STRINF RS00370 WP 115283725.1     ....................................................MDFERYFQTVKPIILKLRRHYFVKLWDY    28
consensus                                                                                                                  * *** ! *** * ****** *!*
```

```
logo
NTDB id 320 STU RS10340 WP 002949220.1        ADMEQEAMMTLYQLLKKFPDLEKDDDKLRRYFKTKFRNRLNDEVRRQESVKRQANRQCYVEISDIAFCIPNKEL.DMVDR   110
NTDB id 47 STER RS00925 WP 002949220.1        ADMEQEAMMTLYQLLKKFPDLEKDDDKLRRYFKTKFRNRLNDEVRRQESVKRQANRQCYVEISDIAFCIPNKEL.DMVDR   110
NTDB id 44 SMU RS09085 WP 002263585.1         EDWQQEGMLILHQLLREHPELEEDDTKLYIYFKTRFSNYIKDVLRQQESQKRRFNRMSYEEVGEIEHCLSSGGM.QLDEY   109
NTDB id 457 SSUD9 RS00080 WP 002936602.1      DDWEQEGMMTLFELLEAQPWLVDEQVQLYCYFKVKFRNRIKDRIRKQESQKRKFDRMPHEDIHELSHAIQSPGL.INDEL   107
NTDB id 461 GPW51 RS00080 WP 011921639.1      DDWEQEGMMTLFELLEAQPWLVDEQVQLYCYFKVKFRNRIKDRIRKQESQKRKFDRMPHEDIYELSHAIQSPGL.INDEL   107
NTDB id 454 SSU RS00080 WP 011921639.1        DDWEQEGMMTLFELLEAQPWLVDEQVQLYCYFKVKFRNRIKDRIRKQESQKRKFDRMPHEDIYELSHAIQSPGL.INDEL   107
NTDB id 424 SGO RS10430 WP 012130755.1        ADWRQEGMLVLYELLKSHPNLLEDQPRLYRYFKTKFRNRIHDLIRRQESQKRKLDRQPYEEVSEIGHRLRMKEL.YLDEL   107
NTDB id 423 SGO RS08370 WP 012130755.1        ADWRQEGMLVLYELLKSHPNLLEDQPRLYRYFKTKFRNRIHDLIRRQESQKRKLDRQPYEEVSEIGHRLRMKEL.YLDEL   107
NTDB id 141 SP RS10155 WP 000588925.1         SDWEQEGMLCLHELISREEGLVDDIPRLRKYFKTKFRNRILDYIRKQESQKRRYDKEPYEEVGEISHRISEGGL.WLDDY   106
NTDB id 140 SP RS00070 WP 000588925.1         SDWEQEGMLCLHELISREEGLVDDIPRLRKYFKTKFRNRILDYIRKQESQKRRYDKEPYEEVGEISHRISEGGL.WLDDY   106
NTDB id 252 KZH43 RS09050 WP 000588897.1      SDWDQEGMLCLHELISREEGLVDDIPRLRKYFKTKFRNRILDYIRKQESQKRRYDKEPYEEVGEISHRISEGGL.WLDDY   106
NTDB id 251 KZH43 RS09050 WP 000588897.1      SDWDQEGMLCLHELISREEGLVDDIPRLRKYFKTKFRNRILDYIRKQESQKRRYDKEPYEEVGEISHRISEGGL.WLDDY   106
NTDB id 211 SPD RS09675 WP 000588897.1        SDWDQEGMLCLHELISREEGLVDDIPRLRKYFKTKFRNRILDYIRKQESQKRRYDKEPYEEVGEISHRISEGGL.WLDDY   106
NTDB id 210 SPD RS00065 WP 000588897.1        SDWDQEGMLCLHELISREEGLVDDIPRLRKYFKTKFRNRILDYIRKQESQKRRYDKEPYEEVGEISHRISEGGL.WLDDY   106
NTDB id 177 SPR RS09210 WP 000588897.1        SDWDQEGMLCLHELISREEGLVDDIPRLRKYFKTKFRNRILDYIRKQESQKRRYDKEPYEEVGEISHRISEGGL.WLDDY   106
NTDB id 176 SPR RS00065 WP 000588897.1        SDWDQEGMLCLHELISREEGLVDDIPRLRKYFKTKFRNRILDYIRKQESQKRRYDKEPYEEVGEISHRISEGGL.WLDDY   106
NTDB id 489 SM12261 RS01070 WP 000471940.1    SDWDQEGMICLHELISREEELVEDIPRLRKYFKTKFRNRILDHIRKQESQKRRYDKEPYEEVGEISHRISEGGM.WLDEY   106
NTDB id 488 SM12261 RS00065 WP 000471939.1    SDWDQEGMICLHELISREEGIVEDIPRLRKYFKTKFRNRILDYIRKQESQKRRYDKEPYEEVGEISHRISEGGM.WLDEY   106
NTDB id 517 SMSK321 RS10700 WP 000471945.1    SDWDQEGMICLHELISREEELVEDIPRLRKYFKTKFRNRILDYIRKQESQKRRYDKEAYEEVGEISHRIGEGGL.WLDDY   106
NTDB id 516 SMSK321 RS09125 WP 000471944.1    SDWDQEGMICLHELISKEEELAEDIPRLRKYFKTKFRNRILDYIRKQESQKRRYDKESYEEVGEISHRIGEGGL.WLDEY   106
NTDB id 582 DLJ51 RS00505 WP 002962720.1      DDWRQEARIILYQLLERFPDLANDEEKLRIYFKTKFRSYVLDNIRKQESQKRAFDRMIYEEISELGHMIPSQQM.DTADY   155
NTDB id 261165 SPSF3K RS03115 WP 004234846.1 DDWFQEGRLILHDLLHRNPDLYKNEQQLLVYFKTKFSSHLKDVIRFQESQKRRFNRMPYEEIGEIAHKIPSQGL.VLDEF   108
NTDB id 442 SPYM3 RS08515 WP 011106595.1     DDWLQEGHIILLQLLERYPELIEEEERLYRYFKTKFSSYLKDLLRRQESQKRQFHKLAYEEIGEVAHAIPSRGL.WLDDY   131
NTDB id 441 SPYM3 RS01385 WP 011106595.1     DDWLQEGHIILLQLLERYPELIEEEERLYRYFKTKFSSYLKDLLRRQESQKRQFHKLAYEEIGEVAHAIPSRGL.WLDDY   131
NTDB id 448 SpyM6JRS4 RS07800 WP 010921894.1 DDWLQEGHIILLQLLERYPELIEEEERLYRYFKTKFSSYLKDLLRRQESQKRQFHKLAYEEIGEVAHAIPSRGL.WLDDY   131
NTDB id 447 SpyM6JRS4 RS01370 WP 010921894.1 DDWLQEGHIILLQLLERYPELIEEEERLYRYFKTKFSSYLKDLLRRQESQKRQFHKLAYEEIGEVAHAIPSRGL.WLDDY   131
NTDB id 450 SPYM18 RS08475 WP 011018214.1    DDWLQEGHIILLQLLERYPELIEEEERLYRYFKTKFSSYLKDLLRRQESQKRQFHKLAYEEIGEVAHAIPSRGL.WLDDY   131
NTDB id 449 SPYM18 RS01395 WP 011018214.1    DDWLQEGHIILLQLLERYPELIEEEERLYRYFKTKFSSYLKDLLRRQESQKRQFHKLAYEEIGEVAHAIPSRGL.WLDDY   131
NTDB id 554 STRINF RS00370 WP 115283725.1    EDWIQEGRIVFFQLLEEHPDLLNNEGKCYSYFKTKFSNHVKDIIRHQESFKRKFNRMPYEEISDISHCVPQVFFFEVEDY   108
consensus                                     !**!!*** * *!* * * ****  ** *!!!**!**** ! *!*!!!*!!**** ******** * *   ** *****
```

```
logo
NTDB id 320 STU RS10340 WP 002949220.1        LAYDEQLNAFREQLSSEDSLKLDRLLGGECFRGRKKMIRELRFWMVDFDPCNEED   165
NTDB id 47 STER RS00925 WP 002949220.1        LAYDEQLNAFREQLSSEDSLKLDRLLGGECFRGRKKMIRELRFWMVDFDPCNEED   165
NTDB id 44 SMU RS09085 WP 002263585.1         ILFRDSLLAYKQGLSTEKQELFERLVAGEHFLGRQSMLKDLRKKLSDFKEK....   160
NTDB id 457 SSUD9 RS00080 WP 002936602.1      LMLRGALRDYRKNLSNDQLDKYEKLISGQCFNGRREMIRDLQIHLKDFR......   156
NTDB id 461 GPW51 RS00080 WP 011921639.1      LMLRGALRDYRKNLSNDQLDKYEKLISGQCFNGRREMIRDLQIHLKDFR......   156
NTDB id 454 SSU RS00080 WP 011921639.1        LMLRGALRDYRKNLSNDQLDKYEKLISGQCFNGRREMIRDLQIHLKDFR......   156
NTDB id 424 SGO RS10430 WP 012130755.1        VAFRSAMSEYRSRLSPEEAKQYERLMADERFKGRKAMLKDLSYHLRDFNPRLD..   160
NTDB id 423 SGO RS08370 WP 012130755.1        VAFRSAMSEYRSRLSPEEAKQYERLMADERFKGRKAMLKDLSYHLRDFNPRLD..   160
NTDB id 141 SP RS10155 WP 000588925.1         YLFHETLRDYRNKQSKEKQEELERVLSNERFRGRQRVLRDLRIVFKEFTIRTH..   159
NTDB id 140 SP RS00070 WP 000588925.1         YLFHETLRDYRNKQSKEKQEELERVLSNERFRGRQRVLRDLRIVFKEFTIRTH..   159
NTDB id 252 KZH43 RS09050 WP 000588897.1      YLFHETLRDYRNKQSKEKQEELERVLSNERFRGRQRVLRDLRIVFKEFTIRTH..   159
NTDB id 251 KZH43 RS09050 WP 000588897.1      YLFHETLRDYRNKQSKEKQEELERVLSNERFRGRQRVLRDLRIVFKEFTIRTH..   159
NTDB id 211 SPD RS09675 WP 000588897.1        YLFHETLRDYRNKQSKEKQEELERVLSNERFRGRQRVLRDLRIVFKEFTIRTH..   159
NTDB id 210 SPD RS00065 WP 000588897.1        YLFHETLRDYRNKQSKEKQEELERVLSNERFRGRQRVLRDLRIVFKEFTIRTH..   159
NTDB id 177 SPR RS09210 WP 000588897.1        YLFHETLRDYRNKQSKEKQEELERVLSNERFRGRQRVLRDLRIVFKEFTIRTH..   159
NTDB id 176 SPR RS00065 WP 000588897.1        YLFHETLRDYRNKQSKEKQEELERVLSNERFRGRQRVLRDLRIVFKEFTIRTH..   159
NTDB id 489 SM12261 RS01070 WP 000471940.1    YLFHETLRDYRNKQSKDKQEELERVLRHERFRGRQRVLRDLRIVFKEFDIRTH..   159
NTDB id 488 SM12261 RS00065 WP 000471939.1    YLFHETLRDYRNKQSKDKQEELERVLRHERFRGRQRVLRDLRIVFKEFDIRTH..   159
NTDB id 517 SMSK321 RS10700 WP 000471945.1    YLFHETLRDYRSKQSKDKQEELERVLRHERFRGRQRVLRDLRIVFKEFDIRTQ..   159
NTDB id 516 SMSK321 RS09125 WP 000471944.1    YLFHETLRDYRSKQSKDKQEELERVLRHERFRGRQRVLRDLRIVFKEFDIRTR..   159
NTDB id 582 DLJ51 RS00505 WP 002962720.1      CALKEKLKELKQKLAPEDYAKILLLMRGGAFKGRSAFIKDIKVEFEDFDEDN...   207
NTDB id 261165 SPSF3K RS03115 WP 004234846.1  IAYQSIIEQISGILTKEEQSQLYALMRGERFIGKRALLRKIKPFFIDFLDE....   159
NTDB id 442 SPYM3 RS08515 WP 011106595.1      VAYQEVIASLENQLNSQERMQFQALIRGERFKGRRALLRKISPYFKEFAQQL...   183
NTDB id 441 SPYM3 RS01385 WP 011106595.1      VAYQEVIASLENQLNSQERMQFQALIRGERFKGRRALLRKISPYFKEFAQQL...   183
NTDB id 448 SpyM6JRS4 RS07800 WP 010921894.1  VAYQEVIASLENQLNSQERMQFQALIRGERFKGRRALLRKISPYFKEFAQQL...   183
NTDB id 447 SpyM6JRS4 RS01370 WP 010921894.1  VAYQEVIASLENQLNSQERMQFQALIRGERFKGRRALLRKISPYFKEFAQQL...   183
NTDB id 450 SPYM18 RS08475 WP 011018214.1     VAYQEVIASLENQLNSQERMQFKALIRGERFKGRRALLRKISPYFKEFAQQL...   183
NTDB id 449 SPYM18 RS01395 WP 011018214.1     VAYQEVIASLENQLNSQERMQFKALIRGERFKGRRALLRKISPYFKEFAQQL...   183
NTDB id 554 STRINF RS00370 WP 115283725.1     VAYQDSLACLRRTLGREDRLKLEKVIRGERFEGKKAFLKSIELYFSDFRP.....   158
consensus                                       * * * **** ** *     *****   **!*!*   ******* ***!
```

X non conserved

X similar

X ≥ 50% conserved