```
logo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
NTDB id 1186 GTF74 RS01320 WP 000788426.1       ..MKNGLKT..YVAQTWLTLWVGLALCASSMVFSAESATANQLENIDFRVNKEKAAVLIVELASPSAVVDVQKVQEGLSI    76
NTDB id 1175 A1552VC RS12105 WP 000788426.1     ..MKNGLKT..YVAQTWLTLWVGLALCASSMVFSAESATANQLENIDFRVNKEKAAVLIVELASPSAVVDVQKVQEGLSI    76
NTDB id 1408 DSB67 RS13980 WP 010643500.1       MKMRHGLTLTPRKLTGLFSLWFSLLLAP...FVAAEEVQSNSLKSIDFRTNKDKDAVIVVELVSPAAIVDIKRVQEGLSI    77
NTDB id 1381 A4U84 RS02010 WP 021113424.1       ..........................................................................................     0
NTDB id 1065167 ACHWS3 RS02245 WP 015702713.1   ..........................................................................................     0
NTDB id 1347 HI 0435 AAC22094.1                 ..........................................................................................     0
NTDB id 1373 NTHI RS02645 WP 011272046.1        ..........................................................................................     0
consensus

logo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
NTDB id 1186 GTF74 RS01320 WP 000788426.1       ELLKTDVADDKLYLLDVKDFSTPVESVEVFRKEPSTQLVVTVDGEFQHDYTLKGKYLEVVISKLKADEKPKPKSVLEKEG   156
NTDB id 1175 A1552VC RS12105 WP 000788426.1     ELLKTDVADDKLYLLDVKDFSTPVESVEVFRKEPSTQLVVTVDGEFQHDYTLKGKYLEVVISKLKADEKPKPKSVLEKEG   156
NTDB id 1408 DSB67 RS13980 WP 010643500.1       DLLNTSVKDDQLYLLDVKDFSTVVESVEVFRDTSTTRLVAYIDEDYSHDYRLTGRYLEVKVGKLKANEKAPDKSILDKEG   157
NTDB id 1381 A4U84 RS02010 WP 021113424.1       ...................................................MRYLFLL.....F.....FATFPVLAN    17
NTDB id 1065167 ACHWS3 RS02245 WP 015702713.1   ...............................................MWRAFRKIS.FVYFLCGVAY.....VGSSQAQDA    28
NTDB id 1347 HI 0435 AAC22094.1                 ...............................................MKKYFLKCGYFLVCFCLPLI.....VFANPKTDN    29
NTDB id 1373 NTHI RS02645 WP 011272046.1        ...............................................MKKYFLKCGYFLVCFCLPLI.....VFANPKTDN    29
consensus                                                                                          * ** *** * *  *         *    **

logo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
NTDB id 1186 GTF74 RS01320 WP 000788426.1       KLISINFQDIPVRNVLQLIADYNGFNLVVSDSVVGNLTLRLDGVPWQQVLDIILQVKGLDKRVDGNVILIAPKEELDLRE   236
NTDB id 1175 A1552VC RS12105 WP 000788426.1     KLISINFQDIPVRNVLQLIADYNGFNLVVSDSVVGNLTLRLDGVPWQQVLDIILQVKGLDKRVDGNVILIAPKEELDLRE   236
NTDB id 1408 DSB67 RS13980 WP 010643500.1       KLISINFQDIPVRNVLQLIADYNQFNLVVSDSVEGNLTLRLDGVPWQQVLDIILQVKGLDKRVDGNVILVAPKDELDLRE   237
NTDB id 1381 A4U84 RS02010 WP 021113424.1       QQISLSIRNAPTAEIISYLAEETGKNITISDEIKDTKNFRVEKSHFDEILNSLIKTHQLNLKKENGIYYIHQAQEH....    93
NTDB id 1065167 ACHWS3 RS02245 WP 015702713.1   EHFYLRLKQAPLVEMLQYLALQQHQDLLIDDHLEGTLSLQMKKTTFEKCLQSIARMKQLELHQECKSYYLTSPSG.....   103
NTDB id 1347 HI 0435 AAC22094.1                 ERFFIRLSQAPLAQTLEQLAFQQDVNLVIGDILENKISLKLNNIDMPRLLQIIAKSKHLTLNKDDGIYYLNGSQSG....   105
NTDB id 1373 NTHI RS02645 WP 011272046.1        ECFFIRLSQAPLAQTLEQLAFQQDVNLVMGERLEGNISLKLNNIDMPRLLKIIAKSKHLTLNKDDGVYYLNGSQSG....   105
consensus                                         *** * **!* **** *!* *   ****** ********** * *  *! ****** !*** ** ****    *

logo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
NTDB id 1186 GTF74 RS01320 WP 000788426.1       KQALEKARLAEELGDLKSEIIKINFAKASDIAAMIGGEGNVNMLSERGSISIDERTNSLLIRELPDNIAVIREIIESLDI   316
NTDB id 1175 A1552VC RS12105 WP 000788426.1     KQALEKARLAEELGDLKSEIIKINFAKASDIAAMIGGEGNVNMLSERGSISIDERTNSLLIRELPDNIAVIREIIESLDI   316
NTDB id 1408 DSB67 RS13980 WP 010643500.1       KQQLEKQKLEKEIGELSSEIIKVNFAKASDIAEMINGEGNISMLSDRGSMTIDERTNSLLIRELPENIEVIREIIESLDI   317
NTDB id 1381 A4U84 RS02010 WP 021113424.1       .KQHTTAQLVNALPKLITKTIKLHYSKASEVIESLT.KGQGNLLSESGYLHFDDRSNSIIVKDSAASVKNFTQLIESLDK   171
NTDB id 1065167 ACHWS3 RS02245 WP 015702713.1   ....VAANDTHHPTSLMTSSIKLHFAKAAEVVKSLT.SGQGSLLSVGGSLSFDERTNLLLIQDEPQSIQRIKALVAEMDK   178
NTDB id 1347 HI 0435 AAC22094.1                 .KGQVAGNLTTNEPHLVSHTVKLHFAKASELMKSLT.TGSGSLLSPAGSITFDDRSNLLVIQDEPRSVQNIKKLIAEMDK   183
NTDB id 1373 NTHI RS02645 WP 011272046.1        .KGQVAGNLTTNEPHLVSHTVKLHFAKASELMKSLT.TGSGSLLSSAGSITFDDRSNLLVIQDEPRFVQNIKKLIAEMDK   183
consensus                                         *   ***   *  !** **!****!!**** ***  !****!!* !****!*!*!****** *  *  ** *****!*
```

```
logo

NTDB id 1186 GTF74 RS01320 WP 000788426.1        PVKQVQIEARIVTVKEGNLEELGVRWGVMSTNGS.HSVGGSIESNLWQKGLLAD........DEFPVDEFLNVNLASTSA   387
NTDB id 1175 A1552VC RS12105 WP 000788426.1      PVKQVQIEARIVTVKEGNLEELGVRWGVMSTNGS.HSVGGSIESNLWQKGLLAD........DEFPVDEFLNVNLASTSA   387
NTDB id 1408 DSB67 RS13980 WP 010643500.1        PVKQVQIEARIVTINEGNMDELGVRWGFTSINGS.HTVGGSIENNLATIGLYDGGGEGDDGGSSVGIDDFLNVNLAATSP   396
NTDB id 1381 A4U84 RS02010 WP 021113424.1        PTEQIAIEARIVTISSEHLQQLGVRWGLFSPNENHYKLAGNLEGN..................GLTT..NNLNVNFPV..N   230
NTDB id 1065167 ACHWS3 RS02245 WP 015702713.1    PIEQIAIEARIVTMTDESLQELGVRWGLFQATEQAHTIAGSLAAN..................GFSNIENQLNVNFSTNST   241
NTDB id 1347 HI 0435 AAC22094.1                  PIEQIAIEARIVTITDESLKELGVRWGIFNPTENARRVAGSLTGN..................SFENIADNLNVNFATTTT   246
NTDB id 1373 NTHI RS02645 WP 011272046.1         PIEQIAIEARIVTITDESLKELGVRWGIFNPTENARRVAGSLTGN..................SFENIADNLNVNFATTTT   246
consensus                                        !**!**!!!!!!!**** * *!!!!!!*** *** ****!****!                      ****!!!!*****

logo

NTDB id 1186 GTF74 RS01320 WP 000788426.1        NASSIAFQVAKLGSGTLLDLELSALQNESKAEIISSPRLITTNKQPAYIEQGTEIPYLESSSS.GASTVAFKKAVLSLKV   466
NTDB id 1175 A1552VC RS12105 WP 000788426.1      NASSIAFQVAKLGSGTLLDLELSALQNESKAEIISSPRLITTNKQPAYIEQGTEIPYLESSSS.GASTVAFKKAVLSLKV   466
NTDB id 1408 DSB67 RS13980 WP 010643500.1        NATSIAFQVAKLGSDTLLDLELSALQQESKAEIISSPRLITTNKKPAYIEQGTEIPYLESSSS.GATSVTFKKAVLSLKV   475
NTDB id 1381 A4U84 RS02010 WP 021113424.1        PSASVALQIAAIN.SRVLDLELTALESENNIEIIASPRLLTTDKKTASIKQGTEIPYAMYSKKEEITDIEFREAVLGLEV   309
NTDB id 1065167 ACHWS3 RS02245 WP 015702713.1    PVGSIALQLAKIN.GRLLDLELTALEREKHIEIIASPRLLTTNKKSASIKQGTEIPYVMKRGKDKSESVEFREAVLGLDV   320
NTDB id 1347 HI 0435 AAC22094.1                  PAGSIALQVAKIN.GRLLDLELSALERENNVEIIASPRLLTTNKKSASIKQGTEIPYIVSNTRNDTQSVEFREAVLGLEV   325
NTDB id 1373 NTHI RS02645 WP 011272046.1         PAGSIALQVAKIN.GRLLDLELSALERENNVEIIASPRLLTTNKKSASIKQGTEIPYIVSNTRNDTQSVEFREAVLGLEV   325
consensus                                        ***!*!*!*!*** ***!!!!!*!!* !  *!!!*!!!!*!!*!**!*!*!!!!!!!******   ****!**!!!*!*!

logo

NTDB id 1186 GTF74 RS01320 WP 000788426.1        TPQITPDNRLVLDLSVTQDRRGETVKTGTGEAVSIDTQRIGTQVLVNNGETVVLGGIFQHSINNSVDKVPLLGDLPVLGA   546
NTDB id 1175 A1552VC RS12105 WP 000788426.1      TPQITPDNRLVLDLSVTQDRRGETVKTGTGEAVSIDTQRIGTQVLVNNGETVVLGGIFQHSINNSVDKVPLLGDLPVLGA   546
NTDB id 1408 DSB67 RS13980 WP 010643500.1        TPQITPDNRLVLDLSVTQDRPGQVVKTGTGEAVAIDTQRIGTQVLVNNGETVVLGGIFQHSITNSVDKVPLLGDLPLLGA   555
NTDB id 1381 A4U84 RS02010 WP 021113424.1        TPHISKQNQILLDLAISQNSPNNQI...NNTMVTIDKQEIKTQVLAKHGETIVLGGIFQHLIAKGEDKVPLLGSIPVIKR   386
NTDB id 1065167 ACHWS3 RS02245 WP 015702713.1    TPHISKDNSILLDLLITQNTLGAPVVYDKGEIVSIDKQEINTQVVAQDGETIVLGGVFHDTMTKGVNKVPLLGDLPLLKH   400
NTDB id 1347 HI 0435 AAC22094.1                  TPHISKDNNILLDLLVSQNSPGSRVAYGQNEVVSIDKQEINTQVFAKDGETIVLGGVFHDTITKSEDKVPLLGDIPVIKR   405
NTDB id 1373 NTHI RS02645 WP 011272046.1         TPHISKDNNILLDLLVSQNSPGSRVAYGQNEVVSIDKQEINTQVFAKDGETIVLGGVFHDTITKSEDKVPLLGDIPVIKR   405
consensus                                        !!*!***! **!!! **!****   *   * ***!*!!*!*! !!!*** !!!*!!!!*!*********!!!!!!**!***

logo

NTDB id 1186 GTF74 RS01320 WP 000788426.1        LFRRTYEQMGKSELLIFVTPKVVIQ.....................   571
NTDB id 1175 A1552VC RS12105 WP 000788426.1      LFRRTYEQMGKSELLIFVTPKVVIQ.....................   571
NTDB id 1408 DSB67 RS13980 WP 010643500.1        LFRRSYENVGKSELLIFVTPKVVIQ.....................   580
NTDB id 1381 A4U84 RS02010 WP 021113424.1        LFSQSQDKISKRELVIFVTPYIVKSEKIGAEKQK...........   420
NTDB id 1065167 ACHWS3 RS02245 WP 015702713.1    VFSQKTERHQKRELVIFVTPHIIKSSQGSPEQKTTRVKKSAKSR   444
NTDB id 1347 HI 0435 AAC22094.1                  LFSKESERHQKRELVIFVTPHILKAGETLEALKQKSEGKK....   445
NTDB id 1373 NTHI RS02645 WP 011272046.1         LFSKESERHQKRELVIFVTPHILKAGETLEALKQKSAGKK....   445
consensus                                        *!*** *** !*!!*!!!!! ***
```

X non conserved

X similar

X ≥ 50% conserved