```
logo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
NTDB id 587 KW2 RS10850 WP 042211510.1      ....MQTDILRLLRPKGKKLALIKQAKLIQLMGNLLNNGFNLGEVINFLALSKLVEKEFVFKMHQGLSSGKSLSEILESLSFSKN   81
NTDB id 395 FSA28 RS09400 WP 257638827.1    .MTFLQQDISLKEKHKQKKLKIKKQRKVIQLFNNLFTSGFNLTEIIDFLERSHLLAEIYTKKMRQGLLNGLHLAEIMSSLGFSDD   84
NTDB id 386 SMU RS09030 WP 255262721.1      .MTFLQQDISLKEKHKQKKLKIKKQRKVIQLFNNLFTSGFNLTEIIDFLERSHLLAEIYTKKMRQGLLNGLHLAEIMSSLGFSDD   84
NTDB id 430 SGO RS09415 WP 012130941.1      MISFLQQDISILSKQKQKKLGTSKQKQVIELFNNLFSSGFHLAETVDFLGRSALLEKNYVQQMRQGLANGQAFSEIMASLGFSDA   85
NTDB id 33188 SPJ RS10210 WP 078134418.1    ......MDISQVFRLRRKKLATAKQKNIITLFNNLFSSGFHLVETISFLDRSALLDKQCVIQMRAGLSQGKSFSEMMESLGCSST   79
NTDB id 271 KZH43 RS09260 WP 074196785.1    ......MDISQVFRLRRKKLATAKQKNIITLFNNLFSSGFHLVETISFLDRSALLDKQCVTQMRVGLSQGKSFSEMMESLGCSSA   79
NTDB id 230 SPD RS09890 WP 074196785.1      ......MDISQVFRLRRKKLATAKQKNIITLFNNLFSSGFHLVETISFLDRSALLDKQCVTQMRVGLSQGKSFSEMMESLGCSSA   79
NTDB id 196 SPR RS09425 WP 074196785.1      ......MDISQVFRLRRKKLATAKQKNIITLFNNLFSSGFHLVETISFLDRSALLDKQCVTQMRVGLSQGKSFSEMMESLGCSSA   79
NTDB id 161 SP RS10375 WP 074196785.1       ......MDISQVFRLRRKKLATAKQKNIITLFNNLFSSGFHLVETISFLDRSALLDKQCVTQMRVGLSQGKSFSEMMESLGCSSA   79
NTDB id 529 SMSK321 RS09235 WP 080550783.1 ......MDISQVFRLKRKKLATAKQKNIITLFNNLFSSGFHLVETISFLDRSALLDKQCVTQMRTDLSQGKSFSEMMESLGFSSA   79
NTDB id 501 SM12261 RS00950 WP 004238896.1 ......MDISQVFRLKRKKLATAKQKNIITLFNNLFSSGFHLVETISFLDRSALLDKQCVTQMRAGLSQGKSFSEMMESLGFSSA   79
consensus                                   *!!********!!!***!!***!*!**!!***!!*!*!***!!**!*!********!* *!**!****!***!!**!**
```

```
logo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
NTDB id 587 KW2 RS10850 WP 042211510.1      VVTQLALVEVHGNLVGTMQLVELHLKKQLKVKKKLIEVATYPVVLLVFLIGIMWGLKNYLLPQLDKGNNFATLLINHLPLVFFSV   166
NTDB id 395 FSA28 RS09400 WP 257638827.1    VVTQLALSEVHGNTQKSLLKIESYLNNLILVKKKLVEVITYPIILLIFLVVIMLGLKNYLLPQLEKG.NFATRLISNFPILFLLG   168
NTDB id 386 SMU RS09030 WP 255262721.1      VVTQLALSEVHGNTQKSLLKIESYLNNLILVKKKLVEVITYPIILLIFLVVIMLGLKNYLLPQLERG.NFATRLISNFPILFLLG   168
NTDB id 430 SGO RS09415 WP 012130941.1      VVTQLSLAELHGNLSLALLKIEEYLDNLAKVKKKLIEVATYPMMLLGFLVLIMIGLRNYLLPQLSSQ.NFATQLIGHLPTIFLLT   169
NTDB id 33188 SPJ RS10210 WP 078134418.1    IVTQLSLAEVHGNLHLSLGKIEEYLDNLAKVKKKLIEVATYPLILLGFLLLIMLGLRNYLLPQLDSS.NIATRIIGNLPQIFLGM   163
NTDB id 271 KZH43 RS09260 WP 074196785.1    IVTQLSLAEVHGNLHLSLGKIEEYLDNLAKVKKKLIEVATYPLILLGFLLLIMLGLRNYLLPQLDSS.NIATQIIGNLPQIFLGM   163
NTDB id 230 SPD RS09890 WP 074196785.1      IVTQLSLAEVHGNLHLSLGKIEEYLDNLAKVKKKLIEVATYPLILLGFLLLIMLGLRNYLLPQLDSS.NIATQIIGNLPQIFLGM   163
NTDB id 196 SPR RS09425 WP 074196785.1      IVTQLSLAEVHGNLHLSLGKIEEYLDNLAKVKKKLIEVATYPLILLGFLLLIMLGLRNYLLPQLDSS.NIATQIIGNLPQIFLGM   163
NTDB id 161 SP RS10375 WP 074196785.1       IVTQLSLAEVHGNLHLSLGKIEEYLDNLAKVKKKLIEVATYPLILLGFLLLIMLGLRNYLLPQLDSS.NIATQIIGNLPQIFLGM   163
NTDB id 529 SMSK321 RS09235 WP 080550783.1 IVTQLSLAEVHGNLHLSLGKIEEYLDNLAKVKKKLIEVATYPLILLGFLLSIMLGLRNYLLPQLDSS.NIATQIIGNLPQIFLGM   163
NTDB id 501 SM12261 RS00950 WP 004238896.1 IVTQLSLAEVHGNLHLSLGKIEEYLDNLAKVKKKLIEVATYPLILLGFLLLIMLGLRNYLLPQLDSS.NIATQIIGNLPQIFLGM   163
consensus                                   *!!!!*!*!*!!!********!**!****!!!!!*!!*!!!**!!*!!**!!*!!*!!!!!!!*** !*!!**!***!**!***
```

```
logo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
NTDB id 587 KW2 RS10850 WP 042211510.1      GALIVLLTSLSIIIFKHISALTNFTFLVKVPLVSSFIRLYLTAYFSREWGNLIAQGVELRQIIELMKKQKSRIFAEVGIKLDLGL   251
NTDB id 395 FSA28 RS09400 WP 257638827.1    CCFFILLVGIFTFFSRKISRLHLIGFCSHLPFVGKYLQLYLTAYYAREWGNLIGQGVEMAQIVRLMQDQKSQLFREIGYDMEKAL   253
NTDB id 386 SMU RS09030 WP 255262721.1      CCFFILLVGIFTFFSRKISRLHLIGFCSHLPFAGKYLQLYLTAYYAREWGNLIGQGVEMAQIVRLMQDQKSQLFREIGYDMEKAL   253
NTDB id 430 SGO RS09415 WP 012130941.1      VLMLLGLTGAIYLVFKGQKRIPVYSFLARLPFVGSFVRIYLTAYYAREWGNMIGQGLELSQIFQIMQEQRSVLFQEIGQDLGQAL   254
NTDB id 33188 SPJ RS10210 WP 078134418.1    VGLVSVLALLALTFYKRSSKMSVFSILARLPFIGIFVQTYLTAYYAREWGNMISQGMELTQIFQMMQEQGSQLFKEIGQDLAQTL   248
NTDB id 271 KZH43 RS09260 WP 074196785.1    VGLVSVLALLALTFYKRSSKMSVFSILARLPFIGIFVQTYLTAYYAREWGNMISQGMELTQIFQMMQEQGSQLFKEVGQDLAQTL   248
NTDB id 230 SPD RS09890 WP 074196785.1      VGLVSVLALLALTFYKRSSKMSVFSILARLPFIGIFVQTYLTAYYAREWGNMISQGMELTQIFQMMQEQGSQLFKEVGQDLAQTL   248
NTDB id 196 SPR RS09425 WP 074196785.1      VGLVSVLALLALTFYKRSSKMSVFSILARLPFIGIFVQTYLTAYYAREWGNMISQGMELTQIFQMMQEQGSQLFKEVGQDLAQTL   248
NTDB id 161 SP RS10375 WP 074196785.1       VGLVSVLALLALTFYKRSSKMSVFSILARLPFIGIFVQTYLTAYYAREWGNMISQGMELTQIFQMMQEQGSQLFKEVGQDLAQTL   248
NTDB id 529 SMSK321 RS09235 WP 080550783.1 VGLVSLLTLLALTFYKRSSKMRVFSILARIPFLGIFVQTYLTAYYAREWGNMISQGMELTQIFQIMQEQGSQLFKEIGQDLAQSL   248
NTDB id 501 SM12261 RS00950 WP 004238896.1 VGFVSVGVLLALTFYKRGSKMRVFSILARIPFLGIFVQTYLTAYYAREWGNMISQGMELTQIFQIMQEQGSQLFKEIGQDMAHAL   248
consensus                                   ******* ***********************!********!!!!!**!!!!!*!*!!*!**!!***!**!*!**!*!*!******!
```

```
logo
NTDB id 587 KW2 RS10850 WP 042211510.1        KAGQNFEQAVSHFSIFLPELSLMIEYGAIKDKLGLELSVYADECWEQFFSKIDRLMQLIQPLIFIFVALMIVLLYAAMLLPIYSN   336
NTDB id 395 FSA28 RS09400 WP 257638827.1      LSGQEFHQKVLDYPFFLKELSLMIEYGEVKSKLGNELEIYAEETWEHFFAKLKKATQFVQPLIFVFVAIVIVMIYAAMLLPIYQN   338
NTDB id 386 SMU RS09030 WP 255262721.1        LSGQEFHQKVLDYPFFLKELSLMIEYGEVKSKLGNELEIYAEETWEHFFAKLKKATQFVQPLIFVFVAIVIVMIYAAMLLPIYQN   338
NTDB id 430 SGO RS09415 WP 012130941.1        QNGQEFSDKIASYPFFKKELSLIIEYGEVKSKLGSELEIYALKTWEEFFGRVNRTMNLIQPLVFVFVALMIVLLYAAMLLPLYQN   339
NTDB id 33188 SPJ RS10210 WP 078134418.1      KNGREFSQTIGTYPFFRKELSLIIEYGEVKSKLGSELEIYAEKTWEAFFTRVNRTMNLVQPLVFIFVALIIVLLYAAMLMPMYQN   333
NTDB id 271 KZH43 RS09260 WP 074196785.1      KNGREFSQTIGTYPFFRKELSLIIEYGEVKSKLGSELEIYAEKTWEAFFTRVNRTMNLVQPLVFIFVALIIVLLYAAMLMPMYQN   333
NTDB id 230 SPD RS09890 WP 074196785.1        KNGREFSQTIGTYPFFRKELSLIIEYGEVKSKLGSELEIYAEKTWEAFFTRVNRTMNLVQPLVFIFVALIIVLLYAAMLMPMYQN   333
NTDB id 196 SPR RS09425 WP 074196785.1        KNGREFSQTIGTYPFFRKELSLIIEYGEVKSKLGSELEIYAEKTWEAFFTRVNRTMNLVQPLVFIFVALIIVLLYAAMLMPMYQN   333
NTDB id 161 SP RS10375 WP 074196785.1         KNGREFSQTIGTYPFFRKELSLIIEYGEVKSKLGSELEIYAEKTWEAFFTRVNRTMNLVQPLVFIFVALIIVLLYAAMLMPMYQN   333
NTDB id 529 SMSK321 RS09235 WP 080550783.1   QNGREFSQTIATYPFFKKELSLIIEYGEVKSKLGSELEIYAEKTWEAFFTRVNRTMNLVQPLVFIFVALIIVLLYAAMLMPMYQN   333
NTDB id 501 SM12261 RS00950 WP 004238896.1   QNGQEFSQTIGTYPFFKKELSLIIEYGEVKSKLGSELEIYAEKTWEAFFTRVNRTMNLVQPLVFIFVALIIVLLYAAMLMPMYQN   333
consensus                                     **!**!*********!**!!!!*!!!!**!*!!!*!!**!!***!!*!!**********!!!*!*!!!**!!**!!!!!*!*!*!
```

```
logo
NTDB id 587 KW2 RS10850 WP 042211510.1        MGSGI   341
NTDB id 395 FSA28 RS09400 WP 257638827.1      MEVNL   343
NTDB id 386 SMU RS09030 WP 255262721.1        MEVNL   343
NTDB id 430 SGO RS09415 WP 012130941.1        MEVHL   344
NTDB id 33188 SPJ RS10210 WP 078134418.1      MEVNF   338
NTDB id 271 KZH43 RS09260 WP 074196785.1      MEVNF   338
NTDB id 230 SPD RS09890 WP 074196785.1        MEVNF   338
NTDB id 196 SPR RS09425 WP 074196785.1        MEVNF   338
NTDB id 161 SP RS10375 WP 074196785.1         MEVNF   338
NTDB id 529 SMSK321 RS09235 WP 080550783.1   MEVNF   338
NTDB id 501 SM12261 RS00950 WP 004238896.1   MEVNF   338
consensus                                     !****
```

X non conserved
X similar
X $\geq$ 50% conserved