```
logo
NTDB id 1361 HI 0985 AAC22646.1          .MNDITYTLLRLMQVPKLGGVGIDKILSNITLNELLNYDD..VAFR.......QMGWGAIQIRRWFKPEA.....KFIEP   65
NTDB id 114 BSU 16110 NP 389493.1        ..MDQAAVCLTICRIN...........QLLSPSLLLKWWKADPSMSLTSPVLQTVTRDQ.IKAAALKNEIEQFYPKLPRV   66
NTDB id 626 LCA RS04960 WP 011374694.1   .MLTKNQLLLKV..HLAAGFGTISELRLAAWLSTSHNWALSALEIA....QIA..RLP.....ERYWP...TFQASFQST   63
NTDB id 1250 GCO85 RS13065 WP 027219989.1 ..MNNLQPLLALNRMKRIG........PRTVLKLQKRWPDLNLMFQLSSVDLEEAGLP.....SWLAQTIKNFDPDFIKT   65
NTDB id 599 KW2 RS05940 WP 021037268.1   .MITNFD....LFRWKKAGMTN...LGVNKLLKFFRK.YDRKISLR.QMGQVAQVKSI.....PNFIEQYKNQDVKKLRA   65
NTDB id 525 SMSK321 RS06295 WP 000705298.1 MKITNYE....IYKLKKSGLTN...QQILKVLEYGEN.VDQELLLG.DIADISGCRNP.....AVFMERYFQIDDAHLEK   66
NTDB id 267 KZH43 RS05590 WP 000705306.1 MKITNYE....IYKLKKSGLTN...QQILKVLEYGEN.VDQELLLG.DIADISGCRNP.....AVFMERYFQIDDAHLSK   66
NTDB id 226 SPD RS05990 WP 000705306.1   MKITNYE....IYKLKKSGLTN...QQILKVLEYGEN.VDQELLLG.DIADISGCRNP.....AVFMERYFQIDDAHLSK   66
NTDB id 192 SPR RS05715 WP 000705306.1   MKITNYE....IYKLKKSGLTN...QQILKVLEYGEN.VDQELLLG.DIADISGCRNP.....AVFMERYFQIDDAHLSK   66
NTDB id 157 SP RS06205 WP 000705306.1    MKITNYE....IYKLKKSGLTN...QQILKVLEYGEN.VDQELLLG.DIADISGCRNP.....AVFMERYFQIDDAHLSK   66
NTDB id 497 SM12261 RS05565 WP 000705318.1 MKITNYE....IYKLKKSGLTN...QQVLAVLEYGEN.VDQELLLG.DIAEISGCRNP.....AVFMERYFQIDDAHLEK   66
NTDB id 1143706 BJR96 RS05595 WP 070001271.1 ..MNHFE....LFKLKKAGLTN...LNINNIINYLKKNSLTSLSVR.NMAVVSKCKNP.....TFFIENYKQLDLKKLRQ   65
NTDB id 407 SMU RS04605 WP 002262865.1   ..MDNFQ....LFKLKKAGLTN...LNILNIIDYEER.TQKSLSLR.DMAVVSKNKKP.....LIFMEHYKNLDSKALRK   64
consensus                                 *****    ****** ****    *** ** *  *  *  * *   ** **  * *         *** * ***   *
```

```
logo
NTDB id 1361 HI 0985 AAC22646.1          ALV..W.SQKEGNHLVNYFSPFYPFLLKQTASFPPLLFVKGNLTALSQ.RQMAMVGSRYCTTYGEYWAKHFATELSLAGF   141
NTDB id 114 BSU 16110 NP 389493.1        .L...AAYREQGINTIPISSKQYPFWLKSIYDPPAVLFAKGDMTLLSKGRKIGIVGTRNPTAYGKQVVNHLTKEICRKGW   142
NTDB id 626 LCA RS04960 WP 011374694.1   TLQRQCIDHEVRTTYLTILDKDYPQRLLETYLPPVLLFYRGDLRLLKQ.PCLAVVGARQATHYSKQSLEQLLQGLT..AT   140
NTDB id 1250 GCO85 RS13065 WP 027219989.1 DLN..WLSSSENHHILTWDSPYYPALLKEIADPPFILYAKGELSALTQ.PSLAIVGSRNASVTGNENARAFSREISRHGV   142
NTDB id 599 KW2 RS05940 WP 021037268.1   DYK..K......FSSFSILDDLYPERLREIYNPPVLIFYQGNIDLLKN.PKLAFVGSRLAGQSGIKSVQKIVTELN.QSF   135
NTDB id 525 SMSK321 RS06295 WP 000705298.1 EFK..K......IPSFSILDDCYPWDLSEIYDAPVLLFYKGNLDLLKF.PKVAVVGSRSCSKQGAKSVEKIIQGLE.NEL   136
NTDB id 267 KZH43 RS05590 WP 000705306.1 EFQ..K......FPSFSILDDCYPWDLSEIYDAPVLLFYKGNLDLLKF.PKVAVVGSRACSKQGAKSVEKVIQGLE.NEL   136
NTDB id 226 SPD RS05990 WP 000705306.1   EFQ..K......FPSFSILDDCYPWDLSEIYDAPVLLFYKGNLDLLKF.PKVAVVGSRACSKQGAKSVEKVIQGLE.NEL   136
NTDB id 192 SPR RS05715 WP 000705306.1   EFQ..K......FPSFSILDDCYPWDLSEIYDAPVLLFYKGNLDLLKF.PKVAVVGSRACSKQGAKSVEKVIQGLE.NEL   136
NTDB id 157 SP RS06205 WP 000705306.1    EFQ..K......FPSFSILDDCYPWDLSEIYDAPVLLFYKGNLDLLKF.PKVAVVGSRACSKQGAKSVEKVIQGLE.NEL   136
NTDB id 497 SM12261 RS05565 WP 000705318.1 EFQ..K......FPSFSILDDCYPWDLSEIYDAPVLLFYKGNLDLLKF.PKVAVVGSRACSKQGAKSVEKVIQGLE.NEL   136
NTDB id 1143706 BJR96 RS05595 WP 070001271.1 EFK..K......FPVLLILDSNYPLELKEIYNPPVLLFYQGNIELLSK.PKLAVVGARQASQIGCQSVKKIIKETN.NQF   135
NTDB id 407 SMU RS04605 WP 002262865.1   EFN..R......FPSLSILDKEYPLELKNIYNPPVLLFYQGDLDLLAR.PKLAVVGSRNASQMGVAAVKKIIQDLS.KQF   134
consensus                                ***  *      *** ****  !!**! **** !******!****!*  *****!!*!  *  *  ** **** *  *
```

```
logo
NTDB id 1361 HI 0985 AAC22646.1          TITSGLALGIDGHCHQAVVNIQGQTIAVLGSGLEQIYPSKHQRLSAQIIENNGALVSEFLPNQAPIAANFPRRNRIISGL   221
NTDB id 114 BSU 16110 NP 389493.1        VIVSGLASGIDGMSHAASIKAKGRTIGVIAGGFQHIYPRENLQLADH.MAKHHILLSEHPPETKPQKWHFPMRNRIISGL   221
NTDB id 626 LCA RS04960 WP 011374694.1   TIISGLAQGADAMAHEVALGRGLAPIGVIGTGINCSYPPQNEHLQQV.VAEKGLLLSEYALGTPARRYQFPARNKIIAGL   219
NTDB id 1250 GCO85 RS13065 WP 027219989.1 SIVSGLALGIDAHAHLGCLEGGGKTIAVLGTGIDCIYPRRHLKLAEQ.ITENGLLLSEFPLKSPPIAGHFPLRNRIISGL   221
NTDB id 599 KW2 RS05940 WP 021037268.1   TIVSGLAKGIDTASHLSAIKTKTPTIAVIGTGLDIFYPLENRKIQEY.LAKYQLVLSEYSLGEKPLKYHFPERNRIIAGL   214
NTDB id 525 SMSK321 RS06295 WP 000705298.1 VIVSGLAKGIDTAAHMAALQNGGKTIAVIGTGLDVFYPKANKRLQDY.ISNDHLVLSEYGPGEQPLKFHFPARNRIIAGL   215
NTDB id 267 KZH43 RS05590 WP 000705306.1 VIVSGLAKGIDTAAHMAALQNGGKTIAVIGTGLDVFYPKANKRLQDY.IGNDHLVLSEYGPGEQPLKFHFPARNRIIAGL   215
NTDB id 226 SPD RS05990 WP 000705306.1   VIVSGLAKGIDTAAHMAALQNGGKTIAVIGTGLDVFYPKANKRLQDY.IGNDHLVLSEYGPGEQPLKFHFPARNRIIAGL   215
NTDB id 192 SPR RS05715 WP 000705306.1   VIVSGLAKGIDTAAHMAALQNGGKTIAVIGTGLDVFYPKANKRLQDY.IGNDHLVLSEYGPGEQPLKFHFPARNRIIAGL   215
NTDB id 157 SP RS06205 WP 000705306.1    VIVSGLAKGIDTAAHMAALQNGGKTIAVIGTGLDVFYPKANKRLQDY.IGNDHLVLSEYGPGEQPLKFHFPARNRIIAGL   215
NTDB id 497 SM12261 RS05565 WP 000705318.1 VIVSGLAKGIDTAAHMAALQNGGKTIAVIGTGLDVFYPKANKRLQDY.IGNDHLVLSEYGPGEQPLKFHFPARNRIIAGL   215
NTDB id 1143706 BJR96 RS05595 WP 070001271.1 VIVSGLARGIDTAAHVSALKNGGSSIAVIGSGLDVYYPTENKKLQEY.MSYNHLVLSEYFTGEQPLKFHFPERNRIIAGL   214
NTDB id 407 SMU RS04605 WP 002262865.1   VIISGLARGIDTAAHLASLKSGGATIAVIGTGLDVHYPKENRRLQDY.IAKNHLLLSEYEAQSQPLKYHFPERNRIIAGL   213
consensus                                *!*!!!!*!*!***!***** ****!*!***!****!!* ******* **  ****!!* *********!! !!*!!*!!
```

```
logo

NTDB id 1361 HI 0985 AAC22646.1          SVGTLVVEATEKSGSLITARYALEQNREVFAVPGNIQNKSSQGCHRLIKQGAMLVENAKDILETLYQHSIHSQTEIDFDQ   301
NTDB id 114 BSU 16110 NP 389493.1        SEGVIVVQGKEKSGSLITAYQALEQGREVFAVPGSLFDPYAGGPIKLIQQGAKAIWSAEDIFEELPERNVQYTE......   295
NTDB id 626 LCA RS04960 WP 011374694.1   CHSLIVTEARHKSGSLITANLALQANRNVYAIPGRIDQSLSQGCNQLIAAGATPLLDKNILIEELRYFD...........   288
NTDB id 1250 GCO85 RS13065 WP 027219989.1 SLCILVIEAAIKSGSLITARMALEQNRDVLAIPGSIHNPLARGCHYLLQQGAKLVTSVADVLDELKIEHHQFTS......   295
NTDB id 599 KW2 RS05940 WP 021037268.1   SRGVVVVEAKLRSGSLITCERALEEGRDIFAIPGNIADGTSDGCNHLIQQGAKLVYQAQDILEEYLYN............   282
NTDB id 525 SMSK321 RS06295 WP 000705298.1 CRGVIVAEAKMRSGSLITCERAMEEGRDVFAIPGSILDGLSDGCHHLIQEGAKLVTSGQDVLAEFEF.............   282
NTDB id 267 KZH43 RS05590 WP 000705306.1 CRGVIVAEAKMRSGSLITCERAMEEGRDVFAIPGSILDGLSDGCHHLIQEGAKLVTSGQDVLAEFEF.............   282
NTDB id 226 SPD RS05990 WP 000705306.1   CRGVIVAEAKMRSGSLITCERAMEEGRDVFAIPGSILDGLSDGCHHLIQEGAKLVTSGQDVLAEFEF.............   282
NTDB id 192 SPR RS05715 WP 000705306.1   CRGVIVAEAKMRSGSLITCERAMEEGRDVFAIPGSILDGLSDGCHHLIQEGAKLVTSGQDVLAEFEF.............   282
NTDB id 157 SP RS06205 WP 000705306.1    CRGVIVAEAKMRSGSLITCERAMEEGRDVFAIPGSILDGLSDGCHHLIQEGAKLVTSGQDVLAEFEF.............   282
NTDB id 497 SM12261 RS05565 WP 000705318.1 CRGVIVAEAKMRSGSLITCERAMEEGRDVFAIPGSILDGLSDGCHHLIQEGAKLVTSGQDVLAEFEF.............   282
NTDB id 1143706 BJR96 RS05595 WP 070001271.1 CQGIVVAEAKMRSGSLITCERALEEGREVFAIPGNIIDGKSDGCHHLIQEGAKCIISGKDILSEYQ..............   280
NTDB id 407 SMU RS04605 WP 002262865.1   SQGVMVAEAKIRSGSLITCERAMEEGRDVFVVPGNILDGQSEGCHHLIQEGAKCITSGFDILNEFNF.............   280
consensus                                * ***!******!!!!!!***!****!*****!!********!***!***!!**********  **  *

logo

NTDB id 1361 HI 0985 AAC22646.1          IAVPNYTPPPDPRRLVEAPSHPKLYSRIGYTPVSIDDLAEEFNLSVDVLLVQLLDLELQDLIISENGLYKRV....   373
NTDB id 114 BSU 16110 NP 389493.1        ........PF..................................................................   297
NTDB id 626 LCA RS04960 WP 011374694.1   ......................................................................................   288
NTDB id 1250 GCO85 RS13065 WP 027219989.1 ........NKPI..FSLASGKENLVKFIGFETTTIDQIIDRSGYGMEQVTSGLAELELKGAVIAVPGGYIRCEYER   361
NTDB id 599 KW2 RS05940 WP 021037268.1   ......................................................................................   282
NTDB id 525 SMSK321 RS06295 WP 000705298.1 ......................................................................................   282
NTDB id 267 KZH43 RS05590 WP 000705306.1 ......................................................................................   282
NTDB id 226 SPD RS05990 WP 000705306.1   ......................................................................................   282
NTDB id 192 SPR RS05715 WP 000705306.1   ......................................................................................   282
NTDB id 157 SP RS06205 WP 000705306.1    ......................................................................................   282
NTDB id 497 SM12261 RS05565 WP 000705318.1 ......................................................................................   282
NTDB id 1143706 BJR96 RS05595 WP 070001271.1 ......................................................................................   280
NTDB id 407 SMU RS04605 WP 002262865.1   ......................................................................................   280
consensus
```

X non conserved

X similar

X $\geq$ 50% conserved