```
logo
NTDB id 1361 HI 0985 AAC22646.1                  ............MNDITYTLLRLMQVPKLGGVGIDKILSNITLNELLNYDDVAFRQMGWGAIQIRR...WFKP.....EA   60
NTDB id 1250 GC085 RS13065 WP 027219989.1        ............MNNL.QPLLALNRMKRIGPRTVLKLQ.KRWPDLNLMF...QLSSVDLEFAGLPS...WLAQTIKNFDP   60
NTDB id 1399 DSB67 RS15600 WP 010645755.1        .......MTPQNDIDL.AAWLKLSCLPGIGGVKMNKLLSKDTPSNIVQYSTEQLQLLGLTAKQLQA...WSQV......D   63
NTDB id 114 BSU 16110 NP 389493.1                MDQAAVCLTICRINQL.LSPSLLLKWWKADPS.......MSLTSPVLQTVTR.......DQIKAA....ALKNEIEQFYP   61
NTDB id 1011007 LLUC023 RS06360 WP 011676300.1   ................M.ITNFDLFRWKKAGMT.......NLGVNKLLKFFRKYDIKISLRQMGQVAQVKSIPNFIEQYK.   56
NTDB id 599 KW2 RS05940 WP 021037268.1           ................M.ITNFDLFRWKKAGMT.......NLGVNKLLKFFRKYDRKISLRQMGQVAQVKSIPNFIEQYK.   56
NTDB id 407 SMU RS04605 WP 002262865.1           ..................MDNFQLFKLKKAGLT.......NLNILNIIDYEERTQKSLSLRDMAVVSKNKKPLIFMEHYK.   55
NTDB id 525 SMSK321 RS06295 WP 000705298.1       ...............MK.ITNYEIYKLKKSGLT.......NQQILKVLEYGENVDQELLLGDIADISGCRNPAVFMERYF.   57
NTDB id 267 KZH43 RS05590 WP 000705306.1         ...............MK.ITNYEIYKLKKSGLT.......NQQILKVLEYGENVDQELLLGDIADISGCRNPAVFMERYF.   57
NTDB id 226 SPD RS05990 WP 000705306.1           ...............MK.ITNYEIYKLKKSGLT.......NQQILKVLEYGENVDQELLLGDIADISGCRNPAVFMERYF.   57
NTDB id 192 SPR RS05715 WP 000705306.1           ...............MK.ITNYEIYKLKKSGLT.......NQQILKVLEYGENVDQELLLGDIADISGCRNPAVFMERYF.   57
NTDB id 157 SP RS06205 WP 000705306.1            ...............MK.ITNYEIYKLKKSGLT.......NQQILKVLEYGENVDQELLLGDIADISGCRNPAVFMERYF.   57
NTDB id 497 SM12261 RS05565 WP 000705318.1       ...............MK.ITNYEIYKLKKSGLT.......NQQVLAVLEYGENVDQELLLGDIAEISGCRNPAVFMERYF.   57
consensus                                                          ************ ***        *  *  ** * *  *  * * *** **  *    **** *

logo
NTDB id 1361 HI 0985 AAC22646.1                  KFIEPALVWSQK.EGNHLVNYFSPFYPFLLKQTASFPPLLFVKGNLTALSQ.RQMAMVGSRYCTTYGEYWAKHFATELSL   138
NTDB id 1250 GC085 RS13065 WP 027219989.1        DFIKTDLNWLSSSENHHILTWDSPYYPALLKEIADPPFILYAKGELSALTQ.PSLAIVGSRNASVTGNENARAFSREISR   139
NTDB id 1399 DSB67 RS15600 WP 010645755.1        KEVDACLTWVAASSHHHILTLADALYPPLLKQTVAPPPLLFVKGEASCLPQ.PQIAMVGSRNASVDGLQHTRTFASDLVQ   142
NTDB id 114 BSU 16110 NP 389493.1                KLPRVLAA..YREQGINTIPISSKQYPFWLKSIYDPPAVLFAKGDMTLLSKGRKIGIVGTRNPTAYGKQVVNHLTKEICR   139
NTDB id 1011007 LLUC023 RS06360 WP 011676300.1   NQDVKKLR..IDYKKFSSFSILDDLYPERLREIYNPPVLIFYQGNIDLLKN.PKLAFVGSRLAGQSGIKAVQKIITEL.N   132
NTDB id 599 KW2 RS05940 WP 021037268.1           NQDVKKLR..ADYKKFSSFSILDDLYPERLREIYNPPVLIFYQGNIDLLKN.PKLAFVGSRLAGQSGIKSVQKIVTEL.N   132
NTDB id 407 SMU RS04605 WP 002262865.1           NLDSKALR..KEFNRFPSLSILDKEYPLELKNIYNPPVLLFYQGDLDLLAR.PKLAVVGSRNASQMGVAAVKKIIQDL.S   131
NTDB id 525 SMSK321 RS06295 WP 000705298.1       QIDDAHLE..KEFKKIPSFSILDDCYPWDLSEIYDAPVLLFYKGNLDLLKF.PKVAVVGSRSCSKQGAKSVEKIIQGL.E   133
NTDB id 267 KZH43 RS05590 WP 000705306.1         QIDDAHLS..KEFQKFPSFSILDDCYPWDLSEIYDAPVLLFYKGNLDLLKF.PKVAVVGSRACSKQGAKSVEKVIQGL.E   133
NTDB id 226 SPD RS05990 WP 000705306.1           QIDDAHLS..KEFQKFPSFSILDDCYPWDLSEIYDAPVLLFYKGNLDLLKF.PKVAVVGSRACSKQGAKSVEKVIQGL.E   133
NTDB id 192 SPR RS05715 WP 000705306.1           QIDDAHLS..KEFQKFPSFSILDDCYPWDLSEIYDAPVLLFYKGNLDLLKF.PKVAVVGSRACSKQGAKSVEKVIQGL.E   133
NTDB id 157 SP RS06205 WP 000705306.1            QIDDAHLS..KEFQKFPSFSILDDCYPWDLSEIYDAPVLLFYKGNLDLLKF.PKVAVVGSRACSKQGAKSVEKVIQGL.E   133
NTDB id 497 SM12261 RS05565 WP 000705318.1       QIDDAHLE..KEFQKFPSFSILDDCYPWDLSEIYDAPVLLFYKGNLDLLKF.PKVAVVGSRACSKQGAKSVEKVIQGL.E   133
consensus                                        ****  *    ** ** ******* !!* ! **** !******!****!*  *****!!*!  *  ! * * ***  *

logo
NTDB id 1361 HI 0985 AAC22646.1                  AGFTITSGLALGIDGHCHQAVVNIQGQTIAVLGSGLEQIYPSKHQRLSAQIIENNGALVSEFLPNQAPIAANFPRRNRII   218
NTDB id 1250 GC085 RS13065 WP 027219989.1        HGVSIVSGLALGIDAHAHLGCLEGGGKTIAVLGTGIDCIYPRRHLKLAEQI.TENGLLLSEFPLKSPPIAGHFPLRNRII   218
NTDB id 1399 DSB67 RS15600 WP 010645755.1        HDLIVTSGLALGIDGHAHDGALLAGGKTIAVLGSGLEQVYPARHRGLAQRV.AENGALVSEFRPDAKPRAENFPRRNRII   221
NTDB id 114 BSU 16110 NP 389493.1                KGWVIVSGLASGIDGMSHAASIKAKGRTIGVIAGGFQHIYPRENLQLADHM.AKHHILLSEHPPETKPQKWHFPMRNRII   218
NTDB id 1011007 LLUC023 RS06360 WP 011676300.1   QSFTIVSGLAKGIDTASHLSAIKTKTPTIAVIGTGLDIFYPLENRKIQEYL.AKNQLVLSEYSLGEKPLKYHFPERNRII   211
NTDB id 599 KW2 RS05940 WP 021037268.1           QSFTIVSGLAKGIDTASHLSAIKTKTPTIAVIGTGLDIFYPLENRKIQEYL.AKYQLVLSEYSLGEKPLKYHFPERNRII   211
NTDB id 407 SMU RS04605 WP 002262865.1           KQFVIISGLARGIDTAAHLASLKSGGATIAVIGTGLDVHYPKENRRLQDYI.AKNHLLLSEYEAQSQPLKYHFPERNRII   210
NTDB id 525 SMSK321 RS06295 WP 000705298.1       NELVIVSGLAKGIDTAAHMAALQNGGKTIAVIGTGLDVFYPKANKRLQDYI.SNDHLVLSEYGPGEQPLKFHFPARNRII   212
NTDB id 267 KZH43 RS05590 WP 000705306.1         NELVIVSGLAKGIDTAAHMAALQNGGKTIAVIGTGLDVFYPKANKRLQDYI.GNDHLVLSEYGPGEQPLKFHFPARNRII   212
NTDB id 226 SPD RS05990 WP 000705306.1           NELVIVSGLAKGIDTAAHMAALQNGGKTIAVIGTGLDVFYPKANKRLQDYI.GNDHLVLSEYGPGEQPLKFHFPARNRII   212
NTDB id 192 SPR RS05715 WP 000705306.1           NELVIVSGLAKGIDTAAHMAALQNGGKTIAVIGTGLDVFYPKANKRLQDYI.GNDHLVLSEYGPGEQPLKFHFPARNRII   212
NTDB id 157 SP RS06205 WP 000705306.1            NELVIVSGLAKGIDTAAHMAALQNGGKTIAVIGTGLDVFYPKANKRLQDYI.GNDHLVLSEYGPGEQPLKFHFPARNRII   212
NTDB id 497 SM12261 RS05565 WP 000705318.1       NELVIVSGLAKGIDTAAHMAALQNGGKTIAVIGTGLDVFYPKANKRLQDYI.GNDHLVLSEYGPGEQPLKFHFPARNRII   212
consensus                                        * ****!!!!*!!!***!****  ***!!*!***!****!!* ******** *  ****!!* *** !****!! !!!!!
```

```
logo
NTDB id 1361 HI 0985 AAC22646.1                SGLSVGTLVVEATEKSGSLITARYALEQNREVFAVPGNIQNKSSQGCHRLIKQGAMLVENAKDILETLYQHSIHSQTEID   298
NTDB id 1250 GC085 RS13065 WP 027219989.1      SGLSLCILVIEAAIKSGSLITARMALEQNRDVLAIPGSIHNPLARGCHYLLQQGAKLVTSVADVLDELKIEHH......Q   292
NTDB id 1399 DSB67 RS15600 WP 010645755.1      SGLSLGVLVVEAAEKSGSLITARYALEQGREVFALPASINAPNASGGNQLIQNGACLVQNTQEVLNEIQSLLDW.....S   296
NTDB id 114 BSU 16110 NP 389493.1              SGLSEGVIVVQGKEKSGSLITAYQALEQGREVFAVPGSLFDPYAGGPIKLIQQGAKAIWSAEDIFEELPERNVQYTEPF.   297
NTDB id 1011007 LLUC023 RS06360 WP 011676300.1 AGLSRGVVVVEEKLRSGSLITCERALEEGRDIFAIPGNIADGTSDGCNHLIQQGAKLVYQAQDILEEYLYN.........   282
NTDB id 599 KW2 RS05940 WP 021037268.1         AGLSRGVVVVEAKLRSGSLITCERALEEGRDIFAIPGNIADGTSDGCNHLIQQGAKLVYQAQDILEEYLYN.........   282
NTDB id 407 SMU RS04605 WP 002262865.1         AGLSQGVMVAEAKIRSGSLITCERAMEEGRDVFVVPGNILDGQSEGCHHLIQEGAKCITSGFDILNEFNF..........   280
NTDB id 525 SMSK321 RS06295 WP 000705298.1     AGLCRGVIVAEAKMRSGSLITCERAMEEGRDVFAIPGSILDGLSDGCHHLIQEGAKLVTSGQDVLAEFEF..........   282
NTDB id 267 KZH43 RS05590 WP 000705306.1       AGLCRGVIVAEAKMRSGSLITCERAMEEGRDVFAIPGSILDGLSDGCHHLIQEGAKLVTSGQDVLAEFEF..........   282
NTDB id 226 SPD RS05990 WP 000705306.1         AGLCRGVIVAEAKMRSGSLITCERAMEEGRDVFAIPGSILDGLSDGCHHLIQEGAKLVTSGQDVLAEFEF..........   282
NTDB id 192 SPR RS05715 WP 000705306.1         AGLCRGVIVAEAKMRSGSLITCERAMEEGRDVFAIPGSILDGLSDGCHHLIQEGAKLVTSGQDVLAEFEF..........   282
NTDB id 157 SP RS06205 WP 000705306.1          AGLCRGVIVAEAKMRSGSLITCERAMEEGRDVFAIPGSILDGLSDGCHHLIQEGAKLVTSGQDVLAEFEF..........   282
NTDB id 497 SM12261 RS05565 WP 000705318.1     AGLCRGVIVAEAKMRSGSLITCERAMEEGRDVFAIPGSILDGLSDGCHHLIQEGAKLVTSGQDVLAEFEF..........   282
consensus                                      *!! ****! *****!!!!!!***!*!**!*****!*** ** **!***!** !!********** ** *
```

```
logo
NTDB id 1361 HI 0985 AAC22646.1                FDQIAVPNYTPPPDPRRLVEAPSHPKLYSRIGYTPVSIDDLAEEFNLSVDVLLVQLLDLELQDLIISENGLYKRV....   373
NTDB id 1250 GC085 RS13065 WP 027219989.1      FTS.NKPIFSLASG.........KENLVKFIGFETTTIDQIIDRSGYGMEQVTSGLAELELKGAVIAVPGGYIRCEYER   361
NTDB id 1399 DSB67 RS15600 WP 010645755.1      INQ.SLDLFSAPIDE....EELPFPQLLANVGNEATPVDILASRTNIPVQEVMMQLLELELSGHVVAVSGGYIRKGRG.   369
NTDB id 114 BSU 16110 NP 389493.1              ..........................................................................   297
NTDB id 1011007 LLUC023 RS06360 WP 011676300.1 ..........................................................................   282
NTDB id 599 KW2 RS05940 WP 021037268.1         ..........................................................................   282
NTDB id 407 SMU RS04605 WP 002262865.1         ..........................................................................   280
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
consensus
```

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