```
logo
NTDB id 593 KW2 RS05130 WP 021037147.1        MNLILENLLGHLLLEKDISAFNNFTDQVNNENKLIKIGAMTSVNANKVRCNRCGTIHIKTNVKLPIGAFFCPTCLELGRV   80
NTDB id 400599 GJS34 RS08145 WP 014623352.1  .MENIENYYGRLLPERQCPKAVSV........WACSLQSM.IAKKGTLYCQRCSSLI.EKAHQLPSGAYYCRACLVFGRN   69
NTDB id 277 KZH43 RS10090 WP 000867601.1     .MKVNLDYLGRLFTENELTEEERQ........LAEKLPAM.RKEKGKLFCQRCNSTI.LEEWYLPIGAYYCRECLLMKRV   69
NTDB id 236 SPD RS10765 WP 000867601.1       .MKVNLDYLGRLFTENELTEEERQ........LAEKLPAM.RKEKGKLFCQRCNSTI.LEEWYLPIGAYYCRECLLMKRV   69
NTDB id 202 SPR RS10250 WP 000867601.1       .MKVNLDYLGRLFTENELTEEERQ........LAEKLPAM.RKEKGKLFCQRCNSTI.LEEWYLPIGAYYCRECLLMKRV   69
NTDB id 167 SP RS11275 WP 000867616.1        .MKVNLDYLGRLFTENELTEEERQ........LAEKLPAM.RKEKGKLFCQRCNSTI.LEEWYLPIGAYYCRECLLMKRV   69
NTDB id 507 SM12261 RS09240 WP 000867722.1   .MKVNPNYLGRLFTENELTEEERQ........LAEKLPAM.RKEKGKLFCQRCNSTI.LEEWYLPIGTYYCRECLLMKRV   69
NTDB id 535 SMSK321 RS10515 WP 000867726.1   .MKVNPNYLGRLFTENELTKEERQ........LAEKLPAM.RKEKGKLFCQRCDSAI.LDEWYLPIGAYYCRECLLMKRV   69
consensus                                     ****  **!*!**!*********        *******! ********!*!!**** *****!!*!***!**!!***!*

logo
NTDB id 593 KW2 RS05130 WP 021037147.1        RSDEYFYHLPQQDFPEKTYLRWTGKLTENQEKISDALCQQITNNQKLLVQAVTGAGKTEMIYQLIEQILSHGGSVGLASP  160
NTDB id 400599 GJS34 RS08145 WP 014623352.1  QSDRPLLYFPPAPFPKAHYLRWQGQLTTYQGAVSHQLTNHVKLKQDTLVHAVTGAGKTEMMYEAIAAVVDKGGWVCIASP  149
NTDB id 277 KZH43 RS10090 WP 000867601.1     RSDQTLYYFPQEDFPKQDVLKWRGQLTPFQEKVSEGLLQAVDKQKPTLVHAVTGAGKTEMIYQVVAKVINAGGAVCLASP  149
NTDB id 236 SPD RS10765 WP 000867601.1       RSDQTLYYFPQEDFPKQDVLKWRGQLTPFQEKVSEGLLQAVDKQKPTLVHAVTGAGKTEMIYQVVAKVINAGGAVCLASP  149
NTDB id 202 SPR RS10250 WP 000867601.1       RSDQTLYYFPQEDFPKQDVLKWRGQLTPFQEKVSEGLLQAVDKQKPTLVHAVTGAGKTEMIYQVVAKVINAGGAVCLASP  149
NTDB id 167 SP RS11275 WP 000867616.1        RSDQTLYYFPQEDFPKQDVLKWRGQLTPFQEKVSEGLLQVVDKQKPTLVHAVTGAGKTEMIYQVVAKVINAGGAVCLASP  149
NTDB id 507 SM12261 RS09240 WP 000867722.1   RSDQSLYYFPQEDFPKQDVLKWRGQLTPFQDKVSQGLLQAVDKQEPSLVHAVTGAGKTEMIYQVVAKVINAGGAVCLASP  149
NTDB id 535 SMSK321 RS10515 WP 000867726.1   RSDQVLYYFPQEDFAKQDILKWRGQLTPFQEKVSEGLIQAVDKQEPILVHAVTGAGKTEMIYQVVAKVINAGGAVCLASP  149
consensus                                    *!!******!***!*****!*!*!*!!**!***!**!******* **!!*!!!!!!!!!!*!*********!!*!**!!!

logo
NTDB id 593 KW2 RS05130 WP 021037147.1        RIDVCIELHQRLSRDFTCQIPLLYHEGDSYFRSPLVVMTSHQLLRFKEAFDLLIIDEVDAFPFRDNDMLYFALENAKKIN  240
NTDB id 400599 GJS34 RS08145 WP 014623352.1  RVDVCIELEKRLSRDFSCQVCLMHAESEVYHRSPIIVATTHQLMTFYHAFDLLIIDEVDAFPFVNNRQLNHAAHQAAKAD  229
NTDB id 277 KZH43 RS10090 WP 000867601.1     RIDVCLELYKRLQQDFSCGIALLHGESEPYFRTPLVVATTHQLLKFYQAFDLLIVDEVDAFPYVDNPMLYHAVKNSVKEN  229
NTDB id 236 SPD RS10765 WP 000867601.1       RIDVCLELYKRLQQDFSCGIALLHGESEPYFRTPLVVATTHQLLKFYQAFDLLIVDEVDAFPYVDNPMLYHAVKNSVKEN  229
NTDB id 202 SPR RS10250 WP 000867601.1       RIDVCLELYKRLQQDFSCGIALLHGESEPYFRTPLVVATTHQLLKFYQAFDLLIVDEVDAFPYVDNPMLYHAVKNSVKEN  229
NTDB id 167 SP RS11275 WP 000867616.1        RIDVCLELYKRLQQDFSCGIALLHGESEPYFRTPLVVATTHQLLKFYQAFDLLIVDEVDAFPYVDNPMLYHAVKNSVKEN  229
NTDB id 507 SM12261 RS09240 WP 000867722.1   RIDVCLELYKRLQKDFACEIALLHGESEPYFRTPLVVATTHQLLKFYQAFDLLIVDEVDAFPYVDNPMLYHAVKNSVKEN  229
NTDB id 535 SMSK321 RS10515 WP 000867726.1   RIDVCLELYKRLQDDFACEISLLYGESEPYFRTPLVVSTTHQLLKFYQAFDLLIVDEVDAFPYVDNPMLYHAVKNSVKEN  229
consensus                                    !*!!!*!!**!!* !!*! **!***!***!*!*!**!*!*!!!**!**!!!!!!*!!!!!!!***!**!**!*****!**

logo
NTDB id 593 KW2 RS05130 WP 021037147.1        GTLLYLTATSTDKLDKQIKKHEIKRLFLPRRFHGHPLVIPMFFWKKTFYK.............KFIEQRKTGFPLLIFVA  307
NTDB id 400599 GJS34 RS08145 WP 014623352.1  AVTVYLTATSTRDLERKVKQKELVKLTLARRFHGKPLVVPKYQRLFSLLEAINRGKLPRRFITLVKKQRATGYPLLIFFP  309
NTDB id 277 KZH43 RS10090 WP 000867601.1     GLRIFLTATSTNELDKKVRLGELKRLNLPRRFHGNPLIIPKPIWLSDFNRYLDKNRLSPKLKSYIEKQRKTAYPLLIFAS  309
NTDB id 236 SPD RS10765 WP 000867601.1       GLRIFLTATSTNELDKKVRLGELKRLNLPRRFHGNPLIIPKPIWLSDFNRYLDKNRLSPKLKSYIEKQRKTAYPLLIFAS  309
NTDB id 202 SPR RS10250 WP 000867601.1       GLRIFLTATSTNELDKKVRLGELKRLNLPRRFHGNPLIIPKPIWLSDFNRYLDKNRLSPKLKSYIEKQRKTAYPLLIFAS  309
NTDB id 167 SP RS11275 WP 000867616.1        GLRIFLTATSTNELDKKVRLGELKRLNLPRRFHGNPLIIPKPIWLSDFNRYLDKNRLSPKLKSYIEKQRKTAYPLLIFAS  309
NTDB id 507 SM12261 RS09240 WP 000867722.1   GLRIFLTATSTDELDRKVRIGELKRLSLPRRFHGNPLIIPKPVWLSDFNHCLEKSRLSPKLKSYIEKQRKTGYPLLIFAS  309
NTDB id 535 SMSK321 RS10515 WP 000867726.1   GLRIFLTATSTDELDRKVRIGELKRLSLPRRFHGNPLIIPKPVWLSDFNRYLEKKCLSPKLKSYIEKQRKTGYPLLIFAS  309
consensus                                    *****!!!!!! *!*******!***! !*!!!!!*!!**!************** ***********!!*!**!!!!!**
```

```
logo
```

```
NTDB id 593 KW2 RS05130 WP 021037147.1        EIDFGQDFAKNLQEKFPKEKMAFVASTTKSRKTIVEAFRKKQVSILITTSILERGVTFSSIDVFVINSEHPNFTKSALIQ   387
NTDB id 400599 GJS34 RS08145 WP 014623352.1  LIELAEQCCQLLQKYFPKETIAHASSQSSNRMAIIEQFRQGQITILISTTILERGVTFPTVDVFVLLANHRLYTSSSLIQ   389
NTDB id 277 KZH43 RS10090 WP 000867601.1     EIKKGEQLAEILQEQFPNEKIGFVSSVTEDRLEQVQAFRDGELTILISTTILERGVTFPCVDVFVVEANHRLFTKSSLIQ   389
NTDB id 236 SPD RS10765 WP 000867601.1       EIKKGEQLAEILQEQFPNEKIGFVSSVTEDRLEQVQAFRDGELTILISTTILERGVTFPCVDVFVVEANHRLFTKSSLIQ   389
NTDB id 202 SPR RS10250 WP 000867601.1       EIKKGEQLAEILQEQFPNEKIGFVSSVTEDRLEQVQAFRDGELTILISTTILERGVTFPCVDVFVVEANHRLFTKSSLIQ   389
NTDB id 167 SP RS11275 WP 000867616.1        EIKKGEQLAEILQEQFPNEKIGFVSSVTEDRLEQVQAFRDGELTILISTTILERGVTFPCVDVFVVEANHRLFTKSSLIQ   389
NTDB id 507 SM12261 RS09240 WP 000867722.1   EIKKGEQLKEIIQEQFPNEKIGFVSSITENRLEQVQAFRDRELTILISTTILERGVTFPCVDVFVVEANHRLFTKSSLIQ   389
NTDB id 535 SMSK321 RS10515 WP 000867726.1   EIKKGEQLKEILQKEFPHEKIGFVSSVTEDRLEQVQAFRDGELTILISTTILERGVTFPCVDVFVVEANHRLFTKSSLIQ   389
consensus                                    *!**********!**!!*!******!****!******!!*****!!!*!*!!!!!!!!!**!!!!*****!***!*!*!!!
```

```
logo
```

```
NTDB id 593 KW2 RS05130 WP 021037147.1        MAGRVGRDSKRPTGLVSFFHSGKSLAMCQAQKEIKKMNRLGGF........   430
NTDB id 400599 GJS34 RS08145 WP 014623352.1  ISGRVGRSLERPEGQVLFFHDGISKAMLKAVREIKDMNQKGYQNELSTLPQ   440
NTDB id 277 KZH43 RS10090 WP 000867601.1     IGGRVGRSMDRPTGDLLFFHDGLNASIKKAIKEIQMMNKEAGL........   432
NTDB id 236 SPD RS10765 WP 000867601.1       IGGRVGRSMDRPTGDLLFFHDGLNASIKKAIKEIQMMNKEAGL........   432
NTDB id 202 SPR RS10250 WP 000867601.1       IGGRVGRSMDRPTGDLLFFHDGLNASIKKAIKEIQMMNKEAGL........   432
NTDB id 167 SP RS11275 WP 000867616.1        IGGRVGRSMDRPTGDLLFFHDGLNASIKKAIKEIQMMNKEAGL........   432
NTDB id 507 SM12261 RS09240 WP 000867722.1   IGGRVGRSMDRPTGDLLFFHDGLNTSIKKAIKEIQQMNKEAGL........   432
NTDB id 535 SMSK321 RS10515 WP 000867726.1   IGGRVGRSMDRPTGDLLFFHDGLNTSIKKAIKEIQQMNKEAGL........   432
consensus                                    **!!!!!***!!*!***!!!*!** ****!**!!* !!*****
```

X non conserved

X similar

X $\geq$ 50% conserved