```
logo
NTDB id 34119 JALI RS01580 WP 009871646.1   MTTKIKTQWTCTECGTHSPKWLGQCSGCLQWNTLVEERTAPKLNTS..SYS...SSSSIPIPLNNVEFQEEIRIHTQAQGWNRLL   80
NTDB id 125 BSU 00870 NP 387968.1           .MAKTKSKFICQSCGYESPKWMGKCPGCGAWNTMVEEMIKKAPANRRAAFSHSVQTVQKPSPITSIETSEEPRVKTQLGEFNRVL   84
NTDB id 279 KZH43 RS00140 WP 074017595.1    .MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNARVSLTGE...KTKPMKLAEVTSINVNRTKTEMEEFNRVL   81
NTDB id 238 SPD RS00140 WP 074017595.1      .MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNARVSLTGE...KTKPMKLAEVTSINVNRTKTEMEEFNRVL   81
NTDB id 204 SPR RS00140 WP 074017595.1      .MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNARVSLTGE...KTKPMKLAEVTSINVNRTKTEMEEFNRVL   81
NTDB id 169 SP RS00155 WP 074017595.1       .MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNARVSLTGE...KTKPMKLAEVTSINVNRTKTEMEEFNRVL   81
NTDB id 509 SM12261 RS00130 WP 078228442.1 .MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNARVSLTGE...KTKPMKLAEVTSINVNRTKTEMEEFNRVL   81
NTDB id 537 SMSK321 RS07120 WP 080550752.1 .MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNARVSLTGE...KTKPMKLAEVTSINVNRTKTEMEEFNRVL   81
consensus                                   **!*!****!**!!**!!!**!*!**!**!***!!!*****************   ***!************!**!*****!!*!

logo
NTDB id 34119 JALI RS01580 WP 009871646.1   GGGTVRGSLALLGGEPGIGKSTLLLQISSQFAAAGHKVLYVCGEESVSQTSLRAQRLQISSNNIFLFPETNLEDIKQQIDNIAPD   165
NTDB id 125 BSU 00870 NP 387968.1           GGGVVKGSLVLIGGDPGIGKSTLLLQVSAQLSGSSNSVLYISGEESVKQTKLRADRLGINNPSLHVLSETDMEYISSAIQEMNPS   169
NTDB id 279 KZH43 RS00140 WP 074017595.1    GGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQV.GTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQSVRAEVERIQPD   165
NTDB id 238 SPD RS00140 WP 074017595.1      GGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQV.GTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQSVRAEVERIQPD   165
NTDB id 204 SPR RS00140 WP 074017595.1      GGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQV.GTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQSVRAEVERIQPD   165
NTDB id 169 SP RS00155 WP 074017595.1       GGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQV.GTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQSVRAEVERIQPD   165
NTDB id 509 SM12261 RS00130 WP 078228442.1 GGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQV.GTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQSVRTEVERIQPD   165
NTDB id 537 SMSK321 RS07120 WP 080550752.1 GGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQV.GTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQSVRAEVERIQPD   165
consensus                                   !!!*!*!!!*!*!!*!!!!!!!!!!!!*!*!**** **!!!**!!!!**!**!!!*!!*********!!*************!*

logo
NTDB id 34119 JALI RS01580 WP 009871646.1   ILVIDSIQIIFSPSLSSAPGSVAQVRETTAELMHIAKQKQITTFIIGHVTKSGEIAGPRILEHLVDTVLYFEGNAHANYRMIRSV   250
NTDB id 125 BSU 00870 NP 387968.1           FVVVDSIQTVYQSDITSAPGSVSQVRECTAELMKIAKTKGIPIFIVGHVTKEGSIAGPRLLEHMVDTVLYFEGERHHTFRILRAV   254
NTDB id 279 KZH43 RS00140 WP 074017595.1    FLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVLYFEGERHHTFRILRAV   250
NTDB id 238 SPD RS00140 WP 074017595.1      FLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVLYFEGERHHTFRILRAV   250
NTDB id 204 SPR RS00140 WP 074017595.1      FLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVLYFEGERHHTFRILRAV   250
NTDB id 169 SP RS00155 WP 074017595.1       FLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVLYFEGERHHTFRILRAV   250
NTDB id 509 SM12261 RS00130 WP 078228442.1 FLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVLYFEGERHHTFRILRAV   250
NTDB id 537 SMSK321 RS07120 WP 080550752.1 FLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVLYFEGERHHTFRILRAV   250
consensus                                   ****!!!!*************!!!*!!!!*!!!!!**!!***!**!!*!!!!!*!**!!!!*!!!*!!!!!!!!!**!***!**!*!

logo
NTDB id 34119 JALI RS01580 WP 009871646.1   KNRFGPTNELLILSMHTDGLREVENPSGLFLQEKIVETTGSTIIPIVEGSETLLIEVQALVSSSPFSNPVRKTSGFDPNRFSLLL   335
NTDB id 125 BSU 00870 NP 387968.1           KNRFGSTNEMGIFEMREEGLTEVLNPSEIFLEERSAGSAGSSITASMEGTRPILVEIQALISPTSFGNPRRMATGIDHNRVSLLM   339
NTDB id 279 KZH43 RS00140 WP 074017595.1    KNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVTPTMFGNAKRTTTGLDFNRASLIM   335
NTDB id 238 SPD RS00140 WP 074017595.1      KNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVTPTMFGNAKRTTTGLDFNRASLIM   335
NTDB id 204 SPR RS00140 WP 074017595.1      KNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVTPTMFGNAKRTTTGLDFNRASLIM   335
NTDB id 169 SP RS00155 WP 074017595.1       KNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVTPTMFGNAKRTTTGLDFNRASLIM   335
NTDB id 509 SM12261 RS00130 WP 078228442.1 KNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVTPTMFGNAKRTTTGLDFNRASLIM   335
NTDB id 537 SMSK321 RS07120 WP 080550752.1 KNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVTPTMFGNAKRTTTGLDFNRASLIM   335
consensus                                   !!!!!*!!!**!**!***!!*!!*!!!**!!*!*******!!*!****!!****!*!*!!!*****!*!**!***!*!*!!*!!**
```

```
logo

NTDB id 34119 JALI RS01580 WP 009871646.1   AVLEKRANVKLYTSDVFLSIAGGLKITQPSADLGAVLSVVSSLYNRYLPKNYTYTGEIGLGGEIRHVSHMEHRIKESIIMGFKGI   420
NTDB id 125 BSU 00870 NP 387968.1           AVLEKRVGLLLQNQDAYLKVAGGVKLDEPAIDLAIVISIASSFRDTPPNPADCFIGEVGLTGEVRRVSRIEQRVKEAAKLGFKRM   424
NTDB id 279 KZH43 RS00140 WP 074017595.1    AVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELGLTGEIRRVNRIEQRINEAAKLGFTKI   420
NTDB id 238 SPD RS00140 WP 074017595.1      AVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELGLTGEIRRVNRIEQRINEAAKLGFTKI   420
NTDB id 204 SPR RS00140 WP 074017595.1      AVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELGLTGEIRRVNRIEQRINEAAKLGFTKI   420
NTDB id 169 SP RS00155 WP 074017595.1       AVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELGLTGEIRRVNRIEQRINEAAKLGFTKI   420
NTDB id 509 SM12261 RS00130 WP 078228442.1 AVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELGLTGEIRRVNRIEQRINEAAKLGFTKI   420
NTDB id 537 SMSK321 RS07120 WP 080550752.1 AVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELGLTGEIRRVNRIEQRINEAAKLGFTKI   420
consensus                                   !!!!!!*****!***!**!**!!!*!***!**!!*******!!*************!!*!!*!!*!*!***!*!**!****!!***
```

```
logo

NTDB id 34119 JALI RS01580 WP 009871646.1   VMPFGQIKGLPKEFLDQIDIIGVKTIKDAVRLLQ..   454
NTDB id 125 BSU 00870 NP 387968.1           IIPAANLDGWTKP..KGIEVIGVANVAEALRTSLGG   458
NTDB id 279 KZH43 RS00140 WP 074017595.1    YVPKNSLTGITLP..KEIQVIGVTTIQEVLKKVFA.   453
NTDB id 238 SPD RS00140 WP 074017595.1      YVPKNSLTGITLP..KEIQVIGVTTIQEVLKKVFA.   453
NTDB id 204 SPR RS00140 WP 074017595.1      YVPKNSLTGITLP..KEIQVIGVTTIQEVLKKVFA.   453
NTDB id 169 SP RS00155 WP 074017595.1       YVPKNSLTGITLP..KEIQVIGVTTIQEVLKKVFA.   453
NTDB id 509 SM12261 RS00130 WP 078228442.1 YVPKNSLTGITPP..KEIQVIGVTTIQEVLKKVFA.   453
NTDB id 537 SMSK321 RS07120 WP 080550752.1 YVPKNSLTGITPP..MEIQVIGVTTIQEVLKKVFA.   453
consensus                                   **!*****!** *  **!**!!!************
```

X non conserved

X similar

X $\geq$50% conserved