```
logo

NTDB id 1065868 ACGYMG RS16230 WP 004453976.1   MAKIKTKYVCQSCGYETAKWLGKCPECTKWNTFVEEIDQKSTKKEVFIIDK...SSSKPVSINSIESKEEERFTTDINEL   77
NTDB id 125 BSU 00870 NP 387968.1               MAKTKSKFICQSCGYESPKWMGKCPGCGAWNTMVEEMIKKAPANRRAAFSHSVQTVQKPSPITSIETSEEPRVKTQLGEF   80
NTDB id 509 SM12261 RS00130 WP 078228442.1      MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNARVSLTGE...KTKPMKLAEVTSINVNRTKTEMEEF   77
NTDB id 279 KZH43 RS00140 WP 074017595.1        MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNARVSLTGE...KTKPMKLAEVTSINVNRTKTEMEEF   77
NTDB id 238 SPD RS00140 WP 074017595.1          MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNARVSLTGE...KTKPMKLAEVTSINVNRTKTEMEEF   77
NTDB id 204 SPR RS00140 WP 074017595.1          MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNARVSLTGE...KTKPMKLAEVTSINVNRTKTEMEEF   77
NTDB id 169 SP RS00155 WP 074017595.1           MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNARVSLTGE...KTKPMKLAEVTSINVNRTKTEMEEF   77
NTDB id 537 SMSK321 RS07120 WP 080550752.1      MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNARVSLTGE...KTKPMKLAEVTSINVNRTKTEMEEF   77
consensus                                       !!!*!****!!*!!!***!**!*!!*!**!***!!!*****************   **!!************!**!***!*

logo

NTDB id 1065868 ACGYMG RS16230 WP 004453976.1   DRVLGGGIVKGSLVLVGGDPGIGKSTLLIQVSSNVANLGKTVLYITGEESESQIKMRAKRLGINSENLYIFAENNLSIIE   157
NTDB id 125 BSU 00870 NP 387968.1               NRVLGGGVVKGSLVLIGGDPGIGKSTLLLQVSAQLSGSSNSVLYISGEESVKQTKLRADRLGINNPSLHVLSETDMEYIS   160
NTDB id 509 SM12261 RS00130 WP 078228442.1      NRVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQV.GTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQSVR   156
NTDB id 279 KZH43 RS00140 WP 074017595.1        NRVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQV.GTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQSVR   156
NTDB id 238 SPD RS00140 WP 074017595.1          NRVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQV.GTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQSVR   156
NTDB id 204 SPR RS00140 WP 074017595.1          NRVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQV.GTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQSVR   156
NTDB id 169 SP RS00155 WP 074017595.1           NRVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQV.GTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQSVR   156
NTDB id 537 SMSK321 RS07120 WP 080550752.1      NRVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQV.GTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQSVR   156
consensus                                       *!!!!!!*!*!!!!!*!!!!!!!!!!!!!*!!!*****  **!!!**!!!!**!*!*!!*!!!**********!*******

logo

NTDB id 1065868 ACGYMG RS16230 WP 004453976.1   SYLESVNPELIILDSIQTVFSPEISSAPGTVSQIKEGTSKFMKISKKMGISTFIVGHVTKEGSLAGPKLLEHMVDTVLYF   237
NTDB id 125 BSU 00870 NP 387968.1               SAIQEMNPSFVVVDSIQTVYQSDITSAPGSVSQVRECTAELMKIAKTKGIPIFIVGHVTKEGSIAGPRLLEHMVDTVLYF   240
NTDB id 509 SM12261 RS00130 WP 078228442.1      TEVERIQPDFLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVLYF   236
NTDB id 279 KZH43 RS00140 WP 074017595.1        AEVERIQPDFLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVLYF   236
NTDB id 238 SPD RS00140 WP 074017595.1          AEVERIQPDFLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVLYF   236
NTDB id 204 SPR RS00140 WP 074017595.1          AEVERIQPDFLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVLYF   236
NTDB id 169 SP RS00155 WP 074017595.1           AEVERIQPDFLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVLYF   236
NTDB id 537 SMSK321 RS07120 WP 080550752.1      AEVERIQPDFLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVLYF   236
consensus                                       *******!****!!!!!*****!****!*!!!**!*!***!***!***!**!!!!!!!!!!**!!!**!!!!!!!!!!!

logo

NTDB id 1065868 ACGYMG RS16230 WP 004453976.1   EGERYNTYRLVRAVKNRFGSTNELGVFEMRDLGLVELDNPSKILISEKPKDVAGSVIISTVEGTRPMLLELQALVSPTSF   317
NTDB id 125 BSU 00870 NP 387968.1               EGERHHTFRILRAVKNRFGSTNEMGIFEMREEGLTEVLNPSEIFLEERSAGSAGSSITASMEGTRPILVEIQALISPTSF   320
NTDB id 509 SM12261 RS00130 WP 078228442.1      EGERHHTFRILRAVKNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVTPTMF   316
NTDB id 279 KZH43 RS00140 WP 074017595.1        EGERHHTFRILRAVKNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVTPTMF   316
NTDB id 238 SPD RS00140 WP 074017595.1          EGERHHTFRILRAVKNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVTPTMF   316
NTDB id 204 SPR RS00140 WP 074017595.1          EGERHHTFRILRAVKNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVTPTMF   316
NTDB id 169 SP RS00155 WP 074017595.1           EGERHHTFRILRAVKNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVTPTMF   316
NTDB id 537 SMSK321 RS07120 WP 080550752.1      EGERHHTFRILRAVKNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVTPTMF   316
consensus                                       !!!!**!*!**!!!!!!!!!!!!!*!*!!!***!!*!**!!!*****!******!!*!****!!!!!*!*!*!!!**!!*!
```

```
logo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
NTDB id 1065868 ACGYMG RS16230 WP 004453976.1   GIPKRTSTGVDYNRVGMLLAVLEKRVGLQIQNQDVYINIVGGIKINEPSIDLGIAISVASSFRNIPIDEDIAVTGEVGLT   397
NTDB id 125 BSU 00870 NP 387968.1               GNPRRMATGIDHNRVSLLMAVLEKRVGLLLQNQDAYLKVAGGVKLDEPAIDLAIVISIASSFRDTPPNPADCFIGEVGLT   400
NTDB id 509 SM12261 RS00130 WP 078228442.1      GNAKRTTTGLDFNRASLIMAVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELGLT   396
NTDB id 279 KZH43 RS00140 WP 074017595.1        GNAKRTTTGLDFNRASLIMAVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELGLT   396
NTDB id 238 SPD RS00140 WP 074017595.1          GNAKRTTTGLDFNRASLIMAVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELGLT   396
NTDB id 204 SPR RS00140 WP 074017595.1          GNAKRTTTGLDFNRASLIMAVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELGLT   396
NTDB id 169 SP RS00155 WP 074017595.1           GNAKRTTTGLDFNRASLIMAVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELGLT   396
NTDB id 537 SMSK321 RS07120 WP 080550752.1      GNAKRTTTGLDFNRASLIMAVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELGLT   396
consensus                                       !***!**!!*!*!!*****!!!!!!*!!**!!!!*!***!!*!**!!*!!!******!!!****!********!!*!!!

logo
                                                                                                                                                                                                                                                                                                                                                                                                                                                
NTDB id 1065868 ACGYMG RS16230 WP 004453976.1   GEVRAVSFIEKRIAECKKLGFKKIVVPRSNYDVVKETKGIEIWPVDNLRQAINIVLGRNQ   457
NTDB id 125 BSU 00870 NP 387968.1               GEVRRVSRIEQRVKEAAKLGFKRMIIPAANLDGWTKPKGIEVIGVANVAEALRTSLGG..   458
NTDB id 509 SM12261 RS00130 WP 078228442.1      GEIRRVNRIEQRINEAAKLGFTKIYVPKNSLTGITPPKEIQVIGVTTIQEVLKKVFA...   453
NTDB id 279 KZH43 RS00140 WP 074017595.1        GEIRRVNRIEQRINEAAKLGFTKIYVPKNSLTGITLPKEIQVIGVTTIQEVLKKVFA...   453
NTDB id 238 SPD RS00140 WP 074017595.1          GEIRRVNRIEQRINEAAKLGFTKIYVPKNSLTGITLPKEIQVIGVTTIQEVLKKVFA...   453
NTDB id 204 SPR RS00140 WP 074017595.1          GEIRRVNRIEQRINEAAKLGFTKIYVPKNSLTGITLPKEIQVIGVTTIQEVLKKVFA...   453
NTDB id 169 SP RS00155 WP 074017595.1           GEIRRVNRIEQRINEAAKLGFTKIYVPKNSLTGITLPKEIQVIGVTTIQEVLKKVFA...   453
NTDB id 537 SMSK321 RS07120 WP 080550752.1      GEIRRVNRIEQRINEAAKLGFTKIYVPKNSLTGITPPMEIQVIGVTTIQEVLKKVFA...   453
consensus                                       !!*!*!**!!*!**!**!!!!*****!********  ***!****!************
```

X non conserved

X similar

X $\geq$ 50% conserved