```
logo
NTDB id 302187 Y82 RS24110 WP 003094867.1   MAKAKRMYGCTECGATFPKWAGQCADCGAWNTLVETVVEAAPSGSGRGGWAGQ...QANLKTLAEVSVEEMPRFTTGSTELDRVL   82
NTDB id 125 BSU 00870 NP 387968.1           MAKTKSKFICQSCGYESPKWMGKCPGCGAWNTMVEEMIKKAPANRR.AAFSHSVQTVQKPSPITSIETSEEPRVKTQLGEFNRVL   84
NTDB id 279 KZH43 RS00140 WP 074017595.1    MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNAR.VSLTGE...KTKPMKLAEVTSINVNRTKTEMEEFNRVL   81
NTDB id 238 SPD RS00140 WP 074017595.1      MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNAR.VSLTGE...KTKPMKLAEVTSINVNRTKTEMEEFNRVL   81
NTDB id 204 SPR RS00140 WP 074017595.1      MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNAR.VSLTGE...KTKPMKLAEVTSINVNRTKTEMEEFNRVL   81
NTDB id 169 SP RS00155 WP 074017595.1       MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNAR.VSLTGE...KTKPMKLAEVTSINVNRTKTEMEEFNRVL   81
NTDB id 537 SMSK321 RS07120 WP 080550752.1 MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNAR.VSLTGE...KTKPMKLAEVTSINVNRTKTEMEEFNRVL   81
NTDB id 509 SM12261 RS00130 WP 078228442.1 MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNAR.VSLTGE...KTKPMKLAEVTSINVNRTKTEMEEFNRVL   81
consensus                                   !!!*!****!**!!***!!**!*!**!!*!***!!***********  ******   ****************!*!***!**!!!

logo
NTDB id 302187 Y82 RS24110 WP 003094867.1   GGGLVDGSVVLIGGDPGIGKSTILLQTLCNLASR.VPALYVTGEESQQQVAMRARRLSLPEDKLKVMTETSIETIIATARQEQPR   166
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 537 SMSK321 RS07120 WP 080550752.1 GGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQV.GTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQSVRAEVERIQPD   165
NTDB id 509 SM12261 RS00130 WP 078228442.1 GGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQV.GTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQSVRTEVERIQPD   165
consensus                                   !!!*!*!!*!!!!!!!!!!!!!!*!!!*****!*** ***!!**!!!!**!***!!*!!***********!!************!*

logo
NTDB id 302187 Y82 RS24110 WP 003094867.1   VMVIDSIQTIFTEQLQSAPGGVAQVRESAAMLVRYAKQSGTAIFLVGHVTKEGALAGPRVLEHMVDTVLYFEGESDGRLRLLRAV   251
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 537 SMSK321 RS07120 WP 080550752.1 FLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVLYFEGERHHTFRILRAV   250
NTDB id 509 SM12261 RS00130 WP 078228442.1 FLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVLYFEGERHHTFRILRAV   250
consensus                                   ****!!!!!**********!*!*!!!!**!*!***!!*****!!*!!!!!!!!**!!!!*!!!!!!!!!!!!!!*****!*!!!!

logo
NTDB id 302187 Y82 RS24110 WP 003094867.1   KNRFGAVNELGVFGMTDKGLKEVSNPSAIFLTRAQEAVPGSVVMATWEGSRPMLVEVQALVDTSHLANPRRVTLGLDQNRLAMLL   336
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 537 SMSK321 RS07120 WP 080550752.1 KNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVTPTMFGNAKRTTTGLDFNRASLIM   335
NTDB id 509 SM12261 RS00130 WP 078228442.1 KNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVTPTMFGNAKRTTTGLDFNRASLIM   335
consensus                                   !!!!!**!!*!*!*!***!!*!!*!!!**!!********!!******!!*!!*!*!*!!!*******!**!***!*!*!!*****
```

```
logo
NTDB id 302187 Y82 RS24110 WP 003094867.1   AVLHRHGGIPTYDQDVFLNVVGGVKVLETASDLALMAAVMSSLRNRPLPHDLLVFGEVGLSGEVRPVPSGQERLKEAGKHGFKRA   421
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 537 SMSK321 RS07120 WP 080550752.1 AVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELGLTGEIRRVNRIEQRINEAAKLGFTKI   420
NTDB id 509 SM12261 RS00130 WP 078228442.1 AVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELGLTGEIRRVNRIEQRINEAAKLGFTKI   420
consensus                                   !!!****!*****!!**!**!!!!**!*!*!!!******!!****!*******!!*!!*!!*!*!*****!**!!*!*!!***

logo
NTDB id 302187 Y82 RS24110 WP 003094867.1   IVPLGNAP.KEAPAGLQVIAVTRLEQALDALFE.   453
NTDB id 125 BSU 00870 NP 387968.1           IIPAANLDGWTKPKGIEVIGVANVAEALRTSLGG   458
NTDB id 279 KZH43 RS00140 WP 074017595.1    YVPKNSLTGITLPKEIQVIGVTTIQEVLKKVFA.   453
NTDB id 238 SPD RS00140 WP 074017595.1      YVPKNSLTGITLPKEIQVIGVTTIQEVLKKVFA.   453
NTDB id 204 SPR RS00140 WP 074017595.1      YVPKNSLTGITLPKEIQVIGVTTIQEVLKKVFA.   453
NTDB id 169 SP RS00155 WP 074017595.1       YVPKNSLTGITLPKEIQVIGVTTIQEVLKKVFA.   453
NTDB id 537 SMSK321 RS07120 WP 080550752.1 YVPKNSLTGITPPMEIQVIGVTTIQEVLKKVFA.   453
NTDB id 509 SM12261 RS00130 WP 078228442.1 YVPKNSLTGITPPKEIQVIGVTTIQEVLKKVFA.   453
consensus                                   **!********  !****!!*!******!*****
```

X non conserved

X similar

X $\geq$50% conserved