```
logo

NTDB id 368375 FH041 RS13685 WP 023534442.1   MAKAKRLYGCTECGATFPKWAGQCGECGAWNTLVETMIESGGAAAPSTGRAGWTGQ...QAQIKTLAEVSVEEIPRFTTS   77
NTDB id 125 BSU 00870 NP 387968.1             MAKTKSKFICQSCGYESPKWMGKCPGCGAWNTMVEEMIKKA....PANRRAAFSHSVQTVQKPSPITSIETSEEPRVKTQ   76
NTDB id 279 KZH43 RS00140 WP 074017595.1      MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAE....VKNARVSLTGE...KTKPMKLAEVTSINVNRTKTE   73
NTDB id 238 SPD RS00140 WP 074017595.1        MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAE....VKNARVSLTGE...KTKPMKLAEVTSINVNRTKTE   73
NTDB id 204 SPR RS00140 WP 074017595.1        MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAE....VKNARVSLTGE...KTKPMKLAEVTSINVNRTKTE   73
NTDB id 169 SP RS00155 WP 074017595.1         MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAE....VKNARVSLTGE...KTKPMKLAEVTSINVNRTKTE   73
NTDB id 537 SMSK321 RS07120 WP 080550752.1    MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAE....VKNARVSLTGE...KTKPMKLAEVTSINVNRTKTE   73
NTDB id 509 SM12261 RS00130 WP 078228442.1    MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAE....VKNARVSLTGE...KTKPMKLAEVTSINVNRTKTE   73
consensus                                     !!!*!****!**!!***!!**!*!**!!*!***!!******    ****!******    ****************!**!*

logo

NTDB id 368375 FH041 RS13685 WP 023534442.1   STELDRVLGGGLVDGSVVLIGGDPGIGKSTLLLQTLCNIAV.GMPALYVTGEESQQQVAMRSRRLGLPQDQLKVMTETCI   156
NTDB id 125 BSU 00870 NP 387968.1             LGEFNRVLGGGVVKGSLVLIGGDPGIGKSTLLLQVSAQLSGSSNSVLYISGEESVKQTKLRADRLGINNPSLHVLSETDM   156
NTDB id 279 KZH43 RS00140 WP 074017595.1      MEEFNRVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQV.GTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNM   152
NTDB id 238 SPD RS00140 WP 074017595.1        MEEFNRVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQV.GTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNM   152
NTDB id 204 SPR RS00140 WP 074017595.1        MEEFNRVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQV.GTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNM   152
NTDB id 169 SP RS00155 WP 074017595.1         MEEFNRVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQV.GTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNM   152
NTDB id 537 SMSK321 RS07120 WP 080550752.1    MEEFNRVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQV.GTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNM   152
NTDB id 509 SM12261 RS00130 WP 078228442.1    MEEFNRVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQV.GTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNM   152
consensus                                     **!**!!!!!!*!*!!*!!!!!!!!!!!!!!*!!!********  ***!!**!!!!**!***!**!!!**********!!**

logo

NTDB id 368375 FH041 RS13685 WP 023534442.1   ETIIATARQEKPRVMVIDSIQTIFIEQLQSAPGGVAQVRESTALLVRYAKQSGTAIFLVGHVTKEGSLAGPRVLEHMVDT   236
NTDB id 125 BSU 00870 NP 387968.1             EYISSAIQEMNPSFVVVDSIQTVYQSDITSAPGSVSQVRECTAELMKIAKTKGIPIFIVGHVTKEGSIAGPRLLEHMVDT   236
NTDB id 279 KZH43 RS00140 WP 074017595.1      QSVRAEVERIQPDFLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDT   232
NTDB id 238 SPD RS00140 WP 074017595.1        QSVRAEVERIQPDFLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDT   232
NTDB id 204 SPR RS00140 WP 074017595.1        QSVRAEVERIQPDFLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDT   232
NTDB id 169 SP RS00155 WP 074017595.1         QSVRAEVERIQPDFLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDT   232
NTDB id 537 SMSK321 RS07120 WP 080550752.1    QSVRAEVERIQPDFLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDT   232
NTDB id 509 SM12261 RS00130 WP 078228442.1    QSVRTEVERIQPDFLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDT   232
consensus                                     ***********!*****!!!!!**********!*!*!!!!*!!*!***!!*****!!*!!!!!!!!**!!!!*!!!!!!!

logo

NTDB id 368375 FH041 RS13685 WP 023534442.1   VLYFEGESDGRLRLLRAVKNRFGAVNELGVFGMTDRGLKEVSNPSAIFLNRTQEEVPGSVVMATWEGTRPMLVEVQALVD   316
NTDB id 125 BSU 00870 NP 387968.1             VLYFEGERHHTFRILRAVKNRFGSTNEMGIFEMREEGLTEVLNPSEIFLEERSAGSAGSSITASMEGTRPILVEIQALIS   316
NTDB id 279 KZH43 RS00140 WP 074017595.1      VLYFEGERHHTFRILRAVKNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVT   312
NTDB id 238 SPD RS00140 WP 074017595.1        VLYFEGERHHTFRILRAVKNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVT   312
NTDB id 204 SPR RS00140 WP 074017595.1        VLYFEGERHHTFRILRAVKNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVT   312
NTDB id 169 SP RS00155 WP 074017595.1         VLYFEGERHHTFRILRAVKNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVT   312
NTDB id 537 SMSK321 RS07120 WP 080550752.1    VLYFEGERHHTFRILRAVKNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVT   312
NTDB id 509 SM12261 RS00130 WP 078228442.1    VLYFEGERHHTFRILRAVKNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVT   312
consensus                                     !!!!!!!*****!*!!!!!!!!!**!!*!*!*!***!!*!!*!!!**!!********!!******!!!!!*!*!*!!!**
```

```
logo
NTDB id 368375 FH041 RS13685 WP 023534442.1   DSHLANPRRVTLGLDQNRLAMLLAVLHRHGGIPTHDQDVFLNVVGGVKVLETASDLALLAAVMSSLRNRPLAHGLLVFGE   396
NTDB id 125 BSU 00870 NP 387968.1             PTSFGNPRRMATGIDHNRVSLLMAVLEKRVGLLLQNQDAYLKVAGGVKLDEPAIDLAIVISIASSFRDTPPNPADCFIGE   396
NTDB id 279 KZH43 RS00140 WP 074017595.1      PTMFGNAKRTTTGLDFNRASLIMAVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGE   392
NTDB id 238 SPD RS00140 WP 074017595.1        PTMFGNAKRTTTGLDFNRASLIMAVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGE   392
NTDB id 204 SPR RS00140 WP 074017595.1        PTMFGNAKRTTTGLDFNRASLIMAVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGE   392
NTDB id 169 SP RS00155 WP 074017595.1         PTMFGNAKRTTTGLDFNRASLIMAVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGE   392
NTDB id 537 SMSK321 RS07120 WP 080550752.1    PTMFGNAKRTTTGLDFNRASLIMAVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGE   392
NTDB id 509 SM12261 RS00130 WP 078228442.1    PTMFGNAKRTTTGLDFNRASLIMAVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGE   392
consensus                                     *****!**!***!*!*!!*****!!!****!*****!!**!***!!!!**!*!*!!!******!!****!********!!

logo
NTDB id 368375 FH041 RS13685 WP 023534442.1   IGLSGEVRPVPSGQERLKEAAKHGFKRAIVPKGNAP.KEAPAGLQVIAVTRLEQALDALFE.   456
NTDB id 125 BSU 00870 NP 387968.1             VGLTGEVRRVSRIEQRVKEAAKLGFKRMITPAANLDGWTKPKGIEVIGVANVAEALRTSLGG   458
NTDB id 279 KZH43 RS00140 WP 074017595.1      LGLTGEIRRVNRIEQRINEAAKLGFTKIYVPKNSLTGITLPKEIQVIGVTTIQEVLKKVFA.   453
NTDB id 238 SPD RS00140 WP 074017595.1        LGLTGEIRRVNRIEQRINEAAKLGFTKIYVPKNSLTGITLPKEIQVIGVTTIQEVLKKVFA.   453
NTDB id 204 SPR RS00140 WP 074017595.1        LGLTGEIRRVNRIEQRINEAAKLGFTKIYVPKNSLTGITLPKEIQVIGVTTIQEVLKKVFA.   453
NTDB id 169 SP RS00155 WP 074017595.1         LGLTGEIRRVNRIEQRINEAAKLGFTKIYVPKNSLTGITLPKEIQVIGVTTIQEVLKKVFA.   453
NTDB id 537 SMSK321 RS07120 WP 080550752.1    LGLTGEIRRVNRIEQRINEAAKLGFTKIYVPKNSLTGITPPMEIQVIGVTTIQEVLKKVFA.   453
NTDB id 509 SM12261 RS00130 WP 078228442.1    LGLTGEIRRVNRIEQRINEAAKLGFTKIYVPKNSLTGITPPKEIQVIGVTTIQEVLKKVFA.   453
consensus                                     *!!*!!*!*!*****!**!!!!*!!*****!*******  !****!!*!******!*****
```

X non conserved

X similar

X $\geq$ 50% conserved