logo



```
NTDB id 125 BSU 00870 NP 387968.1                .MAKTKSKFICQSCGYESPKWMGKCPGCGAWNTMVEEMIKKAPANRRA.AFSHSVQTVQKPSPITSIETSEEPRVKTQLG   78
NTDB id 166905 APT62 RS09210 WP 059349317.1      MAKKTTTRYVCQACGYESVQFYGKCPNCGAWNQMEEERLYGKTIAHPETRVGQANSSFMKPQKLAAVKGEETPRIQTQLG   80
NTDB id 509 SM12261 RS00130 WP 078228442.1       .MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNA....RVSLTGEKTKPMKLAEVTSINVNRTKTEME   75
NTDB id 537 SMSK321 RS07120 WP 080550752.1       .MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNA....RVSLTGEKTKPMKLAEVTSINVNRTKTEME   75
NTDB id 279 KZH43 RS00140 WP 074017595.1         .MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNA....RVSLTGEKTKPMKLAEVTSINVNRTKTEME   75
NTDB id 238 SPD RS00140 WP 074017595.1           .MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNA....RVSLTGEKTKPMKLAEVTSINVNRTKTEME   75
NTDB id 204 SPR RS00140 WP 074017595.1           .MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNA....RVSLTGEKTKPMKLAEVTSINVNRTKTEME   75
NTDB id 169 SP RS00155 WP 074017595.1            .MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNA....RVSLTGEKTKPMKLAEVTSINVNRTKTEME   75
consensus                                        **!******!!*!!!*!****!*!!*!!*!****!!*********    *********!!*************!**!***
```

logo



```
NTDB id 125 BSU 00870 NP 387968.1                EFNRVLGGGVVKGSLVLIGGDPGIGKSTLLLQVSAQLSGSSNSVLYISGEESVKQTKLRADRLGINNPSLHVLSETDMEY   158
NTDB id 166905 APT62 RS09210 WP 059349317.1      ELNRVLGGGVVQGSLVLIGGDPGIGKSTLMLQVSAELHQSAGPVLYVSGEESMHQIKLRAERLGFEGADFYVYAETDMAA   160
NTDB id 509 SM12261 RS00130 WP 078228442.1       EFNRVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQ.VGTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQS   154
NTDB id 537 SMSK321 RS07120 WP 080550752.1       EFNRVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQ.VGTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQS   154
NTDB id 279 KZH43 RS00140 WP 074017595.1         EFNRVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQ.VGTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQS   154
NTDB id 238 SPD RS00140 WP 074017595.1           EFNRVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQ.VGTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQS   154
NTDB id 204 SPR RS00140 WP 074017595.1           EFNRVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQ.VGTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQS   154
NTDB id 169 SP RS00155 WP 074017595.1            EFNRVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQ.VGTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQS   154
consensus                                        !*!!!!!!!!!!*!!!!!!!!!!!!!!!!!!!!*!!!!**!**  ***!!!*!!!!!**!*!!!!*!!!**********!!*!**
```

logo



```
NTDB id 125 BSU 00870 NP 387968.1                ISSAIQEMNPSFVVVDSIQTVYQSDITSAPGSVSQVRECTAELMKIAKTKGIPIFIVGHVTKEGSIAGPRLLEHMVDTVL   238
NTDB id 166905 APT62 RS09210 WP 059349317.1      IQDAIYDLQPRFVVIDSIQTMTHEDATSTAGSVGQVRQTTAELMKLAKSQNIGIFIVGHVTKEGNIAGPRILEHMVDTVL   240
NTDB id 509 SM12261 RS00130 WP 078228442.1       VRTEVERIQPDFLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVL   234
NTDB id 537 SMSK321 RS07120 WP 080550752.1       VRAEVERIQPDFLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVL   234
NTDB id 279 KZH43 RS00140 WP 074017595.1         VRAEVERIQPDFLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVL   234
NTDB id 238 SPD RS00140 WP 074017595.1           VRAEVERIQPDFLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVL   234
NTDB id 204 SPR RS00140 WP 074017595.1           VRAEVERIQPDFLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVL   234
NTDB id 169 SP RS00155 WP 074017595.1            VRAEVERIQPDFLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVL   234
consensus                                        *********!*!***!!!!!**********!!!*!!!**!!!!!**!!***!*!!!!!!!!!!!!**!!!!*!!!!!!!!!
```

logo



```
NTDB id 125 BSU 00870 NP 387968.1                YFEGERHHTFRILRAVKNRFGSTNEMGIFEMREEGLTEVLNPSEIFLEERSAGSAGSSITASMEGTRPILVEIQALISPT   318
NTDB id 166905 APT62 RS09210 WP 059349317.1      YFEGEKHDTFRILRAVKNRFGSTNEIGVFDMQQDGLHEVANPSELFLEERLAGTNGSAVVASMEGTRPILTEIQALLTPT   320
NTDB id 509 SM12261 RS00130 WP 078228442.1       YFEGERHHTFRILRAVKNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVTPT   314
NTDB id 537 SMSK321 RS07120 WP 080550752.1       YFEGERHHTFRILRAVKNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVTPT   314
NTDB id 279 KZH43 RS00140 WP 074017595.1         YFEGERHHTFRILRAVKNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVTPT   314
NTDB id 238 SPD RS00140 WP 074017595.1           YFEGERHHTFRILRAVKNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVTPT   314
NTDB id 204 SPR RS00140 WP 074017595.1           YFEGERHHTFRILRAVKNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVTPT   314
NTDB id 169 SP RS00155 WP 074017595.1            YFEGERHHTFRILRAVKNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVTPT   314
consensus                                        !!!!!*!*!!!!!!!!!!!!!!!!!!*!*!*!***!!*!!*!!!**!!!!!**!**!!*****!!!!!!!!!*!*!!!**!!
```

logo



```
NTDB id 125 BSU 00870 NP 387968.1          SFGNPRRMATGIDHNRVSLLMAVLEKRVGLLLQNQDAYLKVAGGVKLDEPAIDLAIVISIASSFRDTPPNPADCFIGEVG  398
NTDB id 166905 APT62 RS09210 WP 059349317.1 SFGNARRTASGLDYSRVSLIMAVLEKRAGLMLQNQDAYLKSTGGVRLDEPAIDLAIAVAVASSYREKETKPTDCFIGEIG  400
NTDB id 509 SM12261 RS00130 WP 078228442.1 MFGNAKRTTTGLDFNRASLIMAVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELG  394
NTDB id 537 SMSK321 RS07120 WP 080550752.1 MFGNAKRTTTGLDFNRASLIMAVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELG  394
NTDB id 279 KZH43 RS00140 WP 074017595.1   MFGNAKRTTTGLDFNRASLIMAVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELG  394
NTDB id 238 SPD RS00140 WP 074017595.1     MFGNAKRTTTGLDFNRASLIMAVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELG  394
NTDB id 204 SPR RS00140 WP 074017595.1     MFGNAKRTTTGLDFNRASLIMAVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELG  394
NTDB id 169 SP RS00155 WP 074017595.1      MFGNAKRTTTGLDFNRASLIMAVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELG  394
consensus                                  *!!!**!***!*!**!*!!*!!!!!!!!*!!*!!!!!!!!!!**!!!*!!!!!!!!!!*****!!!*******!**!!*!!*!
```

logo



```
NTDB id 125 BSU 00870 NP 387968.1          LTGEVRRVSRIEQRVKEAAKLGFKRMIIPAANLDGWTKPKGIEVIGVANVAEALRTSLGG   458
NTDB id 166905 APT62 RS09210 WP 059349317.1 LTGEIRRVTRIAERVQEAEKLGFERIFIPKNAISGLTGKQKIQVVGVTTVREVLNTIFPK   460
NTDB id 509 SM12261 RS00130 WP 078228442.1 LTGEIRRVNRIEQRINEAAKLGFTKIYVPKNSLTGITPPKEIQVIGVTTIQEVLKKVFA.   453
NTDB id 537 SMSK321 RS07120 WP 080550752.1 LTGEIRRVNRIEQRINEAAKLGFTKIYVPKNSLTGITPPMEIQVIGVTTIQEVLKKVFA.   453
NTDB id 279 KZH43 RS00140 WP 074017595.1   LTGEIRRVNRIEQRINEAAKLGFTKIYVPKNSLTGITLPKEIQVIGVTTIQEVLKKVFA.   453
NTDB id 238 SPD RS00140 WP 074017595.1     LTGEIRRVNRIEQRINEAAKLGFTKIYVPKNSLTGITLPKEIQVIGVTTIQEVLKKVFA.   453
NTDB id 204 SPR RS00140 WP 074017595.1     LTGEIRRVNRIEQRINEAAKLGFTKIYVPKNSLTGITLPKEIQVIGVTTIQEVLKKVFA.   453
NTDB id 169 SP RS00155 WP 074017595.1      LTGEIRRVNRIEQRINEAAKLGFTKIYVPKNSLTGITLPKEIQVIGVTTIQEVLKKVFA.   453
consensus                                  !!!!*!!!*!!**!**!!*!!!!*****!******!*!  ***!*!*!!****!*!*****
```

X non conserved
X similar
X ≥ 50% conserved