```
NTDB id 275361 CSB93 RS02015 WP 012077343.1  MAKAKRMYGCTECGATFPKWAGQCADCGAWNTLVETVIEAAPSGSGRGGWAGQ...QANLKTLAEVSVEEMPRFTTGSAE  77
NTDB id 125 BSU 00870 NP 387968.1            MAKTKSKFICQSCGYESPKWMGKCPGCGAWNTMVEEMIKKAPANRRA.AFSHSVQTVQKPSPITSIETSEEPRVKTQLGE  79
NTDB id 537 SMSK321 RS07120 WP 080550752.1   MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNARV.SLTGE...KTKPMKLAEVTSINVNRTKTEMEE  76
NTDB id 279 KZH43 RS00140 WP 074017595.1     MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNARV.SLTGE...KTKPMKLAEVTSINVNRTKTEMEE  76
NTDB id 238 SPD RS00140 WP 074017595.1       MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNARV.SLTGE...KTKPMKLAEVTSINVNRTKTEMEE  76
NTDB id 204 SPR RS00140 WP 074017595.1       MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNARV.SLTGE...KTKPMKLAEVTSINVNRTKTEMEE  76
NTDB id 169 SP RS00155 WP 074017595.1        MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNARV.SLTGE...KTKPMKLAEVTSINVNRTKTEMEE  76
NTDB id 509 SM12261 RS00130 WP 078228442.1   MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNARV.SLTGE...KTKPMKLAEVTSINVNRTKTEMEE  76
consensus                                    !!!*!****!**!!***!!**!*!**!!*!***!!************ *****  **************!**!***!
```

```
NTDB id 275361 CSB93 RS02015 WP 012077343.1  LDRVLGGGLVDGSVVLIGGDPGIGKSTILLQTLCNLATR.VPALYVTGEESQQQVAMRARRLSLPEDRLKVMTETSIETI  156
NTDB id 125 BSU 00870 NP 387968.1            FNRVLGGGVVKGSLVLIGGDPGIGKSTLLLQVSAQLSGSSNSVLYISGEESVKQTKLRADRLGINNPSLHVLSETDMEYI  159
NTDB id 537 SMSK321 RS07120 WP 080550752.1   FNRVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQV.GTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQSV  155
NTDB id 279 KZH43 RS00140 WP 074017595.1     FNRVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQV.GTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQSV  155
NTDB id 238 SPD RS00140 WP 074017595.1       FNRVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQV.GTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQSV  155
NTDB id 204 SPR RS00140 WP 074017595.1       FNRVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQV.GTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQSV  155
NTDB id 169 SP RS00155 WP 074017595.1        FNRVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQV.GTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQSV  155
NTDB id 509 SM12261 RS00130 WP 078228442.1   FNRVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQV.GTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQSV  155
consensus                                    **!!!!!!!*!*!!*!!!!!!!!!!!!!!!*!!!****!*** ***!!**!!!!!**!****!!*!!***********!!*****
```

```
NTDB id 275361 CSB93 RS02015 WP 012077343.1  IATARQEQPRVMVIDSIQTIFTEQLQSAPGGVAQVRESAAMLVRYAKQSGTAIFLVGHVTKEGALAGPRVLEHMVDTVLY  236
NTDB id 125 BSU 00870 NP 387968.1            SSAIQEMNPSFVVVDSIQTVYQSDITSAPGSVSQVRECTAELMKIAKTKGIPIFIVGHVTKEGSIAGPRLLEHMVDTVLY  239
NTDB id 537 SMSK321 RS07120 WP 080550752.1   RAEVERIQPDFLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVLY  235
NTDB id 279 KZH43 RS00140 WP 074017595.1     RAEVERIQPDFLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVLY  235
NTDB id 238 SPD RS00140 WP 074017595.1       RAEVERIQPDFLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVLY  235
NTDB id 204 SPR RS00140 WP 074017595.1       RAEVERIQPDFLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVLY  235
NTDB id 169 SP RS00155 WP 074017595.1        RAEVERIQPDFLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVLY  235
NTDB id 509 SM12261 RS00130 WP 078228442.1   RTEVERIQPDFLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVLY  235
consensus                                    ********!*****!!!!!**********!*!*!!!!**!*!***!!*****!!*!!!!!!!!!**!!!!*!!!!!!!!!!
```

```
NTDB id 275361 CSB93 RS02015 WP 012077343.1  FEGESDGRLRLLRAVKNRFGAVNELGVFGMTDKGLKEVSNPSAIFLTRAQEAVPGSVVMATWEGSRPMLVEVQALVDTSH  316
NTDB id 125 BSU 00870 NP 387968.1            FEGERHHTFRILRAVKNRFGSTNEMGIFEMREEGLTEVLNPSEIFLEERSAGSAGSSITASMEGTRPILVEIQALISPTS  319
NTDB id 537 SMSK321 RS07120 WP 080550752.1   FEGERHHTFRILRAVKNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVTPTM  315
NTDB id 279 KZH43 RS00140 WP 074017595.1     FEGERHHTFRILRAVKNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVTPTM  315
NTDB id 238 SPD RS00140 WP 074017595.1       FEGERHHTFRILRAVKNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVTPTM  315
NTDB id 204 SPR RS00140 WP 074017595.1       FEGERHHTFRILRAVKNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVTPTM  315
NTDB id 169 SP RS00155 WP 074017595.1        FEGERHHTFRILRAVKNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVTPTM  315
NTDB id 509 SM12261 RS00130 WP 078228442.1   FEGERHHTFRILRAVKNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVTPTM  315
consensus                                    !!!!******!*!!!!!!!!!!**!!*!*!*!***!!*!!*!!!**!!*********!!*******!!*!!*!*!*!!!*****
```

```
logo                                                  FGNAKRTTTGLDFNRASLIMAVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELGL

NTDB id 275361 CSB93 RS02015 WP 012077343.1           LANPRRVTLGLDQNRLAMLLAVLHRHGGIPTYDQDVFLNVVGGVKVLETASDLALMAAVMSSLRNRPLPHDLLVFGEVGL   396
NTDB id 125 BSU 00870 NP 387968.1                     FGNPRRMATGIDHNRVSLLMAVLEKRVGLLLQNQDAYLKVAGGVKLDEPAIDLAIVISIASSFRDTPPNPADCFIGEVGL   399
NTDB id 537 SMSK321 RS07120 WP 080550752.1           FGNAKRTTTGLDFNRASLIMAVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELGL   395
NTDB id 279 KZH43 RS00140 WP 074017595.1             FGNAKRTTTGLDFNRASLIMAVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELGL   395
NTDB id 238 SPD RS00140 WP 074017595.1               FGNAKRTTTGLDFNRASLIMAVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELGL   395
NTDB id 204 SPR RS00140 WP 074017595.1               FGNAKRTTTGLDFNRASLIMAVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELGL   395
NTDB id 169 SP RS00155 WP 074017595.1                FGNAKRTTTGLDFNRASLIMAVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELGL   395
NTDB id 509 SM12261 RS00130 WP 078228442.1           FGNAKRTTTGLDFNRASLIMAVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELGL   395
consensus                                            **!**!***!*!*!!*****!!!****!*****!!**!***!!!!**!*!*!!!******!!****!********!!*!!

logo                                                  TGEIRRVNRIEQRINEAAKLGFTKIYVPKNSLTGITLPKEIQVIGVTTIQEVLKKVFA

NTDB id 275361 CSB93 RS02015 WP 012077343.1           SGEVRPVPSGQERLKEAGKHGFKRAIVPLGNAP.KEAPAGLQVIAVTRLEQALDALFE.   453
NTDB id 125 BSU 00870 NP 387968.1                     TGEVRRVSRIEQRVKEAAKLGFKRMIIPAANLDGWTKPKGIEVIGVANVAEALRTSLGG   458
NTDB id 537 SMSK321 RS07120 WP 080550752.1           TGEIRRVNRIEQRINEAAKLGFTKIYVPKNSLTGITPPMEIQVIGVTTIQEVLKKVFA.   453
NTDB id 279 KZH43 RS00140 WP 074017595.1             TGEIRRVNRIEQRINEAAKLGFTKIYVPKNSLTGITLPKEIQVIGVTTIQEVLKKVFA.   453
NTDB id 238 SPD RS00140 WP 074017595.1               TGEIRRVNRIEQRINEAAKLGFTKIYVPKNSLTGITLPKEIQVIGVTTIQEVLKKVFA.   453
NTDB id 204 SPR RS00140 WP 074017595.1               TGEIRRVNRIEQRINEAAKLGFTKIYVPKNSLTGITLPKEIQVIGVTTIQEVLKKVFA.   453
NTDB id 169 SP RS00155 WP 074017595.1                TGEIRRVNRIEQRINEAAKLGFTKIYVPKNSLTGITLPKEIQVIGVTTIQEVLKKVFA.   453
NTDB id 509 SM12261 RS00130 WP 078228442.1           TGEIRRVNRIEQRINEAAKLGFTKIYVPKNSLTGITPPKEIQVIGVTTIQEVLKKVFA.   453
consensus                                            *!!*!*!*****!**!!*!*!!*****!********  !****!!*!******!*****
```

X non conserved
X similar
X $\geq$ 50% conserved