```
logo
NTDB id 509 SM12261 RS00130 WP 078228442.1    MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNARVSL....TGEKTKPMKLAEVTSINVNRTKTEMEE   76
NTDB id 537 SMSK321 RS07120 WP 080550752.1   MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNARVSL....TGEKTKPMKLAEVTSINVNRTKTEMEE   76
NTDB id 279 KZH43 RS00140 WP 074017595.1     MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNARVSL....TGEKTKPMKLAEVTSINVNRTKTEMEE   76
NTDB id 238 SPD RS00140 WP 074017595.1       MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNARVSL....TGEKTKPMKLAEVTSINVNRTKTEMEE   76
NTDB id 204 SPR RS00140 WP 074017595.1       MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNARVSL....TGEKTKPMKLAEVTSINVNRTKTEMEE   76
NTDB id 169 SP RS00155 WP 074017595.1        MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNARVSL....TGEKTKPMKLAEVTSINVNRTKTEMEE   76
NTDB id 982682 NST70 RS00570 WP 035182978.1  MAKKTVKFVCQNCGYESPKWMGKCPQCSQWNQMVEEAET..P.KRRGFFLHPEPGNETKAAPITSIESKEEKRTKVDFGE   77
NTDB id 125 BSU 00870 NP 387968.1            MAKTKSKFICQSCGYESPKWMGKCPGCGAWNTMVEEMIKKAPANRRAAFSH.SVQTVQKPSPITSIETSEEPRVKTQLGE   79
consensus                                    !!!****!*!!*!!!*!!!**!*!!*!**!***!!!********!***    *****!************!*!****!
```

```
logo
NTDB id 509 SM12261 RS00130 WP 078228442.1    FNRVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQVG.TVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQSV   155
NTDB id 537 SMSK321 RS07120 WP 080550752.1   FNRVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQVG.TVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQSV   155
NTDB id 279 KZH43 RS00140 WP 074017595.1     FNRVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQVG.TVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQSV   155
NTDB id 238 SPD RS00140 WP 074017595.1       FNRVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQVG.TVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQSV   155
NTDB id 204 SPR RS00140 WP 074017595.1       FNRVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQVG.TVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQSV   155
NTDB id 169 SP RS00155 WP 074017595.1        FNRVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQVG.TVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQSV   155
NTDB id 982682 NST70 RS00570 WP 035182978.1  LNRVLGGGIVAGSLVLIGGDPGIGKSTLLLQVSSQLAKHGLNVLYISGEESAKQTKLRADRLNIHTDHLYVLPETDLSVI   157
NTDB id 125 BSU 00870 NP 387968.1            FNRVLGGGVVKGSLVLIGGDPGIGKSTLLLQVSAQLSGSSNSVLYISGEESVKQTKLRADRLGINNPSLHVLSETDMEYI   159
consensus                                    *!!!!!!!*!*!!!!!!!!!!!!!!!!!!!!!!!!*!!**** *!!!*!!!!!**!*!!!!*!!***********!!*****
```

```
logo
NTDB id 509 SM12261 RS00130 WP 078228442.1    RTEVERIQPDFLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVLY   235
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 982682 NST70 RS00570 WP 035182978.1  QQAIDELNPGFVVIDSIQTIYHPEIQSAPGSVSQVRETTAQLMRTAKTKNVAIFIVGHVTKEGSIAGPRVLEHMVDTVLY   237
NTDB id 125 BSU 00870 NP 387968.1            SSAIQEMNPSFVVVDSIQTVYQSDITSAPGSVSQVRECTAELMKIAKTKGIPIFIVGHVTKEGSIAGPRLLEHMVDTVLY   239
consensus                                    ********!*!***!!!!!*****!****!!!!!!!!*!!*!!**!!!****!!!!!!!!!!!!**!!!!*!!!!!!!!!!
```

```
logo
NTDB id 509 SM12261 RS00130 WP 078228442.1    FEGERHHTFRILRAVKNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVTPTM   315
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 982682 NST70 RS00570 WP 035182978.1  FEGERHNAYRILRAVKNRFGSTNEIAILEMKESGLEEVQNPSEIFLEERTKGAAGSTVVASIEGTRPVLVEIQALLAPTF   317
NTDB id 125 BSU 00870 NP 387968.1            FEGERHHTFRILRAVKNRFGSTNEMGIFEMREEGLTEVLNPSEIFLEERSAGSAGSSITASMEGTRPILVEIQALISPTS   319
consensus                                    !!!!!!***!!!!!!!!!!!!!!!!**!*!!***!!*!!*!!!**!!!!!**!**!!******!!!!!*!*!*!!!**!!*
```

```
logo
NTDB id 509 SM12261 RS00130 WP 078228442.1   FGNAKRTTTGLDFNRASLIMAVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELGL   395
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 982682 NST70 RS00570 WP 035182978.1  FNMPRRMASGIDYNRVTLIMAVLEKRAGLLIQNQDAYLKVAGGLKVDEPAVDLAVAVSVASSFRDKPTNADDCIIGEVGL   397
NTDB id 125 BSU 00870 NP 387968.1            FGNPRRMATGIDHNRVSLLMAVLEKRVGLLLQNQDAYLKVAGGVKLDEPAIDLAIVISIASSFRDTPPNPADCFIGEVGL   399
consensus                                    !****!***!*!*!!**!*!!!!!!!*!!!*!!!!!!!!*!!!*!*!!!!*!!!*****!!!**!*!*!***!**!!*!!

logo
NTDB id 509 SM12261 RS00130 WP 078228442.1   TGEIRRVNRIEQRINEAAKLGFTKIYVPKNSLTGITPPKEIQVIGVTTIQEVLKKVFA.   453
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 982682 NST70 RS00570 WP 035182978.1  TGEVRRVSRIEQRVQEAAKLGFRRAIIPKNNMGGWTPPKEIQVIGVSTIQEALQAALGG   456
NTDB id 125 BSU 00870 NP 387968.1            TGEVRRVSRIEQRVKEAAKLGFKRMIIPAANLDGWTKPKGIEVIGVANVAEALRTSLGG   458
consensus                                    !!!*!!!*!!!!!**!!!!!!!*****!****!*! !**!*!!!!****!*!*****
```

X non conserved

X similar

X $\geq$ 50% conserved