logo



```
NTDB id 238875 CGC57 RS12215 WP 095899335.1  MAKLKTAYFCQNCGAQYSKWQGQCYTCKQWNTIVEEVVQKDTAPAWQEKESPIKNKATKYIPISQIDTQQEPRLNSNNHE  80
NTDB id 125 BSU 00870 NP 387968.1            MAKTKSKFICQSCGYESPKWMGKCPGCGAWNTMVEEMIKKAPANRRAAFSHS.VQTVQKPSPITSIETSEEPRVKTQLGE  79
NTDB id 509 SM12261 RS00130 WP 078228442.1   MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNARVSLTGE....KTKPMKLAEVTSINVNRTKTEMEE  76
NTDB id 279 KZH43 RS00140 WP 074017595.1     MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNARVSLTGE....KTKPMKLAEVTSINVNRTKTEMEE  76
NTDB id 238 SPD RS00140 WP 074017595.1       MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNARVSLTGE....KTKPMKLAEVTSINVNRTKTEMEE  76
NTDB id 204 SPR RS00140 WP 074017595.1       MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNARVSLTGE....KTKPMKLAEVTSINVNRTKTEMEE  76
NTDB id 169 SP RS00155 WP 074017595.1        MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNARVSLTGE....KTKPMKLAEVTSINVNRTKTEMEE  76
NTDB id 537 SMSK321 RS07120 WP 080550752.1   MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAEVKNARVSLTGE....KTKPMKLAEVTSINVNRTKTEMEE  76
consensus                                    !!!*!****!!*!!****!**!*!**!**!***!!!**************    **!*************!******!
```

logo



```
NTDB id 238875 CGC57 RS12215 WP 095899335.1  LNNVLGGGIVPGSVTLLGGEPGIGKSTLLLQIALNLP...YRTLYVSGEESEKQIKMRADRIPHKLDNCFILTETKTQNI  157
NTDB id 125 BSU 00870 NP 387968.1            FNRVLGGGVVKGSLVLIGGDPGIGKSTLLLQVSAQLSGSSNSVLYISGEESVKQTKLRADRLGINNPSLHVLSETDMEYI  159
NTDB id 509 SM12261 RS00130 WP 078228442.1   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 537 SMSK321 RS07120 WP 080550752.1   FNRVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQV.GTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQSV  155
consensus                                    *!*!!!!!!*!*!!**!*!!*!!!!!!!!!!!!!****!***  ***!!*!!!!!!**!*!*!!*!************!!*****
```

logo



```
NTDB id 238875 CGC57 RS12215 WP 095899335.1  FQQIKELLPEIVIIDSIQTLQSDYIEASAGSISQIRECTSELIKFAKTTHTPVILIGHITKDGQIAGPKILEHMVDTVLQ  237
NTDB id 125 BSU 00870 NP 387968.1            SSAIQEMNPSFVVVDSIQTVYQSDITSAPGSVSQVRECTAELMKIAKTKGIPIFIVGHVTKEGSIAGPRLLEHMVDTVLY  239
NTDB id 509 SM12261 RS00130 WP 078228442.1   RTEVERIQPDFLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVLY  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 537 SMSK321 RS07120 WP 080550752.1   RAEVERIQPDFLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVLY  235
consensus                                    ********!*****!!!!!******!****!!*!!*!!*!*!!***!!!*********!!*!!*!**!!!**!!!!!!!!!*
```

logo



```
NTDB id 238875 CGC57 RS12215 WP 095899335.1  FEGDRNHVYRILRSLKNRFGSTSELGIYEMLSNGLREVNNPSEILLISKTDETISGTSIAATLEGMRPLMIEIQALVSTAV  317
NTDB id 125 BSU 00870 NP 387968.1            FEGERHHTFRILRAVKNRFGSTNEMGIFEMREEGLTEVLNPSEIFLEERSAGSAGSSITASMEGTRPILVEIQALISPTS  319
NTDB id 509 SM12261 RS00130 WP 078228442.1   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 537 SMSK321 RS07120 WP 080550752.1   FEGERHHTFRILRAVKNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVTPTM  315
consensus                                    !!!*!*!**!!!!**!!!!!!!*!*!!*!!***!!*!!*!!!**********!*!!****!!*!!***!*!!!*****
```



```
NTDB id 238875 CGC57 RS12215 WP 095899335.1  YGTPQRSTTGFNAKRLNMLLAVLEKRAGFRLGAKDVFLNITGGITIDDPATDLGVAMAILSSNEDIAIEKDVCFAGEVGL  397
NTDB id 125 BSU 00870 NP 387968.1            FGNPRRMATGIDHNRVSLLMAVLEKRVGLLLQNQDAYLKVAGGVKLDEPAIDLAIVISIASSFRDTPPNPADCFIGEVGL  399
NTDB id 509 SM12261 RS00130 WP 078228442.1   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 537 SMSK321 RS07120 WP 080550752.1   FGNAKRTTTGLDFNRASLIMAVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELGL  395
consensus                                    *!***!**!!****!*****!!!!!!*!**!***!**!***!!***!*!!*!!*****!*!!**!*******!!*!!*!!
```



```
NTDB id 238875 CGC57 RS12215 WP 095899335.1  GGEIRPVQRVEQRITEAEKLGFNTIFVSKYNKIALK.NTKIKVITVAKIEDAIQELFG.  454
NTDB id 125 BSU 00870 NP 387968.1            TGEVRRVSRIEQRVKEAAKLGFKRMIIPAANLDGWTKPKGIEVIGVANVAEALRTSLGG  458
NTDB id 509 SM12261 RS00130 WP 078228442.1   TGEIRRVNRIEQRINEAAKLGFTKIYVPKNSLTGITPPKEIQVIGVTTIQEVLKKVFA.  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 537 SMSK321 RS07120 WP 080550752.1   TGEIRRVNRIEQRINEAAKLGFTKIYVPKNSLTGITPPMEIQVIGVTTIQEVLKKVFA.  453
consensus                                    *!!*!*!*!*!!!**!!*!!!!************** ***!*!!*!************
```

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