logo



```
NTDB id 52233 T1E RS04235 WP 003251626.1  MAKAKRLYGCTECGATFPKWAGQCGECGAWNTLVETMIESGGAAAPSSGRAGWTGQ...QAQIKTLAEVSVEEIPRFTTSSTELD  82
NTDB id 125 BSU 00870 NP 387968.1         MAKTKSKFICQSCGYESPKWMGKCPGCGAWNTMVEEMIKKA....PANRRAAFSHSVQTVQKPSPITSIETSEEPRVKTQLGEFN  81
NTDB id 279 KZH43 RS00140 WP 074017595.1  MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAE....VKNARVSLTGE...KTKPMKLAEVTSINVNRTKTEMEEFN  78
NTDB id 238 SPD RS00140 WP 074017595.1    MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAE....VKNARVSLTGE...KTKPMKLAEVTSINVNRTKTEMEEFN  78
NTDB id 204 SPR RS00140 WP 074017595.1    MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAE....VKNARVSLTGE...KTKPMKLAEVTSINVNRTKTEMEEFN  78
NTDB id 169 SP RS00155 WP 074017595.1     MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAE....VKNARVSLTGE...KTKPMKLAEVTSINVNRTKTEMEEFN  78
NTDB id 537 SMSK321 RS07120 WP 080550752.1 MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAE....VKNARVSLTGE...KTKPMKLAEVTSINVNRTKTEMEEFN  78
NTDB id 509 SM12261 RS00130 WP 078228442.1 MAKKKATFVCQNCGYNSPKYLGRCPNCGSWSSFVEEVEVAE....VKNARVSLTGE...KTKPMKLAEVTSINVNRTKTEMEEFN  78
consensus                                 !!!*!****!**!!***!!**!*!**!!*!***!!******   ****!******   ****************!**!***!**
```

logo



```
NTDB id 52233 T1E RS04235 WP 003251626.1  RVLGGGLVDGSVVLIGGDPGIGKSTLLLQTLCNIAV.GMPALYVTGEESQQQVAMRSRRLGLPQDQLKVMTETCIETIIATARVE 166
NTDB id 125 BSU 00870 NP 387968.1         RVLGGGVVKGSLVLIGGDPGIGKSTLLLQVSAQLSGSSNSVLYISGEESVKQTKLRADRLGINNPSLHVLSETDMEYISSAIQEM 166
NTDB id 279 KZH43 RS00140 WP 074017595.1  RVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQV.GTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQSVRAEVERI 162
NTDB id 238 SPD RS00140 WP 074017595.1    RVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQV.GTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQSVRAEVERI 162
NTDB id 204 SPR RS00140 WP 074017595.1    RVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQV.GTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQSVRAEVERI 162
NTDB id 169 SP RS00155 WP 074017595.1     RVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQV.GTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQSVRAEVERI 162
NTDB id 537 SMSK321 RS07120 WP 080550752.1 RVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQV.GTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQSVRAEVERI 162
NTDB id 509 SM12261 RS00130 WP 078228442.1 RVLGGGVVPGSLVLIGGDPGIGKSTLLLQVSTQLSQV.GTVLYVSGEESAQQIKLRAERLGDIDSEFYLYAETNMQSVRTEVERI 162
consensus                                 !!!!!!*!*!!*!!!!!!!!!!!!!!*!!!********  ***!!**!!!!**!***!**!!!**********!!*********** 
```

logo



```
NTDB id 52233 T1E RS04235 WP 003251626.1  KPRVMVIDSIQTIFTEQLQSAPGGVAQVRESTALLVRYAKQSGTAIFLVGHVTKEGSLAGPRVLEHMVDTVLYFEGESDGRLRLL 251
NTDB id 125 BSU 00870 NP 387968.1         NPSFVVVDSIQTVYQSDITSAPGSVSQVRECTAELMKIAKTKGIPIFIVGHVTKEGSIAGPRLLEHMVDTVLYFEGERHHTFRIL 251
NTDB id 279 KZH43 RS00140 WP 074017595.1  QPDFLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVLYFEGERHHTFRIL 247
NTDB id 238 SPD RS00140 WP 074017595.1    QPDFLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVLYFEGERHHTFRIL 247
NTDB id 204 SPR RS00140 WP 074017595.1    QPDFLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVLYFEGERHHTFRIL 247
NTDB id 169 SP RS00155 WP 074017595.1     QPDFLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVLYFEGERHHTFRIL 247
NTDB id 537 SMSK321 RS07120 WP 080550752.1 QPDFLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVLYFEGERHHTFRIL 247
NTDB id 509 SM12261 RS00130 WP 078228442.1 QPDFLIIDSIQTIMSPEISGVQGSVSQVREVTAELMQLAKTNNIAIFIVGHVTKEGTLAGPRMLEHMVDTVLYFEGERHHTFRIL 247
consensus                                 *!*****!!!!!*********!*!*!!!!*!!*!***!!*****!!*!!!!!!!!**!!!!*!!!!!!!!!!!!!!*****!*! 
```

logo



```
NTDB id 52233 T1E RS04235 WP 003251626.1  RAVKNRFGAVNELGVFGMTDRGLKEVSNPSAIFLNRTQEEVPGSVVMATWEGTRPMLVEVQALVDDSHLANPRRVTLGLDQNRLA 336
NTDB id 125 BSU 00870 NP 387968.1         RAVKNRFGSTNEMGIFEMREEGLTEVLNPSEIFLEERSAGSAGSSITASMEGTRPILVEIQALISPTSFGNPRRMATGIDHNRVS 336
NTDB id 279 KZH43 RS00140 WP 074017595.1  RAVKNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVTPTMFGNAKRTTTGLDFNRAS 332
NTDB id 238 SPD RS00140 WP 074017595.1    RAVKNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVTPTMFGNAKRTTTGLDFNRAS 332
NTDB id 204 SPR RS00140 WP 074017595.1    RAVKNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVTPTMFGNAKRTTTGLDFNRAS 332
NTDB id 169 SP RS00155 WP 074017595.1     RAVKNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVTPTMFGNAKRTTTGLDFNRAS 332
NTDB id 537 SMSK321 RS07120 WP 080550752.1 RAVKNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVTPTMFGNAKRTTTGLDFNRAS 332
NTDB id 509 SM12261 RS00130 WP 078228442.1 RAVKNRFGSTNEIGIFEMQSGGLVEVLNPSQVFLEERLDGATGSSIVVTMEGTRPILAEVQALVTPTMFGNAKRTTTGLDFNRAS 332
consensus                                 !!!!!!!!**!!*!*!*!***!!*!!*!!!**!!********!!******!!!!!*!*!*!!!*******!**!***!*!*!!** 
```

logo



```
NTDB id 52233 T1E RS04235 WP 003251626.1   MLLAVLHRHGGIPTHDQDVFLNVVGGVKVLETASDLALLAAVMSSLRNRPLAHGLLVFGEIGLSGEVRPVPSGQERLKEAAKHGF   421
NTDB id 125 BSU 00870 NP 387968.1          LLMAVLEKRVGLLLQNQDAYLKVAGGVKLDEPAIDLAIVISIASSFRDTPPNPADCFIGEVGLTGEVRRVSRIEQRVKEAAKLGF   421
NTDB id 279 KZH43 RS00140 WP 074017595.1   LIMAVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELGLTGEIRRVNRIEQRINEAAKLGF   417
NTDB id 238 SPD RS00140 WP 074017595.1     LIMAVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELGLTGEIRRVNRIEQRINEAAKLGF   417
NTDB id 204 SPR RS00140 WP 074017595.1     LIMAVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELGLTGEIRRVNRIEQRINEAAKLGF   417
NTDB id 169 SP RS00155 WP 074017595.1      LIMAVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELGLTGEIRRVNRIEQRINEAAKLGF   417
NTDB id 537 SMSK321 RS07120 WP 080550752.1 LIMAVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELGLTGEIRRVNRIEQRINEAAKLGF   417
NTDB id 509 SM12261 RS00130 WP 078228442.1 LIMAVLEKRAGLLLQNQDAYLKSAGGVKLDEPAIDLAVAVAIASSYKDKPTNPQECFVGELGLTGEIRRVNRIEQRINEAAKLGF   417
consensus                                  ***!!!****!*****!!**!***!!!!**!*!*!!!*******!!****!*********!!*!!*!!*!*!*****!**!!!!*!!
```

logo



```
NTDB id 52233 T1E RS04235 WP 003251626.1   KRAIVPKGNAP.KEAPAGLQVIAVTRLEQALDALFE.   456
NTDB id 125 BSU 00870 NP 387968.1          KRMITPAANLDGWTKPKGIEVIGVANVAEALRTSLGG   458
NTDB id 279 KZH43 RS00140 WP 074017595.1   TKIYVPKNSLTGITLPKEIQVIGVTTIQEVLKKVFA.   453
NTDB id 238 SPD RS00140 WP 074017595.1     TKIYVPKNSLTGITLPKEIQVIGVTTIQEVLKKVFA.   453
NTDB id 204 SPR RS00140 WP 074017595.1     TKIYVPKNSLTGITLPKEIQVIGVTTIQEVLKKVFA.   453
NTDB id 169 SP RS00155 WP 074017595.1      TKIYVPKNSLTGITLPKEIQVIGVTTIQEVLKKVFA.   453
NTDB id 537 SMSK321 RS07120 WP 080550752.1 TKIYVPKNSLTGITPPMEIQVIGVTTIQEVLKKVFA.   453
NTDB id 509 SM12261 RS00130 WP 078228442.1 TKIYVPKNSLTGITPPKEIQVIGVTTIQEVLKKVFA.   453
consensus                                  *****!********  !****!!*!******!*****
```

X non conserved

X similar

X ≥ 50% conserved