```
logo
NTDB id 64786 SCAZ3 RS06595 WP 003046673.1  MKKSRWLATLGVAVLSVSVLAACGSKNASGGSDATKTYKYVFVNDPKSLDYILSNGGGTTDVATQMVDGLLENDKYGNLVPSLAK   85
NTDB id 475 HSISS4 RS07005 WP 021143809.1   MKKSKWLALAGVALLSVGALAACSSKSSTSG....TTYGYVYNSDPESLDYITSNTGPTKTAVTNGVDGLMEADKYGNLVPSVAE   81
NTDB id 324 STU RS16140 WP 011226306.1      MKKSKWLALAGVALLGVGVLAACSSKSNTSG....TTYGYVYSSDPETLDYITSNTGPTKSVVTNGVDGLMEADKYGNLVPSVAE   81
NTDB id 292 STER RS06940 WP 011681419.1    MKKSKWLALAGVALLGVGVLAACSSKSNTSG....TTYGYVYSSDPETLDYITSNTGPTKSVVTNGVDGLMEADKYGNLVPSVAE   81
consensus                                   !!!!*!!!**!!!*!  !**!!!!*!!****!    *!!*!!***!!**!!!!*!!*!*!***!**!!!!*!*!!!!!!!!!*!*

logo
NTDB id 64786 SCAZ3 RS06595 WP 003046673.1  DWKVSKDGLTYTYTLRDGVSWYTADGEEYAPVTAEDFVTGLKHAVDGKSEALYVVEDSIKNLKAYKNG.EVDFKEVGVKALDDKT  169
NTDB id 475 HSISS4 RS07005 WP 021143809.1   DWSVSQDGLTYTYKIRKGVKWYTSDGEEYADVTAKDFVTGLKHAADGKAGALYLVQDSIAGLSDYLSGANKDFSNVGVKAIDDYT  166
NTDB id 324 STU RS16140 WP 011226306.1      DWSVSKDGLTYTYKIRKGIKWYTSEGEEYANVTAKDFVTGLKHAADSKAGGIYLVQDSIAGLSDYLSGTNKDFSNVGVKAIDEYT  166
NTDB id 292 STER RS06940 WP 011681419.1    DWSVSKDGLTYTYKIRKGIKWYTSEGEEYANVTAKDFVTGLKHAADSKAGGIYLVQDSIAGLSDYLSGTNKDFSNVGVKAIDDYT  166
consensus                                   !!*!!*!!!!!!!**!*!**!!!**!!!!!*!!!*!!!!!!!!!!*!  !****!*!*!!!**!**!**!***!!**!!!!!*!**!

logo
NTDB id 64786 SCAZ3 RS06595 WP 003046673.1  VQYTLNKPESYWNSKTTYSVLFPVNEKFLKSQGKDFGT.TDPSSILVNGAYFLSAFTSKSSMEFHKNENYWDAKNVGIESVKLTY  253
NTDB id 475 HSISS4 RS07005 WP 021143809.1   LQYTLKKPEPYWNSKTTYGLLSPVNEDFLKNKGKDFGKSTDPTSILYNGPFLLKSLTAKSSIELTKNENYWDKKNVHFDAIKLSY  251
NTDB id 324 STU RS16140 WP 011226306.1      LQYTLKQPEPYWNSKTTYSLLFPVNEDFLKNKGKDFGKSTDPTSILYNGPFLLKSLTAKSSIELVKNEHYWDKKNVHFDAIKFSY  251
NTDB id 292 STER RS06940 WP 011681419.1    LQYTLKQPEPYWNSKTTYSLLFPVNEDFLKNKGKDFGKSTDPTSILYNGPFLLKSLTAKSSIELVKNEHYWDKKNVHFDAIKFSY  251
consensus                                   *!!!!*  !!*!!!!!!!!!**!*!!!!*!!!**!!!!!**!!!*!!!*!!***!***!*!!!*!**!!!*!!!*!!!*****!  *!

logo
NTDB id 64786 SCAZ3 RS06595 WP 003046673.1  SDGSDPGSFYKNFDKGEFTVARLYPNDPTYKSAKKNYADNITYGMLTSDIRHLTWNLNRTSFKNTKKD.PAQQDAGKKALNNKDF  337
NTDB id 475 HSISS4 RS07005 WP 021143809.1   YDGSDQEALERGFTDGAYSLARVYPTSSNYSSVEKKYKDNIYYTAPGASTSAIGVNIDRQSYKFSAKKTDAEKTSTKKALLNKDF  336
NTDB id 324 STU RS16140 WP 011226306.1      YDGSDQDALVRGFTDGAYNFARVFPTSSNYASVEKKYKDNIYYTAPGASTSAIGINLDRQSYKYTAKKTDSEKSSTKKALLNKDF  336
NTDB id 292 STER RS06940 WP 011681419.1    YDGSDQDALVRGFTDGAYNFARVFPTSSNYASVEKKYKDNIFYTAPGASTSAIGINIDRQSYKYTAKKTDSEKSSTKKALLNKDF  336
consensus                                   *!!!!*******!**!****!!**!****!*!**!*!*!!!*!************!**!*!*!***!***  *****!!!!*!!!!

logo
NTDB id 64786 SCAZ3 RS06595 WP 003046673.1  RQAINFAIDRKAYQSQINGKDGATLAYRNLFVPSDFVSAGDKTFGDLVTEKMSSYGDEWSGVNLADSQDGLYNAEKAKTEFAKAK  422
NTDB id 475 HSISS4 RS07005 WP 021143809.1   RQSINFAIDRTAYQSQMNGKDGAALALRNLFVPSDFVSAGDKTFGDLVTEKMSSYGDEWSGVNFTDGQDGLYNAEKAKTEFAKAK  421
NTDB id 324 STU RS16140 WP 011226306.1      RQAINFAIDRKAYQSQINGKDGATLAVRNLFVPSDFVSAGDKTFGDLVTEKMSSYGDEWSGVNFADSQDGLYNAEKAKTEFAKAK  421
NTDB id 292 STER RS06940 WP 011681419.1    RQAINFAIDRKAYQSQINGKDGATLGVRNLFVPSDFVSAGDKTFGDLVTEKMSSYGDEWSGVNLADSQDGLYNAEKAKTEFAKAK  421
consensus                                   !!*!*!!*!!***!*!**!*!******!!**!!**!!**!***!!**!*******!!!!!*!!  *!*!!!*!!*!!!!*!!!!!!

logo
NTDB id 64786 SCAZ3 RS06595 WP 003046673.1  EALTAEGVTFPVQLDYPVDQANAATVQEAQSFKQSVEASLGKENVIVNVLETETSTHEAQGFYAETPEQQDYDII.SSWWGPDYQ  506
NTDB id 475 HSISS4 RS07005 WP 021143809.1   ETLQADGVQFPIHLDLPVDQSSKINVAQAQSLKQTIEQSLGSDNVVIDVNQLSSDDIQNATLNAANAAAEDWDISNGVIWGPDYQ  506
NTDB id 324 STU RS16140 WP 011226306.1      DALQADGVQFPIHLDLPVDQSSKLNVAQAQSLKQTIEKSLGSENVVIDINQLSSDDLENVTLNAANAAAEDWDISNSVAWAPDYQ  506
NTDB id 292 STER RS06940 WP 011681419.1    DALQADGVQFPIHLDLPVNQSSKLNVAQVQSLKQTIEKSLGSENVVIDINQLSSDDLENATLNAANAAAEDWDISNSVGWAPDYQ  506
consensus                                   **!*!*!!*!!**!!*!!*!*****!***!!*!!**!*!!!**!!*****************!******!*!!*****!*!!!!
```

```
logo                                      DPsTYLDIFKTTSSENTKAFMGYDDP.NNAAAAQVGLKDYDALLNSAASETsDLNVRYDRYAQAQAWLEDSSLVIPLTVGNGAAP
                                          R  MSPVDGGSVIQKLGIKAGESKDVVAAAGLDTYQTLLDEAAAITDDNDARYKAYAKAQAYLTDSAVDIPVVA.LGGTP
NTDB id 64786 SCAZ3 RS06595 WP 003046673.1  DPRTYLDIMSPVDGGSVIQKLGIKAGESKDVVAAAGLDTYQTLLDEAAAITDDNDARYKAYAKAQAYLTDSAVDIPVVA.LGGTP   590
NTDB id 475 HSISS4 RS07005 WP 021143809.1  DPSTYLDIFKTTSSENTKTFMGYDDP.NNAAAAQVGLKDYDALLDSAASETTDLNARYDRYAQAQAWLEDSSLVIPLTVGNGAAP   590
NTDB id 324 STU RS16140 WP 011226306.1     DPSTYLDIFKTTSSENTKAFMGYDDP.NNAAAAQVGLKDYDALLNSAASETSDLNVRYDRYAQAQAWLEDSSLVIPLTVGNGAAP   590
NTDB id 292 STER RS06940 WP 011681419.1    DPSTYLDIFKTTSSENTKAFMGYDDP.NNAAAAQVGLKDYDALLNSAASETSDLNVRYDRYAQAQAWLEDSSLVIPLTVGNGAAP   590
consensus                                  !!*!!!!*************!**** *****!**!!**!**!! *!!**!*!** !!**!!*!!!*!*!!***!!*****!**!
```

```
logo                                      vISRLTPFTGASLQVGDKNSsS.DYIKYVKPQEKVVTKKEYEQSREKWLKEKKESNEKAQKDLEKHVK
                                          R AVTKAV S FAWA A GPA NVY F GM L D P A Q KAK E W L A AA A EYAEK AD E K
NTDB id 64786 SCAZ3 RS06595 WP 003046673.1  RVTKAVPFSGAFAWAGAKGPASVYYYKGMKLQDKPVTAKQYEKAKEKWLKAKAKSNAEYAEKLADHVEK   659
NTDB id 475 HSISS4 RS07005 WP 021143809.1  VISRLTPFTGASMQVGDKNS.S.DYFKYVKPQEKVVTKKEYEQSREKWLKEKKASNEKAQKDLEKHVK.   656
NTDB id 324 STU RS16140 WP 011226306.1     AISRLTPFTGASLQVGDKNSSN.DYIKYVKPQEKVVTKKEYEQSREKWLKEKKESNEKAQKDLEKHVK.   657
NTDB id 292 STER RS06940 WP 011681419.1    VISRLTPFTGASLQVGDKNSSN.DYIKYVKPQEKVVTKKEYEQSREKWLKEKKESNEKAQKDLEKHVK.   657
consensus                                  ******!!*!!****!*!***  *!*!**!*!*!*!!*!*!!***!!!!!*!**!!******!**!!*
```

X non conserved

X similar

X $\geq$ 50% conserved