```
logo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
```



```
NTDB id 193202 BE845 RS04205 WP 011215002.1   ..............................................................................   0
NTDB id 1272 LPP RS04360 WP 010946546.1       ..............................................................................   0
NTDB id 1249 GC085 RS04230 WP 010946546.1     ..............................................................................   0
NTDB id 20 SA RS08005 WP 001802022.1          MVLLYQFLLRYKDFLTQWKLYIISAVVLIMVLIGFIFWRQDDYTSRNFENKDTALKQSTSENNSLSKLEDVQVKDGDNSK  80
NTDB id 36 MW RS08230 WP 001793467.1          MVLLYQFLLRYKDFLTQWKLYIISAVVLIMVLIGFIFWRQDDYTSRNFENKDNALKQSTSENSSLSKVEDVQVKDGDNSK  80
consensus
```



```
NTDB id 193202 BE845 RS04205 WP 011215002.1   .......................MKARLI.......................AILLSIIVIPFSSQAENEPQKTPAKQVLV.  35
NTDB id 1272 LPP RS04360 WP 010946546.1       .......................MKARLI.......................AILLSFIVIPFSSQAENEPQKTPAKQVLV.  35
NTDB id 1249 GC085 RS04230 WP 010946546.1     .......................MKARLI.......................AILLSFIVIPFSSQAENEPQKTPAKQVLV.  35
NTDB id 20 SA RS08005 WP 001802022.1          NKGPVYVDVKGAVKHPNVYKMTSKDRVVDLLDKAQLLDDADVSRINLSEKLTDQKMIFIPHKGQKNVEPQIEVNSVHVKN 160
NTDB id 36 MW RS08230 WP 001793467.1          NKGPVYVDVKGAVKHPNVYKMTSKDRVVDLLDKAQLLEDADVSQINLSEKLTDQKMIFIPHKGQKNVEPQIGVNSVHVKN 160
consensus                                                  *!*!**                     ******!*!!***!***!!!*********
```



```
NTDB id 193202 BE845 RS04205 WP 011215002.1   ....KGKINLNTADVHSLTGSFKGIGKKRAEAIIAYRENHQGFKSLEELAEVKGIGQRFVDKNREKLKEIFVIN  105
NTDB id 1272 LPP RS04360 WP 010946546.1       ....KGKINLNTADVYSLTGSFKGIGKKRAEAIIAYRENHQGFKSLEELAEVKGIGQRFVDKNREKLKEIFVIN  105
NTDB id 1249 GC085 RS04230 WP 010946546.1     ....KGKINLNTADVYSLTGSFKGIGKKRAEAIIAYRENHQGFKSLEELAEVKGIGQRFVDKNREKLKEIFVIN  105
NTDB id 20 SA RS08005 WP 001802022.1          GNTNNTKVNLNTASVSEL.MSVPGVGQAKANAIVEYRNQQGAFQEIDDLKKVKGFGSKTFDKLK....SYFTI.  228
NTDB id 36 MW RS08230 WP 001793467.1          GNTNNTKVNLNTASVSEL.MSVPGVGQAKANAIVEYRNQQGAFQEIDDLKKVKGFGSKTFDKLK....SYFTI.  228
consensus                                         **!*!!!!!*! *!**!**!*!***!*!!**!!*****!*****!**!!!*!****!!********!*!*
```

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