```
logo

NTDB id 157696 SanJ4211 RS03075 WP 021001473.1  MAKQRNEIEEKYTWDLTTIFPTDEAFEAELSQVSKELKEASNLAGHLLDSADSLLKTTEIQLDLMRRIEKLYSYAHMKND   80
NTDB id 480 HSISS4 RS02090 WP 002890133.1       MSDNRTHLEEKYTWDLTTIFATDADWETEYESTVQDLKKASAYAGHLLDSAKNLLGATELYMSLMRRLEKIYVYASMKND   80
consensus                                       !  *! **!!!!!!!!!!!!*!!  *! !      *!! !!  !!!!!!!!  !!  !!* * !!!!*!!*! !!*!!!!

logo

NTDB id 157696 SanJ4211 RS03075 WP 021001473.1  QDTRVAKYQEYQAKGMAIYSEFGQAFAFYEPEFMAITDEQYQTFLAEKPELQIYQHFFDKLLQKKPHILSQREEELLAGA  160
NTDB id 480 HSISS4 RS02090 WP 002890133.1       QDTTVGLYQEYQAKASNLYSQLSEAFAYFEPEFMALDDKKLAEFKEQEPGLGLYDHYFERLLANKDHVLSQEAEELLAAA  160
consensus                                       !!! !* !!!!!!!*  *!!    !!!**!!!!!!* !     !    ! ! *! !*!**!!  !*!*!!!  !!!!!*!

logo

NTDB id 157696 SanJ4211 RS03075 WP 021001473.1  GEIFSAAGDTFGILDNADIVFPTVHDEEGNEVQLTHGNYISLVESKNRTVRKEAYEALYSVYEQYQHTYAKTLQTNVKVH  240
NTDB id 480 HSISS4 RS02090 WP 002890133.1       GDIFNGPTDTFNVLDNADILFPWVSDGQGDVVELTHGNFITLMESKDRDIRKGAYEAMYGTYEQFQHTYAQTLQGVVKVH  240
consensus                                       !*!! ** !!! *!!!!!!*!! !*!  !  ! !!!!!*!*!*!!! ! *!! !!!!*!  !!!*!!!!! !!!   !!!!

logo

NTDB id 157696 SanJ4211 RS03075 WP 021001473.1  NYNAKVRNFSSAREAALSANFIPESVYDSLVSAVNKHLPLLHRYIALRAKILGLSDLKMYDLYTPLSEADYKFTYEEALM  320
NTDB id 480 HSISS4 RS02090 WP 002890133.1       NYQAKVRHYNSARHAALAANFIPESVYDSLLESVNKHLPLLHRYLDLRKKVLGLDELKMYDVYTPLSETETALTYEESLK  320
consensus                                       !!*!!!!** !!!*!!! !!!!!!!!!!!!!*  !!!!!!!!!!!* !! !*!!! *!!!!!*!!!!!! *   !!!! !

logo

NTDB id 157696 SanJ4211 RS03075 WP 021001473.1  KAEEVLAILGEDYLGRVKEAFSDRWIDVYENQGKRSGAYSGGSYDTNAFMLLNWQDTLDNLFTLVHETGHSMHSSYTREN  400
NTDB id 480 HSISS4 RS02090 WP 002890133.1       KAEEVLAIFGEEYSKGVHAAFTERWIDVHPNKGKRSGAYSGGAYDTNAFMLLNWQDTLDNLFTLVHETGHSLHSTFTRQT  400
consensus                                       !!!!!!!! !!*!   !* !!**!!!!!**! !!!!!!!!!! !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!*!!**!!

logo

NTDB id 157696 SanJ4211 RS03075 WP 021001473.1  QPYVYGDYSIFLAEIASTTNENILTEKLLEEVDDDQTRFAILNHFLDGFRGTVFRQTQFAEFEHAIHKADQEGQVLTSEF  480
NTDB id 480 HSISS4 RS02090 WP 002890133.1       QPYVYGDYPIFLAEIASTTNENILTETLLKEVKDDKTRFAILNHYLDGFKGTVFRQTQFAEFEHAIHEADASGQILTADF  480
consensus                                       !!!!!!!!*!!!!!!!!!!!!!!!!!! !! !! !! !!!!!!!!*!!!!!*!!!!!!!!!!!!!!!!!! !!   !!*!! *!

logo

NTDB id 157696 SanJ4211 RS03075 WP 021001473.1  LNDLYADLNEKYYGLTKEDNPQIQYEWARIPHFYYDYYVFQYSTGFSAASALADKIVNGTQEDKEKYLNYLKAGNSDYPL  560
NTDB id 480 HSISS4 RS02090 WP 002890133.1       MNKLYADLNEKYYNLKAEDNYEIQFEWERIPHFYMNYYVYQYATGFAAASYLAEKIVHGTEEDKEAYLTYLKAGSSDYPL  560
consensus                                       *! !!!!!!!!!!! !  !!!* !!*!! !!!!!!  !!!*!! !!! !!! !!*!!!*!! !!!! !! !!!!! !!!!!
```

```
logo
                                                  NVIKKAGVDMEKEDYLNAAFAVFERRLDEFEALVEKLGLA.   600
NTDB id 157696 SanJ4211 RS03075 WP 021001473.1    NVIKKAGVDMEKEDYLNAAFAVFERRLDEFEALVEKLGLA.   600
NTDB id 480 HSISS4 RS02090 WP 002890133.1         EVIKKAGVDMTNTDYLDAAFKVFEDRLVELEALVEKGVHLS   601
consensus                                          !!!!!!!!!   !!! !!! !!! !! ! !!!!!!  * *
```

X non conserved

X similar

X $\geq$ 50% conserved