

[illegible]

|                                              |           |     |     |      |       |    |   |   |      |   |     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |     |   |   |     |
|----------------------------------------------|-----------|-----|-----|------|-------|----|---|---|------|---|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----|---|---|-----|
| NTDB id 602 KW2 RS03060 WP 011834647.1       | LAIVDTMNF | IKS | DVQ | TIVM | GMAAS | MG | T | I | ASSG | T | KGK | R | F | M | L | P | N | A | E | Y | L | I | H | Q | P | M | G | G | A | G | Q | G | T | Q | T | D | M | A | I | V | A | E | Q | L | L | K | R | K | R | L | E | Q | 155 |   |   |     |
| NTDB id 611 V4T04 RS07970 WP 003129593.1     | LAIVDTMNF | IKS | DVQ | TIVM | GMAAS | MG | T | I | ASSG | T | KGK | R | F | M | L | P | N | A | E | Y | L | I | H | Q | P | M | G | G | T | G | Q | G | T | Q | T | D | M | A | I | V | A | E | Q | L | L | K | R | K | R | L | E | Q | 155 |   |   |     |
| NTDB id 282 KZH43 RS03215 WP 000613477.1     | LAIVDTMNF | IKA | DVQ | TIVM | GMAAS | MG | T | I | ASSG | A | K   | G | K | R | F | M | L | P | N | A | E | Y | M | I | H | Q | P | M | G | G | T | G | G | T | Q | Q | T | D | M | A | I | A | A | E | H | L | L | K | T | R | N | T | L   | E | K | 152 |
| NTDB id 246 SPD RS03495 WP 000613477.1       | LAIVDTMNF | IKA | DVQ | TIVM | GMAAS | MG | T | I | ASSG | A | K   | G | K | R | F | M | L | P | N | A | E | Y | M | I | H | Q | P | M | G | G | T | G | G | T | Q | Q | T | D | M | A | I | A | A | E | H | L | L | K | T | R | N | T | L   | E | K | 152 |
| NTDB id 244 SPR RS03300 WP 000613477.1       | LAIVDTMNF | IKA | DVQ | TIVM | GMAAS | MG | T | I | ASSG | A | K   | G | K | R | F | M | L | P | N | A | E | Y | M | I | H | Q | P | M | G | G | T | G | G | T | Q | Q | T | D | M | A | I | A | A | E | H | L | L | K | T | R | N | T | L   | E | K | 152 |
| NTDB id 242 SP RS03655 WP 000613477.1        | LAIVDTMNF | IKA | DVQ | TIVM | GMAAS | MG | T | I | ASSG | A | K   | G | K | R | F | M | L | P | N | A | E | Y | M | I | H | Q | P | M | G | G | T | G | G | T | Q | Q | T | D | M | A | I | A | A | E | H | L | L | K | T | R | N | T | L   | E | K | 152 |
| NTDB id 330 STU RS11365 WP 002949732.1       | LAIVDTMNF | IKS | DVQ | TIVM | GMAAS | MG | T | I | ASSG | T | KGK | R | F | M | L | P | N | A | E | Y | M | I | H | Q | P | M | G | G | T | G | G | T | Q | G | T | Q | T | D | M | A | I | A | A | E | H | L | L | K | T | R | N | N | L   | E | Q | 152 |
| NTDB id 298 STER RS01925 WP 002949732.1      | LAIVDTMNF | IKS | DVQ | TIVM | GMAAS | MG | T | I | ASSG | T | KGK | R | F | M | L | P | N | A | E | Y | M | I | H | Q | P | M | G | G | T | G | G | T | Q | G | T | Q | T | D | M | A | I | A | A | E | H | L | L | K | T | R | N | N | L   | E | Q | 152 |
| NTDB id 446 SpyM6JRS4 RS01695 WP 002985850.1 | LAIVDTMNF | IKA | DVQ | TIVM | GMAAS | MG | T | I | ASSG | T | KGK | R | F | M | L | P | N | A | E | Y | M | I | H | Q | P | M | G | G | T | G | G | T | Q | G | T | Q | T | D | M | A | I | A | A | E | H | L | L | K | T | R | H | R | L   | E | K | 152 |
| NTDB id 445 SPY3 RS01720 WP 002985850.1      | LAIVDTMNF | IKA | DVQ | TIVM | GMAAS | MG | T | I | ASSG | T | KGK | R | F | M | L | P | N | A | E | Y | M | I | H | Q | P | M | G | G | T | G | G | T | Q | G | T | Q | T | D | M | A | I | A | A | E | H | L | L | K | T | R | H | R | L   | E | K | 152 |
| NTDB id 376 SMU RS07595 WP 255262720.1       | LAIVDTMNF | IKS | DVQ | TIVM | G     | T  | A | A | S    |   |     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |     |   |   |     |

|                                              |                                               |     |
|----------------------------------------------|-----------------------------------------------|-----|
| NTDB id 602 KW2 RS03060 WP 011834647.1       | ILADNSNRSLQIHKDAERDHWMDAKETLEYGFIDEIMENNSLK.  | 199 |
| NTDB id 611 V4T04 RS07970 WP 003129593.1     | ILADNSNRSLQIHKDAERDHWMDAKETLEYGFIDEIMENNSLK.  | 199 |
| NTDB id 282 KZH43 RS03215 WP 000613477.1     | ILAENSQGSMKVVHADAERDNWMSAQETLEYGFIDEIMANNSLN. | 196 |
| NTDB id 246 SPD RS03495 WP 000613477.1       | ILAENSQGSMKVVHADAERDNWMSAQETLEYGFIDEIMANNSLN. | 196 |
| NTDB id 244 SPR RS03300 WP 000613477.1       | ILAENSQGSMKVVHADAERDNWMSAQETLEYGFIDEIMANNSLN. | 196 |
| NTDB id 242 SP RS03655 WP 000613477.1        | ILAENSQGSMKVVHADAERDNWMSAQETLEYGFIDEIMANNSLN. | 196 |
| NTDB id 330 STU RS11365 WP 002949732.1       | ILADNSGQPTEKVHVDAERDNWMSAQETLEYGFIDEIMTNQLK.  | 196 |
| NTDB id 298 STER RS01925 WP 002949732.1      | ILADNSGQPTEKVHVDAERDNWMSAQETLEYGFIDEIMTNQLK.  | 196 |
| NTDB id 446 SpyM6JRS4 RS01695 WP 002985850.1 | ILAAQNAGKTIKQIHKAERDYWSAEETLAYGFIDEIMENNELK.  | 196 |
| NTDB id 445 SPYM3 RS01720 WP 002985850.1     | ILAAQNAGKTIKQIHKAERDYWSAEETLAYGFIDEIMENNELK.  | 196 |
| NTDB id 376 SMU RS07595 WP 255262720.1       | ILSDNSGKTIKQIHKAERDYWMDAKETLKYGFIDEIMENNELK.  | 204 |
| NTDB id 101308 AXW77 RS00955 WP 002806309.1  | ILAKNTKKQVAKIAKDTERDFFMSAQEAKKEYGLIDKVLKSFK.. | 194 |
| NTDB id 1223 Cj0192c YP 002343650.1          | ILAKNTKKQVAKIAKDTERDFFMSAQEAKKEYGLIDKVLKSFK.. | 194 |
| NTDB id 86 BSU 34540 NP 391334.1             | VLAERTGGPLEVIERDTDRDNFKAEEALEYGLIDKILTHTEDKK  | 197 |
| consensus                                    | *!*****!!*****!*!!!!****!*!*****!?!***** ** * |     |

 non conserved  
 similar  
  $\geq 50\%$  conserved