

|               |                                |                                                         |                                      |    |
|---------------|--------------------------------|---------------------------------------------------------|--------------------------------------|----|
| NTDB id 613   | LCA RS05340 WP 231952379.1     | MMWQDYWQRYYRFFWWVPCLVLGLIIAGGFYWHQSQQKQKVTQNEQLLAT      | SASKTKP...ATKKTHTQAATKKKGGFVDEKGA    | 80 |
| NTDB id 521   | SMSK321 RS04960 WP 000443804.1 | ..MESIIIEKIKIKEYKIIIVICTGLGLLVGGFFLLKPAPHTPVKETNLQAEVVA | ISKDSSSTEKDVKKKEEKKEEPVEQDLITVDVKGA  | 83 |
| NTDB id 493   | SM12261 RS04300 WP 000387351.1 | ..MEAIIEKIKIKEYKIIIVICTGLGLLVGGFFLLKPAPQTPVKETNLQAEVVA  | AVSKDSVSEKEVKKKEEKKEEPLEQDLITVDVKGA  | 83 |
| NTDB id 153   | SP RS04730 WP 000387344.1      | ..MEAIIEKIKIKEYKIIIVICTGLGLLVGGFFLLKPAPQTPVKETNLQAEVVA  | AVSKDSSSTEKEVKKKEEKKEEPLEQDLITVDVKGA | 83 |
| NTDB id 263   | KZH43 RS04195 WP 000387330.1   | ..MEAIIEKIKIKEYKIIIVICTGLGLLVGGFFLLKPAPQTPVKETNLQAEVVA  | AVSKDLVSEKEVNKEEKKEEPLEQDLITVDVKGA   | 83 |
| NTDB id 222   | SPD RS04535 WP 000387330.1     | ..MEAIIEKIKIKEYKIIIVICTGLGLLVGGFFLLKPAPQTPVKETNLQAEVVA  | AVSKDLVSEKEVNKEEKKEEPLEQDLITVDVKGA   | 83 |
| NTDB id 188   | SPR RS04295 WP 000387330.1     | ..MEAIIEKIKIKEYKIIIVICTGLGLLVGGFFLLKPAPQTPVKETNLQAEVVA  | AVSKDLVSEKEVNKEEKKEEPLEQDLITVDVKGA   | 83 |
| NTDB id 20764 | L RS09240 WP 010906131.1       | ..MDKILEKVKEYWKMIIVLVVCGLIAGGIFYVLTNGQKPTTNLSVENLSS     | VSRRQSSV...SKFSEPN.EKSVSKIMVDEKGA    | 78 |
| NTDB id 595   | KW2 RS08725 WP 021037687.1     | ..MEKILDKLKEYWKIMLLVVCALIIAGGIFYIFTNSPKPAETLSVENLSS     | SSSTKSSV...SKFNSSSSEKNKIMVDEKGA      | 79 |
| consensus     |                                | *****                                                   | *****                                |    |

|                                            |                                                                                 |            |       |        |       |
|--------------------------------------------|---------------------------------------------------------------------------------|------------|-------|--------|-------|
| NTDB id 613 LCA RS05340 WP 231952379.1     | YPGIYPIITVSEIRLFEVLKNAAGGPTDAADTKRLNLAQKLTDLIIYIPKKGEEVVTDEQLIQAPQKIATTSERTQEQA | AS         | TC    | SANA   | 165   |
| NTDB id 521 SMSK321 RS04960 WP 000443804.1 | SPGIYDLSVG.SRVNDAVQKAGGLTEQADSKSLNLAQKVSDALVYVPTKGEEAS                          | ASQHTGS    | CA    | PS     | 148   |
| NTDB id 493 SM12261 RS04300 WP 000387351.1 | SPGIYDLPVG.SRVNDAVQKAGGLTEQADSKSLNLAQKVSDALVYVPTKGEEA                           | ASQQAGP    | CT    | ASS    | 148   |
| NTDB id 153 SP RS04730 WP 000387344.1      | SPGIYDLPVG.SRVNDAVQKAGGLTEQADSKSLNLAQKVSDALVYVPTKGEEA                           | AVSQQTGS   | GT    | ASS    | 148   |
| NTDB id 263 KZH43 RS04195 WP 000387330.1   | SPGIYDLPVG.SRVNDAVQKAGGLTEQADSKSLNLAQKVSDALVYVPTKGEEA                           | AVSQQTGL   | GT    | ASS    | 148   |
| NTDB id 222 SPD RS04535 WP 000387330.1     | SPGIYDLPVG.SRVNDAVQKAGGLTEQADSKSLNLAQKVSDALVYVPTKGEEA                           | AVSQQTGL   | GT    | ASS    | 148   |
| NTDB id 188 SPR RS04295 WP 000387330.1     | SPGIYDLPVG.SRVNDAVQKAGGLTEQADSKSLNLAQKVSDALVYVPTKGEEA                           | AVSQQTGL   | GT    | ASS    | 148   |
| NTDB id 20764 L RS09240 WP 010906131.1     | KPNVYQISSD.ERLVLDLIKEAGGFTDQADQKSLNLSAKLKDDEEVIYVPKIGEN                         | SSSTENTDS  | SAN   | SVTS.Q | 146   |
| NTDB id 595 KW2 RS08725 WP 021037687.1     | KPNVYQISSD.ERLVLDLIRQAGGFTDQADQKSLNLSAKLKDDEEVIYVPKV                            | GESSSESTDS | PT    | CS     | VSNQ  |
| consensus                                  | *****                                                                           | *****      | ***** | *****  | ***** |

|               |                                |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |     |   |   |   |     |     |
|---------------|--------------------------------|----|----|----|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----|---|---|---|-----|-----|
| NTDB id 613   | LCA RS05340 WP 231952379.1     | SS | TS | TD | TA | K | I | D | L | N | Q | A | D | S | T | Q | L | Q | T | L | N | G | I | G | P | K | K | A | E | Q | I | I | A | R | D | E | Q | G | K | F | Q | I | E | D | L | Q | K | V | G | G | I | P | K | T | F | E | Q | L | Q | S | Q | I | C | V | N | 235 |   |   |   |     |     |
| NTDB id 521   | SMSK321 RS04960 WP 000443804.1 | .. | T  | S  | K  | D | K | K | I | N | L | N | K | A | S | L | E | E | L | K | Q | V | K | G | L | G | G | K | R | A | Q | D | I | I | D | H | R | E | A | N | G | K | F | S | V | D | E | L | K | K | V | S | G | I | G | A | K | T | I | E | K | L | K | D | Y | V   | T | V | D | 216 |     |
| NTDB id 493   | SM12261 RS04300 WP 000387351.1 | .. | T  | S  | K  | E | K | K | V | N | L | N | K | A | S | L | E | E | L | K | Q | V | K | G | L | G | G | K | R | A | Q | D | I | I | D | H | R | E | A | N | G | K | F | S | V | D | E | L | K | K | V | S | G | I | G | A | K | T | I | E | K | L | K | D | Y | V   | T | V | D | 216 |     |
| NTDB id 153   | SP RS04730 WP 000387344.1      | .. | T  | S  | K  | E | K | K | V | N | L | N | K | A | S | L | E | E | L | K | Q | V | K | G | L | G | G | K | R | A | Q | D | I | I | D | H | R | E | A | N | G | K | F | S | V | D | E | L | K | K | V | S | G | I | G | A | K | T | I | E | K | L | K | D | Y | V   | T | V | D | 216 |     |
| NTDB id 263   | KZH43 RS04195 WP 000387330.1   | .. | I  | S  | K  | E | K | K | V | N | L | N | K | A | S | L | E | E | L | K | Q | V | K | G | L | G | G | K | R | A | Q | D | I | I | D | H | R | E | A | N | G | K | F | S | V | D | E | L | K | K | V | S | G | I | G | A | K | T | I | E | K | L | K | D | Y | V   | T | V | D | 216 |     |
| NTDB id 222   | SPD RS04535 WP 000387330.1     | .. | I  | S  | K  | E | K | K | V | N | L | N | K | A | S | L | E | E | L | K | Q | V | K | G | L | G | G | K | R | A | Q | D | I | I | D | H | R | E | A | N | G | K | F | S | V | D | E | L | K | K | V | S | G | I | G | A | K | T | I | E | K | L | K | D | Y | V   | T | V | D | 216 |     |
| NTDB id 188   | SPR RS04295 WP 000387330.1     | .. | I  | S  | K  | E | K | K | V | N | L | N | K | A | S | L | E | E | L | K | Q | V | K | G | L | G | G | K | R | A | Q | D | I | I | D | H | R | E | A | N | G | K | F | S | V | D | E | L | K | K | V | S | G | I | G | A | K | T | I | E | K | L | K | D | Y | V   | T | V | D | 216 |     |
| NTDB id 20764 | L RS09240 WP 010906131.1       | V  | S  | T  | T  | T | E | K | I | N | I | N | Q | A | D | L | T | E | L | Q | K | L | T | G | V | G | Q | K | K | A | Q | D | I | I | D | F | R | T | K | N | G | D | F | K | S | L | E | D | L | G | K | V | S | G | F | G | D | K | T | L | E | K | L | K | D | E   | L | C | F | E   | 215 |
| NTDB id 595   | KW2 RS08725 WP 021037687.1     | I  | S  | T  | S  | G | P | K | V | N | I | N | K | A | D | L | T | E | L | Q | K | L | T | G | I | G | Q | K | K | A | Q | D | I | I | D | F | R | M | K | N | G | D | F | K | S | L | E | D | L | G | K | V |   |   |   |   |   |   |   |   |   |   |   |   |   |     |   |   |   |     |     |

-  non conserved
-  similar
-  >50% conserved