

[illegible]

|           |    |       |         |         |            |             |                    |            |            |           |           |           |           |           |            |            |           |            |           |           |           |           |           |
|-----------|----|-------|---------|---------|------------|-------------|--------------------|------------|------------|-----------|-----------|-----------|-----------|-----------|------------|------------|-----------|------------|-----------|-----------|-----------|-----------|-----------|
| NTDB      | id | 617   | LCA     | RS06480 | WP         | 011375001.1 | Q.TIYLRRLATVGDFLNR | ESLVIRFI   | YPIGAIYHCD | QILAQ     | L         | LTQMS     | RQSG      | LILFAGPT  | GSGKTT     | SLYH       | LAQQSMS   | AKMVA      | TIED      | 168       |           |           |           |
| NTDB      | id | 586   | KW2     | RS10855 | WP         | 011836048.1 | SSAKRLRLSTVGDFEGN  | ESLVIRLLHD | QKQEL      | EFWFD     | .DK.      | LQDFRCK   | RGLYLF    | AGPVGSGKT | SLMFD      | LAHRH      | FSNAQ     | VITIE      | 165       |           |           |           |           |
| NTDB      | id | 584   | DLJ51   | RS00890 | WP         | 019777327.1 | GETAALRLSTVG       | DYRGRES    | LVIRLLFDR  | KRELK     | FWFD      | .GL       | NALLPK    | IIGRGLYLF | SGPVGSGKTT | LMYEL      | VSRYK     | VPDSQ      | ITIED     | 169       |           |           |           |
| NTDB      | id | 385   | SMU     | RS09035 | WP         | 002263435.1 | GKVISLR            | SSVDYRGYES | LVIRLLFSGR | HD        | LKFWFN    | .SMD      | L         | ILNEIK    | RGLYLF     | SGPVGSGKT  | SLMYQL    | VKLRF      | ETKQ      | VITIED    | 167       |           |           |
| NTDB      | id | 394   | FSA28   | RS09405 | WP         | 002291652.1 | GKVISLR            | SSVDYRGYES | LVIRLLFSGR | HD        | LKFWFN    | .SMD      | L         | ILNEIK    | RGLYLF     | SGPVGSGKT  | SLMYQL    | VKLRF      | ETKQ      | VITIED    | 167       |           |           |
| NTDB      | id | 20068 | SSU05   | 0126    | ABP89096.1 | G.EISRL     | STVG               | DYRGKES    | LVIRLLYDND | KELK      | FWFE      | .AAER     | L         | AAEIK     | RGLYLF     | SGPVGSGKTT | LMYHL     | ARLKF      | PDQ       | ILTIED    | 166       |           |           |
| NTDB      | id | 429   | SGO     | RS09420 | WP         | 012130942.1 | K.ETSIR            | LSTV       | G          | DYRGYES   | LVIRLLHDE | ETELK     | FWFT      | .HFPE     | L          | REKFK      | DRGLYLF   | SGPVGSGKTT | LMHQ      | LAQLK     | FKCQ      | QVMSIED   | 166       |
| NTDB      | id | 500   | SM12261 | RS00945 | WP         | 000249545.1 | K.MASRL            | STVG       | DYRGHES    | LVIRLLHDE | EQDLH     | FWFQ      | .DIEEL    | G         | KQYR       | R          | RGLYLF    | AGPVGSGKTT | LMHEL     | SKSLFK    | CQ        | QVMSIED   | 166       |
| NTDB      | id | 270   | KZH43   | RS09265 | WP         | 000249564.1 | K.IASRL            | STVG       | DYRGHES    | LVIRLLHDE | EQDLH     | FWFQ      | .DIEEL    | G         | KQYR       | R          | RGLYLF    | AGPVGSGKTT | LMHEL     | SKSLFK    | CQ        | QVMSIED   | 166       |
| NTDB      | id | 229   | SPD     | RS09895 | WP         | 000249564.1 | K.IASRL            | STVG       | DYRGHES    | LVIRLLHDE | EQDLH     | FWFQ      | .DIEEL    | G         | KQYR       | R          | RGLYLF    | AGPVGSGKTT | LMHEL     | SKSLFK    | CQ        | QVMSIED   | 166       |
| NTDB      | id | 195   | SPR     | RS09430 | WP         | 000249564.1 | K.IASRL            | STVG       | DYRGHES    | LVIRLLHDE | EQDLH     | FWFQ      | .DIEEL    | G         | KQYR       | R          | RGLYLF    | AGPVGSGKTT | LMHEL     | SKSLFK    | CQ        | QVMSIED   | 166       |
| NTDB      | id | 160   | SP      | RS10380 | WP         | 000249564.1 | K.IASRL            | STVG       | DYRGHES    | LVIRLLHDE | EQDLH     | FWFQ      | .DIEEL    | G         | KQYR       | R          | RGLYLF    | AGPVGSGKTT | LMHEL     | SKSLFK    | CQ        | QVMSIED   | 166       |
| consensus |    |       |         |         |            |             | * * * * *          | ! ! ! ! !  | * * * * *  | ! ! ! ! ! | * * * * * | * * * * * | * * * * * | ! ! ! ! ! | * * * * *  | ! ! ! ! !  | * * * * * | ! ! ! ! !  | * * * * * | ! ! ! ! ! | * * * * * | ! ! ! ! ! | * * * * * |

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| NTDB | id | 617   | LCA    | RS06480 | WP         | 011375001.1 | P | T | E | I | V | A | P | E | F | L | Q | L | V | N | D | N | A | G | L | S | Y | A | E | L | L | K | I | S | L | R | L | R | P | D | L | I | I | G | E | I | R | D | L | E | T | A | Q | Y | V | V | S | A | A | L | S | G | H | L | V | L | S | T | I | H | A | R | S | T | Q | G | V | A | R | L | L | D | L | G | T | S | E | L |   | 253 |     |     |     |
| NTDB | id | 586   | KW2    | RS10855 | WP         | 011836048.1 | P | V | E | L | I | D | S | D | F | I | Q | L | V | N | D | V | I | G | N | S | Y | D | E | L | I | K | L | S | L | R | H | R | P | D | L | L | I | V | G | E | I | R | D | Q | T | A | R | A | V | I | R | A | S | L | T | G | Y | T | V | F | S | T | I | H | A | A | S | V | K | G | V | V | Q | R | L | L | E | L | C | L | S | D | W |     | 250 |     |     |
| NTDB | id | 584   | DLJ51  | RS00890 | WP         | 019777327.1 | P | V | E | I | K | Q | D | N | M | L | Q | L | Q | L | N | P | S | I | G | M | T | Y | D | H | L | I | K | L | S | L | R | H | R | P | D | V | L | I | I | G | E | I | R | D | R | E | T | A | Q | A | V | I | R | A | S | L | T | G | I | R | V | F | S | T | I | H | A | K | S | I | P | G | V | Y | A | R | L | E | L | G | V | S | D |     | 254 |     |     |
| NTDB | id | 385   | SMU    | RS09035 | WP         | 002263435.1 | P | V | E | I | K | Q | D | N | M | L | Q | L | Q | L | N | E | S | I | D | M | T | Y | D | N | L | I | K | L | S | L | R | H | R | P | D | L | I | I | G | E | I | R | D | K | E | T | A | R | A | V | I | R | A | S | L | T | G | A | M | V | F | S | T | I | H | A | K | S | I | P | G | V | Y | A | R | M | L | E | L | C | T | S | S | E   |     | 252 |     |
| NTDB | id | 394   | FSA28  | RS09405 | WP         | 002291652.1 | P | V | E | I | K | Q | D | N | M | L | Q | L | Q | L | N | E | S | I | D | M | T | Y | D | N | L | I | K | L | S | L | R | H | R | P | D | L | I | I | G | E | I | R | D | K | E | T | A | R | A | V | I | R | A | S | L | T | G | A | M | V | F | S | T | I | H | A | K | S | I | P | G | V | Y | A | R | M | L | E | L | C | T | S | S | E   |     | 252 |     |
| NTDB | id | 20068 | SSU05  | 0126    | ABP89096.1 |             | P | V | E | I | K | Q | D | N | M | L | Q | L | Q | L | N | E | A | I | G | A | T | Y | D | N | L | I | K | L | S | L | R | H | R | P | D | L | L | I | I | G | E | I | R | D | A | E | T | A | R | A | V | I | R | A | S | L | T | G | A | T | V | F | S | T | I | H | A | K | S | I | P | G | V | Y | A | R | M | L | E | L | C | V | G | P   | E   |     | 251 |
| NTDB | id | 429   | SGO    | RS09420 | WP         | 012130942.1 | P | V | E | I | K | Q | D | N | M | L | Q | L | Q | L | N | E | T | I | G | L | T | Y | E | N | L | I | K | L | S | L | R | H | R | P | D | L | L | I | I | G | E | I | R | D | S | E | T | A | R | A | V | V | R | A | S | L | T | G | A | T | V | F | S | T | I | H | A | K | S | I | P | G | V | Y | E | R | L | L | E | L | C | V | S | E   |     | 251 |     |
| NTDB | id | 500   | SM1261 | RS00945 | WP         | 000249545.1 | P | V | E | I | K | Q | D | N | M | L | Q | L | Q | L | N | E | A | I | G | L | T | Y | E | N | L | I | K | L | S | L | R | H | R | P | D | L | L | I | I | G | E | I | R | D | S | E | T | A | R | A | V | V | R | A | S | L | T | G | A | T | V | F | S | T | I | H | A | K | S | I | P | G | V | Y | E | R | L | L | E | L | C | V | S | E   |     | 251 |     |
| NTDB | id | 270   | KZH43  | RS09265 | WP         | 000249564.1 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |     |     |     |     |

|           |       |                                |                                                                                 |     |
|-----------|-------|--------------------------------|---------------------------------------------------------------------------------|-----|
| NTDB id   | 617   | LCA RS06480 WP 011375001.1     | QLRACLTGIAVQSLVTKDDVVQAHA...YELLTGSDYFSKKE.....GGCDV.....                       | 296 |
| NTDB id   | 586   | KW2 RS10855 WP 011836048.1     | ELKNGLAENVYQRRLIAGKGVIDIAKSKFDTWSPKKWNEKTENLYANGHLTAIEAREKISINQASKIDTTDGESFE    | 326 |
| NTDB id   | 584   | DLJ51 RS00890 WP 019777327.1   | ELDNCLAGIAVQRLIGGGGLIDFAQDHFQNHQAECSWNEKIDQLLAAGHLTTEEEAAAAEKIKD.....           | 315 |
| NTDB id   | 385   | SMU RS09035 WP 002263435.1     | ELQNALRGIVYQRLIGGGGIIDFAKGDYQNHSAKWNKQIYDLFTAGYTEGEAQAEETED.....                | 313 |
| NTDB id   | 394   | FSA28 RS09405 WP 002291652.1   | ELQNALCGIVYQRLIGGGGIIDFAKGDYQNHSAKWNKQIYDLFTAGYTEGEAQAEETED.....                | 313 |
| NTDB id   | 20068 | SSU05 0126 ABP89096.1          | BLNNA LQGIAVQRLIGGGGVVDFAKGN YQNHSA DQWNA QIDRLF AAGHISLRQAETEKI TLGSPA.....    | 316 |
| NTDB id   | 429   | SGO RS09420 WP 012130942.1     | ELKIV LQGCICYQRLIGGGGVITDFASDN YQEHEPTV WNNQQIDQLLAA GHIHPEQAEAEKIRNQAKTSY..... | 319 |
| NTDB id   | 500   | SM12261 RS00945 WP 000249545.1 | ELAVV LQGVVCYQRLIGGGGIVDFANKDYQEHQS TSWNAQIDQLLKDGHITSLQAETEKISYS.....          | 313 |
| NTDB id   | 270   | KZH43 RS09265 WP 000249564.1   | ELAVV LQGVVCYQRLIGGGGIVDFASRDYQEHQA AKWNEQIDQLLKDGHITSLQAETEKISYS.....          | 313 |
| NTDB id   | 229   | SPD RS09895 WP 000249564.1     | ELAVV LQGVVCYQRLIGGGGIVDFASRDYQEHQA AKWNEQIDQLLKDGHITSLQAETEKISYS.....          | 313 |
| NTDB id   | 195   | SPR RS09430 WP 000249564.1     | ELAVV LQGVVCYQRLIGGGGIVDFASRDYQEHQA AKWNEQIDQLLKDGHITSLQAETEKISYS.....          | 313 |
| NTDB id   | 160   | SP RS10380 WP 000249564.1      | ELAVV LQGVVCYQRLIGGGGIVDFASRDYQEHQA AKWNEQIDQLLKDGHITSLQAETEKISYS.....          | 313 |
| consensus |       |                                | *! !*** !!*!* **** * * * * *                                                    |     |

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