

|               |                                |                                 |                                       |                       |    |
|---------------|--------------------------------|---------------------------------|---------------------------------------|-----------------------|----|
| NTDB id 624   | LCA RS00040 WP 011373726.1     | MINRVVLVGRLLRDVLDLYRTSSGAAVGTF  | SMAVNRQFTNANGDREADFTNCVLRKSAENFANFTK  | KGSLVGVGDGRLLQTRNYENQ | 85 |
| NTDB id 113   | BSU 40900 NP 391970.1          | MLNRVVLVGRLLKDPRLRYTPNGAAVATFTL | AVNRFTTNQSGGERADFTNCVLTWRRAENVANFLK   | KGSLAGVDGRLLQTRNYENQ  | 85 |
| NTDB id 597   | KW2 RS01935 WP 021036727.1     | .MNKTMILIGRLTNAPEISKTTNNKSYVRV  | TLAVNRFFKNEKGERADFTSTILWCKSAETLVSYAK  | KGSLISVDEGETRTRNYTDK  | 84 |
| NTDB id 498   | SM12261 RS01980 WP 000282464.1 | MYNKVIMIGRLTSTPELHKTNNDKSVARATI | AVNRRYKDNQGERADFTVMVLWCKLAESLASATYAT  | KGSLISVDGELRTRRFE.K   | 84 |
| NTDB id 526   | SMSK321 RS08825 WP 000282440.1 | MYNKVILIGRLTSTPELHKTNNDKSVARATI | AVNRRYKDNQGERADFTVMVLWGRLAETLASATYAT  | KGSLISVDGELRTRRFE.K   | 84 |
| NTDB id 158   | SP RS09595 WP 000282442.1      | MYNKVILIGRLTSTPELHKTNNDKSVARATI | AVNRRYKDNQGERADFTVMVLWGRLAETLASATYAT  | KGSLISVDGELRTRRFE.K   | 84 |
| NTDB id 268   | KZH43 RS08520 WP 000282467.1   | MYNKVIMIGRLTSTPELHKTNNDKSVARATI | AVNRRYKDNQGERADFTVMVLWGRLAETLASATYAT  | KGSLISVDGELRTRRFE.K   | 84 |
| NTDB id 227   | SPD RS09110 WP 000282467.1     | MYNKVIMIGRLTSTPELHKTNNDKSVARATI | AVNRRYKDNQGERADFTVMVLWGRLAETLASATYAT  | KGSLISVDGELRTRRFE.K   | 84 |
| NTDB id 193   | SPR RS08685 WP 000282467.1     | MYNKVIMIGRLTSTPELHKTNNDKSVARATI | AVNRRYKDNQGERADFTVMVLWGRLAETLASATYAT  | KGSLISVDGELRTRRFE.K   | 84 |
| NTDB id 49673 | SSU12 RS00865 WP 011921737.1   | MYNKTILIGRLTAQPELTQTPTGKNLTRVTV | AVNRFFKTENGERADFTLVVIFWCKLAETLVSYGSK  | KGSLISIDGELRTRRKYE.K  | 84 |
| NTDB id 409   | SMU RS08940 WP 002263454.1     | MYNKVILIGRLVATPEMVKTPKDKSVTRV   | TLAVNRFFKSDGGEKQADFVMVLWGRLAETLVSYGSK | KGSLISIDGELRTRRKYE.K  | 84 |
| NTDB id 583   | DLJ51 RS09560 WP 002962590.1   | MYNKVILIGRLTAAPEMVKTPSNKSVTHT   | TLAVNRFFKTDGGERQADFVMVFWCKLAESLVSYAGK | KGSLVSLDGETRTRHYE.K   | 84 |
| consensus     |                                | *****! ! ! *                    | *****                                 | *****! ! ! ! ! *      |    |

|           |       |                                |                                                                                 |           |     |
|-----------|-------|--------------------------------|---------------------------------------------------------------------------------|-----------|-----|
| NTDB id   | 624   | LCA RS00040 WP 011373726.1     | QGQRVYVTEVVVDNFSLLSRTTTEQRQGSGASQNFNSNQSNQS... . QSGFTSPQQTGNAPAAANTQADPFAN     | GQAID I   | 163 |
| NTDB id   | 113   | BSU 40900 NP 391970.1          | QGQRVFVTEVQAESVQFLEPKNGGGSGS.... GGYNEGNSGGGQYFGGGQNNDNPFGGNQNNQRRNQGSNFNDDPFAN | DGKPI D I | 165 |
| NTDB id   | 597   | KW2 RS01935 WP 021036727.1     | NEEQKHYTEILGLSYD LLESRA TLALRESAV.....                                          | KTEEL LL  | 122 |
| NTDB id   | 498   | SM12261 RS01980 WP 000282464.1 | NGQMNYVTEVLVTGFQLLESRAQRAMRENNACQ.....                                          | DLADLVL   | 124 |
| NTDB id   | 526   | SMSK321 RS08825 WP 000282440.1 | NGQMNYVAEVLVTGFQLLESRAQRAMRENNACQ.....                                          | DLADLVL   | 124 |
| NTDB id   | 158   | SP RS09595 WP 000282442.1      | NGQMNYVTEVLVTGFQLLESRAQRAMRENNACQ.....                                          | DLADLVL   | 124 |
| NTDB id   | 268   | KZH43 RS08520 WP 000282467.1   | NGQMNYVTEVLVTGFQLLESRAQRAMRENNACQ.....                                          | DLADLVL   | 124 |
| NTDB id   | 227   | SPD RS09110 WP 000282467.1     | NGQMNYVTEVLVTGFQLLESRAQRAMRENNACQ.....                                          | DLADLVL   | 124 |
| NTDB id   | 193   | SPR RS08685 WP 000282467.1     | NGQMNYVTEVLVTGFQLLESRAQRAMRENNACQ.....                                          | DLADLVL   | 124 |
| NTDB id   | 49673 | SSU12 RS00865 WP 011921737.1   | DGSNHVYTEILGQS FQLLESRAQRAMRENN TGD.....                                        | DLADLVL   | 124 |
| NTDB id   | 409   | SMU RS08940 WP 002263454.1     | DGVTHFVTEVLGHSFQLLESRAQRAMRENNSEN.....                                          | DLADLVL   | 124 |
| NTDB id   | 583   | DLJ51 RS09560 WP 002962590.1   | DGGTHVYTEILAQSFQLLESRAQRLRENNGAS.....                                           | DLTDLVL   | 124 |
| consensus |       |                                | ***** ! *****                                                                   | *****     |     |

|           |       |         |         |    |             |   |       |     |     |
|-----------|-------|---------|---------|----|-------------|---|-------|-----|-----|
| NTDB id   | 624   | LCA     | RS00040 | WP | 011373726.1 | S | DDDL  | LPF | 170 |
| NTDB id   | 113   | BSU     | 40900   | NP | 391970.1    | S | DDDL  | LPF | 172 |
| NTDB id   | 597   | KW2     | RS01935 | WP | 021036727.1 | E | ADDEL | LPF | 129 |
| NTDB id   | 498   | SM12261 | RS01980 | WP | 000282464.1 | E | EEEL  | LPF | 131 |
| NTDB id   | 526   | SMSK321 | RS08825 | WP | 000282440.1 | E | EEEL  | LPF | 131 |
| NTDB id   | 158   | SP      | RS09595 | WP | 000282442.1 | E | EEEL  | LPF | 131 |
| NTDB id   | 268   | KZH43   | RS08520 | WP | 000282467.1 | E | EEEL  | LPF | 131 |
| NTDB id   | 227   | SPD     | RS09110 | WP | 000282467.1 | E | EEEL  | LPF | 131 |
| NTDB id   | 193   | SPR     | RS08685 | WP | 000282467.1 | E | EEEL  | LPF | 131 |
| NTDB id   | 49673 | SSU12   | RS00865 | WP | 011921737.1 | E | EEEL  | LPF | 131 |
| NTDB id   | 409   | SMU     | RS08940 | WP | 002263454.1 | E | EEEL  | LPF | 131 |
| NTDB id   | 583   | DLJ51   | RS09560 | WP | 002962590.1 | E | EEEL  | LPF | 131 |
| consensus |       |         |         |    |             |   | ****  | !!! |     |

-  non conserved
-  similar
-  >50% conserved