Supplementary Table S6. *Staphylococcus aureus* hemolysins/leucocidins amino acid sequence.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Strain | Toxin/ number of amino acids (aa) | | | Toxin/ number of amino acids (aa) | | | Toxin/ number of amino acids (aa) | | |
| Hla /319 aa | | | LukED subunit E/311aa | | | LukED subunit D/327 aa | | |
| Protein  accession number | Per. Ident  (%) | Aa sub-stitutions | Protein accession number | Per. Ident  (%) | Aa sub-stitutions | Protein accession number | Per. Ident  (%) | Aa sub-stitutions |
| NCTC 8325 | WP\_000857483.1 | 100 | no | WP\_000473596.1 | 100 | no | WP\_000782464.1 | 100 | no |
| Newman | WP\_000857483.1 | 100 | no | WP\_000473596.1 | 100 | no | WP\_000782464.1 | 100 | no |
| Col | WP\_000857483.1 | 100 | no | WP\_000473596.1 | 100 | no | WP\_000782464.1 | 100 | no |
| FPR3757 | WP\_000857483.1 | 100 | no | WP\_000473596.1 | 100 | no | WP\_000782464.1 | 100 | no |
| N315 | WP\_000857488.1 | ***99.37*** | **D234E; I301T** | WP\_000473596.1 | 100 | no | WP\_000782463.1 | ***99.69*** | **V287T** |
| MW2 | WP\_000857485.1 | ***99.69*** | **I301T** | WP\_000473596.1 | 100 | no | WP\_000782464.1 | 100 | no |
| MRSA252 | CAG40139.11 | ***-*** | **-** | n/d | n/d | n/d | n/d | n/d | n/d |
| 55/2053 | EEV04322.1 | ***98.43*** | **78 I/L; I301T** | n/d | n/d | n/d | n/d | n/d | n/d |
| TW20 | WP\_000857484.1 | ***99.69*** | **R4T** | WP\_000473590.1 | ***99,68*** | G154A | WP\_000782464.1 | 100 | no |
| T0131 | WP\_000857484.1 | ***99.69*** | **R4T** | WP\_000473596.1 | 100 | no | AEB88916.12 | **85**/100 |  |
| Z172 | WP\_000857484.1 | ***99.69*** | **R4T** | WP\_000473590.1 | ***99,68*** | G154A | WP\_000782464.1 | 100 | no |
| V521 | WP\_000857485.1 | ***99.68*** | **R4T** | AND36441.1 | ***99,68*** | G154A | AND36440.1 | 100 | no |
| Bmb9393 | WP\_000857484.1 | ***99.69*** | **R4T** | WP\_000473596.1 | 100 | no | WP\_000782464.1 | 100 | no |
| Be62 | WP\_000857484.1 | ***99.69*** | **R4T** | ALY23745.1 | ***100*** | no | ALY23744.1 | 100 | no |
| JKD6008 | WP\_000857484.1 | ***99.69*** | **R4T** | ? | ***?*** | ? | ? | ? | ? |
| 943 | RAM45765.1 | ***99.69*** | **R4T** | RAM45662.1 | 100 | no | RAM45663.1 | 100 | no |

Supplementary Table S6. *Staphylococcus aureus* hemolysins/leucocidins amino acid sequence (continued).

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Strain | Toxin/ number of amino acids (aa) | | | Toxin/ number of amino acids (aa) | | | Toxin/ number of amino acids (aa) | | |
| Gamma-hemolysin subunit А/309 aa | | | Gamma-hemolysin subunit B/325 aa | | | Gamma-hemolysin C/319 aa | | |
| Protein accession  number | Per. Ident  (%) | Aa sub-stitutions | Protein  accession  number | Per. Ident  (%) | Aa substitutions | Protein accession number | Per. Ident  (%) | Aa sub-stitutions |
| NCTC 8325 | WP\_000594519.1 | 100 | no | WP\_000783428.1 | 100 | no | WP\_000916713.1 | 100 | no |
| Newman | WP\_000594519.1 | 100 | no | WP\_000783428.1 | 100 | no | WP\_000916713.1 | 100 | no |
| Col | WP\_000594519.1 | 100 | no | WP\_000783428.1 | 100 | no | ? |  | no |
| FPR3757 | WP\_000594519.1 | 100 | no | WP\_000783428.1 | 100 | no | WP\_000916713.1 | 100 | no |
| N315 | WP\_000594519.1 | 100 | no | WP\_000783428.1 | 100 | no | WP\_000916704.1 | **99.68** | ***T8A*** |
| MW2 | WP\_000594519.1 | 100 | no | WP\_000783428.1 | 100 | no | WP\_000916704.1 | **99.68** | ***T8A*** |
| MRSA252 | WP\_000594517.1 | **99.35** | ***R246K; A264T*** | WP\_000783428.1 | 100 | no | CAG41490.1 | **97.78** | ***T8A4*** |
| 55/2053 | EEV05022.13 | **99.68** | ***E241K*** | WP\_001056917.1 | **97.54** | ***K2N; G22N;***  ***T82A; F89Y;***  ***V90E; K91R;***  ***N95K; L102T*** | EEV05023.1 | **97.78** | ***T8A4*** |
| TW20 | WP\_000594519.1 | 100 | no | WP\_000783428.1 | 100 | no | WP\_00096713.1 | 100 | no |
| To131 | WP\_000594519.1 | 100 | no | WP\_000783428.1 | 100 | no | WP\_00096713.1 | 100 | no |
| Z172 | WP\_000594519.1 | 100 | no | WP\_000783428.1 | 100 | no | WP\_00096713.1 | 100 | no |
| V521 | AND37622.1 | 100 | no | AND37245.1 | 100 | no | AND37244.1 | 100 | no |
| Bmb9393 | WP\_000594519.1 | 100 | no | WP\_000783428.1 | 100 | no | WP\_00096713.1 | 100 | no |
| Be62 | ALY24329.13 | 100 | no | ALY24332.1 | 100 | no | ALY24331.1 | 100 | no |
| JKD6008 | WP\_000594519.1 | 100 | no | WP\_000783428.1 | 100 | no | WP\_00096713.1 | 100 | no |
| 943 | RAM47209.1 | 100 | no | RAM47121.1 | 100 | no | RAM47120.1 | 100 | no |

Supplementary Table S6. *Staphylococcus aureus* hemolysins/leucocidins amino acid sequence (continued).

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Strain | Toxin/ number of amino acid (aa) | | | Toxin/ number of amino acid (aa) | | | Toxin/ number of amino acid (aa) | | |
| LukGH subunit G/338aa | | | LukGH subunit H/ 351aa | | | Hemolysin III /227aa | | |
| Protein  accession number | Per. Ident  (%) | Aa substitutions | Protein accession number | Per. Ident  (%) | Aa  substitutions | Protein accession number | Per. Ident  (%) | Aa substitu-tions |
| NCTC 8325 | WP\_000595324.1 | 100 | no | WP\_000791407.1 | 100 | no | WP\_000047255.1 | 100 | no |
| Newman | WP\_000595324.1 | 100 | no | WP\_000791407.1 | 100 | no | WP\_000047255.1 | 100 | no |
| Col | WP\_000595324.1 | 100 | no | WP\_000791407.1 | 100 | no | WP\_000047255.1 | 100 | no |
| FPR3757 | WP\_000595324.1 | 100 | no | WP\_000791407.1 | 100 | no | WP\_000047255.1 | 100 | no |
| N315 | WP\_000595392.1 | **97.34**5 | **8** | WP\_000791410.1 | 100 | no | WP\_000047255.1 | 100 | no |
| MW2 | n/d | n/d | n/d | n/d | n/d | n/d | WP\_000047255.1 | 100 | no |
| MRSA252 | n/d | n/d | n/d | n/d | n/d | n/d | WP\_000047120.1 | **98.68** | ***T4S; E5K*** |
| 55/2053 | n/d | n/d | n/d | n/d | n/d | n/d | WP\_000047120.1 | **98.68** | ***T4S; E5K*** |
| TW20 | WP\_000595324.1 | 100 | no | WP\_000791407.1 | 100 | no | WP\_000047255.1 | 100 | no |
| To131 | WP\_000595324.1 | 100 | no | WP\_000791407.1 | 100 | no | WP\_000047255.1 | 100 | no |
| Z172 | WP\_000595324.1 | 100 | no | WP\_000791407.1 | 100 | no | WP\_000047255.1 | 100 | no |
| V521 | WP\_000595324.1 | 100 | no | AND36691.1 | 100 | no | AND36982.1 | 100 | no |
| Bmb9393 | n/d | n/d | n/d | WP\_000791407.1 | 100 | no | WP\_000047255.1 | 100 | no |
| Be62 | ALY23926.1 | 100 | no | ALY2396.7 | 100 | no | ALY24076.1 | 100 | no |
| JKD6008 | WP\_000595323.1 | **99.7** | ***K308E*** | WP\_000791407.1 |  | no | WP\_000047255.1 | 100 | no |
| 943 | RAM45196.1 | **100** | no | RAM45195.1 | 100 | no | RAM45352.1 | **99.56** | ***I96T*** |

Note: 1- pseudogene due to the presence of a stop codon at position 112; 2- length 281 aa as a result of deletion of a fragment of 46 aa, starting from aa 282; 3- length 321 aa as a result of insertion 12 aa at the beginning of the sequence; 4- amino acid substitutions were identified additionally: ***S40N*; *I42V; V92K; K96N; V100I; A102S*;** 5 - amino acid substitutions were identified**: *C6Y; T13S; L16I; T19A; F20L; F23Y; Q32A; N325D.***