|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Strain | Protein  accession number | Number of amino acids | Query  Cover  (%) | Per  Ident  (%) | Localization and number of substitutions  in different protein regions | | | | | | Total number of substitutions |
| S | Nv | Fg | Fn | C  PPR | C (WMC) |
| 1-37 | 38-195 | 194-511 | 512-885 | 886-993 | 994-1079 |
| NCTC8325 | [WP\_000794582.1](https://www.ncbi.nlm.nih.gov/protein/446717269) | **1018** | 100 | 100 | - | - | - | - | - | - | 0 |
| Newman | BAF68671.1 | 741 | 100 | 99,19 | - | - | ***E509G*** | ***+ (4)*** | - | - | ***5*** |
| Col | WP\_000794589.1 | **1018** | 100 | 99,8 | - | - | ***E509G*** | ***K703E*** | - | - | ***2*** |
| FPR3757 | [WP\_000794589.1](https://www.ncbi.nlm.nih.gov/protein/446717276) | **1018** | 100 | 99,8 | - | - | ***E509G*** | ***K703E*** | - | - | ***2*** |
| N315 | WP\_[000794614.1](https://www.ncbi.nlm.nih.gov/protein/446717301) | 1038 | 83 | 83,28 | - | ***+ (13)*** | *+* ***(98)*** | ***+ (28)*** | - | - | ***139*** |
| MRSA252 | [WP\_000794580.1](https://www.ncbi.nlm.nih.gov/protein/446717267) | 965 | 86 | 78,38 | + ***(1*)** | ***+ (11)*** | ***+ (106)*** | ***+ (32)*** | - | - | ***150*** |
| MW2 | [WP\_000794648.1](https://www.ncbi.nlm.nih.gov/protein/446234931) | 1015 | 85 | 84,08 | - | ***+ (12)*** | ***+ (109)*** | ***+ (28)*** | - | - | ***149*** |
| 55/2053 | [WP\_000794642.1](https://www.ncbi.nlm.nih.gov/protein/446717329) | 1042 | 83 | 82,27 | - | **+ *(11)*** | ***+ (104)*** | ***+ (38)*** | *-* | *-* | ***153*** |
| Bmb9393 | [AGP29431.1](https://www.ncbi.nlm.nih.gov/protein/520998791) | **1018** | 100 | 99,8 | - | - | ***E509G*** | ***K703E*** | - | - | ***2*** |
| Be62 | [WP\_000794589.1](https://www.ncbi.nlm.nih.gov/protein/446717276) | **1018** | 100 | 99,8 | - | - | ***E509G*** | ***K703E*** | - | - | ***2*** |
| TW20 | [CBI50487.1](https://www.ncbi.nlm.nih.gov/protein/269942074) | 995 | 97 | 99,8 | - | - | ***E509G*** | ***K703E*** | - | - | ***2*** |
| JKD6008 | [WP\_000794589.1](https://www.ncbi.nlm.nih.gov/protein/446234908) | **1018** | 100 | 99,8 | - | - | ***E509G*** | ***K703E*** | - | - | ***2*** |
| T0131 | WP\_000794592.1 | 990 | 100 | 96,56 | - | - | ***E509G*** | ***K703E*** | + (*4*)1 | - | ***7*** |
| Z172 | [AGY90698.1](https://www.ncbi.nlm.nih.gov/protein/554593445) | 967 | 100 | 96,98 | - | - | ***E509G*** | ***K703E*** | - | - | ***2*** |
| V521 | [WP\_000794589.1](https://www.ncbi.nlm.nih.gov/protein/446717276) | **1018** | 100 | 99,8 | - | - | ***E509G*** | ***K703E*** | - | - | ***2*** |
| SA943 | RAM46808.1 | 990 | 100 | 96,56 | - | - | ***E509G*** | ***K703E*** | + (*4*)1 | - | ***7*** |

Supplementary Table S3a. S*taphylococcus aureus* fibronectin-binding protein A (FnBPA) amino acid sequence: localization of amino acid substitutions.

Note: S - signal sequence; Nv-N-terminus, variable region; Fg-fibrinogen and elastin-binding domain A; Fn - fibronectin-binding domain; PPR, proline-rich repeat region; C - C-terminus, including cell wall (W), membrane (M) and cytosolic region (C) attachment domains; 1 - amino acid substitutions: ***V936I; A970V; P975A; K993N*.**

Supplementary Table S3b. S*taphylococcus aureus* fibronectin-binding protein A (FnBPA): amino acid sequence: localization of deletions.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Strain | Protein  accession number | Protein regions | | | | | | | |
| S | Nv | Fn | | | | C  886-993 | |
| 1-23 | 115-119 | 763-800 | 876-878 | 879-902 | 880-918 | 898-9251 | 892-920 |
| NCTC 8325 | WP\_000794582.1 | - | - | - | - | **+** | - | - | - |
| Newman | BAF68671.1 | - | - | - | - | **-** | - | - | - |
| Col | WP\_000794589.1 | - | - | - | - | **+** | - | - | - |
| FPR3757 | WP\_000794589.1 | - | - | - | - | **+** | - | - | - |
| N315 | WP\_000794614.1 | - | - | - | - | **-** | - | - | - |
| MRSA252 | CAG41560.1 | - | - | **+** | **+** | **-** | **+** | - | - |
| MW2 | WP\_000794648.1 | - | **+** | - | - | **-** | **-** | **+** | - |
| 55/2053 | WP\_000794642.1 | - | - | - | **+** | **-** | - | - | - |
| Bmb9393 | AGP29431.1 | - | - | - | - | **+** | - | - | - |
| Be62 | WP\_000794589.1 | - | - | - | - | **+** | - | - | - |
| TW20 | CBI50487.1 | **+** | - | - | - | **+** | - | - | - |
| JKD6008 | WP\_000794589.1 | - | - | - | - | **+** | - | - | - |
| T0131 | WP\_000794592.1 | - | - | - | - | ***+*** | - | - | **+** |
| Z172 | AGY90698.1 | **+** | - | - | - | **+** | - | - | **+** |
| V521 | WP\_000794589.1 | - | - | - | - | **+** | - | - | **-** |
| SA943 | RAM46808.1 | - | - | - | - | **+** | - | - | **+** |

Note: - deletions are localized at the end of the fibronectin-binding region and capture the repeating region; 1 - the localization of this deletion

in WP\_0007946481 of *S. aureus* MW2 is indicated when it was aligned with WP\_000794614.1. The presence of deletions was marked

with a cross on a light gray background.