*Microorganisms*

**Genomic and phenotypic analysis of Linezolid-resistant *Staphylococcus epidermidis* a tertiary hospital in Innsbruck, Austria**

Supplementary Material

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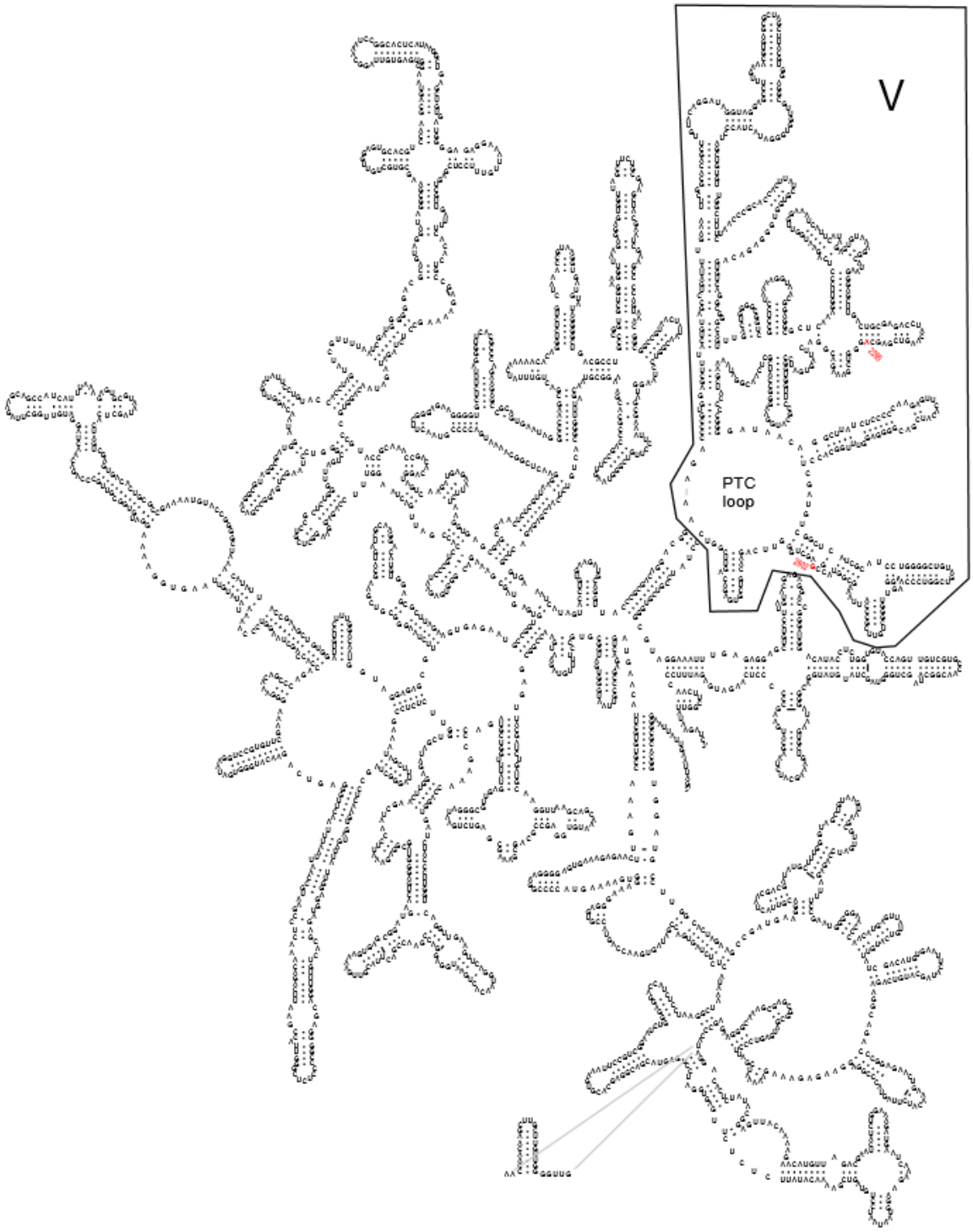


**Figure S1.** Novel mutations in the 23S rRNA region linked to linezolid resistance in *S. epidermidis*. Novel variants associated with linezolid resistance include A131G, G262U, G1256U, G1273A, and A2395AG. Interestingly, only insertion A2395AG maps into Domain V. The image was obtained from RNAcentral, domain V, target peptidyltransferase centre (PTC) loop, and mutations within the domain V were highlighted according to the RNAcentral Consortium.

**Table S1.** Overview of point mutations of the 232S rRNA and ribosomal protein L3 and L4 that were investigated.

| Investigated point mutations associated with linezolid resistance | |
|---|---|
| Mutation of 23S rRNA (*E. coli* numbering) | A2062C, A2453C, A2453G, A2503G, A2503U, A2572U, C2452U, C2499U, C2534U, C2571G, C2612A, G2032A, G2032C, G2032U, G2061U, G2447U, G2505A, G2528U, G2576U, G2603U, G2608C, G2608U, U2132A, U2211G, U2357A, U2500A, U2500C, U2504A, U2504C, U2504G |
| Mutation of 23S rRNA (*S.aureus* numbering) | G2603U |
| Mutation of the ribosomal protein L3 | V96D, Q136L, G137D, G137S, G139R, H146P, H146R, F147I, F147L, F147Y, P151L, G152D, V154L, G155R, M156T, A157R, S158F, D159E, D159Y, M169L |
| Mutation of the ribosomal protein L4 | N20S, A22T, K68Q, G71D, L108S, A133T, V155I |

**Table S2.** Number of valid data for general, laboratory and clinical parameters collected. Percentages are given in brackets.

| Parameters | Numbers and percentage of valid values |
|---|---|
| General parameters | |
| Date of sampling | 130 (100.00) |
| Gender | 130 (100.00) |
| Age | 130 (100.00) |
| Weight | 112 (86.15) |
| Laboratory parameters | |
| ASAT | 128 (98.46) |
| ALAT | 128 (98.46) |
| γGT | 128 (98.46) |
| CRP | 129 (99.23) |
| PCT | 60 (46.15)* |
| Clinical parameters | |
| Ward | 130 (100.00) |
| Duration of hospitalization | 130 (100.00) |
| Source of Isolate | 129 (99.23) |
| Linezolid use | 108 (83.08) |
| Antimicrobial treatment | 127 (97.69) |
| Death | 130 (100.00) |

ASAT: aspartate transaminase; ALAT: alanine transaminase; γGT: gamma-glutamyltransferase; CRP: C-reactive protein; PCT: procalcitonin
*excluded from further statistical analysis

**Table S3.** Results of variant calling identified potential single nucleotide polymorphisms (SNPs) within 23S rRNA mutations causing resistance to linezolid in *Staphylococcus epidermidis*.

| SNPs | Number of respective SNPs within 12 Isolates with unknown Resistance Mechanisms | Total Number of respective SNPs within 129 Isolates |
|---|---|---|
| AE015929.1594723.1597555:A131G | 1 | 9 |
| AE015929.1594723.1597555:G2602U | 0 | 12 |
| AE015929.1719192.1722024:C1596U | 3 | 27 |
| AE015929.1719192.1722024:G1914A | 0 | 3 |
| AE015929.1719192.1722024:G2602U | 1 | 86 |
| AE015929.1808510.1811337:G262U | 0 | 64 |
| AE015929.1808510.1811337:G1256U | 1 | 10 |
| AE015929.1808510.1811337:G1273A | 4 | 81 |
| AE015929.1808510.1811337:G2597U | 0 | 15 |
| AE015929.2332749.2335580:A2395AG | 12 | 56 |
| AE015929.2332749.2335580:G2601U | 1 | 90 |
| AE015929.2377479.2380311:G267U | 0 | 7 |
| AE015929.2377479.2380311:G2602U | 0 | 75 |
| Total of 13 SNPs | 23 | 535 |