The treatment of Staphylococcus aureus infections continues to represent a global medical and public health challenge. The oxazolidinone antibiotic linezolid, which inhibits bacterial protein synthesis by acting directly at the 23S rRNA, is second-line therapy for the treatment of various Gram-positive infections. TD-1607 is a novel halidomycin antibiotic that is composed of a glycopeptide component linked to a cephalosporin moiety (glycopeptide-cephalosporin hybrid). In this study, we evaluated the activity of TD-1607 against a diverse collection of well characterized resistant subsets of S. aureus.

**RESULTS**

- Among S. aureus strains with vancomycin MIC values at 2 µg/mL (43 strains), TD-1607 MIC values were 0.03–0.06 µg/mL. TD-1607 was more active than teicoplanin (MIC50, 0.5 µg/mL; and MIC90, 2 µg/mL; Table 2).
- TD-1607 was also very active against daptomycin-non-susceptible and linezolid-non-susceptible S. aureus strains when tested against clinical isolates of S. aureus. The majority of vancomycin tolerant S. aureus strains (14/15 or 93.3%) showed TG MIC values of ≤0.06 µg/mL, and the highest MIC value was only 0.09 µg/mL (one strain).
- The treatment of MSSA infections can be challenging, and the highest TD-1607 MIC value observed was 0.12 µg/mL and was observed for Enterococcus faecalis and Enterococcus faecium.

**INTRODUCTION**

**MATERIALS AND METHODS**

- The majority of vancomycin-tolerant S. aureus (VISA) strains had MIC values of ≤0.06 µg/mL, and the highest MIC value was only 0.09 µg/mL (one strain).
- TD-1607 was very active when tested against a collection of S. aureus from USA clinical isolates, the highest TD-1607 MIC value observed was only 0.03 µg/mL (MIC50, 0.03 µg/mL).

**REFERENCES**


**CONCLUSIONS**

TD-1607 exhibited potent in vitro activity against a large collection of well characterized resistant subsets of Staphylococcus aureus. TD-1607 MIC50 values ranged from 0.03 to 0.06 µg/mL, and the highest MIC value was only 0.09 µg/mL. TD-1607 was generally 32- to 64-fold more active than vancomycin and 16-fold more active when tested against resistant subsets of S. aureus.