INTRODUCTION

GSK2140944 is a novel bacterial type II topoisomerase inhibitor with a mode of action distinct from fluoroquinolones. GSK2140944 inhibits the enzyme bacterial type II topoisomerase in a cell-free system and in living bacteria, and recent studies have demonstrated activity against the key causative pathogens of meningitis and bacterial endocarditis associated with existing classes of antimicrobials and MSSA. We evaluated the activity of GSK2140944 (‘944), a novel bacterial type II topoisomerase inhibitor, against contemporary Gram-positive and Gram-negative bacteria.

MATERIALS AND METHODS

Organism collection. A total of 1,098 clinically significant Gram-negative and Gram-positive bacterial isolates were collected in 2011-2012 from patients at North Liberty, IA, USA; 2 GlaxoSmithKline, Collegeville, PA, USA.

Methods. A total of 5,000 significantly sensitive (≤0.06 µg/mL) and resistant (≥32 µg/mL) GSK2140944 (MIC50 and MIC90, 2-8 µg/mL, respectively). For other enterics (10 isolates), MIC values were not affected by β-lactamase production.

RESULTS

The MIC range was 0.06-1 µg/mL and the MIC90 value was 1 µg/mL for β-lactamase-positive H. influenzae (299). β-lactamase-negative H. influenzae (204) and -negative H. parainfluenzae (19) were 0.12/0.5 µg/mL, respectively. MIC values were not affected by β-lactamase production. For other enterics (10 isolates), MIC values were not affected by β-lactamase production.

Discussion. Activity of GSK2140944 tested against contemporary Gram-positive and Gram-negative bacteria.

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REFERENCES


