

Activity of BAL30072 and BAL30072 / meropenem (1:1) combination against recent clinical isolates of *Klebsiella pneumoniae* from urinary tract infections

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Background: BAL30072 is an investigational intravenous monosulfactam antibiotic with bactericidal activity against a broad range of multidrug-resistant Gram-negative bacteria. It is currently in phase 1 clinical development. The objective of the present study was to investigate the activity of BAL30072 and the combination BAL30072 / meropenem (1:1) against 617 recent clinical isolates of *Klebsiella pneumoniae* from urinary tract infections.

Methods: A total of 617 isolates from 2012-2013 were tested and originated from Africa (n = 45), Asia (102), Europe (265), Latin America (133), Middle East (37), North America (20) and the South Pacific (15). Minimal inhibitory concentrations (MICs) were determined following CLSI microdilution guidelines.

Results: Results are shown in the Table

Antimicrobial	%S	%I	%R	MIC ₅₀	MIC ₈₀	MIC ₉₀
BAL30072	-	-	-	1	32	> 32
Meropenem	80.2	3.6	16.2	0.06	1	32
Meropenem /BAL30072 (1:1)	-	-	-	0.12	0.5	4
Amoxicillin / Clavulanic Acid	15.2	26.1	58.7	32	> 32	> 32
Aztreonam	21.4	1.8	76.8	> 16	> 16	> 16
Colistin	-	-	-	0.5	1	2
Gentamicin	45.7	1.9	52.4	16	> 32	> 32
Levofloxacin	23.8	5.2	71.0	> 4	> 4	> 4
Piperacillin / Tazobactam	35.8	14.8	49.4	64	> 64	> 64

-, breakpoint not available; %S, percent susceptible; %I, percent intermediate; %R, percent resistant.

Conclusions: More than 50% of isolates were resistant to amoxicillin/clavulanic acid, aztreonam, gentamicin and levofloxacin, respectively, while resistance to meropenem was 16.2%. BAL30072 and meropenem exhibited MIC₉₀ of >32 and 32 mg/L, respectively. However, BAL30072 / meropenem combination was more active with MIC₉₀ of 4 mg/L. These data further suggest the potential utility of BAL30072 / meropenem combinations against drug-resistant UTI isolates of *K. pneumoniae*.