resistance mechanisms, including difficult to treat CRE isolates and MBL producers. Further development of QPX with various orally- and IV-available BL agents appears warranted.

Table

Antimicrobial agent	MIC50/MIC90 values (mg/L) for antimicrobial agents: Agent alone	with QPX7728 at fixed 4 mg/L	with QPX7728 at fixed 8 mg/L
Aztreonam	64 / >64	≤0.03 / 0.25	≤0.03 / 0.12
Cefepime	64 / >64	≤0.03 / 0.5	≤0.03 / 0.25
Ceftolozane with tazobactam at fixed 4 mg/L	8 / >64	0.12 / 32	0.06 / 4
Piperacillin with tazobactam at fixed 4 mg/L	128 / >128	1 / 4	0.25 / 2
Meropenem	0.5 / >64	≤0.03 / 0.12	≤0.03 / 0.06
Ceftibuten	16 / >64	≤0.03 / 2	N/A
Cefdinir	>64 / >64	0.12 / 4	N/A
Tebipenem	0.5 / >64	≤0.03 / 0.5	N/A

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1054. Activity of a Anti-staphylococcal Lysin, LSVT-1701: *In vitro* Susceptibility of *Staphylococcus aureus* and Coagulase-Negative Staphylococci (CoNS) Global Clinical Isolates (2002 to 2019)

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Background. LSVT-1701, formerly SAL200, is a novel, recombinantly-produced, bacteriophage-encoded lysin that specifically targets staphylococci via cell wall enzymatic hydrolysis. We reported the *in vitro* activity of LSVT-1701 against clinical isolates of *S. aureus* and coagulase-negative staphylococci (CoNS) collected worldwide.

Methods. LSVT-1701 and comparators were tested against 415 *S. aureus* (n=315) and CoNS (n=100) clinical isolates expressing various resistance phenotypes. The isolates were collected in 2002-2019 from medical centers located in the United States (50 medical centers; 174 isolates; 41.9% overall), Europe (37 medical centers; 140 isolates; 33.7% overall), Asia-Pacific region (15 medical centers; 55 isolates; 13.3% overall), and Latin America (12 medical centers; 46 isolates; 11.1% overall). These isolates originated mostly from the year 2019 (n=323).The isolates were susceptibility tested by the CLSI broth microdilution method. MIC interpretations were based on CLSI and EUCAST criteria where available.

Results. LSVT-1701 was highly active against *S. aureus* and CoNS isolates with MIC_{90} values of 2 mg/L for all *S. aureus*, methicillin-susceptible *S. aureus* (MSSA), methicillin-resistant *S. aureus* (MRSA), and CoNS (Table). The highest LSVT-1701 MIC values were 4 and 8 mg/L among *S. aureus* and CoNS, respectively. LSVT-1701 retained potent activity against *S. aureus* isolates showing resistance or decreased susceptibility to oxacillin, vancomycin, teicoplanin, telavancin, linezolid, daptomycin, ceftaroline, or lefamulin; MIC50 values ranged from 0.5 to 1 mg/L and MIC_{90} values ranged from 1 to 4 mg/L among *S. aureus* resistant subsets.

Table Summary of LSVT-1701 activity against *S. aureus*, CoNS and resistant subsets

Organism/resistant subset (no. of isolates)	Cumulative % of isolates inhibited at LSVT-1701 MIC (mg/L) of: 0.12	0.25	0.5	1	2	4	8	>8	MIC50	MIC90
S. aureus										
MSSA (102)		0.0	25.5	77.5	98.0	100.0			1	2
MRSA (102)		0.0	24.5	83.3	97.1	100.0			1	2
Vancomycin-resistant (11)		0.0	45.5	63.6	90.9	100.0			1	2
Vancomycin MIC of 2 mg/L (14)		0.0	28.6	78.6	100.0				1	2
Teicoplanin MIC ≥4 mg/L (11)	0.0	18.2	27.3	72.7	90.9	100.0			1	2
Telavancin MIC ≥0.12 mg/L (12)	0.0	16.7	66.7	91.7	100.0				0.5	1
Linezolid-resistant (22)	4.5	31.8	86.4	100.0					0.5	1
Daptomycin-non-susceptible (18)	0.0	11.1	38.9	77.8	88.9	100.0			1	4
Ceftaroline MIC of 4 mg/L (12)	0.0	8.3	58.3	91.7	100.0				0.5	1
Lefamulin-non-susceptible (11)	9.1	27.3	63.6	100.0					0.5	1
CoNS (100)	2.0	7.0	41.0	75.0	92.0	97.0	99.0	100.0	1	2

Summary of LSVT-1701 activity against S. aureus, CoNS and resistant subsets

Conclusion. LSVT-1701 demonstrated potent *in vitro* activity against contemporary clinical isolates of *S. aureus* and CoNS collected from medical centers worldwide and against resistant *S. aureus* isolates with uncommon resistance phenotypes. The results of this study support further clinical development of LSVT-1701 to treat staphylococcal infections.

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1055. ARGONAUT-IV: Susceptibility of Carbapenem-resistant *Klebsiellae* to Ceftibuten/VNRX-5236

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