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Activity of KBP-7072, a Novel Aminomethylcycline Antibacterial, and Tetracycline Class Comparators Against 1,057 Bacterial Pathogens Collected Worldwide During 2019

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Introduction

- KBP-7072 is a novel third generation aminomethylcycline antibacterial in development for the treatment of acute bacterial skin and skin structure infection (ABSSSI), community-acquired bacterial pneumonia (CABP), and complicated intra-abdominal infection (cIAI).
- KBP-7072 has completed phase I development.
- KBP-7072 has demonstrated potent *in vitro* activity against many of the World Health Organization-priority pathogens, including methicillin-resistant *Staphylococcus aureus*, penicillin-non-susceptible *Streptococcus pneumoniae*, ampicillin-resistant *Haemophilus influenzae*, vancomycin-resistant *Enterococcus faecalis*, carbapenem-resistant *Enterobacteriaceae*, and carbapenem-resistant *Acinetobacter baumannii*.
- The *in vitro* activity of KBP-7072 and tetracycline comparator agents against 1,057 Gram-positive and Gram-negative clinical isolates collected from patients in medical centers worldwide during 2019 (SENTRY Antimicrobial Surveillance Program) is presented.

Materials and Methods

- 1,057 bacterial clinical isolates were collected from patients in 117 medical centres located in 35 countries during 2019 as part of the SENTRY Surveillance Program.
- Isolates were collected from patients with skin and skin structure infection (55.7%), pneumonia in hospitalized patients (26.6%), and community-acquired respiratory tract infection (17.7%); only 1 isolate per patient per infection episode was included.
- Bacterial identifications were confirmed by JMI Laboratories using matrix-assisted laser desorption ionization-time of flight mass spectrometry (Bruker Daltonics, Bremen, Germany).
- Broth microdilution susceptibility testing was performed according to Clinical and Laboratory Standards Institute (CLSI) M07 (2018) guidelines.
- Results were interpreted using CLSI M100 (2021), FDA, and EUCAST breakpoint interpretive criteria. These breakpoint criteria were applied are noted in the table legends. Quality control (QC) strains recommended by CLSI were incorporated into each testing event.

Results

- Based on MIC_{90} values, KBP-7072 (MIC_{90}, 0.12 mg/L) was the most active agent tested against *Staphylococcus aureus* (97.1% inhibited at ≤0.12 mg/L), including MRSA (94.2% inhibited at ≤0.12 mg/L) isolates (Tables 1–2 and Figure 1).
  - KBP-7072 was active against MRSA isolates exhibiting resistance to other tetracycline class agents, including doxycycline, minocycline, omadacycline, tetracycline, and tigecycline.
  - The corresponding CLSI/EUCAST resistance rates were 0.0%/9.6% doxycycline, 3.8%/9.6% minocycline, 5.8%/- omadacycline, 19.2%/21.2% tetracycline, and -/1.9% tigecycline, respectively (data not shown).
- All *S. lugdunensis* isolates were inhibited by ≤0.03 mg/L of KBP-7072 (Table 1).
- KBP-7072 ($MIC_{50/90}$, 0.03/0.06 mg/L) was active against *Enterococcus faecalis* isolates (Table 1) were resistant (CLSI) to doxycycline, minocycline and tetracycline was 5.9%, 31.4%, and 68.6%, respectively (data not shown).
- All *Enterococcus faecium* isolates, including vancomycin-nonsusceptible strains, were inhibited by ≤0.12 mg/L of KBP-7072 ($MIC_{50/90}$, 0.03/0.03 mg/L) (Table 1).
- All *Streptococcus pneumoniae* isolates, including 100.0% of penicillin-resistant (R), tetracycline-R, and erythromycin-R strains, were inhibited by ≤0.06 mg/L of KBP-7072 ($MIC_{50/90}$, ≤0.015/0.03 mg/L) (Tables 1–2 and Figure 2).
- All *Streptococcus pyogenes* and *S. agalactiae* isolates, including macrolide-resistant strains, and *S. anginosus* group isolates were inhibited by ≤0.06 mg/L of KBP-7072 (Table 1).
- KBP-7072 ($MIC_{50/90}$, 0.25/2 mg/L; 90.2% inhibited at ≤2 mg/L) and tigecycline (93.4% susceptible [FDA]) were the most active tetracycline class agents tested against 410 *Enterobacterales* isolates (Tables 1–2 and Figure 3).
- 100.0% of ESBL-phenotype *Escherichia coli* isolates and 92.6% of ESBL-phenotype *Klebsiella pneumoniae* isolates were inhibited by ≤2 mg/L of KBP-7072 (Table 1)
- KBP-7072 inhibited 100.0% of *Acinetobacter baumannii* isolates (Figure 4), including carbapenem-resistant strains, and 95.5% of *Stenotrophomonas maltophilia* isolates at ≤1 mg/L (Table 1).
- All *Haemophilus influenzae* (including ampicillin-resistant strains), *H. parainfluenzae*, and *Moraxella catarrhalis* isolates were inhibited by ≤0.25, ≤0.5, and 0.06 mg/L, respectively (Table 1).

Figure 1. *In Vitro* Activity of KBP-7072 and Tetracycline Comparators against 52 MRSA Isolates

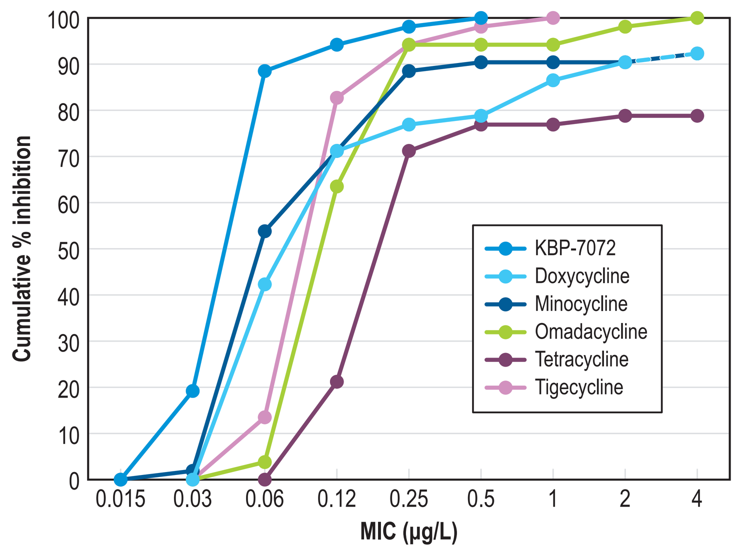


Figure 2. *In Vitro* Activity of KBP-7072 and Tetracycline Comparators against 127 *Streptococcus pneumoniae* Isolates

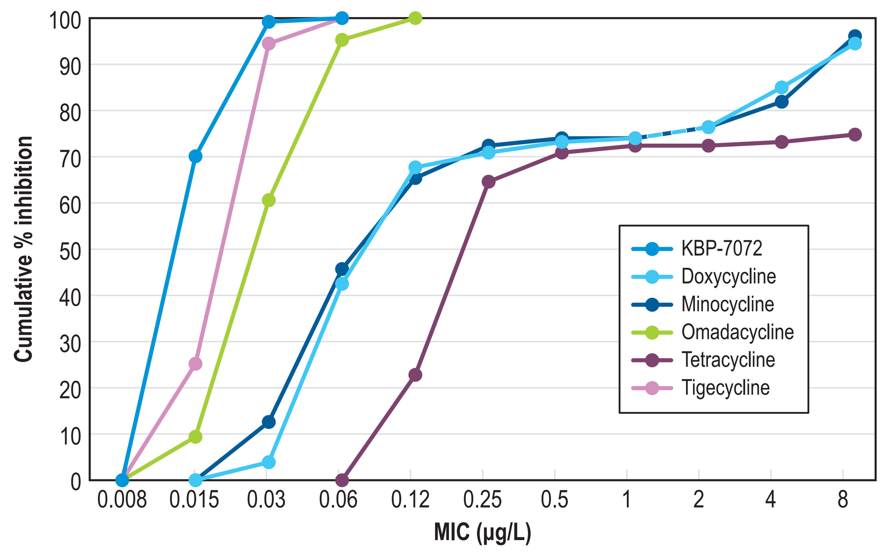
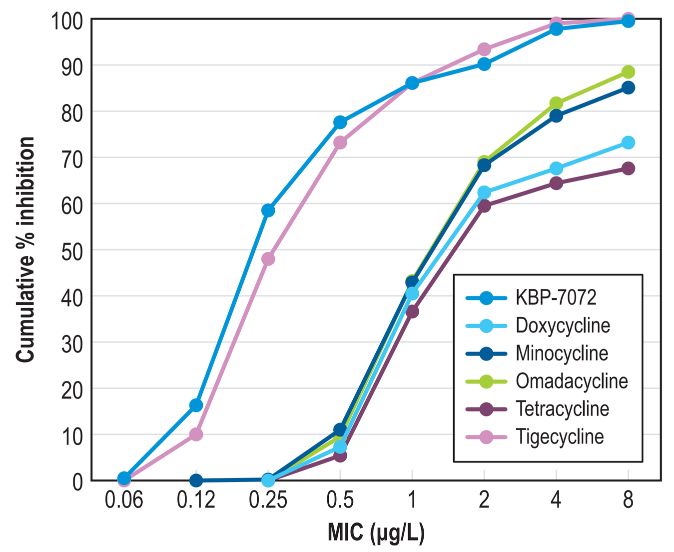


Figure 3. *In Vitro* Activity of KBP-7072 and Tetracycline Comparators against 410 *Enterobacterales* Isolates



Organisms include: *Citrobacter freundii* species complex (22), *C. koseri* (21), *Enterobacter cloacae* species complex (50), *Escherichia coli* (77), *Klebsiella aerogenes* (21), *K. oxytoca* (53), *K. pneumoniae* (80), *Morganella morganii* (20), *Proteus mirabilis* (22), *Providencia* spp. (22), and *Serratia marcescens* (22).

Figure 4. *In Vitro* Activity of KBP-7072 and Tetracycline Comparators against 22 *Acinetobacter baumannii* Isolates

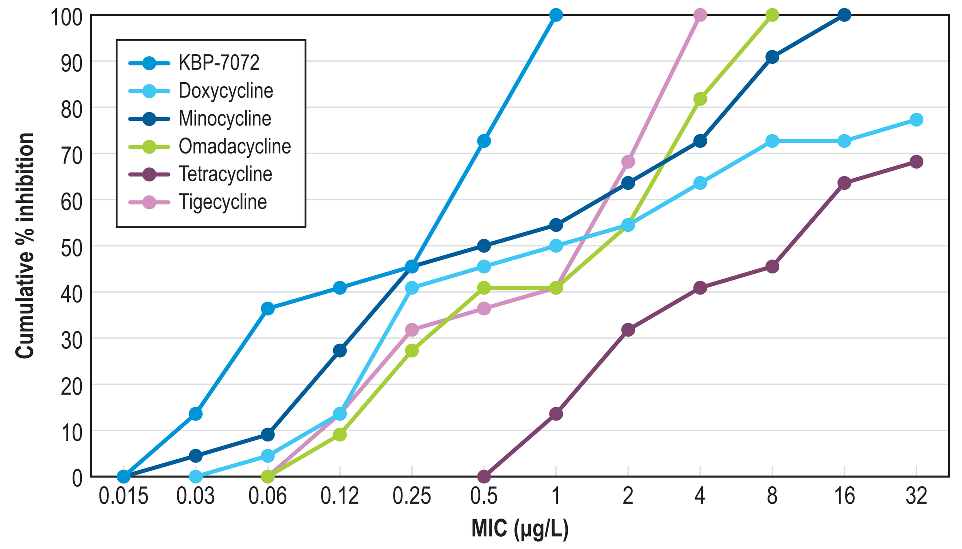


Table 1. *In vitro* activity of KBP-7072 against 1,057 geographically diverse bacterial clinical isolates from 2019

Organism/organism group (no. of isolates)	No. and cumulative % of isolates inhibited at MIC (mg/L) of:													MIC_{50}	MIC_{90}
	≤0.015	0.03	0.06	0.12	0.25	0.5	1	2	4	8	16	32	> [a]		
Staphylococcus aureus (104)	0 0.0	17 16.3	75 88.5	9 97.1	2 99.0	1 100.0								0.06	0.12
Methicillin-resistant (52)	0 0.0	10 19.2	36 88.5	3 94.2	2 98.1	1 100.0								0.06	0.12
Staphylococcus lugdunensis (20)	9 45.0	11 100.0												0.03	0.03
Other Coagulase-negative staphylococci (22)	0 0.0	7 31.8	6 59.1	3 72.7	4 90.9	2 100.0								0.06	0.25
Enterococcus faecalis (51)	0 0.0	38 74.5	13 100.0											0.03	0.06
Enterococcus faecium (50)	12 24.0	35 94.0	2 98.0	1 100.0										0.03	0.03
Vancomycin-nonsusceptible (MIC, ≥8 mg/L) (24)	8 33.3	15 95.8	0 95.8	1 100.0										0.03	0.03
Streptococcus pneumoniae (127)	89 70.1	37 99.2	1 100.0											≤0.015	0.03
Penicillin-resistant oral (MIC, ≥2 mg/L) (24)	14 58.3	10 100.0												≤0.015	0.03
Tetracycline-resistant (MIC, ≥4 mg/L) (35)	23 65.7	12 100.0												≤0.015	0.03
Erythromycin-resistant (MIC ,≥1 mg/L) (55)	37 67.3	18 100.0												≤0.015	0.03
Streptococcus agalactiae (52)	0 0.0	46 88.5	6 100.0											0.03	0.06
Macrolide-resistant (erythromycin MIC, ≥1 mg/L) (22)	0 0.0	19 86.4	3 100.0											0.03	0.06
Streptococcus pyogenes (51)	4 7.8	44 94.1	3 100.0											0.03	0.03
Macrolide-resistant (erythromycin MIC, ≥1 mg/L) (3)	0 0.0	3 100.0												0.03	
Other β-hemolytic streptococci (2)		0 0.0	1 50.0	1 100.0										0.06	
Streptococcus anginosus group (17)	12 70.6	5 100.0												≤0.015	0.03
Enterobacterales (410)		0 0.0	2 0.5	65 16.3	173 58.5	78 77.6	35 86.1	17 90.2	31 97.8	7 99.5	2 100.0			0.25	2
Citrobacter freundii species complex (22)			0 0.0	2 9.1	12 63.6	6 90.9	2 100.0							0.25	0.5
Citrobacter koseri (21)			0 0.0	12 57.1	7 90.5	2 100.0								0.12	0.25
Enterobacter cloacae species complex (50)				0 0.0	33 66.0	14 94.0	1 96.0	0 96.0	2 100.0					0.25	0.5
Ceftazidime-nonsusceptible (MIC, ≥8 mg/L) (18)				0 0.0	14 77.8	3 94.4	0 94.4	0 94.4	1 100.0					0.25	0.5
Escherichia coli (77)		0 0.0	2 2.6	40 54.5	20 80.5	12 96.1	2 98.7	1 100.0						0.12	0.5
ESBL-phenotype (26)			0 0.0	6 23.1	7 50.0	10 88.5	2 96.2	1 100.0						0.25	1
Klebsiella aerogenes (21)				0 0.0	18 85.7	1 90.5	1 95.2	0 95.2	1 100.0					0.25	0.5
Klebsiella oxytoca (53)			0 0.0	7 13.2	39 86.8	3 92.5	1 94.3	3 100.0						0.25	0.5
Klebsiella pneumoniae (80)			0 0.0	4 5.0	44 60.0	14 77.5	10 90.0	5 96.2	3 100.0					0.25	1
ESBL-phenotype (27)				0 0.0	9 33.3	8 63.0	6 85.2	2 92.6	2 100.0					0.5	2
Morganella morganii (20)					0 0.0	6 30.0	9 75.0	4 95.0	0 95.0	1 100.0				1	2
Proteus mirabilis (22)						0 0.0	1 4.5	1 9.1	14 72.7	5 95.5	1 100.0			4	8
Providencia spp. (22)					0 0.0	2 9.1	5 31.8	3 45.5	11 95.5	1 100.0				4	4
Serratia marcescens (22)					0 0.0	18 81.8	3 95.5	0 95.5	0 95.5	0 95.5	1 100.0			0.5	1
Acinetobacter baumannii-calcoaceticus species complex (22)	0 0.0	3 13.6	5 36.4	1 40.9	1 45.5	6 72.7	6 100.0							0.5	1
Carbapenem (meropenem)-resistant (MIC, ≥8) (13)				0 0.0	1 7.7	6 53.8	6 100.0							0.5	1
Pseudomonas aeruginosa (22)					0 0.0	1 4.5	0 4.5	1 9.1	5 31.8	11 81.8	3 95.5	0 95.5	1 100.0	8	16
Stenotrophomonas maltophilia (22)				0 0.0	4 18.2	14 81.8	3 95.5	0 95.5	0 95.5	1 100.0				0.5	1
Haemophilus influenzae (52)		0 0.0	2 3.8	41 82.7	9 100.0									0.12	0.25
Ampicillin-resistant (MIC, ≥4) (9)		0 0.0	1 11.1	6 77.8	2 100.0									0.12	—
Haemophilus parainfluenzae (12)		0 0.0	1 8.3	0 8.3	9 83.3	2 100.0								0.25	0.5
Moraxella catarrhalis (21)	1 4.8	2 14.3	18 100.0											0.06	0.06

[a] Greater than the highest concentration tested.

Table 2. Activity of KBP-7072 and tetracycline-class comparators against recent clinical isolates

Antimicrobial agent	mg/L			CLSI[a]		EUCAST	
(No of isolates)	MIC_{50}	MIC_{90}	MIC range	%S	%R	%S	%R
***Staphylococcus aureus* (104)**							
KBP-7072	0.06	0.12	0.03 – 0.5				
Doxycycline	0.12	1	0.03 – 8	96.2	0.0	93.3	4.8
Minocycline	0.06	0.25	0.03 – 16	96.2	1.9	95.2	4.8
Omadacycline	0.12	0.25	0.06 – 4	97.1 [b,c] 97.1 [d,e]	2.9 2.9		
Tetracycline	0.25	16	0.12 – 64	86.5	11.5	85.6	13.5
Tigecycline	0.12	0.25	0.03 – 1	99.0 [c]		99.0	1.0
***Streptococcus pneumoniae* (127)**							
KBP-7072	≤0.015	0.03	≤0.015 – 0.06				
Doxycycline	0.12	8	0.03 – 16	70.9	26.8	74.0	23.6
Minocycline	0.12	8	0.03 – 32			74.0	26.0
Omadacycline	0.03	0.06	≤0.015 – 0.12	100.0 [b,c]	0.0		
Tetracycline	0.25	64	0.12 – 64	72.4	27.6	72.4	27.6
Tigecycline	0.03	0.03	0.015 – 0.06	100.0 [c]			
***Enterobacterales* (410) [f]**							
KBP-7072	0.25	2	0.06 to 16				
Doxycycline	2	32	0.5 to >32	67.6	26.8		
Minocycline	2	16	0.25 to >32	79.0	14.9		
Omadacycline	2	16	0.5 to >32				
Tetracycline	2	>64	0.5 to >64	64.4	32.4		
Tigecycline	0.5	2	0.12 to 8	93.4 [c]	1.0		
***Acinetobacter baumannii-calcoaceticus* species complex (22)**							
KBP-7072	0.5	1	0.03 to 1				
Doxycycline	1	>32	0.06 to >32	63.6	27.3		
Minocycline	0.5	8	0.03 to 16	72.7	9.1		
Omadacycline	2	8	0.12 to 8				
Tetracycline	16	>64	1 to >64	40.9	54.5		
Tigecycline	2	4	0.12 to 4				

[a] Criteria as published by CLSI.
[b] Using ABSSSI breakpoints.
[c] FDA breakpoints.
[d] Using CABP breakpoints.
[e] FDA breakpoints for MSSA only (applied for all *Staphylococcus aureus*).
[f] Organisms include: *Citrobacter freundii* species complex (22), *C. koseri* (21), *Enterobacter cloacae* species complex (50), *Escherichia coli* (77), *Klebsiella aerogenes* (21), *K. oxytoca* (53), *K. pneumoniae* (80), *Morganella morganii* (20), *Proteus mirabilis* (22), *Providencia* spp. (22), and *Serratia marcescens* (22).

Conclusions

- KBP-7072 demonstrated potent *in vitro* activity generally greater than the other tetracycline class agents tested against 1,057 geographically diverse, recent clinical isolates and maintained this activity against isolates displaying common tetracycline resistance mechanisms.
- KBP-7072 was among the most potent tetracycline class agents tested against World Health Organization-priority pathogens, including methicillin-resistant *S. aureus*, penicillin-nonsusceptible *S. pneumoniae*, ampicillin-resistant *H. influenzae*, vancomycin-resistant *E. faecalis*, carbapenem-resistant *Enterobacteriaceae*, and carbapenem-resistant *A. baumannii*.
- Overall, KBP-7072 demonstrated potent *in vitro* activity against recent clinical isolates commonly associated with ABSSSI and CABP infections.
- This study supports the continued clinical development of KBP-7072 in serious infections, including those caused by drug-resistant organisms and organism groups.

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References

CLSI. Methods for dilution antimicrobial susceptibility tests for bacteria that grow aerobically. 11th ed. CLSI standard M07. Wayne, PA: Clinical and Laboratory Standards Institute; 2018.

CLSI. Performance standards for antimicrobial susceptibility testing. 31st ed. CLSI supplement M100. Clinical and Laboratory Standards Institute; 2021.

FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria. Available at: https://www.fda.gov/Drugs/DevelopmentApprovalProcess/Development Resources/ucm575163.htm. Accessed May 4, 2021.

EUCAST (2021). Breakpoint tables for interpretation of MIC's and zone diameters. Version 11.0, January 2021. Available at http://eucast.org/fileadmin /src/media/PDRs/EUCAST_files/Breakpoint_tables.v_11.0_Breakpoint_Tables .pdf. Accessed May 2021.

Table 2 Activity of KBP-7072 and tetracycline-class comparators against Gram-positive clinical isolates

Antimicrobial agent (No of isolates)	mg/L MIC$_{50}$	mg/L MIC$_{90}$	mg/L MIC range	CLSI[a] %S	CLSI[a] %R	EUCAST %S	EUCAST %R
***Staphylococcus aureus* (104)**							
KBP-7072	0.06	0.12	0.03 – 0.5				
Doxycycline	0.12	1	0.03 – 8	96.2	0.0	93.3	4.8
Minocycline	0.06	0.25	0.03 – 16	96.2	1.9	95.2	4.8
Omadacycline	0.12	0.25	0.06 – 4	97.1 [b,c] 97.1 [d,e]	2.9 2.9		
Tetracycline	0.25	16	0.12 – 64	86.5	11.5	85.6	13.5
Tigecycline	0.12	0.25	0.03 – 1	99.0 [c]		99.0	1.0
***S. aureus* (52) methicillin-resistant**							
KBP-7072	0.06	0.12	0.03 – 0.5				
Doxycycline	0.12	2	0.06 – 8	92.3	0.0	86.5	9.6
Minocycline	0.06	0.5	0.03 – 16	92.3	3.8	90.4	9.6
Omadacycline	0.12	0.25	0.06 – 4	94.2 [b,c] 94.2 [d,e]	5.8 5.8		
Tetracycline	0.25	32	0.12 – 64	78.8	19.2	76.9	21.2
Tigecycline	0.12	0.25	0.06 – 1	98.1 [c]		98.1	1.9
***S. lugdunensis* (20)**							
KBP-7072	0.03	0.03	≤0.015 – 0.03				
Doxycycline	0.06	0.06	0.015 – 4	100.0	0.0	95.0	5.0
Minocycline	0.03	0.03	≤0.015 – 0.12	100.0	0.0	100.0	0.0
Omadacycline	0.06	0.06	≤0.015 – 0.06	100.0 [b,c]	0.0		
Tetracycline	0.12	0.12	≤0.03 – 64	95.0	5.0	95.0	5.0
Tigecycline	0.03	0.06	0.015 – 0.12			100.0	0.0
Other Coagulase-negative staphylococci (22) [f]							
KBP-7072	0.06	0.25	0.03 – 0.5				
Doxycycline	0.12	8	0.06 – 16	86.4	9.1	77.3	18.2
Minocycline	0.12	0.5	0.03 – 1	100.0	0.0	95.5	4.5
Omadacycline	0.12	1	0.06 – 1				
Tetracycline	0.25	64	0.12 – >64	81.8	18.2	72.7	22.7
Tigecycline	0.06	0.25	0.03 – 0.5			100.0	0.0
***Enterococcus faecalis* (51)**							
KBP-7072	0.03	0.06	0.03 – 0.06				
Doxycycline	8	8	0.12 – 32	45.1	5.9		
Minocycline	8	16	0.06 – 16	33.3	31.4		
Omadacycline	0.12	0.12	0.06 – 0.25	100.0 [b,c]	0.0		
Tetracycline	32	64	0.25 – >64	31.4	68.6		
Tigecycline	0.12	0.12	0.06 – 0.25	100.0 [g]		100.0	0.0
***Enterococcus faecium* (50)**							
KBP-7072	0.03	0.03	≤0.015 – 0.12				
Doxycycline	0.12	8	0.06 – 8	76.0	0.0		
Minocycline	0.06	16	0.03 – 16	70.0	20.0		
Omadacycline	0.06	0.12	0.03 – 0.5				
Tetracycline	0.5	>64	0.12 – >64	54.0	46.0		
Tigecycline	0.06	0.06	0.03 – 0.25			100.0	0.0
***Enterococcus faecium* (24) vancomycin-nonsusceptible (MIC, ≥8 mg/L)**							
KBP-7072	0.03	0.03	≤0.015 – 0.12				
Doxycycline	0.12	8	0.06 – 8	75.0	0.0		
Minocycline	0.06	16	0.03 – 16	66.7	20.8		
Omadacycline	0.06	0.12	0.03 – 0.5				
Tetracycline	0.25	>64	0.12 – >64	50.0	50.0		
Tigecycline	0.06	0.06	0.03 – 0.25			100.0	0.0
***Streptococcus pneumoniae* (127)**							
KBP-7072	≤0.015	0.03	≤0.015 – 0.06				
Doxycycline	0.12	8	0.03 – 16	70.9	26.8	74.0	23.6
Minocycline	0.12	8	0.03 – 32			74.0	26.0
Omadacycline	0.03	0.06	≤0.015 – 0.12	100.0 [b,c]	0.0		
Tetracycline	0.25	64	0.12 – 64	72.4	27.6	72.4	27.6
Tigecycline	0.03	0.03	0.015 – 0.06	100.0 [c]			
***S. pneumoniae* (55) erythromycin-resistant (MIC, ≥1 mg/L)**							
KBP-7072	≤0.015	0.03	≤0.015 – 0.03				
Doxycycline	4	16	0.03 – 16	38.2	58.2	41.8	52.7
Minocycline	4	8	0.03 – 32			41.8	58.2
Omadacycline	0.03	0.06	≤0.015 – 0.12	100.0 [b,c]	0.0		
Tetracycline	32	64	0.12 – 64	40.0	60.0	40.0	60.0
Tigecycline	0.03	0.03	0.015 – 0.06	100.0 [c]			
***S. pneumoniae* (24) penicillin-resistant (MIC, ≥2 mg/L) oral**							
KBP-7072	≤0.015	0.03	≤0.015 – 0.03				
Doxycycline	2	8	0.03 – 16	41.7	58.3	41.7	50.0
Minocycline	4	8	0.03 – 16			41.7	58.3
Omadacycline	0.06	0.06	≤0.015 – 0.12	100.0 [b,c]	0.0		
Tetracycline	16	64	0.12 – 64	41.7	58.3	41.7	58.3
Tigecycline	0.03	0.03	0.015 – 0.06	100.0 [c]			
***S. pneumoniae* (35) tetracycline-resistant (MIC, ≥2 mg/L)**							
KBP-7072	≤0.015	0.03	≤0.015 – 0.03				
Doxycycline	8	16	0.5 – 16	0.0	97.1	5.7	85.7
Minocycline	8	16	0.5 – 32			5.7	94.3
Omadacycline	0.06	0.06	0.03 – 0.12	100.0 [b,c]	0.0		
Tetracycline	32	64	4 – 64	0.0	100.0	0.0	100.0
Tigecycline	0.03	0.03	0.015 – 0.06	100.0 [c]			
***Streptococcus agalactiae* (52)**							
KBP-7072	0.03	0.06	0.03 – 0.06				
Doxycycline	8	16	0.12 – 16			19.2	80.8
Minocycline	16	32	0.06 – 32			19.2	80.8
Omadacycline	0.12	0.25	0.06 – 0.25				
Tetracycline	32	64	0.25 – 64	19.2	80.8	19.2	80.8
Tigecycline	0.06	0.06	0.03 – 0.06	100.0 [c]		100.0	0.0
***S. agalactiae* (22) macrolide-resistant (erythromycin MIC, ≥1 mg/L)**							
KBP-7072	0.03	0.06	0.03 – 0.06				
Doxycycline	16	16	0.12 – 16			4.5	95.5
Minocycline	16	32	0.06 – 32			4.5	95.5
Omadacycline	0.12	0.25	0.06 – 0.25				
Tetracycline	32	64	0.25 – 64	4.5	95.5	4.5	95.5
Tigecycline	0.06	0.06	0.03 – 0.06	100.0 [c]		100.0	0.0
***Streptococcus pyogenes* (51)**							
KBP-7072	0.03	0.03	≤0.015 – 0.06				
Doxycycline	0.12	8	0.06 – 16			80.4	19.6
Minocycline	0.12	8	0.06 – 16			80.4	19.6
Omadacycline	0.06	0.12	0.03 – 0.25	98.0 [b,c]	0.0		
Tetracycline	0.25	32	0.06 – 64	80.4	19.6	80.4	19.6
Tigecycline	0.03	0.06	0.015 – 0.12	100.0 [c]		100.0	0.0
***Streptococcus anginosus* group (17)**							
KBP-7072	≤0.015	0.03	≤0.015 – 0.03				
Doxycycline	0.25	8	0.06 – 16				
Minocycline	0.06	16	≤0.015 – 16				
Omadacycline	0.06	0.12	≤0.015 – 0.12	100.0 [b,c]	0.0		
Tetracycline	0.5	32	0.06 – 64	70.6	23.5		
Tigecycline	0.015	0.03	≤0.008 – 0.06	100.0 [c]			

[a] Criteria as published by CLSI.
[b] Using ABSSSI breakpoints.
[c] FDA breakpoints.
[d] Using CABP breakpoints.
[e] FDA breakpoints for MSSA only (applied for all *Staphylococcus aureus*).
[f] Organisms include: *Staphylococcus capitis* (2), *S. epidermidis* (11), *S. haemolyticus* (3), *S. hominis* (1), *S. pettenkoferi* (1), *S. pseudintermedius/intermedius/delphini* (3), and *S. simulans* (1).
[g] FDA breakpoints applied to all *E. faecalis* but approved for vancomycin-susceptible isolates only.