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Eravacycline *in vitro* activity against clinical isolates obtained in the United States during 2016 from urinary and gastrointestinal sources, including drug resistant pathogens

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Introduction

Eravacycline is a novel, fully-synthetic fluorocycline antibiotic that has completed phase 3 clinical development for patients with complicated intra-abdominal infections (cIAI) and is under regulatory review by the Food and Drug Administration and European Medicines Agency. Eravacycline has potent *in-vitro* activity against a broad range of susceptible and multidrug-resistant (MDR) Gram-positive and Gram-negative aerobic and anaerobic strains (including *Staphylococcus aureus, Enterococcus faecium, Streptococcus pneumoniae, Escherichia coli, Klebsiella pneumoniae, Acinetobacter baumannii* and *Bacteroides* spp.). It retains activity against the most common tetracycline-specific acquired resistance mechanisms (i.e., efflux and ribosomal protection)[1-4].

The purpose of the study was to evaluate the activity of eravacycline and comparators against clinical isolates in the United States from gastrointestinal (GI) and genitourinary (GU) sources collected during 2016 as part of a global surveillance study of eravacycline conducted by International Health Management Associates (IHMA) and sponsored by Tetraphase Pharmaceuticals.

Methods and Materials

- Clinical isolates were collected during 2016; 482 from GI and 715 from GU infections.
- Minimum inhibitory concentration (MIC) values were determined for eravacycline and comparators by CLSI broth microdilution methodology[5], with susceptibility evaluated according to CLSI 2016 M100 guidelines, or FDA, when no CLSI breakpoint was available.[6]
- Quality control testing was performed each day of testing as specified by the CLSI using Escherichia coli ATCC 25922, E. coli ATCC 35218, Klebsiella pneumoniae ATCC 700603, Pseudomonas aeruginosa ATCC 28753 E. faecalis ATCC 29212 and S. aureus ATCC 29213.
- Multidrug-resistance (MDR) was defined as resistance to ≥ 3 drugs from the following: amikacin, cefepime/ ceftazidime/ cefotaxime/ ceftriaxone (any one), a carbapenem (ertapenem or meropenem), gentamicin, levofloxacin, piperacillin-tazobactam, tigecycline, or tetracycline.

Results

- Susceptibility data, $MIC_{50/90}$ values, and MIC ranges for eravacycline and comparators are shown in Tables 1 and 2.
- Eravacycline demonstrated potent activity against *Enterobacteriaceae*, in GI and GU isolates, with MIC_{90} values of < 1mg/L (Table 2).
- *E. coli* and *K. pneumoniae* were the two most common bacterial pathogens isolated from GI and GU sources. Amikacin, colistin and carbapenems (meropenem and ertapenem) demonstrated the highest rate of susceptibility ranging from of 95.5 -100% and 98.4 -100% for *K. pneumoniae* and *E coli*, respectively.
- Eracacycline was up to 8-fold more potent than tigecycline versus *E. coli* and *K. pneumoniae* (Table 2).
- Against *Enterobacter clocae*, only the aminoglycosides, colistin and meropenem maintained high rates of susceptibility of ≥95%.
- Tigecycline demonstrated 91.4-100% susceptibly versus *E. cloacae*. The MIC_{90} of eravacycline against *E. cloacae* was 2-fold lower than tigecycline (Table 2).
- Eravacycline MIC_{90} values were up to 8-fold lower than tigecycline against *E. faecalis* and E. *faecium*, and 2-fold lower against MRSA and *Streptococcus agalactiae* (Table 1) .

Table 1. Susceptibility data, $MIC_{50/90}$ values, and MIC ranges of select Gram-positive bacteria to Eravacycline and Comparators

			Gastrointestinal Isolates								Genitourinary Isolates							
Organism	Drug	Breakpoints (S|IR)	N	%S	%I	%R	MIC_{50}	MIC_{90}	Minimum	Maximum	N	%S	%I	%R	MIC_{50}	MIC_{90}	Minimum	Maximum
Enterococcus faecalis	Eravacycline	No Breakpoints Defined	6	–	–	–	–	–	0.03	0.06	31	–	–	–	0.06	0.06	0.015	0.12
	Ampicillin	<=8 | -- | >=16		–	–	–	–	–	1	> 8		100.0	–	–	1	2	1	2
	Daptomycin	<=4 | – | –		–	–	–	–	–	1	2		100.0	–	–	1	1	0.5	2
	Levofloxacin	<=2 | 4 | >=8		–	–	–	–	–	0.5	> 8		80.7	–	19.4	1	> 8	0.5	> 8
	Linezolid	<=2 | 4 | >=8		–	–	–	–	–	1	2		100.0	–	–	2	2	1	2
	Tigecycline	<=0.25 | – | --		–	–	–	–	–	0.12	0.5		93.6	–	6.5	0.12	0.25	0.06	1
	Vancomycin	<=4 | 8-16 | >=32		–	–	–	–	–	1	> 16		90.3	–	9.7	1	2	0.5	> 16
Enterococcus faecium	Eravacycline	No Breakpoints Defined	5	–	–	–	–	–	0.03	0.06	6	–	–	–	–	–	0.03	0.06
	Ampicillin	<=8 | – | >=16		–	–	–	–	–	0.5	> 8		–	–	–	–	–	> 8	> 8
	Daptomycin	<=4 | – | –		–	–	–	–	–	1	4		–	–	–	–	–	1	4
	Levofloxacin	<=2 | 4 | >=8		–	–	–	–	–	1	> 8		–	–	–	–	–	> 8	> 8
	Linezolid	<=2 | 4 | >=8		–	–	–	–	–	1	> 4		–	–	–	–	–	1	4
	Tigecycline	<=0.25 | – | --		–	–	–	–	–	0.25	1		–	–	–	–	–	0.06	0.25
	Vancomycin	<=4 | 8-16 | >=32		–	–	–	–	–	<= 0.25	> 16		–	–	–	–	–	1	> 16
MRSA	Eravacycline	No Breakpoints Defined	15	–	–	–	0.06	0.12	0.03	0.25	10	–	–	–	0.06	0.06	0.03	0.06
	Clindamycin	<=0.5 | 1-2 | >=4		73.3	–	26.7	0.12	> 2	0.06	> 2		80.0	–	20.0	0.06	> 2	0.06	> 2
	Daptomycin	<=1 | – | –		100.0	–	–	0.5	0.5	0.25	0.5		100.0	–	–	0.25	0.25	0.12	0.25
	Levofloxacin	<=1 | 2 | >=4		26.7	26.7	46.7	2	> 4	0.12	> 4		20.0	10.0	70.0	4	> 4	0.06	> 4
	Linezolid	<=4 | – | >=8		100.0	–	–	1	2	1	2		100.0	–	–	1	1	<= 0.5	2
	Oxacillin	<=2 | – | >=4		–	–	100.0	> 2	> 2	> 2	> 2		–	–	100.0	> 2	> 2	> 2	> 2
	Tigecycline	<=0.5 | – | –		100.0	–	–	0.12	0.25	0.12	0.25		100.0	–	–	0.12	0.25	0.12	0.5
	Vancomycin	<=2 | 4-8 | >=16		100.0	–	–	0.5	1	0.5	1		100.0	–	–	0.5	1	0.5	1
MSSA	Eravacycline	No Breakpoints Defined	11	–	–	–	0.06	0.06	0.03	0.12	14	–	–	–	0.06	0.12	0.03	0.12
	Clindamycin	<=0.5 | 1-2 | >=4		90.9	–	9.1	0.06	0.12	0.06	> 2		100.0	–	–	0.06	0.12	0.06	0.12
	Daptomycin	<=1 | – | –		100.0	–	–	0.25	0.5	0.25	0.5		100.0	–	–	0.5	0.5	0.25	0.5
	Levofloxacin	<=1 | 2 | >=4		90.9	9.1	–	0.12	0.5	0.12	2		92.9	7.1	–	0.12	0.25	0.06	2
	Linezolid	<=4 | – | >=8		100.0	–	–	1	2	1	2		100.0	–	–	1	2	<= 0.5	2
	Oxacillin	<=2 | – | >=4		100.0	–	–	0.25	0.5	<= 0.06	0.5		100.0	–	–	0.25	1	0.12	2
	Tigecycline	<=0.5 | – | –		100.0	–	–	0.25	0.5	0.12	0.5		100.0	–	–	0.12	0.25	0.06	0.25
	Vancomycin	<=2 | 4-8 | >=16		100.0	–	–	0.5	1	0.5	1		100.0	–	–	0.5	1	0.5	1
Streptococcus agalactiae	Eravacycline	No Breakpoints Defined	3	–	–	–	–	–	0.03	0.03	17	–	–	–	0.03	0.06	0.015	0.06
	Clindamycin	<=0.25 | 0.5 | >=1		–	–	–	–	–	0.06	> 1		76.5	–	23.5	0.06	> 1	0.03	> 1
	Daptomycin	<=1 | – | –		–	–	–	–	–	0.12	0.25		100.0	–	–	0.25	0.25	0.12	0.25
	Levofloxacin	<=2 | 4 | >=8		–	–	–	–	–	1	1		100.0	–	–	0.5	1	0.5	1
	Linezolid	<=2 | – | –		–	–	–	–	–	1	2		100.0	–	–	1	2	1	2
	Tigecycline	<=0.25 | – | –		–	–	–	–	–	0.06	0.06		100.0	–	–	0.06	0.12	0.06	0.12
	Vancomycin	<=1 | – | –		–	–	–	–	–	0.5	0.5		100.0	–	–	0.5	0.5	0.5	0.5

*, %S, %I, %R, percent susceptible, intermediate or resistant; NB, no defined breakpoint

Table 2. Susceptibility data, $MIC_{50/90}$ values, and MIC ranges of select Gram-negative bacteria to Eravacycline and Comparators

			Genitourinary Clinical Isolates								Gastrointestinal Clinical Isolates							
Organism	Drug	Breakpoints (S|I|R)	N	%S	%I	%R	MIC_{50}	MIC_{90}	Minimum	Maximum	N	%S	%I	%R	MIC_{50}	MIC_{90}	Minimum	Maximum
Klebsiella pneumoniae	Eravacycline	No Breakpoints Defined	71	–	–	–	0.25	0.5	0.12	2	66	–	–	–	0.25	0.5	0.12	8
	Amikacin	<=16 | 32 | >=64		100	–	–	1	1	<= 0.25	8		100	–	–	1	2	<= 0.25	8
	Aztreonam	<=4 | 8 | >=16		90.1	–	9.9	0.06	0.5	<= 0.03	> 16		90.9	1.5	7.6	0.06	4	<= 0.03	> 16
	Cefepime	<=2 | 4-8 | >=16		91.6	–	8.5	0.03	0.25	<= 0.008	> 16		90.9	–	9.1	0.03	2	<= 0.008	> 16
	Ceftazidime	<=4 | 8 | >=16		90.1	1.4	8.5	0.12	1	<= 0.03	> 128		89.4	0.0	10.6	0.25	16	<= 0.03	> 128
	Ceftriaxone	<=1 | 2 | >=4		90.1	–	9.9	0.03	1	<= 0.015	> 4		86.4	4.6	9.1	0.06	2	<= 0.015	> 4
	Colistin	<=2 | – | >=4 (EUCAST)		100.0	–	–	0.5	1	0.25	> 1		100.0	–	–	0.5	0.5	0.25	> 1
	Ertapenem	<=0.5 | 1 | >=2		98.6	–	1.4	0.015	0.03	0.004	> 2		95.5	–	4.6	0.015	0.06	0.008	> 2
	Gentamicin	<=4 | 8 | >=16		95.8	–	4.2	0.25	0.5	<= 0.12	> 16		93.9	–	6.1	0.25	0.5	<= 0.12	> 16
	Levofloxacin	<=2 | 4 | >=8		90.1	1.4	8.5	0.06	2	0.015	> 8		89.4	3.0	7.6	0.06	4	0.015	> 8
	Meropenem	<=1 | 2 | >=4		100.0	–	–	0.03	0.06	0.015	1		95.5	–	4.6	0.03	0.06	0.015	> 4
	Piperacillin Tazobactam	<=16/4 | 32/4-64/4 | >=128/4		91.6	4.2	4.2	2	8	<= 0.25	> 128		89.4	7.6	3.0	4	64	1	> 128
	Tetracycline	<=4 | 8 | >=16		83.1	1.4	15.5	1	> 64	0.5	> 64		80.3	3.0	16.7	1	64	0.5	> 64
	Tigecycline	<=2 | 4 | >=8		91.6	8.5	–	1	2	0.12	4		89.4	7.6	3.0	0.5	4	0.12	8
Escherichia coli	Eravacycline	No Breakpoints Defined	62	–	–	–	0.12	0.25	0.03	0.25	77	–	–	–	0.12	0.25	0.06	0.5
	Amikacin	<=16 | 32 | >=64		100.0	–	–	2	4	0.5	8		100.0	–	–	2	4	0.5	8
	Aztreonam	<=4 | 8 | >=16		82.3	1.6	16.1	0.12	> 16	<= 0.03	> 16		89.6	1.3	9.1	0.12	8	<= 0.03	> 16
	Cefepime	<=2 | 4-8 | >=16		83.9	3.2	12.9	0.06	> 16	<= 0.008	> 16		90.9	1.3	7.8	0.03	0.5	0.015	> 16
	Ceftazidime	<=4 | 8 | >=16		85.5	–	14.5	0.12	32	0.06	> 128		89.6	2.6	7.8	0.12	8	<= 0.03	64
	Ceftriaxone	<=1 | 2 | >=4		80.7	–	19.4	0.06	> 4	<= 0.015	> 4		89.6	–	10.4	0.06	> 4	<= 0.015	> 4
	Colistin	<=2 | – | >=4 (EUCAST)		100.0	–	–	0.5	0.5	0.25	1		100.0	–	–	0.5	0.5	0.25	> 1
	Ertapenem	<=0.5 | 1 | >=2		98.4	–	1.6	0.008	0.06	0.008	> 2		100.0	–	–	0.008	0.03	0.004	0.25
	Gentamicin	<=4 | 8 | >=16		80.7	–	19.4	0.5	> 16	0.25	> 16		88.3	–	11.7	0.5	> 16	0.25	> 16
	Levofloxacin	<=2 | 4 | >=8		54.8	3.2	41.9	0.25	> 8	0.015	> 8		71.4	1.3	27.3	0.03	> 8	0.015	> 8
	Meropenem	<=1 | 2 | >=4		98.4	1.6	–	0.03	0.03	0.015	2		100.0	–	–	0.03	0.03	0.015	0.06
	Piperacillin Tazobactam	<=16/4 | 32/4-64/4 | >=128/4		91.9	4.8	3.2	2	16	<= 0.25	128		93.5	5.2	1.3	2	16	0.5	128
	Tetracycline	<=4 | 8 | >=16		62.9	–	37.1	1	> 64	<= 0.25	> 64		62.3	–	37.7	1	> 64	0.5	> 64
	Tigecycline	<=2 | 4 | >=8		100.0	–	–	0.25	1	0.06	2		96.1	3.9	–	0.25	2	0.06	4
Enterobacter cloacae	Eravacycline	No Breakpoints Defined	58	–	–	–	0.25	1	0.06	4	37	–	–	–	0.25	0.5	0.12	2
	Amikacin	<=16 | 32 | >=64		98.3	1.7	–	1	2	<= 0.25	32		100.0	–	–	1	2	0.5	4
	Aztreonam	<=4 | 8 | >=16		70.7	–	29.3	0.12	> 16	<= 0.03	> 16		67.6	–	32.4	0.12	> 16	0.06	> 16
	Cefepime	<=2 | 4-8 | >=16		84.5	8.6	6.9	0.06	4	0.03	> 16		78.4	13.5	8.1	0.06	8	0.03	> 16
	Ceftazidime	<=4 | 8 | >=16		70.7	–	29.3	0.5	> 128	0.06	> 128		67.6	–	32.4	0.5	> 128	0.12	> 128
	Ceftriaxone	<=1 | 2 | >=4		65.5	1.7	32.8	0.25	> 4	<= 0.015	> 4		64.9	2.7	32.4	0.25	> 4	0.06	> 4
	Colistin	<=2 | – | >=4 (EUCAST)		100.0	–	–	0.5	1	0.25	> 1		100.0	–	–	0.5	1	0.25	> 1
	Ertapenem	<=0.5 | 1 | >=2		93.1	1.7	5.2	0.03	0.5	0.004	> 2		75.7	10.8	13.5	0.03	2	0.015	> 2
	Gentamicin	<=4 | 8 | >=16		89.7	5.2	5.2	0.25	8	0.25	> 16		100.0	–	–	0.25	1	<= 0.12	2
	Levofloxacin	<=2 | 4 | >=8		87.9	1.7	10.3	0.03	8	0.008	> 8		97.3	–	2.7	0.06	1	0.03	8
	Meropenem	<=1 | 2 | >=4		98.3	–	1.7	0.03	0.06	0.008	> 4		94.6	5.4	–	0.03	0.12	0.015	2
	Piperacillin Tazobactam	<=16/4 | 32/4-64/4 | >=128/4		74.1	15.5	10.3	4	128	0.5	> 128		67.6	8.1	24.3	2	> 128	1	> 128
	Tetracycline	<=4 | 8 | >=16		87.9	3.5	8.6	2	8	0.5	> 64		83.8	2.7	13.5	2	> 64	0.5	> 64
	Tigecycline	<=2 | 4 | >=8		91.4	8.6	–	0.5	2	0.12	4		100.0	–	–	0.5	1	0.25	2
Citrobacter freundii	Eravacycline	No Breakpoints Defined	54	–	–	–	0.25	0.5	0.12	2	31	–	–	–	0.25	1	0.12	4
	Amikacin	<=16 | 32 | >=64		98.2	1.9	–	1	2	0.5	32		100.0	–	–	2	4	<= 0.25	8
	Aztreonam	<=4 | 8 | >=16		85.2	–	14.8	0.12	> 16	0.06	> 16		77.4	–	22.6	0.25	> 16	0.06	> 16
	Cefepime	<=2 | 4-8 | >=16		94.4	–	5.6	0.03	1	0.015	> 16		87.1	6.5	6.5	0.06	4	0.015	> 16
	Ceftazidime	<=4 | 8 | >=16		85.2	–	14.8	0.5	> 128	0.12	> 128		74.2	–	25.8	0.5	> 128	0.25	> 128
	Ceftriaxone	<=1 | 2 | >=4		83.3	–	16.7	0.25	> 4	0.06	> 4		74.2	–	25.8	0.25	> 4	0.06	> 4
	Colistin	<=2 | – | >=4 (EUCAST)		100.0	–	–	0.5	0.5	0.25	1		100.0	–	–	0.5	0.5	0.25	1
	Ertapenem	<=0.5 | 1 | >=2		98.2	–	1.9	0.015	0.12	0.008	> 2		87.1	6.5	6.5	0.015	1	0.008	> 2
	Gentamicin	<=4 | 8 | >=16		88.9	–	11.1	0.5	> 16	0.25	> 16		87.1	–	12.9	0.5	> 16	0.25	> 16
	Levofloxacin	<=2 | 4 | >=8		96.3	1.9	1.9	0.12	0.5	0.03	8		71.0	3.2	25.8	0.12	8	0.015	> 8
	Meropenem	<=1 | 2 | >=4		98.2	–	1.9	0.03	0.06	0.015	> 4		93.6	6.5	0.03	0.06	0.06	0.015	> 4
	Piperacillin Tazobactam	<=16/4 | 32/4-64/4 | >=128/4		87.0	5.6	7.4	2	64	1	> 128		71.0	6.5	22.6	4	> 128	0.5	> 128
	Tetracycline	<=4 | 8 | >=16		83.3	1.9	14.8	1	> 64	0.5	> 64		74.2	9.7	16.1	1	64	0.5	> 64
	Tigecycline	<=2 | 4 | >=8		96.3	3.7	–	0.5	1	0.06	4		93.6	6.5	–	0.5	2	0.12	4
Klebsiella aerogenes	Eravacycline	No Breakpoints Defined	39	–	–	–	0.25	0.25	0.12	0.5	21	–	–	–	0.25	0.5	0.12	0.5
	Amikacin	<=16 | 32 | >=64		100.0	–	–	1	2	0.5	4		100.0	–	–	2	4	1	4
	Aztreonam	<=4 | 8 | >=16		94.9	2.6	2.6	0.12	1	<= 0.03	16		52.4	9.5	38.1	0.25	> 16	<= 0.03	> 16
	Cefepime	<=2 | 4-8 | >=16		100.0	–	–	0.03	0.12	0.015	0.5		85.7	14.3	–	0.12	4	0.015	4
	Ceftazidime	<=4 | 8 | >=16		92.3	–	7.7	0.25	4	0.06	64		52.4	–	47.6	0.5	128	0.12	> 128
	Ceftriaxone	<=1 | 2 | >=4		84.6	–	15.4	0.12	4	0.03	> 4		52.4	–	47.6	0.5	> 4	0.06	> 4
	Colistin	<=2 | – | >=4 (EUCAST)		100.0	–	–	0.5	1	0.25	1		100.0	–	–	0.5	0.5	0.25	1
	Ertapenem	<=0.5 | 1 | >=2		100.0	–	–	0.03	0.12	0.008	0.25		81.0	4.8	14.3	0.12	> 2	0.015	> 2
	Gentamicin	<=4 | 8 | >=16		100.0	–	–	0.5	1	<= 0.12	1		100.0	–	–	0.5	2	0.25	2
	Levofloxacin	<=2 | 4 | >=8		100.0	–	–	0.06	0.12	0.015	0.5		100.0	–	–	0.06	1	0.015	2
	Meropenem	<=1 | 2 | >=4		100.0	–	–	0.03	0.06	0.015	0.12		85.7	4.8	9.5	0.06	2	0.03	> 4
	Piperacillin Tazobactam	<=16/4 | 32/4-64/4 | >=128/4		92.3	5.1	2.6	2	8	1	> 128		57.1	33.3	9.5	16	64	1	> 128
	Tetracycline	<=4 | 8 | >=16		97.4	–	2.6	1	2	0.5	32		100.0	–	–	2	4	1	4
	Tigecycline	<=2 | 4 | >=8		100.0	–	–	0.5	1	0.12	2		90.5	9.5	–	0.5	2	0.25	4
Klebsiella oxytoca	Eravacycline	No Breakpoints Defined	39	–	–	–	0.25	0.5	0.06	2	26	–	–	–	0.12	0.5	0.06	1
	Amikacin	<=16 | 32 | >=64		100.0	–	–	2	4	0.5	4		100.0	–	–	1	2	<= 0.25	4
	Aztreonam	<=4 | 8 | >=16		89.7	–	10.3	0.25	16	<= 0.03	> 16		96.2	–	3.9	0.25	2	<= 0.03	> 16
	Cefepime	<=2 | 4-8 | >=16		92.3	–	7.7	0.03	0.5	<= 0.008	> 16		100.0	–	–	0.03	0.12	0.015	2
	Ceftazidime	<=4 | 8 | >=16		94.9	–	5.1	0.12	0.5	<= 0.03	> 128		100.0	–	–	0.12	0.5	0.06	4
	Ceftriaxone	<=1 | 2 | >=4		89.7	–	10.3	0.06	> 4	<= 0.015	> 4		88.5	–	11.5	0.12	> 4	<= 0.015	> 4
	Colistin	<=2 | – | >=4 (EUCAST)		100.0	–	–	0.5	1	0.25	> 1		100.0	–	–	0.5	0.5	0.25	> 1
	Ertapenem	<=0.5 | 1 | >=2		97.4	–	2.6	0.008	0.03	0.008	> 2		100.0	–	–	0.008	0.015	0.004	0.25
	Gentamicin	<=4 | 8 | >=16		92.3	–	7.7	0.5	2	<= 0.12	> 16		96.2	3.9	–	0.5	1	0.25	8
	Levofloxacin	<=2 | 4 | >=8		94.9	–	5.1	0.03	1	<= 0.004	> 8		100.0	–	–	0.03	0.12	0.015	0.25
	Meropenem	<=1 | 2 | >=4		97.4	–	2.6	0.03	0.06	0.015	> 4		100.0	–	–	0.03	0.06	0.015	0.12
	Piperacillin Tazobactam	<=16/4 | 32/4-64/4 | >=128/4		92.3	–	7.7	2	16	<= 0.25	> 128		80.8	3.9	15.4	2	> 128	0.5	> 128
	Tetracycline	<=4 | 8 | >=16		92.3	2.6	5.1	0.5	2	<= 0.25	> 64		84.6	–	15.4	0.5	> 64	0.5	> 64
	Tigecycline	<=2 | 4 | >=8		92.3	7.7	–	0.5	2	0.06	4		100.0	–	–	0.25	1	0.12	2
Stenotrophomonas maltophilia	Eravacycline	No Breakpoints Defined	12	–	–	–	0.5	1	0.12	2	18	–	–	–	0.5	4	0.12	4
	Amikacin	No Breakpoints Defined		–	–	–	> 64	> 64	0.12	> 64		–	–	–	> 64	> 64	8	> 64
	Aztreonam	No Breakpoints Defined		–	–	–	> 64	> 64	16	> 64		–	–	–	> 64	> 64	64	> 64
	Cefepime	No Breakpoints Defined		–	–	–	16	64	4	64		–	–	–	32	> 64	8	> 64
	Ceftazidime	<=8 | 16 | >=32		75.0	16.7	8.3	4	16	1	32		27.8	16.7	55.6	32	> 64	2	> 64
	Ceftriaxone	No Breakpoints Defined		–	–	–	> 64	> 64	64	> 64		–	–	–	> 64	> 64	64	> 64
	Colistin	No Breakpoints Defined		–	–	–	2	8	0.12	16		–	–	–	1	16	0.25	> 32
	Gentamicin	No Breakpoints Defined		–	–	–	32	> 64	0.06	> 64		–	–	–	64	> 64	4	> 64
	Levofloxacin	>=2 | 4 | >=8		75.0	8.3	16.7	1	8	0.25	32		61.1	11.1	27.8	2	32	1	64
	Meropenem	No Breakpoints Defined		–	–	–	> 64	> 64	64	> 64		–	–	–	> 64	> 64	0.25	> 64
	Piperacillin Tazobactam	No Breakpoints Defined		–	–	–	> 128	16	> 128			–	–	–	> 128	8	> 128	
	Tetracycline	No Breakpoints Defined		–	–	–	16	32	4	32		–	–	–	16	32	8	64
	Tigecycline	No Breakpoints Defined		–	–	–	1	2	0.5	8		–	–	–	2	8	0.5	8

Figure 1. Clinical Isolates Collected from Gastrointestinal Sources

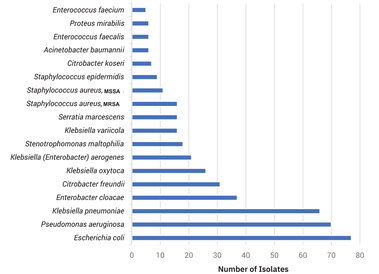
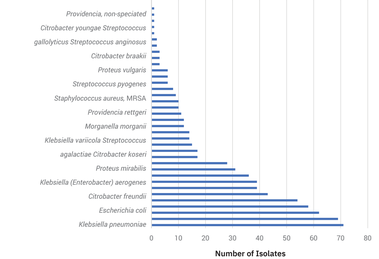


Figure 2. Clinical Isolates Collected from Genitourinary Sources



Conclusions

- Eravacycline demonstrated potent *in vitro* activity against a variety of clinically important Gram-negative and Gram-positive organisms from GI and GU sources, including MDR isolates.

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