Contact: Kristie Zappas, PharmD

Innoviva Specialty Therapeutics, Inc.

www.innovivaspecialtytherapeutics.com

Kristie.Zappas@istx.com

shawser@ihma.com

IHMA Europe.

www.ihma.com

Contact: Stephen Hawser, PhD

# ERAVACYCLINE SUSCEPTIBILITY AGAINST GRAM POSITIVE PATHOGENS, COLLECTED IN EUROPE DURING 2022

Stephen Hawser<sup>1</sup>, Nimmi Kothari<sup>1</sup>, Federica Monti<sup>1</sup>, Kristie Zappas<sup>2</sup>, Sarah McLeod<sup>2</sup>

<sup>1</sup>IHMA Europe, Monthey (Valais), Switzerland; <sup>2</sup>Innoviva Specialty Therapeutics, Inc, Waltham (MA), USA

1281

## Introduction

Eravacycline is a fully-synthetic, fluorocycline antibiotic approved for the treatment of complicated intra-abdominal infections (cIAI) in patients ≥18 years of age in Europe, Mainland China, Singapore, Hong Kong, Taiwan, the US and the UK. Previous surveillance studies of eravacycline have demonstrated potent in vitro activity against specific Gram-positive pathogens. The purpose of this study was to further monitor the in vitro activity of eravacycline against Staphylococcus aureus (including methicillin-resistant S. aureus, MRSA) and Enterococcus spp. (including vancomycin-resistant Enterococcus, VRE).

#### Methods & Materials

A total of 859 clinical isolates were collected from Europe during 2022 from multiple infection sources, including blood (n=126, 14.7%), gastrointestinal (n= 261, 30.4%), genitourinary (n= 184, 21.4%), Body fluids (n=62, 7.21%) and respiratory (n= 226, 26.3%). Minimum inhibitory concentrations (MICs) were determined by broth microdilution following CLSI methodology. Antibiotic susceptibility was determined with EUCAST breakpoints.

### **Results Summary**

Summary MIC data for eravacycline are shown in the Figure 1-6. Susceptibility of all Gram-positive pathogens to eravacycline were consistently >93%, including 99.2%, and 97.2% for MRSA and VRE isolates, respectively.

#### Conclusion

Clinically important Gram-positive pathogens, including isolates resistant to other agents, demonstrated high susceptibility rates to eravacycline. These results suggests that, following several years in clinical use, resistance to eravacycline remains low across the major geographical regions.

## References

- 1.CLSI, 2018. Methods for Dilution Antimicrobial Susceptibility Tests for Bacteria That Grow Aerobically. 11th ed. CLSI Standard M07. CLSI, Wayne, PA, USA
- 2.The European Committee on Antimicrobial Susceptibility Testing, 2023. Breakpoint tables MICs interpretation of and zone 13.0 diameters. Version http://www.eucast.org

#### Acknowledgments

This study was sponsored by Innoviva Specialty Therapeutics, Inc. (an affiliate of Tetraphase Pharmaceuticals, Inc.)

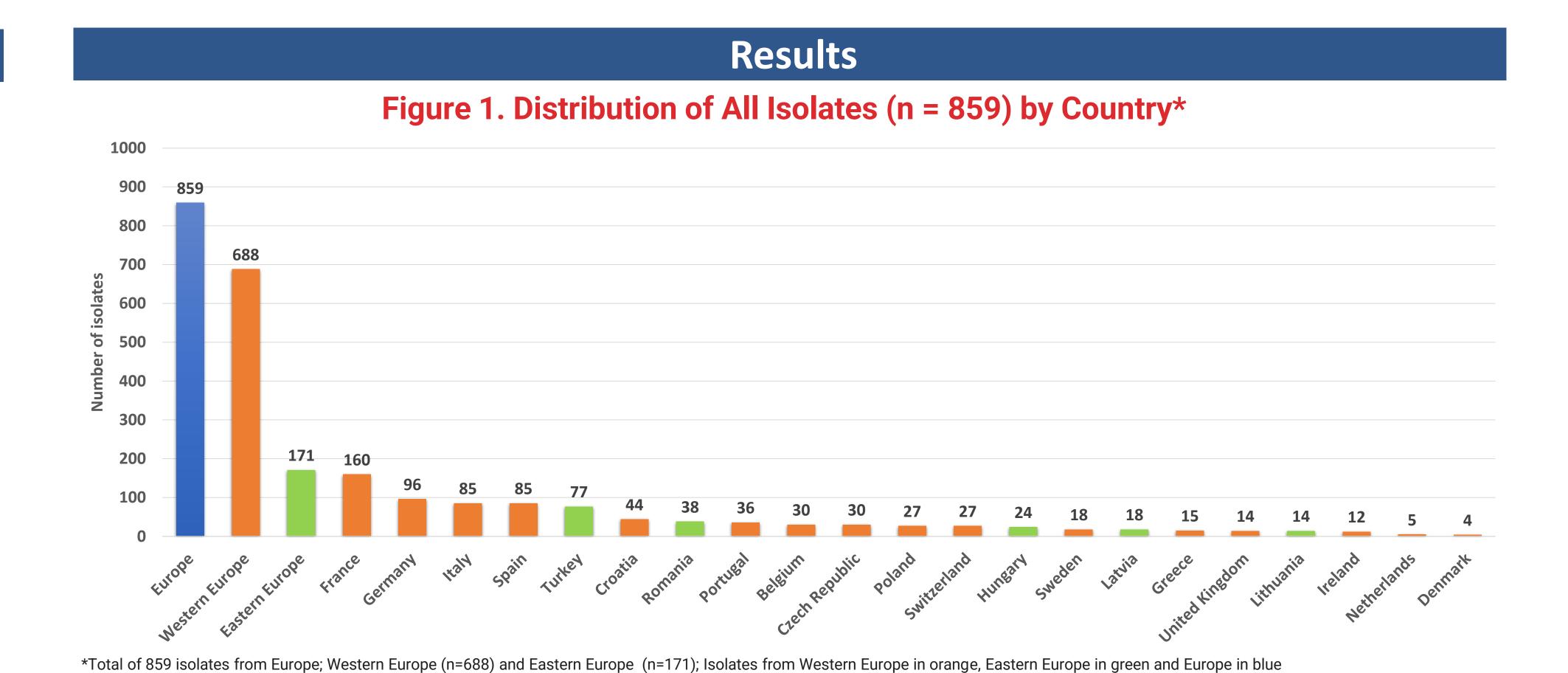


Figure 2. Number and Percent of Isolates by Infection Source

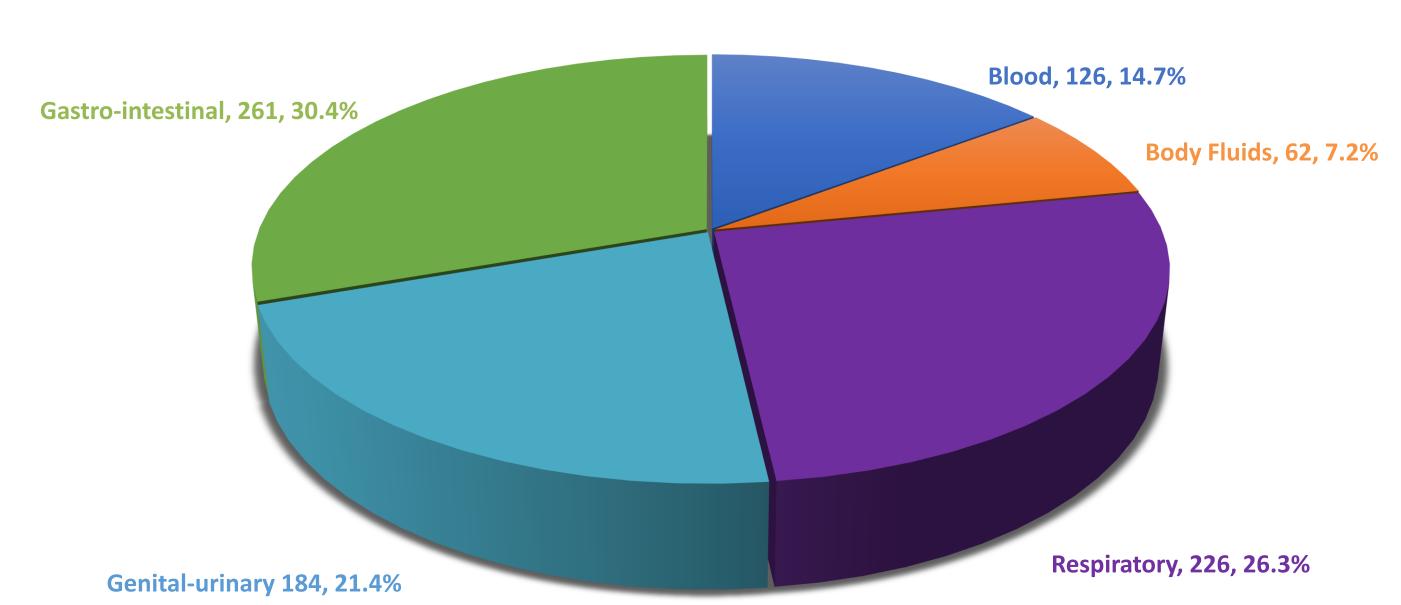


Figure 3. Susceptibility of 326 *Staphylococcus aureus* to Eravacycline and Comparators

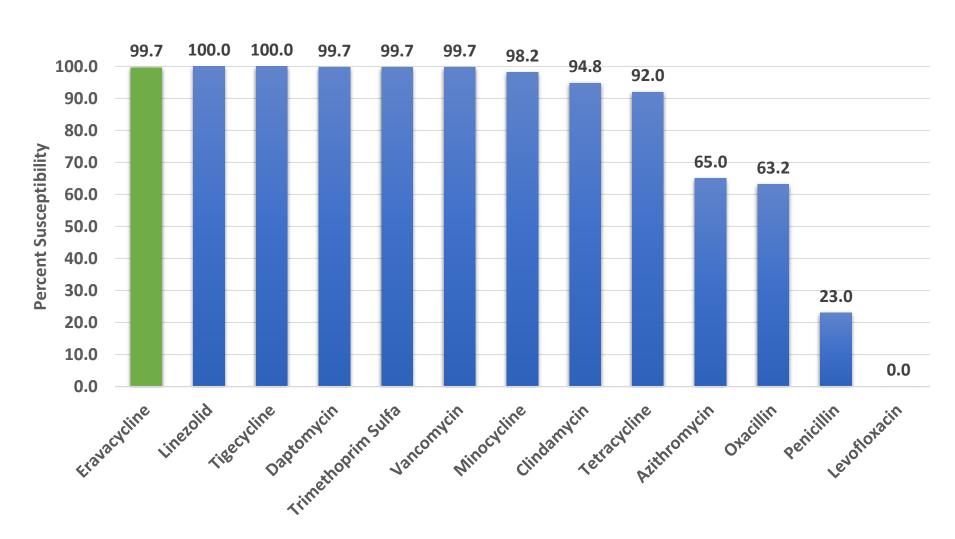


Figure 5. Susceptibility of 206 MSSA to Eravacycline and Comparators

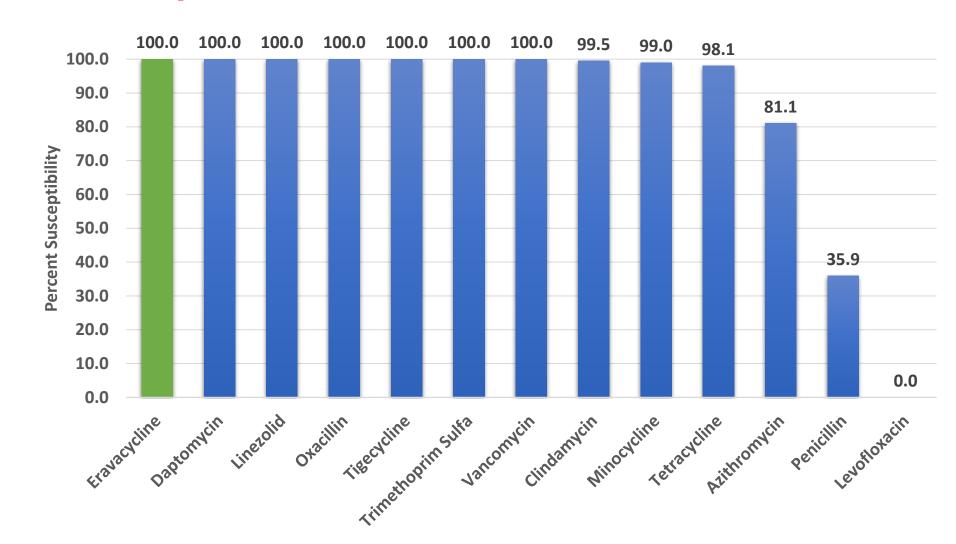


Table 1. Susceptibility of *Enterococcus* spp. to Eravacycline and Comparators

Organism	Drug	%S*	$MIC_{90}$
Enterococcus spp. (n=393)	Eravacycline	98.7	0.06
	Amoxicillin Clavulanate	NB	> 1
	Ampicillin	56.5	> 8
	Daptomycin	NB	4
	Levofloxacin	50.4	> 8
	Linezolid	99.8	2
	Minocycline	NB	> 8
	Penicillin	NB	> 8
	Tetracycline	NB	> 32
	Tigecycline	98.5	0.25
	Vancomycin	90.8	2

Table 3. Susceptibility of *Enterococcus faecium* to Eravacycline and Comparators

\*%S, percent susceptible; MIC<sub>90</sub> = concentration required to inhibit 90% of the population; NB, no defined breakpoints.

Organism	Drug	%S*	MIC <sub>90</sub>
Enterococcus faecium (n=194)	Eravacycline	97.9	0.06
	Amoxicillin Clavulanate	NB	> 1
	Ampicillin	12.9	>8
	Daptomycin	NB	4
	Levofloxacin	17.5	>8
	Linezolid	99.5	2
	Minocycline	NB	> 8
	Penicillin	NB	> 8
	Tetracycline	NB	> 32
	Tigecycline	97.4	0.12
	Vancomycin	83.0	> 16

Figure 4. Susceptibility of 120 MRSA to Eravacycline and Comparators

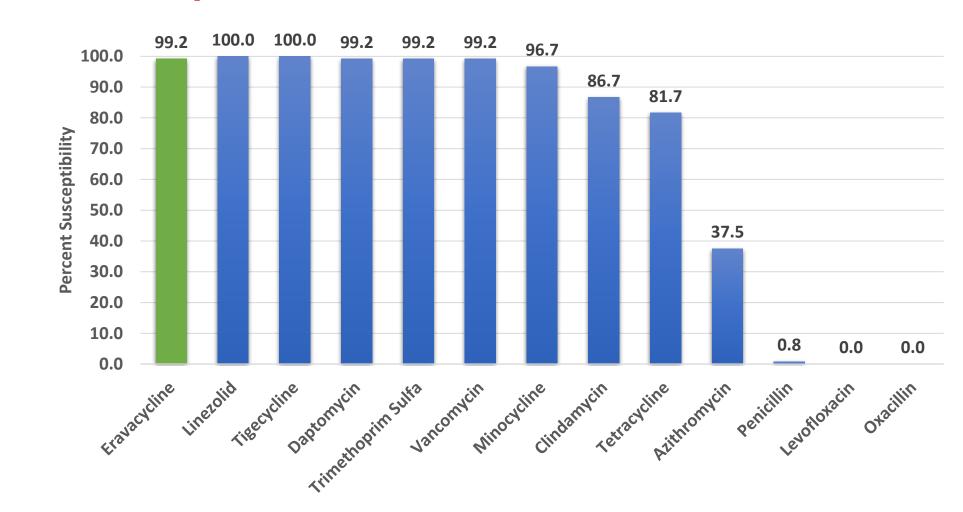


Figure 6. Susceptibility of 66 MDR *Staphylococcus* aureus to Eravacycline and Comparators

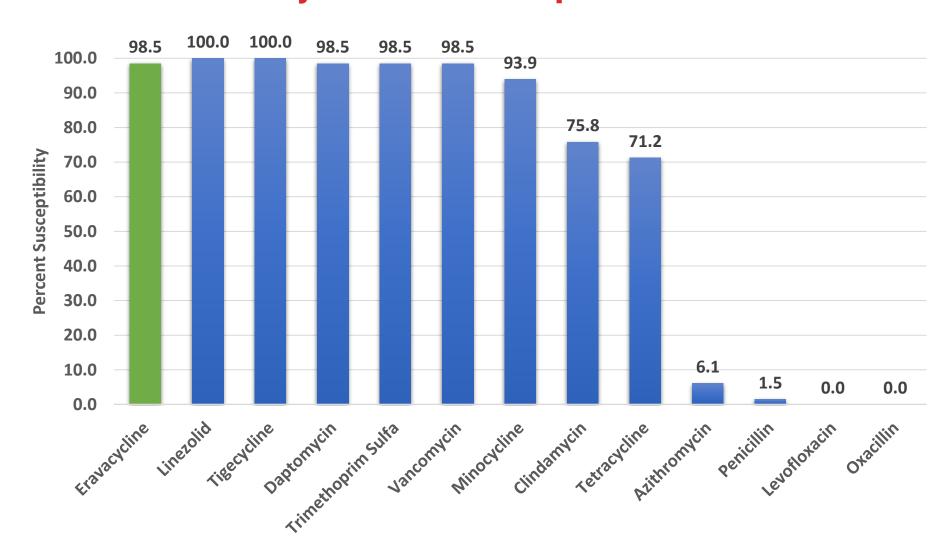


Table 2. Susceptibility of *Enterococcus faecalis* to Eravacycline and Comparators

Organism	Drug	%S*	MIC <sub>90</sub>
Enterococcus faecalis (n=199)	Eravacycline	99.5	0.06
	Amoxicillin Clavulanate	NB	1
	Ampicillin	99.0	2
	Daptomycin	NB	1
	Levofloxacin	82.4	> 8
	Linezolid	100.0	2
	Minocycline	NB	> 8
	Penicillin	NB	4
	Tetracycline	NB	> 32
	Tigecycline	99.5	0.25
	Vancomycin	98.5	2

\*%S, percent susceptible; MIC<sub>90</sub> = concentration required to inhibit 90% of the population; NB, no defined breakpoints.

Table 4. Susceptibility of VRE to Eravacycline and Comparators

Organism	Drug	%S*	MIC <sub>90</sub>
	Eravacycline	97.2	0.06
	Amoxicillin Clavulanate	NB	> 1
	Ampicillin	8.3	> 8
	Daptomycin	NB	4
	Levofloxacin	0.0	> 8
VRE (n=36)	Linezolid	97.2	2
	Minocycline	NB	> 8
	Penicillin	NB	> 8
	Tetracycline	NB	> 32
	Tigecycline	97.2	0.12
	Vancomycin	0.0	> 16
*%S, percent susceptible; $MIC_{90}$ = concentration required to inhibit 90% of the population; NB, no defined breakpoints.			

\*%S, percent susceptible; MIC $_{90}$  = concentration required to inhibit 90% of the population; NB, no defined breakpoints.