

Enterococcus spp - other (LTR79857)

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Revision: 5.00

Organism

Enterococcus spp. (Other)

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|---|---|
| <ul style="list-style-type: none"> • <i>E. avium</i> • <i>E. casseliflavus</i> • <i>E. cecorum</i> • <i>E. columbae</i> • <i>E. dispar</i> • <i>E. durans</i> | <ul style="list-style-type: none"> • <i>E. gallinarum</i> • <i>E. hirae</i> • <i>E. mundtii</i> • <i>E. raffinosus</i> • <i>E. saccharolyticus</i> |
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Clinical

These organisms are found in environmental sources including soil, food, water, plants, animals, birds, and insects. Some species are also found in the human gastrointestinal tract. They rarely are recovered from clinical specimens. Their role as pathogens is controversial and necessitates clinical correlation. They have rarely been associated with endocarditis and meningitis.

Usual susceptibility pattern

Susceptibility to ampicillin is variable. Intrinsic low level resistance to vancomycin is found in *E. gallinarum* and *E. casseliflavus* (Van C gene). These organisms are resistant to cephalosporins, clindamycin, macrolides, TMP-SMX and fusidic acid. *E. gallinarum*, *E. casseliflavus* and *E. avium* are resistant to quinupristin/dalfopristin.

Susceptibility method

VITEK2. Additional tests include disc diffusion and Etest method.

Etest	Vancomycin	Mueller-Hinton agar incubated in ambient air at 35°C for 24 hours. Use 0.5 McFarland suspension in saline. After 24 hours incubation if MIC is 3 or 4 ug/mL extend incubation to 48 hours.
	Other	Mueller-Hinton agar incubated in ambient air at 35°C for 16-20 hours. Use 0.5 McFarland suspension in saline.

Enterococcus spp. (Other), Continued

Susceptibility reporting

	CSF/ Brain	Blood/ Endo vascular Catheter	Sterile Body Site	Urine	Other	Comments
Amoxicillin/ Clavulanate (oral)				*	*	* Report same as amp if <i>S. aureus</i> (MSSA) or anaerobes co-isolated
Ampicillin	✓*	✓	✓	✓	✓	* Etest method - see Special Considerations
Ciprofloxacin				✓		Do not report if patient < 18 y - see Special Considerations
Daptomycin		2	2	*		Etest method 2 nd line if amp and vanco I/R *Physician request only after microbiologist approval See Special Considerations
Gentamicin Synergy		✓				See Special Considerations
Linezolid	2	2	2	2		2 nd line if vanco and amp I/R If linezolid I/R see Special Considerations
Nitrofurantoin				✓		
Penicillin		*				Etest method *If amp S report upon physician request only after microbiologist approval.
Tetracycline				✓		Do not report if patient < 8 y
Vancomycin	2	2	2	2	2	2 nd line if amp I/R Always report vanco if I/R For <i>E. casseliflavus</i> / <i>E. gallinarum</i> see Special Considerations

Note

All isolates	If reporting susceptibility results add the following comment: Enterococcus species are uniformly resistant to all cephalosporins, clindamycin and trimethoprim-sulfamethoxazole. &2336
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Enterococcus spp. (Other), Continued

Special considerations

Ampicillin:	<p>CSF / Brain isolates: Perform ampicillin Etest – report MIC value. For susceptible isolates with MIC >2 µg/mL, add comment: “In serious infections, pharmacodynamic evaluation should be considered for optimal dosing of ampicillin.” #amp1</p>
Ciprofloxacin:	<p>If patient < 18 years old, ciprofloxacin may be reported on urine specimens at physician request only, add comment: “Susceptibility testing requested by physician.” #STRB</p>
Daptomycin:	<p><i>Enterococcus sp.</i> should be susceptible to this antibiotic. Consult microbiologist if not susceptible.</p>
	<p>Daptomycin is inactivated by surfactant in the lungs. Therefore this antibiotic should not be used for the treatment of respiratory infections.</p> <p>For blood isolates where daptomycin is reported, add comment: “Daptomycin is inactivated by lung surfactant and should not be used for respiratory infections” (21127)</p>
	<p>If reporting daptomycin susceptibility results add comment: “The daptomycin interpretation is based on a dosage of 6 mg/kg q24h in adults with normal renal function.” (34509)</p>
Gentamicin Synergy:	<p>If gentamicin synergy Sensitive, the following comment auto-appends: “Combination therapy with a susceptible aminoglycoside for synergy is recommended for treatment of serious infections.” #2114</p>
	<p>If gentamicin synergy Resistant, the following comment auto-appends: “Combination therapy with gentamicin for synergy is NOT indicated.” #2116</p>
Linezolid:	<p>If linezolid susceptibility reported, confirm all I/R with second method. If confirmed I/R, consult microbiologist.</p>
Vancomycin:	<p><i>E. casseliflavus</i> and <i>E. gallinarum</i> have intrinsic low level resistance to vancomycin and are not epidemiologically significant for infection control.</p> <p>For these isolates, if MIC ≤16 µg/mL report vancomycin as R regardless of MIC. Add comment: “This organism has intrinsic low level resistance to vancomycin.” #va06</p>

Enterococcus spp. (Other), Continued

Interpretation For Etest, report actual MIC result. For interpretation (S, I, or R) report according to the nearest higher doubling dilution (**Appendix 1**).

Use **CLSI** interpretive document for **Enterococcus spp.**

For **vancomycin**: Refer to *Work-up and Reporting of Enterococcus species & VRE from Clinical Specimens* flowchart (Doc ID: MIC – 7745)