

Moraxella catarrhalis (LTR58154)

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Revision: 4.00

Organism **Moraxella catarrhalis**

Clinical This organism may be a commensal of the nasopharynx and is a potential pathogen of the upper and lower respiratory tract. It may cause acute exacerbations of chronic bronchitis (secondary to acquisition of new strains), acute otitis media, sinusitis, and pneumonia (especially in asthmatics). Rare cases of invasive diseases (meningitis, endocarditis, septicemia, peritonitis) have been reported, usually in immunocompromised patients. This organism may rarely cause urethritis/urethral syndrome.

Usual susceptibility pattern The beta lactamase (BRO) produced by *M. catarrhalis* results in resistance to amoxicillin, first generation cephalosporins, cefaclor and to some extent cefuroxime (where the MIC can be elevated and the activity is rendered bacteriostatic rather than bactericidal). Beta-lactamase producing strains remain susceptible to amoxicillin-clavulanate, cefixime and cefotaxime/ceftriaxone. This organism is generally susceptible to TMP-SMX, tetracyclines, macrolides, and quinolones. Quinolone resistance may develop after previous exposure or prolonged therapy. Resistance to tetracyclines, macrolides and TMP-SMX has rarely been reported.

Susceptibility method Etest method using Mueller-Hinton 5% sheep blood agar incubated in 5% CO₂ at 35°C for 20-24 hours.

Note: For Etest method use 0.5 McFarland suspension in broth.

Susceptibility reporting

	CSF/ Brain	Blood/Sterile Body Site	Eye (See Note)	Other (See Note)	Comments
Azithromycin				*	*Report on physician request
Cefotaxime	*	*	*		*Report in patients ≤1 month instead of ceftriaxone
Ceftriaxone	✓	✓	✓		Do not report in patients ≤1 month
Ciprofloxacin		✓	✓		Do not report in patients < 18 y See special considerations
Levofloxacin		*			*Physician request only after consultation with microbiologist. Send to reference lab for testing. Do not report in patients < 18 y
TMP-SMX	*	✓			*Report on physician request

Moraxella catarrhalis, Continued

Note

Deep eye specimens:	Perform susceptibility test if:		
	• vitreous fluid	• canaliculitis	• corneal ulcer / scrapings
	• chamber aspirate	• endophthalmitis	• contact lens related infections
	• intraocular fluid	• donor sclera	• ophthalmology clinic/ward
	• keratitis	• chorioretinitis	• history of failure of therapy
	• injury/surgery	• cornea	• preseptal/orbital cellulitis
Superficial eye specimens:	Susceptibility testing of superficial eye specimens not routinely performed. Add comment: "Susceptibility testing of topical antibiotics is not standardized and is not routinely performed on superficial eye infections." &A89		
Other Non-Sterile Body Site Specimens	Add comment: "Moraxella catarrhalis is generally susceptible to amoxicillin-clavulanate, trimethoprim-sulfamethoxazole, quinolones, cefixime, and macrolides. Most isolates are resistant to penicillin and ampicillin." &2119		

Special considerations

<u>Ciprofloxacin:</u>	Ciprofloxacin may be reported in patients < 18 years of age on physician request. Add comment: "Susceptibility testing requested by physician." #STRB
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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 **Moraxella catarrhalis**.