



MIC Test Strip Technical Sheet **Streptococci**

Specimen

Blood, CSF, wounds, sterile sites (joint fluid, eye, tissues) and respiratory samples (sputum, tracheal aspirate, middle ear fluid, nasopharynx).

	Streptococci	Abiotrophia and Granulicatella spp.
Medium	Mueller Hinton II Agar (Sheep blood 5%), Ref. 10131 or Mueller Hinton Fastidious Agar (Horse blood 5% + 20 mg/L β-NAD), Ref. 10132 ¹	Mueller Hinton Chocolate + 0.001% pyridoxal HCl + 0.01% cysteine IsoSensitest + 5% human blood + 0.001% pyridoxal HCl + 0.01% cysteine
Inoculum	Suspension in Mueller Hinton Broth (Ref. 24107) to 0.5 McFarland (Ref. 80400)	Suspension in Mueller Hinton Broth (Ref. 24107) to 1 McFarland (Ref. 80401)
Incubation	35 ± 2°C / 5% CO ₂ / 20-24 hours	35 ± 2°C / 5% CO ₂ / 20-24 hours
Interpretation	Bactericidal drugs: interpret the M.I.C. at complete inhibition of growth including microcolonies, hazes and isolated colonies. Bacteriostatic drugs: interpret the M.I.C. at 80% inhibition when trailing is seen.	

	Quality Control (M.I.C. µg/mL) <i>S. pneumoniae</i> ATCC® 49619	CLSI INTERPRETATION M.I.C. Criteria (µg/mL)			EUCAST INTERPRETATION M.I.C. Criteria (µg/mL)		Example of ANTIBIOGRAM 140 mm petri dish
		S	I	R	S	R	
P PENICILLIN G	0.25-1						✓ 0.002-32
<i>Streptococcus</i> spp. β-Hemolytic Group (<i>Streptococcus</i> groups A, B, C and G)		≤0.12	-	-	≤0.25	>0.25	
<i>Streptococcus</i> spp. Viridans		≤0.12	0.25-2	≥4	≤0.25	>2	
CTX CEFOTAXIME	0.03-0.12						✓ 0.002-32 (or CRO 0.002-32)
<i>Streptococcus</i> spp. β-Hemolytic Group		≤0.5	-	-	≤0.5	>0.5	
<i>Streptococcus</i> spp. Viridans		≤1	2	≥4	≤0.5	>0.5	
CRO CEFTRIAXONE	0.03-0.12						
<i>Streptococcus</i> spp. β-Hemolytic Group		≤0.5	-	-	≤0.5	>0.5	
<i>Streptococcus</i> spp. Viridans		≤1	2	≥4	≤0.5	>0.5	
C CHLORAMPHENICOL	2-8	≤4	8	≥16	≤8	>8	✓ (or E)
CD CLINDAMYCIN (-CO ₂) ^{1, 2}	0.03-0.12	≤0.25	0.5	≥1	≤0.5	>0.5	✓ (or TE)
CD CLINDAMYCIN (+CO ₂) ^{1, 3}	0.06-0.25						
DAP DAPTOMYCIN	0.06-0.5	≤1	-	-	≤1	>1	
E ERYTHROMYCIN (-CO ₂) ²	0.03-0.12	≤0.25	0.5	≥1	≤0.25	>0.5	
E ERYTHROMYCIN (+CO ₂) ³	0.06-0.25						
OFX OFLOXACIN	1-4	≤2	4	≥8			✓
TE TETRACYCLINE	0.06-0.5	≤2	4	≥8	≤1	>2	
VA VANCOMICIN	0.12-0.5	≤1	-	-	≤2	>2	✓

Notes

- When Clindamycin MTS is used in conjunction with MH-F there is a potential for the overestimation of the MIC for QC strains ATCC 49619 which can give some values out of range. Patient results may also be evaluated resulting in a false resistant result.
- CLSI broth microdilution (BMD) method uses ambient incubation (-CO₂).
- For capnophilic organisms MTS method (as well as BMD) may require incubation in atmosphere enriched with carbon dioxide (+CO₂). This is expected to decrease the pH of the medium resulting in a decreased activity (higher MICs) of clindamycin and erythromycin. Thus, both QC ranges and interpretive criteria adjusted for CO₂ incubation should be used when capnophilic strains are tested against such drugs.

References

- CLSI M100-S27, 2017. Performance Standards for Antimicrobial Susceptibility Testing.
- CLSI M07-A10, 2015. Methods for Dilution Antimicrobial Susceptibility Tests for Bacteria that Grow Aerobically.
- EUCAST. Breakpoint tables for interpretation of MICs and zone diameters. Version 7.1, 2017.

MIC Test Strip, International Patent



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