MIC Test Strip Technical Sheet ***Haemophilus influenzae***

Specimen

Blood, CSF, sterile site (joint fluid, eye) and respiratory (sputum, tracheal aspirate, middle ear, nasopharynx)

Medium	Haemophilus Test Medium, Ref. 10080 or Mueller Hinton Fastidious Agar (Horse blood 5% + 20 mg/L β-NAD), Ref. 10132
Inoculum	Suspension in broth to 0.5 McFarland (Ref. 80400), 1 McFarland (Ref. 80401) if mucoid
Incubation	35 ± 2°C / 5% CO_2 / 20-24 hours
Evaluating the results	Bactericidal drugs: interpret the M.I.C. at complete inhibition of all growth including microcolonies, hazes and isolated colonies.Bacteriostatic drugs: interpret the M.I.C. at 80% inhibition when trailing is seen.

		Quality Control (MIC µg/mL)		CLSI INTERPRETATION MIC Criteria (µg/mL)			EUCAST INTERPRETATION MIC Criteria (µg/mL)		Example of ANTIBIOGRAM
		H. influenzae ATCC® 49247	*H. influenzae* ATCC® 49766	S	I	R	S	R	140 mm petri dish
AMP	AMPICILLIN	2-8	0.06-0.25	≤1	2	≥4	≤1	>1	
AUG	AMOXICILLIN-CLAVULANIC ACID 2/1	2-16	-	≤4	-	≥8			✓ or AMP
AMC	AMOXICILLIN-CLAVULANIC ACID 2 µg/mL	-	0.125-0.5				≤2	>2	
AZM	AZITHROMYCIN (-CO_2)	1-4	-	≤4	-	-	≤0.12	>4	
AZM	AZITHROMYCIN (+CO_2)	4-16	-						
CTX	CEFOTAXIME	0.12-0.5	0.004-0.016	≤2	-	-	≤0.12	>0.12	✓ or CRO
CRO	CEFTRIAXONE	0.06-0.25	0.002-0.008	≤2	-	-	≤0.12	>0.12	
CXM	CEFUROXIME (iv)	-	0.25-1	≤4	8	≥16	≤1	>2	
CXM	CEFUROXIME (oral)	-					≤0.001	>1	
C	CHLORAMPHENICOL	0.25-1	0.25-1	≤2	4	≥8	≤2	>2	✓ or CXM or LEV
CLR	CLARITHROMYCIN (-CO_2)	4-16	-	≤8	16	≥32			
CLR	CLARITHROMYCIN (+CO_2)	8-32							
LEV	LEVOFLOXACIN	0.008-0.03	0.008-0.03	≤2	-	-	≤0.06	>0.06	
MRP	MEROPENEM	-	0.03-0.12	≤0.5	-	-			✓
	Indications other than meningitis						≤2	>2	
	Meningitis						≤0.25	>0.25	
TE	TETRACYCLINE	4-32	0.25-1	≤2	4	≥8	≤1	>2	✓ or AZM or CLR
SXT	TRIMETHOPRIM-SULFAMETHOXAZOLE 1/19	0.03-0.25	0.016-0.06	≤0.5	1-2	≥4	≤0.5	>1	✓

Susceptible (**S**), Intermediate (**I**), Resistant (**R**)

Notes:

For combination agents, MIC values are expressed as the concentration of the first component of the combination.

For some capnophilic organisms CLSI broth microdilution (BMD) method uses ambient incubation (-CO_2), while MTS method may require incubation in atmosphere enriched with carbon dioxide (+CO_2). This is expected to decrease the pH of the medium resulting in a decreased activity (higher MICs) of certain antimicrobial agents, like azithromycin and clarithromycin. Thus, both QC ranges and interpretive criteria adjusted for CO_2 incubation should be used when capnophilic strains are tested against such drugs.

Disclaimer: The table is intended for general guidance only and may not contain all the necessary information. Also reported interpretive criteria and QC MIC ranges might be out of date. Always current guidelines from CLSI and/or EUCAST should be consulted.

References

1. CLSI M100. Performance Standards for Antimicrobial Susceptibility Testing. 31st Edition, 2021.
2. EUCAST. Breakpoint tables for interpretation of MICs and zone diameters. Version 11.0, 2021.
3. Routine and extended internal quality control for MIC determination and disk diffusion as recommended by EUCAST. Version 11.0, 2021.
4. CLSI M07. Methods for Dilution Antimicrobial Susceptibility Tests for Bacteria That Grow Aerobically. 11th Edition, 2018.

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