

Job Aid		
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***Burkholderia pseudomallei* Antibiotic Susceptibility Testing (AST)**

According to Clinical Laboratory Standards Institute, disc diffusion testing for *B. pseudomallei* is NOT reliable and broth microdilution for MIC is recommended.

In Cambodia many labs do not have access to the resources to perform broth microdilution. For the purpose of surveillance and monitoring development of resistance during patient treatment, this job aid recommends disc diffusion testing or MIC using Etest according to the following table.

If laboratories detect an unusual susceptibility pattern confirm identification and AST by repeat testing. If results are confirmed, contact an expert for reporting advice.

Biosafety

Wear gown and gloves. Use good microbiological technique and reduce the formation of aerosols as much as possible. Always work in a certified Biosafety Cabinet. Autoclave all biohazardous waste generated.

Table 1. *Burkholderia pseudomallei* antibiotic susceptibility testing

Antibiotic	Disc code	Disc Potency (µg)	Test	Susceptible (S)	Intermediate (I)	Resistant (R)	Report	Usual Result
Ceftazidime	CAZ	30	Yes	≥ 18	15-17	≤ 14	✓	S
Meropenem	MEM	10	Yes	≥ 19	16-18	≤ 15	✓	S
Amoxi /Clav	AMC	20/10	Yes	≥ 18	14-17	≤ 13	✓	S
Trimeth/Sulfa	SXT	1.25/23.75	Yes	≥ 16	11-15	≤ 10	✓	S
Trimeth/Sulfa	SXT	Etest MIC	If SXT disc no zone	≤ 2 µg/mL	————	≥ 4 µg/mL		
Doxycycline	DO	30	Yes	≥ 14	11-13	≤ 10	✓	S
Gentamicin	CN	10	Yes			6 mm	✓	R
Polymixin B	PB	300 units	Yes			6 mm	X	R

Caution when testing Trimethoprim/Sulfamethoxazole

Breakpoints adapted from CLSI M100 *Enterobacteriaceae* and *P. aeruginosa* breakpoints.

If no zone is detected with Trimeth/Sulfa disc test, perform Trimeth/Sulfa Etest for MIC.

The breakpoints for Trimeth/Sulfa Etest refer to the trimethoprim component printed on the strip.⁴

If Trimeth/Sulfa Etest is not available report:

"*B.pseudomallei* is usually susceptible to Trimethoprim/Sulfamethoxazole (Cotrimoxazole)"

References

1. Methods of Antimicrobial Dilution and Disc Susceptibility Testing of Infrequently Isolated or Fastidious Bacteria; Approved Guidelines CLSI M45 3rd Edition, 2015
2. Performance Standards for Antibiotic Susceptibility Testing, CLSI M100S 27th Edition, January 2017
3. Wiersinga W J, Currie B J, Peacock S J. Review Article: Medical Progress Melioidosis. 367;11 N Engl J Med Sep 13, 2012 pp 1305-1044
4. Etest Table 1. Summary of Etest performance, Interpretive Criteria and Quality Control Ranges