Multicenter Evaluation of Cephalexin MIC Results for *Enterobacterales* Using EUCAST Breakpoints on MicroScan Dried Gram Negative MIC Panels

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Background: A multicenter study was performed to evaluate the accuracy of cephalexin on a MicroScan Dried Gram-negative MIC (MSDGN) Panel when compared to a frozen ISO/CLSI broth microdilution reference panel.

Materials/Methods: An evaluation was conducted at three U.S. sites by comparing MIC values obtained using the MSDGN to MICs utilizing an ISO/CLSI broth microdilution reference panel. A total of 450 *Enterobacterales* clinical isolates were tested using the turbidity and Prompt® methods of inoculation during the efficacy phase. A subset of 12 organisms was tested on MSDGN panels at each site during reproducibility. MSDGN panels were incubated at 35 ± 1°C and read on the WalkAway System, the autoSCAN-4 instrument, and read visually. Read times for the MSDGN panels were at 16-20 hours. Frozen reference panels were prepared according to ISO/CLSI methodology, incubated for 16-20 hours and read visually. All frozen reference panels were incubated at 35 ± 2°C for 16-20 hours and read visually. EUCAST breakpoints (mg/L) used for interpretation of MIC results were: *Enterobacterales* ≤ 16 S, > 16 R.

Results: Essential and categorical agreement when compared to frozen reference panel results, for all isolates tested in efficacy as follows:

Read Method	Essential Agreement %		Categorical Agreement %		Very Major Error (VMJ)* %		Major Error (MAJ)* %	
	P	T	P	T	P	T	P	T
WalkAway	98.0 (441/450)	98.4 (443/450)	96.7 (435/450)	97.3 (438/450)	0.0 (0/188)	0.0 (0/188)	1.5 (4/262)	0.8 (2/262)
autoSCAN-4	97.8 (440/450)	98.7 (444/450)	96.9 (436/450)	98.2 (442/450)	0.0 (0/188)	0.0 (0/188)	1.5 (4/262)	0.0 (0/262)
Visually	98.0 (441/450)	98.7 (444/450)	97.1 (437/450)	98.0 (441/450)	0.0 (0/188)	0.0 (0/188)	1.5 (4/262)	0.4 (1/262)
T = Turbidity inoculation method, P = Prompt inoculation method *Calculation of MAJ and VMJ excluding 1 well errors								

Conclusion: This multicenter study showed that cephalexin MIC results for *Enterobacterales* obtained with the MSDGN panel correlate well with MICs obtained using frozen reference panels using EUCAST interpretive criteria.