Quality control ranges for testing broth microdilution susceptibility of Flavobacterium columnare and F. psychrophilum to nine antimicrobials

A multi-laboratory broth microdilution method trial was performed to standardize the specialized test conditions required for the fish pathogens Flavobacterium columnare and F. psychrophilum. Nine laboratories tested the quality control (QC) strains Escherichia coli ATCC 25922 and Aeromonas salmonicida subsp. salmonicida ATCC 33658 against 10 antimicrobials (ampicillin, enrofloxacin, erythromycin, florfenicol, flumequine, gentamicin, ormetoprim/sulfadimethoxine, oxolinic acid, oxytetracycline, and trimethoprim/sulfamethoxazole) in diluted (4 g l−1) cation-adjusted Mueller-Hinton broth incubated at 28 and 18°C for 44–48 and 92–96 h, respectively. QC ranges were set for 9 of the 10 antimicrobials. Most of the minimal inhibitory concentration (MIC) distributions (16 of 18, 9 drugs at both temperatures) for A. salmonicida ATCC 33658 were centered on a single median MIC ± 1 two-fold drug dilution resulting in a QC range that spanned 3 dilutions. More of the E. coli ATCC 25922 MIC distributions (7 of 16) were centered between 2 MIC dilutions requiring a QC range that spanned 4 dilutions. A QC range could not be determined for E. coli ATCC 25922 against 2 antimicrobials at the low temperature. These data and their associated QC ranges have been approved by the Clinical and Laboratory Standards Institute (CLSI), and will be included in the next edition of the CLSI M49-A Guideline. This method represents the first standardized reference method for testing fish pathogenic Flavobacterium spp.

General information
State: Published
Organisations: National Veterinary Institute, Section for Bacteriology, Pathology and Parasitology, United States Food and Drug Administration, Department of Primary Industries, Queensland, United States Department of Agriculture, Mississippi State University, University of Wisconsin-Madison, Purdue University, University of Washington, Kasetsart University
Pages: 207-215
Publication date: 2012
Peer-reviewed: Yes

Publication information
Journal: Diseases of Aquatic Organisms
Volume: 101
Issue number: 3
ISSN (Print): 0177-5103
Ratings:
BFI (2018): BFI-level 1
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Scopus rating (2017): CiteScore 1.7 SJR 0.675 SNIP 0.95
Web of Science (2017): Impact factor 1.543
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 1.95 SJR 0.893 SNIP 0.92
Web of Science (2016): Impact factor 1.549
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 1
Scopus rating (2015): CiteScore 1.96 SJR 0.973 SNIP 0.943
Web of Science (2015): Impact factor 1.77
Web of Science (2015): Indexed yes
BFI (2014): BFI-level 1
Scopus rating (2014): CiteScore 1.86 SJR 0.895 SNIP 0.889
Web of Science (2014): Impact factor 1.752
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 1
Scopus rating (2013): CiteScore 1.77 SJR 0.831 SNIP 0.928
Web of Science (2013): Impact factor 1.586
ISI indexed (2013): ISI indexed yes
Web of Science (2013): Indexed yes
BFI (2012): BFI-level 1