

VET08

Performance Standards for Antimicrobial Disk and Dilution Susceptibility Tests for Bacteria Isolated From Animals



This document includes updated tables for the Clinical and Laboratory Standards Institute veterinary antimicrobial susceptibility testing standard VET01.

A CLSI supplement for global application.

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Abstract

The data in the tables are valid only if the methodologies in CLSI document VET01¹ are followed. This standard contains information about disk and dilution test procedures for aerobic and facultatively anaerobic bacteria.

Clinicians depend heavily on information from the microbiology laboratory for treating their seriously ill patients. The clinical importance of antimicrobial susceptibility test results demands that these tests be performed under optimal conditions and that laboratories have the capability to provide results for the newest antimicrobial agents.

The tables presented in VET08 represent the most current information for drug selection, interpretation, and quality control using the procedures standardized in VET01.¹ Users should replace previously published tables with these new tables. Changes in the tables since the previous editions appear in boldface type.

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Overview of Changes

This supplement replaces the previous edition of the supplement, VET01S, 3rd ed., published in 2015. This list includes the major changes in this document. Other minor or editorial changes were made to the general formatting and to some of the table footnotes and comments. Changes to the tables since the previous edition appear in boldface type. The following are additions or changes unless otherwise noted as a “*deletion*.”

- **General:**
 - Changed document code from VET01S to VET08 to differentiate it from the methods standard, CLSI document VET01¹
 - Harmonized language and common information on methods and QC with CLSI documents M02² and the *M02 Disk Diffusion Reading Guide*,³ M07,⁴ and M100⁵
 - Revised nomenclature:
 - *Clostridium difficile* to *Clostridioides* (formerly *Clostridium*) *difficile*
 - *Enterobacter aerogenes* to *Klebsiella* (formerly *Enterobacter*) *aerogenes*
 - β -lactam/ β -lactamase inhibitor combinations to β -lactam combination agents
 - Folate pathway inhibitor to folate pathway antagonist
 - Methicillin-resistant *Staphylococcus aureus* (MRSA) salt agar to oxacillin salt agar
 - To align with the International Organization for Standardization, changed the name of the inoculum preparation method in all appropriate tables from growth method to broth culture method and changed direct colony suspension to colony suspension
- **Moved to CLSI document VET06⁶:**
 - Testing conditions for *Campylobacter* spp. and *Listeria* spp. (formerly in Table 7)
 - *Campylobacter* QC (formerly in Table 5B)
- **Summary of CLSI Processes for Establishing Breakpoints and Quality Control Ranges (p. xxi):**
 - Added new section
- **CLSI Reference Methods vs Commercial Methods and CLSI vs Regulatory Authority (p. xxii):**
 - Added new section
- **CLSI Veterinary-Specific Breakpoint Additions/Revisions Since 2015 (p. xxiii):**
 - Added new table of breakpoint additions and revisions since 2015, organized in order of appearance in the tables by organism group (2A, 2B, 2C, etc.) and animal species, and in alphabetical order by antimicrobial agent within the animal species (see bullets for Tables 2A through 2J for specific new breakpoints)
- **Subcommittee on Veterinary Antimicrobial Susceptibility Testing Mission Statement and Responsibilities (p. xxv):**
 - Added new section

Overview of Changes (Continued)

- **Instructions for Use of Tables:**

- Added new section with general instructions for using the tables, including:
 - Selecting antimicrobial agents for testing and reporting (p. 1)
 - Breakpoints and interpretive category definitions (p. 3)
 - Reporting results (p. 5)
 - Therapy-related comments (p. 6)
 - Confirmation of patient results (p. 6)
 - Development of resistance and testing of repeat isolates (p. 6)
 - Warning (misleading results) (p. 7)
 - Routine, supplemental, screening, surrogate agent, and equivalent agent testing to determine susceptibility and resistance to antimicrobial agents (p. 7)
 - QC overview (p. 10)
 - Abbreviations and acronyms (p. 11)

- **Table 1. Antimicrobial Agents That Could Be Considered for Routine Testing by Veterinary Microbiology Laboratories:**

- Group A:
 - Cattle: Added ampicillin (p. 14)
 - Horses: Added enrofloxacin, doxycycline, and minocycline (p. 14)
 - Dogs and cats: Added ampicillin (cats only), piperacillin-tazobactam (dogs only), cefovecin, cephalexin (dogs only), minocycline (dogs only); removed footnote from cephalothin because it is no longer preferred to use cephalothin susceptibility to predict first-generation cephalosporin susceptibility in dogs (p. 14)
- Group B:
 - Dogs and cats: Added cephalexin (cats only) (p. 15)
- Group D:
 - Dogs and cats: **Deleted** cephalexin, ticarcillin, and ticarcillin-clavulanate
- Added **NOTE** referring to the new Instructions for Use of Tables (p. 16)
- Footnotes:
 - Revised footnote f to clarify that ampicillin should be tested as the class representative for aminopenicillins (p. 17)
 - Revised footnote g to note that cephalothin susceptibility tests are used to predict susceptibility to cephalirin for bovine mastitis (p. 17)

- **Table 2A. Zone Diameter and MIC Breakpoints for *Enterobacteriaceae*:**

- Added:
 - References to Tables 4A and 5A for selecting recommended strains for routine QC (p. 20)
 - Reference to CLSI document M100⁵ for modified QC of β -lactam combination agents (p. 20)
 - Instructions for QC when using a commercial test system (p. 20)
- Added the following human (gray-shaded) breakpoints:
 - Kanamycin zone diameter and minimal inhibitory concentration (MIC) breakpoints published in 1986 (p. 22)
 - Streptomycin zone diameter breakpoints and comment published in 1986 (p. 22)
 - Piperacillin-tazobactam zone diameter and MIC breakpoints published in 1994 (p. 25)