ENGLISH

VETMultodisc

Ring device for antimicrobial disc susceptibility tests
for bacteria isolated from animals.

DESCRIPTION

VETMultodisc is a paper ring with eight tips impregnated with specific concentrations of antibiotics for *in vitro* susceptibility testing of bacteria isolated from animals by the agar diffusion test technique (Kirby-Bauer).

The device allows the simultaneous application of different antibiotic discs to a 90 mm agar plate.

The ring tips are clearly marked with letters and numbers to identify each antimicrobial agent.

Available configurations are shown at the end of this document.

CONTENTS OF THE PACKAGES

100 rings in a plastic container: 10 rings are packed in a transparent plastic bag with a silica gel desiccant capsule.

METHOD PRINCIPLE

The ring is applied to the surface of a culture medium inoculated with a pure colony suspension. After incubation, the plate is examined, the zones of inhibition around each disc are measured and compared with the standard inhibition haloes: in this way the microorganism is defined as being susceptible, intermediate or resistant to the tested antimicrobial agents.

COMPOSITION

VETMultodisc are made of high-quality paper in compliance with WHO and FDA specifications. A barrier of inert material on the paper ring ensures that the antibiotic impregnated tips function as individual antibiotic susceptibility discs, complying to the quality systems UNI EN ISO 9001:2015 and UNI EN ISO 13485:2016, and to DIN specification for potency, i.e. the concentration of each antibiotic is within 90-125% of the concentration stated on the disc.

GATHERING AND KEEPING SAMPLES

The colonies that are to be subjected to the susceptibility test are taken up by culture media that have been previously swabbed with the sample under examination. In the case of mixed colonies the bacterial strains must be purified before they are swabbed on the plates for the susceptibility test.

TEST PROCEDURE

For the details of the test procedure, refer to the bibliography indicated below or to microbiology manuals. Here the Kirby-Bauer method is shortly summarized:

1. Allow rings to reach room temperature before opening the container. This is to prevent condensation, leading to rapid deterioration of some agents.
2. Using a fresh, pure culture prepare a suspension of the test organism to achieve a 0.5 McFarland turbidity standard.
3. Using a sterile cotton swab, spread the adjusted suspension over the dried surface of a suitable plate medium, e.g. Mueller Hinton agar.
4. Apply the ring firmly to the inoculated agar plate ensuring complete contact with the agar surface.
5. Invert and incubate the plates at 35 ± 2°C in air for 16-20 hours. If tests are performed for fastidious organisms, different incubation conditions may be required.

Follow the 15-15-15 minute rule: Use the inoculum suspension within 15 minutes of preparation, apply discs within 15 minutes of inoculation and incubate plates within 15 minutes of disc application.

EVALUATING THE RESULTS

At the end of the incubation period, measure the diameter of the zones of inhibition, including the diameter of the disc, and interpret according to the current reference standards.

QUALITY CONTROL

To check the performance of the VETMultodisc results, test the quality control strain(s) as shown in the certificate of analysis specific for each lot. Results obtained with a bacterial isolate are considered satisfactory if the quality control result(s) fall within the expected range(s). Isolate test results should not be reported if the QC results are outside of the stated range.

CLICK TO

Search for Certificates of Analysis (CoA) by lot number

LIMITS

Diffusion susceptibility tests use an *in vitro* technique and cannot therefore reproduce the extremely complex *in vivo* conditions. Nevertheless, it is a useful and important tool that helps the clinician choose the correct therapy. Many variable factors influence the final result of the diffusion susceptibility test. The main ones are: the culture medium used, impregnation of the discs, inoculation of the medium, temperature, time and incubation atmosphere of the plates, pre-incubation and pre-diffusion conditions, depth of the medium, etc.

PRECAUTIONS

VETMultodisc cannot be classified as being hazardous according to current legislation. The paper rings are disposable products for veterinary use and must be used in the laboratory by properly trained operators using approved aseptic and safety methods for pathogenic agents.

STORAGE

Unopened bag packages: Store at –20°C to +8°C in the container provided till the expiry date; storage at –20°C is preferable if products are not used for long periods.

Opened bag packages: Leftover rings from an opened bag package must be stored at 2-8°C in the bag containing desiccant and in the plastic container provided for no more than 14 days.

Allow rings to equilibrate to room temperature before opening the container for minimizing condensation on the outer surface. Return unused rings to the refrigerator as soon as the application of the rings has been completed. Dispose of expire rings.

ELIMINATING USED MATERIAL

After use, the rings and the material that comes into contact with the sample must be decontaminated and disposed of in accordance with current laboratory techniques for the decontamination and disposal of potentially infected material.

REFERENCES

- CLSI. Performance Standards for Antimicrobial Susceptibility Testing; 29th ed. CLSI Supplement M100S. Wayne, PA: Clinical and Laboratory Standards Institute; 2019.
- CLSI. Performance Standards for Antimicrobial Disk Susceptibility Tests; 13th ed. CLSI standard M02. Wayne, PA: Clinical and Laboratory Standards Institute; 2018.
- The European Committee on Antimicrobial Susceptibility Testing. Breakpoint tables for interpretation of MICs and zone diameters. Version 9.0, 2019. http://www.eucast.org
- The European Committee on Antimicrobial Susceptibility Testing. Routine and extended internal quality control for MIC determination and disk diffusion as recommended by EUCAST, Version 9.0, 2019. http://www.eucast.org
- EUCAST Disk Diffusion Method for Antimicrobial Susceptibility Testing - Version 8.0 (January 2020).
- CLSI. Performance Standards for Antimicrobial Disk and Dilution Susceptibility Tests for Bacteria Isolated From Animals, 4th ed. CLSI supplement VET08. Wayne, PA: Clinical and Laboratory Standards Institute; 2018.
- CLSI. Performance Standards for Antimicrobial Disk and Dilution Susceptibility Tests for Bacteria Isolated From Animals; 5th ed. CLSI standard VET01. Wayne, PA: Clinical and Laboratory Standards Institute; 2018.
- DIN 58940-2 Medical microbiology - Susceptibility testing of microbial pathogens to antimicrobial agents - Part 2: Active substance carriers for the agar diffusion test; 2007-10.
- FDA (1978) Codes of Fed.Rebs. 21.Part 460.
- WHO (1977) Tech rep.Ser.n°610.

TABLE OF SYMBOLS

LOT Batch code	Do not reuse	Manufacturer	Use by	Fragile, handle with care
REF Catalogue number	Temperature limitation	Contains sufficient for <n> tests	Caution, consult accompanying documents	

The following list of products might be out-of-date

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View the complete range of Antimicrobial Discs on Liofilchem's website

Multodisc for Veterinary Use					
Description	**Antimicrobial Agent**			**Packaging**	**Ref.**
VET Gram-positive	1. Penicillin G	P	1 IU	100 Test	95300
	2. Cefoxitin	FOX	30 µg		
	3. Trimethoprim-sulfamethoxazole	SXT	25 µg		
	4. Clindamycin	CD	2 µg		
	5. Erythromycin	ERY	15 µg		
	6. Kanamycin	K	30 µg		
	7. Neomycin	N	10 µg		
	8. ---[a]	---	---		
VET Gram-negative	1. Ampicillin G	AMP	10 µg	100 Test	95310
	2. Cefotaxime	CTX	5 µg		
	3. Trimethoprim-sulfamethoxazole	SXT	25 µg		
	4. ---[a]	---	---		
	5. Kanamycin	K	30 µg		
	6. Neomycin	N	10 µg		
	7. Enrofloxacin	ENR	5 µg		
	8. ---[a]	---	---		

a. Tip not impregnated with antimicrobial agents

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Find out more on Disc Diffusion Antimicrobial Susceptibility Tests

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