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Nitrofurantoin NIT 300 mcg

Nitrofurantoin NIT 100 mcg discs are used for antimicrobial susceptibility testing of bacterial cultures as per Bauer-Kirby Method

REF: BS.1/NT01.050.0050	50 Discs	REF: BS.1/NT25.050.1250	1250 Discs
REF: BS.1/NT05.050.0250	250 Discs		

METHOD PRINCIPLE

An antibiogram allows to in vitro subject a standard bacterial inoculum to one or different antibiotic concentrations and, after analyzing results, predict in vivo effectiveness. The interpretation of results (Sensitive, Intermediate or Resistant) is carried out on the basis of parameters previously established by a number of committees, such as The Clinical and Laboratory Standards Institute in the U.S., or The European Committee on Antimicrobial Susceptibility Testing in Europe. The standardized procedures are based on the Bauer-Kirby method.

Composition

Item	Concentration
Nitrofurantoin	300 mcg

PRECAUTIONS AND WARNINGS

Media to be handled by entitled and professionally educated person. Do not ingest or inhale.

Good Laboratories practices using appropriate precautions should be followed in:

- Wearing personnel protective equipment (overall, gloves, glasses,).
- Do not pipette by mouth.
- In case of contact with eyes or skin; rinse immediately with plenty of soap and water. In case of severe injuries; seek medical advice immediately.
- Respect country requirement for waste disposal.
  S56: dispose of this material and its container at hazardous or special waste collection point.
  S57: use appropriate container to avoid environmental contamination.
  S61: avoid release in environment.

For further information, refer to the Nitrofurantoin 300 mcg material safety data sheet.

STORAGE AND STABILITY

BioScien Nitrofurantoin 300 mcg should be stored between -20 to 8 °C in a firmly closed container. Use before expiry date on the label. Product performance is best if used within stated expiry period.

Susceptibility Test Procedure:

Preparation of Inoculum

1. Prepare plates with Muller Hinton Agar. The medium in the plates should be sterile and have a depth of about 4 mm.
2. Pick 4-5 similar colonies with a wire, needle or loop and incubate in Tryptone Soya Broth and incubate at 35-37°C for2-8 hours until light to moderate turbidity develops.
3. Adjust the turbidity to yield 1 x 106 - 5 x 106 cfu/ml (i.acc. with 0,5 McFarland standard or 0,08-0,13 OD at 625 nm) by further incubating or by diluting.

Test Procedure (based on Bauer-Kirby method)

1. Dip a sterile non-toxic cotton swab on a wooden applicator into the standardized inoculum and rotate the soaked swab firmly against the upper inside wall of the tube to gently remove excessing fluid.
2. Streak the entire agar surface of the plate with the swab three times evenly, e.g. by turning the plate at 60 ° angle between each streaking or using a petri dish revolving table for guiding the plate evenly.
3. Allow the inoculum to dry for 5 - 15 minutes with closed lid. The later growth on the plate should be semi-confluent.
4. Apply the discs using aseptic technique with sterile tweezers or the Antibiotic Disc Dispenser. The centers of the discs should be at least 24 - 30 mm apart.
5. Invert the plates and place in an incubator set to 35 ± 2 °C within 15 minutes after the discs are applied.
6. It is recommended to prepare and incubate a plate with a known reference strain with known zone size for this antibiotic in parallel as a control.
7. Examine each plate after 16 - 18 hours of incubation or longer, if necessary. For fastidious organisms incubate at appropriate temperature and time. The diameter of each zone with complete inhibition is measured e.g. using a calibrated pocket slide rule and assessed according to valid databases.

EQUIPMENTS REQUIRED NOT PROVIDED

- Sterile Petri dishes
- Test tubes
- Sterile cotton swab
- Incubator
- Autoclave

QUALITY CONTROL

Average diameter of zone of inhibition observed on Mueller Hinton Agar after 18 hours incubation at 35-37°C for standard cultures.

Microorganisms	Std. zone of diameter (mm)*
Escherichia coli (25922)	20-25
Staphylococcus aureus subsp. aureus (25923)	18-22
Streptococcus pneumoniae (49619)	23-29

REFERENCES

1. Bauer, Kirby, Sherris and Turck, 1966, Am. J. Clin. Path., 45: 493
2. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

SYMBOLS IN PRODUCT LABELLING	
IVD For in-vitro diagnostic use	Number of <n> test in the pack
LOT Batch Code/Lot number	Caution
REF Catalogue Number	Do not use if package is damaged
Temperature Limitation	Consult Instruction for use
Expiration Date	
Manufactured by	