



## ROTI® Antibiotic Discs Penicillin G (P)

For qualitative antimicrobial susceptibility testing (AST) of bacterial cultures  
1494

### Appearance:

ROTI® Antibiotic Discs are provided in cartridges of 50 discs each.

Penicillin G..... 10 Units/Disc

Disc diameter..... 6 mm

Imprint (center of both sides)..... P 10

For research use only. Not approved for human or veterinary use, for application to humans or animals, or for use in clinical or *in vitro* diagnostics.

### STORAGE CONDITIONS

Store at -20 °C under dry conditions and protected from light immediately upon receipt.

### APPLICATION

#### 1. Preparation of Inoculum

Prepare plates with Muller Hinton Agar\* (Art. No. X926). The medium in the plates should be sterile and have a depth of about 4 mm.

Pick 4-5 similar colonies with a wire, needle or loop and incubate in 5 ml of CASO Broth (Art. No. X938) at 35-37 °C for 2-8 h until light to moderate turbidity. Adjust the turbidity to yield  $1 \times 10^6$  -  $5 \times 10^6$  cfu/ml (i.acc. with 0,5 McFarland standard (Art. No. 1440 or 1307) or 0,08-0,13 OD at 625 nm) by further incubating or by diluting.

#### 2. Test Procedure (based on Bauer-Kirby method)

Dip a sterile non-toxic cotton swab on a wooden applicator (e.g. ROTILABO®-cotton buds Art. No. EH12.1) into the standardised inoculum and rotate the soaked swab firmly against the upper inside wall of the tube to gently remove excessing fluid. 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 (e.g. Art. No. N962.1) for guiding the plate evenly. Allow the inoculum to dry for 5 - 15 minutes with closed lid. The later growth on the plate should be semi-confluent.

Apply the discs using aseptic technique with sterile tweezers or the Antibiotic Disc Dispenser (Art. No. 1505.1).

The centers of the discs should be at least 24 - 30 mm apart. Invert the plates and place in an incubator set to  $35 \pm 2$  °C within 15 minutes after the discs are applied.

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.

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 (Art. No. HCN3.1) and assessed according to valid databases.

### MICROBIOLOGICAL TEST

Average diameter of zone of inhibition observed on Muller Hinton Agar after 18 hours incubation at 35-37 °C for standard cultures (strains recommended by CLSI (Clinical Laboratory Standards Institute)).

Microorganisms	zone of diameter [mm]
<i>Staphylococcus aureus</i> ATCC 25923	26 - 37

\*MHA is recommended to carry out susceptibility tests of rapidly growing MOs. Other MOs may require different media, e.g. MHA with  $Ca^{++}/Mg^{++}$ , Haemophilus Test Agar, MHA with blood, GC Agar. Choose carefully acc. to standard regulations.

### References:

Bauer *et al* (1966): Antibiotic susceptibility testing by a standardized single disk method. *Am. J. Clin. Path.* 45(4): 493-6.

CLSI: Performance standards of Antimicrobial Disc Susceptibility Tests. M02, Vol. 32 No.3, Jan 2012.

### ROTI® Antibiotic Discs Penicillin G (P)

1 x 50 discs

1494.2

5 x 50 discs

1494.1

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The company is a limited partnership with headquarters in Karlsruhe, reg. court Mannheim HRA 100055. Roth Chemie GmbH, with headquarters in Karlsruhe, reg. court Mannheim HRB 100428, is the personally liable partner. Managing Director: André Houdelet. Sales tax identification number: DE 143621073.

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