BacterLab Division

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ANTIBIOTIC SUSCEPTIBILITY TESTING MEDIUM

BacterPlate™ GC Agar with IsoVitalex

Ready-to-use medium on 90mm plates for testing antibiotic susceptibility of *Neisseria gonorrhoeae* bacteria.

Code: 05060

1. INTENDED USE

BacterPlate™ GC Agar with IsoVitalex is a commonly used medium for performing antibiotic susceptibility testing in clinical practice, recommended by CLSI for testing the antibiotic susceptibility of *N. gonorrhoeae*.

The packaging with semi-permeable Cellophane film helps balance the humidity of the environment during storage.

2. PRINCIPLES

BacterPlate™ GC Agar with IsoVitalex has a nutritional composition that includes:

- Peptone, an enzymatic digest of meat and vegetables.
- Starch, acting as a protective colloid against toxic substances in the medium.
- Phosphate buffer, to prevent pH changes caused by amine production that could affect microbial viability.
- Agar, which serves as the solidifying agent for the medium.
- The IsoVitalex supplement is added to enhance the growth of *N. gonorrhoeae*.

3. TYPICAL COMPOSITION

For 1 liter of medium

Peptone, special	15,0 g
Corn Starch	1,0 g
Dipotassium hydrogen phosphate	4,0 g
Potassium dihydrogen phosphate	1,0 g
Sodium chloride	5,0 g
IsoVitaleX Enrichment	1 vial
Agar	13,0 g

pH of the ready-to-use medium at 25°C: 7,2 ± 0,2

4. PREPARATION

The environmental plates are ready-to-use, no preparation required.

5. INSTRUCTIONS FOR USE

- Allow the plates and antibiotic discs to equilibrate to room temperature before use.
- Prepare a bacterial suspension:
- Select isolated colonies from an agar plate incubated for 18–24 hours (using non-selective medium) and suspend the microorganisms in saline solution. Adjust the turbidity of the suspension to match the 0.5 McFarland standard.
- Within 15 minutes after preparing the suspension, dip a sterile swab into the bacterial suspension, gently press and rotate the swab above the liquid level in the tube to remove any excess fluid absorbed by the swab.
- Streak the swab evenly over the entire surface of the agar plate, then rotate the plate 60° for the second and third streaking directions.

- Allow the agar plate to air-dry naturally in the incubator for at least 3 minutes but no longer than 15 minutes, ensuring that the inoculum is absorbed into the surface of the agar before placing the antibiotic discs.
- Using sterile forceps, place the individual antibiotic discs onto the surface of the agar plate.
- Do not place more than 5 discs on a 90 mm agar plate. Avoid moving or repositioning the discs once placed, as the diffusion effect of the antibiotic occurs almost immediately. Gently press each disc with a sterile inoculating loop to ensure full contact with the agar surface.
- Within 15 minutes after placing the antibiotic discs, incubate the agar plate at 35–37°C for 20–24 hours with 5% CO2 (do not exceed 37°C). Invert the plate during incubation.
- Refer to CLSI M45 for incubation time, temperature, and atmospheric conditions for fastidious organisms.

6. RESULTS

- After incubation for the required time, observe the colonies that have developed on the surface of the agar plate and the clear, uniform inhibition zones around the antibiotic discs.
- The identification of the isolated bacteria must be conducted subsequently using appropriate tests. If isolated colonies still appear, retesting is necessary.
- Open the petri dish lid and examine the surface of the agar plate under reflected light. Use a calibrated ruler with millimeter markings to measure the diameter of the complete inhibition zones (including the antibiotic discs). The edge of the inhibition zone should be read from the area where no bacterial growth is visible to the naked eye. Bacterial colonies that are faint or small at the edge of the inhibition zone, visible only under magnification, should be ignored.
- To interpret the inhibition zone, refer to CLSI M100 for each microorganism strain

7. QUALITY CONTROL

BacterLab ensures the quality of each product batch by testing with ATCC reference strains.

Reference strains	Incubation conditions	Expected results
N. gonorrhoeae ATCC 49226	20 – 24 hours, 35°C, 5 % CO_2	Good growth, inhibition zone sizes according to CLSI.

8. STORAGE AND TRANSPORT CONDITIONS

- Storage: 2 – 8°C.
- Transportation: Ambient temperature.

9. PACKAGING

- Packaging: 10 plates/ box or as per customer request.

10. SHELF LIFE

- Expiration Date: 03 months from the manufacturing date.

11. BIBLIOGRAPHY

- ISO 11014:2009: Safety data sheet for chemical products — Content and order of sections.
- NF U47-108. December 2012. Animal health analysis methods - Isolation and identification of Taylorella equigenitalis from Equidae genital sampling.
- NF EN ISO 10272-1. July 2017. Microbiology of the food chain - Horizontal method for detection and enumeration of Campylobacter spp. - Part 1 : Detection method. Modified by NF EN ISO 10272-1/A1 : 2023.
- NF EN ISO 10272-2. July 2017. Microbiology of the food chain — Horizontal method for detection and enumeration of Campylobacter spp. — Part 2: Colony-count technique. Modified by NF EN ISO 10272-2/A1 : 2023.
- Clinical and Laboratory Standards Institute. Performance standards for antimicrobial susceptibility testing: twenty-third informational supplement. CLSI document, Approved Standard M100-S24. Wayne, PA: Clinical and Laboratory Standards Institute; 2014
- Comparing the disk-diffusion and agar dilution tests for *Neisseria gonorrhoeae* antimicrobial susceptibility testing.