Blood Agar Base + Nalidixic Acid

Cat. 1128

For the differentiation of the hemolytic activity of streptococci

Practical information

Aplications	Categories
Differentiation	Streptococcus

Industry: Clinical

CE
IVD

Principles and uses

Blood Agar Base + Nalidixic Acid is a modification of Blood Agar Base with the addition of nalidixic acid as an inhibitor of the accompanying flora. Nalidixic acid blocks the DNA replication of susceptible bacteria and acts against many Gram-negative bacteria.

The Heart infusion and Meat peptone are rich sources of nitrogen, vitamins, minerals and amino acids essential for growth. Sodium chloride supplies essential electrolytes for transport and osmotic balance. The blood is an additional source that provides growth factors for the microorganisms and is the basis for determining hemolytic reactions. Hemolytic patterns may vary with the type of blood or base medium used. For example, defibrinated sheep blood gives best results for Group A streptococci. Bacteriological agar is the solidifying agent.

Streptococcal colonies will be 2-3 mm of diameter; colorless or smooth, round, white and will produce a- hemolysis (Streptococcus pneumoniae), ß (Streptococcus pyogenes) alpha or negative (Streptococcus bovis).

Formula in g/L

Bacteriological agar	15	Meat peptone	10
Nalidixic acid	0,04	Sodium chloride	5
Heart infusion	10		

Preparation

Suspend 40 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 121 ºC for 15 minutes. Cool to 45-50 ºC and aseptically add 5% of sterile defibrinated blood, Homogenize and pour into Petri dishes. Be careful to avoid bubble formation when adding the blood to the cooled medium and rotate the flask or bottle slowly to create a homogeneous solution.

Instructions for use

For clinical diagnosis, the type of sample is secretions of the respiratory tract, sputum.

- Use standard procedures to obtain isolated colonies from specimens.
- Incubate at 35±2 °C for 24-48 hours.
- Since many pathogens require carbon dioxide on primary isolation, plates may be incubated in an atmosphere containing approximately 5-10% CO2.

Quality control

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Toasted	Ámber, opaque cherry red with blood	7,3±0,2

Microbiological test

Incubation conditions: (35±2 ºC, CO2 atmosphere / 24-48 h).

Microrganisms	Specification	Characteristic reaction
Staphylococcus epidermidis ATCC 12228	Good growth	
Streptococcus pyogenes ATCC 19615	Good growth	Beta hemolysis
Escherichia coli ATCC 25922	Total inhibition	
Staphylococcus aureus ATCC 25923	Partial inhibition	Beta hemolysis
Streptococcus pneumoniae ATCC 6305	Good growth	Alpha hemolysis

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

Bibliography

Cruikshank, R. (1 972) Medical Microbiology. 11th Edition. Livingstone. London.