TSA Agar Nº2 Modified

Cat. 1198

For the isolation, cultivation and detection of hemolytic activity of fastidious microorganisms.

Practical information

Aplications	Categories
Selective isolation	Fastidious microorganisms
Detection	Fastidious microorganisms

Industry: Clinical

Principles and uses

TSA Agar Nº2 Modified has been especially formulated for the production of blood plates for the isolation and cultivation of fastidious microorganisms from clinical samples, and produces enhanced hemolysis due to the special growth factors included in the formula.

It is a medium which is very rich in nutrients and is recommended for general use in microbiological laboratories. It supports the abundant growth of fastidious organisms such as pneumococci, streptococci, Neisseria, etc.

Containing two peptones as rich nitrogen sources, this medium supports the growth of a great variety of micro-organisms, including fastidious aerobes and anaerobes. Sodium chloride maintains the osmotic balance and the bacteriological agar is the solidifying agent.

A list of microorganisms that grow on this medium are the following: Streptococcus, Neisseria, Brucella, Corynebacteria, Listeria, Pasteurella, Vibrio, Haemophilus vaginalis, Candida, etc.

Since it lacks carbohydrates, it is very useful in the study of hemolytic reactions and also in the preparation of chocolate agar. If desired, antibiotics can easily be incorporated as well as other supplements or inhibitory agents.

Pneumococci frequently appear as very flat, smooth, translucent, grayish and sometimes mucoid colonies surrounded by a narrow zone of “green” (alpha) hemolysis. Hemolytic streptococci can be translucent or opaque, grayish, small (1 mm), or large matt and mucoid (2-4 mm) colonies, surrounded by a hemolysis zone. Staphylococci are seen as opaque, white to gold-yellow colonies with or without zones of beta hemolysis. Listeria produces small zones of beta hemolysis. They can be distinguished by their rod shape in stains, and by motility at room temperature.

Formula in g/L

Bacteriological agar	15	Sodium chloride	5
Soy peptone	5	Tryptone H	15
Growth factors	4,5		

Preparation

Suspend 44,5 grams of the medium in one liter of distilled water. Mix well until a uniform suspension is obtained. Heat with gentle agitation and boil for one minute. Sterilize in autoclave at 121 °C for 15 minutes. Cool to 45-50 °C, and aseptically add 7% sterile defibrinated sheep 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

Inoculate and incubate at a temperature of 35±2 ºC for 18-24 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Amber, Red with blood	7,3±0,2

Microbiological test

Incubation conditions: (35±2 ºC / 18-24 h).

Microorganisms	Specification	Characteristic reaction
Staphylococcus epidermidis ATCC 12228	Good growth	No hemolysis
Neisseria meningitidis ATCC 13090	Good growth	No hemolysis
Streptococcus pyogenes ATCC 19615	Good growth	Beta hemolysis
Staphylococcus aureus ATCC 25923	Good growth	Beta hemolysis
Streptococcus pneumoniae ATCC 6305	Good growth	Alpha hemolysis

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

Bibliography

Downes and Ito (ed.). 2001. Compendium of methods for the microbiological examination of foods, 4th ed. American Public Health Association, Washington, D.C.
Finegold and Martin. 1982. Bailey & Scott's diagnostic microbiology, 6th ed. The C.V. Mosby Company, St. Louis, Mo.
Facklam and Washington. 1991. In Balows, Hausler, Herrmann, Isenberg and Shadomy (ed).