Trypticasein Soy Agar (TSA) Nº2

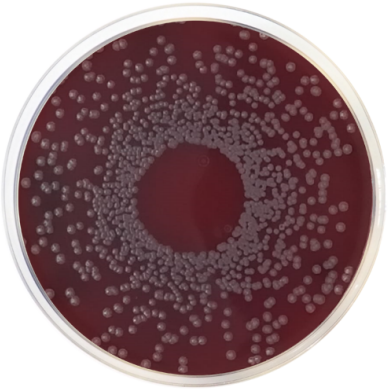
Cat. 1561

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

Practical information

Aplications	Categories
Selective isolation	Streptococcus
Detection	Streptococcus

Industry: Clinical



Principles and uses

Trypticasein Soy Agar (TSA) Nº2 is an improved formulation of the original TSA Agar, to be used with animal blood supplements with 5 or 10% sheep blood. It is used for the isolation, cultivation and detection of hemolytic reactions of fastidious microorganisms. These hemolytic reactions are important to differentiate bacteria from clinical samples, especially species of Streptococcus.

Trypticasein Soy Agar Nº2, supplemented with 5% sheep blood, offers clear and visible hemolytic reactions with group A streptococci (Streptococcus pyogenes).

Tryptone H enhances hemolysin production. Sodium chloride supplies essential electrolytes for transport and osmotic balance. Soy peptone provides nitrogen, vitamins, minerals and amino acids essential for growth. Bacteriological agar is the solidifying agent. Blood is an additional source that provides growth factors for the microorganisms and is the basis for determining haemolytic reactions.

Hemolytic streptococci can be seen as translucent or opaque, grayish, small (1 mm), or large matt and mucoid (2-4 mm) colonies, surrounded by a hemolysis zone. Staphylococci appear as opaque, white to gold-yellow colonies with or without zones of beta hemolysis.

Formula in g/L

Bacteriological agar	15	Sodium chloride	5
Soy peptone	5	Tryptone H	15

Preparation

Suspend 40 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation and boil for one minute. Sterilize in autoclave at 121 °C for 15 minutes. Cool to 45-50 °C, and add 5-10% 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

Inoculate and incubate the plates at a temperature of 35±2 °C in atmosphere with 5-10% CO2 and observed after 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	Ámbar, ligeramente opalescente	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

U.S. Food and Drug Administration. 1995. Bacteriological analytical manual, 8th ed. AOAC International, Gaithersburg, Md. Downes and Ito (ed.). 2001. Compendium of methods for the microbiological examination of foods, 4th ed. American Public Health Association, Washington, D.C.
Ruoff, Whiley and Beighton. 1999. In Murray, Baron, Pfaller, Tenover and Yolken (ed.), Manual of clinical microbiology, 7th ed. American Society for Microbiology, Washington, D.C.