

## Specification

Nutrient rich medium suitable for the isolation of pathogenic microorganisms from clinical specimens.

## Presentation

20 Prepared Plates  
90 mm  
with: 21 ± 2 ml

### Packaging Details

1 box with 2 packs of 10 plates/pack. Single cellophane.

### Shelf Life

2,5 months

### Storage

2-14 °C

## Composition

### Composition (g/l):

Peptone from casein.....	15.0
Peptone from soya.....	5.0
Sodium chloride.....	5.0
Agar.....	15.0
Sheep blood.....	50 ml

## Description /Technique

### Description:

TSA is a widely used medium containing two peptones which support the growth of a wide variety of organisms, even that of very fastidious ones such as Neisseria, Listeria, Brucella, etc. It is frequently used for routine diagnostic purposes due to its reliability and its easily reproducible results.

The medium provides, with added blood, perfectly defined haemolysis zones, while preventing the lysis of erythrocytes due to its sodium chloride content.

### Technique:

Collect, dilute and prepare samples as required.

Spread the sample onto the plate by streaking methodology or by spiral method. Incubate the plates in inverted position in a anaerobic atmosphere at 35-37°C for 24-48 hours. Preferably, spread with the same sample other selective media, previously defined by the laboratory, to have better and comparative results.

Different animal blood source, greater incubation times, humidity or larger percentage of carbon dioxide in atmosphere,... may be required depending on the sample, on the specifications of the laboratory, the expected isolations to be found.

Each laboratory must evaluate and report results carefully; this highly nutritive medium allows recovery of a wide variety of fastidious microorganisms.

Consider both hemolysis reactions and colony appearance as well as the results obtained from other culture media, as keys for microbiological identification (Calculate total microbial counts considering, if applied to the samples, the inverted dilution factors)

## Quality control

### Physical/Chemical control

Color : Red

pH: 7.2 ± 0.2 at 25°C

### Microbiological control

Inoculate: Practical range 100 ± 20 CFU. Min. 50 CFU (Productivity).

Aerobiosis. Incubation at 30-35 °C. Read after 18-24 h to 72 h for bacteria and 3-5 days for fungi.

### Microorganism

*Staphylococcus aureus* ATCC® 6538, WDCM 00032

*Escherichia coli* ATCC® 8739, WDCM 00012

*Enterococcus faecalis* ATCC® 19433

*Streptococcus pneumoniae* ATCC® 49619

*Streptococcus pyogenes* ATCC® 19615

*Streptococcus agalactiae* ATCC® 12386

### Growth

Good Beta-haemolysis- Clear halo

Good Gamma haemolysis- Without halo

Good Gamma haemolysis- Without halo

Good Alpha haemolysis- Greenish halo

Good Beta-haemolysis- Clear halo

Good Beta-haemolysis- Clear halo

### Sterility Control

Incubation 48 hours at 30-35 °C and 48 hours at 20-25 °C: NO GROWTH.

Check at 7 days after incubation in same conditions.

**Bibliography**

- ATLAS, R.M. & L.C. PARKS (1993) Handbook of Microbiological Media. CRC Press, Inc. London.
- COLIPA (1997) Guidelines on Microbial Quality Management (MQM). Brussels.
- DOWNES, F.P. & K. ITO (2001) Compendium of Methods for the Microbiological Examination of Food, 4<sup>th</sup> ed, ASM, Washington D.C.
- EUROPEAN PHARMACOPOEIA 8.0 (2014) 8th ed. § 2.6.13. Microbiological examination of non-sterile products: Test for specified microorganisms. Harmonised Method. EDQM. Council of Europe. Strasbourg.
- FDA (Food and Drug Administrations) (1998) Bacteriological Analytical Manual. 8<sup>th</sup> ed. Revision A. AOAC International. Gaithersburg. MD.
- HORWITZ, W. (2000) Official Methods of Analysis of AOAC INTERNATIONAL, 17<sup>th</sup> ed. Gaithersburg, MD. USA.
- ISO 9308-1 Standard (2000) Water Quality. Detection and enumeration of *E. coli* and coliform bacteria. Membrane filtration method.
- ISO 11133:2014/ Adm 1:2018. Microbiology of food, animal feed and water. Preparation, production, storage and performance testing of culture media.
- ISO/TS 22964 (2006) Milk and milk products.- Detection of *Enterobacter sakazakii*.
- PASCUAL ANDERSON, M<sup>RE</sup> (1992) Microbiología Alimentaria. Díaz de Santos S.A., Madrid.
- USP 33 - NF 28 (2011) <62> Microbiological examination of non-sterile products: Test for specified microorganisms. Harmonised Method. USP Corp. Inc. Rockville. MD. USA.