 A general-purpose media that supports the growth of gram-positive and gram-negative.

**Tryptic Soy Agar**

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| REF: LV.1/TA01.100.0100 100 gram REF: LV.1/TA01.250.0250 250 gram |  REF: LV.1/TA01.500.0500 500 gram  |

# CLINICAL SIGNIFICANCE

# Tryptic Soya Agar (TSA) can be used to support the growth of fastidious and non-fastidious microorganisms such as Neisseria, Listeria, Brucella etc. Tryptone Soya Broth with added dextrose, sodium chloride and agar are recommended for the cultivation of Salmonella Typhi. TSA can also be used in a variety of applications like enumeration, isolation, culture storage (subculturing bacterial strains of Enterobacteriaceae and Staphylococci) or even as a general culture. TSA (base medium) may be used as a primary isolation medium in clinical microbiology, after supplementation with 5% sheep blood (blood agar plates and chocolate agar by additional cooking of blood agar plates). TSA can used in determining the X, V, and XV factors requirements of Haemophilus species by using strips or discs containing X, V, and XV factors in the inoculated plates. It can also be used in detecting the halotolerance levels in microorganisms.

# METHOD PRINCIPLE

# Tryptone and soya peptone provide nitrogen, vitamins, and minerals. This makes it suitable for the growth of a wide variety of fastidious and non-fastidious microorganisms. Glucose serves as the carbohydrate source. Phosphate buffers the media. Sodium chloride maintains the osmotic balance. Agar is the solidifying agent. The medium may be supplemented with blood to facilitate the growth of more fastidious bacteria or antimicrobial agents to permit the selection of various microbial groups from pure microbiota.

# MEDIA COMPOSITION

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| **Item**  | **Formula in g/L**  |
| Soya peptone TryptoneSodium chlorideGlucoseDipotassium hydrogen phosphate Agar  | 31752.52.515 |

## Final pH 6.8 ± 0.2 at 25°C

# PRECAUTIONS AND WARNINGS

Media to be handled by entitled and professionally educated person.

Good Laboratories practices using appropriate precautions should be followed in:

* Wearing personnel protective equipment (overall, gloves, glasses...).
* Do not pipette by mouth.
* In case of contact with eyes or skin; rinse immediately with plenty of soap and water. In case of severe injuries, seek medical advice immediately.
* Handle specimens and inoculated culture bottles as though capable of transmitting infectious agents. All inoculated culture bottles, specimen collection needles, and blood drawing devices should be decontaminated according to country requirement for waste disposal.

S56: dispose of this material and its container at hazardous or special waste collection point.

S57: use appropriate container to avoid environmental contamination.

S61: avoid release in environment.

For further information, refer to the Tryptic Soy Agar material safety data sheet.

# MEDIA STORAGE AND STABILITY

**Lab.Vie**. Tryptic Soy Agar should be stored between 10-30°C in a firmly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to avoid lump development due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in a dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

## PROCEDURE

## Suspend 45 grams in 1000 ml distilled water.

## Adjust pH to 7.3 ± 0.2 at 25°C.

1. Heat to boiling to dissolve the medium completely.
2. Mix well and pour into sterile test tubes.
3. Sterilize by autoclaving at 15lbs pressure (121°C) for 15 minutes.
4. Cool to 45-50°C and pour into sterile petri plates.

## Deterioration

**Lab.Vie**. Tryptic Soy Agar is cream to yellow homogeneous free flowing powder. Prepared Media is light yellow in color. If there are any physical changes for powder or signs of deterioration (shrinking, cracking, or discoloration), and contaminations for hydrated media, discard the medium.

**SPECIMEN COLLECTION AND PRESERVATION**

# For clinical samples follow appropriate techniques for handling specimens as per established guidelines (11, 12). For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (9, 10, 13). After use, contaminated materials must be sterilized by autoclaving before discarding.

# TYPE OF SPECIMEN

# Cleaning products, clinical testing, cosmetics, environmental sample, food and beverages, personal care, veterinary and microbiology sample.

# EQUIPMENT REQUIRED NOT PROVIDED

# Sterile cups

# Sterile plates

# Incubator

# Autoclave

# QUALITY CONTROL

To ensure adequate quality control, it is recommended that positive and negative control included in each run. If control values are found outside the defined range, check the system performance. If control still out of range please contact the technical support.

# PERFORMANCE CHARACTERISTICS

Cultural characteristics observed after incubation at 35 - 37°C for 18 - 24 hours

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| **Microorganism** | **Growth**  |
| *Aspergillus niger (ATCC 16404)* | Luxuriant |
| *Bacillus subtilis (ATCC 6633)* | Luxuriant |
| *Escherichia coli (ATCC 25922)* | Luxuriant |
| *Salmonella Typhimurium (ATCC 14028)* | Luxuriant |
| *Staphylococcus aureus (ATCC 6538)* | Luxuriant |
| *Salmonella Typhimurium ATCC 14028* | Luxuriant |
| *Candida albicans (ATCC 10231)* | Luxuriant |

# REFERENCES

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2. MacFaddin, J.F. 1985. Media for the isolation – cultivation – maintenance of medical bacteria. Volume 1. Williams and Wilkins, Baltimore, London

3. U.S. Pharmacopeial Convention, Inc. The U.S. Pharmacopeia /The national formulary Current edition. U.S. Pharmacopeial Convention, Inc., Rockville, Md 4. Council of Europe. European Pharmacopoeia, current edition. European Pharmacopoeia Secretariat. Strasbourg/France.

5. Downes, F.P. and K. Ito. 2001. Compendium of Methods for the Microbiological Examination of Foods. 4th ed. APHA, Washington, D.C.

6. AOAC International. 2002. Official Methods of Analysis of AOAC International. 17th ed., 1st rev. AOAC International, Washington, D.C.

7. Wehr, H.M. and J.F. Frank. 2004. Standard Methods for the Examination of Dairy Products. 17th ed. APHA, Washington, D.C.

8. Eaton, A.D., L.S. Clesceri, E.W. Rice, and A.E. Greenberg. 2005. Standard Methods for the Examination of Water and Wastewater. 21st ed. APHA, Washington, D.C.

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| **SYMBOLS IN PRODUCT LABELLING**  |
|   IVD For in-vitro diagnostic use  |   Number of <n> test in the pack  |
|  LOT Batch Code/Lot number  | A black and white triangle with a exclamation mark  Description automatically generated Caution  |
|  REF Catalogue Number  | Do not use if package is damaged   |
|   Temperature Limitation   Expiration Date   Manufactured by  |  Consult Instruction for use      |

 **Ismailia – Free zone, Ismailia – Egypt IFU-S-02, Rev. 03 - December 201**9

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