



## BD™ Trypticase™ Soy Agar • BD Trypticase Soy Agar 150 mm •

### INTENDED USE

**BD Trypticase Soy Agar**, available in several plate formats and package sizes, is a general purpose medium which supports the growth of nonfastidious as well as moderately fastidious micro-organisms. It is not recommended to be used for the primary isolation of microorganisms from clinical specimens but may be used for subcultivating bacterial strains isolated from clinical specimens to obtain pure cultures and for further differentiation and identification.

### PRINCIPLES AND EXPLANATION OF THE PROCEDURE

Microbiological method.

The nutritional composition of Trypticase Soy Agar has made it a popular medium for many years. It is the medium specified as Soybean-Casein Digest Agar Medium in the United States Pharmacopeia and in the European Pharmacopeia for the total aerobic microbial count portion of the microbial limit testing procedures.<sup>1,2</sup> The prepared medium is used for a multitude of purposes including maintenance of stock cultures, plate counting, isolation of micro-organisms isolated from a variety of materials including clinical specimens.<sup>3-5</sup> It is included in the compendia of methods for the examination of water, waste-water and foods.<sup>6,7</sup>

The use of this medium in clinical microbiology is limited since it does support the growth of a variety of fastidious bacteria. **BD Trypticase Soy Agar** may also be used as a medium for maintaining or subculturing reference strains, e.g., *Enterobacteriaceae* and staphylococci. It is not used as a primary isolation medium for clinical applications but may be used for subcultivating bacterial strains (previously isolated from clinical specimens) to obtain pure cultures and for further differentiation and identification.

In **BD Trypticase Soy Agar**, the combination of casein and soy peptones renders the medium nutritious by supplying organic nitrogen, particularly amino acids and longer-chained peptides. Sodium chloride maintains the osmotic equilibrium.

### REAGENTS

#### BD Trypticase Soy Agar

Formula\* Per Liter Purified Water

|                             |        |
|-----------------------------|--------|
| Pancreatic Digest of Casein | 15.0 g |
| Papaic Digest of Soybean    | 5.0    |
| Sodium Chloride             | 5.0    |
| Agar                        | 15.0   |

pH 7.3 ± 0.2

\*Adjusted and/or supplemented as required to meet performance criteria.

### PRECAUTIONS

**IVD** . For professional use only.

Do not use plates if they show evidence of microbial contamination, discoloration, drying, cracking or other signs of deterioration.

Consult **GENERAL INSTRUCTIONS FOR USE** document for aseptic handling procedures, biohazards, and disposal of used product.

## STORAGE AND SHELF LIFE

On receipt, store plates in the dark at 2 to 8° C, in their original sleeve wrapping until just prior to use. Avoid freezing and overheating. The plates may be inoculated up to the expiration date (see package label) and incubated for the recommended incubation times.

Plates from opened stacks of 10 plates can be used for one week when stored in a clean area at 2 to 8° C.

## USER QUALITY CONTROL

Inoculate representative samples with the following strains (for details, see **GENERAL INSTRUCTIONS FOR USE** document). For industrial applications, inoculate with <100 CFU per plate by spreading appropriately diluted suspensions onto the surface of the medium. Incubate the bacteria for 18 to 72 hours aerobically at 30 to 35° C. Incubate *Aspergillus niger* and *Candida albicans* for 2 to 5 days aerobically at 30 to 35° C.

| Strains                                       | Results                                |
|---|--|
| <i>Aspergillus niger</i> ATCC™ 16404          | Growth; large fluffy colonies          |
| <i>Bacillus subtilis</i> ATCC 6633            | Growth; medium-sized to large colonies |
| <i>Candida albicans</i> ATCC 10231*           | Growth; medium-sized colonies          |
| <i>Escherichia coli</i> ATCC 8739*            | Growth; medium-sized colonies          |
| <i>Pseudomonas aeruginosa</i> ATCC 9027       | Growth; medium-sized colonies          |
| <i>Staphylococcus aureus</i> ATCC 6538*       | Growth; medium-sized colonies          |
| <i>Staphylococcus epidermidis</i> ATCC 12228* | Growth; small to medium-sized colonies |
| <i>Salmonella Typhimurium</i> ATCC 14028*     | Growth; small colonies                 |
| Uninoculated                                  | Light amber                            |

For clinical applications, the strains marked with an asterisk in the table above and the same procedures as described for industrial application can be used.

## PROCEDURE

### Materials Provided

**BD Trypticase Soy Agar** (90 mm **Stacker™** plates) or **BD Trypticase Soy Agar 150 mm** (150 mm plates). Microbiologically controlled.

### Materials Not Provided

Ancillary culture media, reagents and laboratory equipment as required.

### Specimen Types

**BD Trypticase Soy Agar** is used in a variety of nonclinical procedures. For details, consult the references.<sup>1,2,6,7</sup>

In clinical microbiology, it must not be used for the primary isolation of microorganisms from clinical specimens but only for the tests described in **PRINCIPLES AND EXPLANATION OF THE PROCEDURE** which must be performed with pure cultures.

### Test Procedure

For the use of **BD Trypticase Soy Agar** and **BD Trypticase Soy Agar 150 mm** in industrial microbiology, consult the references.<sup>1,2,6,7</sup> **BD Trypticase Soy Agar 150 mm** is predominantly used for sedimentation tests.

If the media are used for the subculture of pure cultures, collect a loopful of material from the culture and streak for isolation. Incubate as appropriate for the organism.

### Results

After incubation, colonies of the organisms contained in the material or culture will be present on the medium.

Isolates obtained from the test materials must be further differentiated to obtain a final identification.

## PERFORMANCE CHARACTERISTICS AND LIMITATIONS OF THE PROCEDURE

**BD Trypticase Soy Agar** and **BD Trypticase Soy Agar 150 mm** are used in a variety of industrial microbiology procedures, e.g., in microbial limit testing and in water and food microbiology.<sup>1-3,6,7</sup>

The media are also used for cultivation of many less fastidious bacteria, e.g., *Enterobacteriaceae*, nonfermenting Gram negative rods (*Pseudomonas* and others), enterococci, staphylococci, sporeforming bacteria (*Bacillus* and related genera), and other organisms with similar growth requirements. They are not suitable for the isolation and cultivation of very fastidious bacteria, such as *Neisseria* or *Haemophilus* species, or other organisms with special nutritional requirements, and they are not optimal media for the isolation of fastidious strict anaerobes.

**BD Trypticase Soy Agar** and **BD Trypticase Soy Agar 150 mm** do not contain compounds that actively neutralize disinfectants or preservatives. If materials containing such compounds or surfaces that have been previously disinfected shall be monitored, it is recommended to use Trypticase Soy Agar with Lecithin and Polysorbate.

## REFERENCES

1. U.S. Pharmacopeial Convention, Inc. 2009. The U.S. Pharmacopeia 32/The national formulary 27--2009. U.S. Pharmacopeial Convention, Inc., Rockville, Md.
2. Council of Europe, 2008. European Pharmacopoeia, 6.1. European Pharmacopoeia Secretariat. Strasbourg/France.
3. MacFaddin, J.F. 1985. Media for isolation-cultivation- identification-maintenance of medical bacteria, vol. 1, Williams & Wilkins, Baltimore.
4. Baron, E.J., L.R. Peterson, and S.M. Finegold. 1994. Bailey & Scott's diagnostic microbiology, 9th ed. Mosby-Year Book, Inc., St. Louis.
5. Nash, P., and M.M. Krenz. 1991. Culture media, p. 1226-1288. In A. Balows, W.J. Hausler, Jr., K.L. Herrmann, H.D. Isenberg, and H.J. Shadomy (ed.), Manual of clinical microbiology, 5th ed. American Society for Microbiology, Washington, D.C.
6. Eaton, A.D., L.S. Clesceri, and A.E. Greenberg (ed.). 1995. Standard methods for the examination of water and wastewater, 19th ed. American Public Health Association, Washington, D.C.
7. Downes, F.P., and K. Ito. 2001. Compendium of methods for the microbiological examination of foods. 4<sup>th</sup> edition. American Public Health Association (APHA). Washington, D.C. USA.

## PACKAGING/AVAILABILITY

### **BD Trypticase Soy Agar**

Cat. No. 254051                      Ready-to-use Plated Media, cpu 20  
Cat. No. 254086                      Ready-to-use Plated Media, cpu 120

### **BD Trypticase Soy Agar, 150 mm**

Cat. No. 257005                      Ready-to-use Plated Media, cpu 20

## FURTHER INFORMATION

For further information please contact your local BD representative.



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