

Trypto-Casein-Soy/Agar (TSA)

356-3884
355-5947
355-5944
356-4554

DEFINITION

Medium used for the detection of aerobic-anaerobic bacteria in the analysis of food products, in sterility tests and in the monitoring of non-sterile Pharmacopeia products.

STANDARDS

FOOD MICROBIOLOGY

- **NF EN ISO 10273 (December 2003):** Food Microbiology - Horizontal method for the detection of presumptive pathogenic *Yersinia enterocolitica* (IC: V 08-027).

WATER

- **NF EN ISO 9308-1 (September 2000):** Water quality - Detection and enumeration of *Escherichia coli* and coliform bacteria - Part 1: Membrane filter method (IC: T 90-414).

PRINCIPLE

The nutrient substances provided by tryptic casein hydrolysate and soy peptone, and the glucose used as energy source, favor the growth of most aerobic-anaerobic bacteria.

PRESENTATION

- **Pre-poured**
90 mm x 20 plates **code 356-3884**
- **Ready-to-use**
200 ml x 6 bottles **code 355-5947**
8ml x 25 inclined tubes **code 355-5944**
- **Dehydrated**
500 g **code 356-4554**

THEORETICAL FORMULA

Pancreatic casein hydrolysate	15 g
Soy peptone	5 g
Sodium chloride	5 g
Agar	15 g
Distilled water	1,000 ml

Final pH (25°C) = 7.3 ± 0.2

STORAGE

- Pre-poured: + 2°C to 20°C.
- Ready-to-use: + 2°C to 25°C
- Dehydrated: + 15°C to 25°C, in carefully-sealed bottles in a cool, dry place.
- Expiration date and batch number are shown on the package.

OTHER PRODUCTS REQUIRED (NOT SUPPLIED)

- Distilled water

EQUIPMENT REQUIRED (NOT SUPPLIED) (non-exhaustive)

- Scales
- Sterile weighing bags
- Grinder
- Hotplate
- Mixer-homogenizer
- Test tubes (16 x 160 mm) with autoclave-proof stoppers
- 225 ml Pyrex bottles with autoclave-proof stoppers
- Water-bath precise to ± 1°C
- Thermostatically-controlled incubator or incubation room, precise to ± 1°C
- Autoclave
- All usual laboratory equipment

PREPARATION OF DEHYDRATED MEDIUM

Always shake well before use.

Dissolve 40 g of powder in 1 liter of distilled water, mix until a homogenous suspension is obtained.

Heat gently stirring frequently, then bring to boiling point until completely dissolved.

Dispense 10 ml per tube or 100 ml per bottle and sterilize in autoclave at 121°C ± 1°C for 15 minutes.

Reconstitution ratio: 40 g/l.
500 g of powder makes 12.5 liters of medium.

PROTOCOL

• Preparation of samples

According to the standards or recommendations applicable to the product concerned.

• Inoculation and incubation

Inoculate with the strains to be tested and incubate at 37°C ± 1°C.

PRECAUTIONS

- The time lapse between the end of preparation of the stock solution (or the 10⁻¹ dilution in the case of a solid product) and the moment when the dilutions come into contact with the culture medium must not exceed 15 minutes.

- Violent stirring of the regenerated medium should be avoided, so as to prevent its re-oxygenation
- Comply with Good Laboratory Practice.

PERFORMANCES / QUALITY CONTROL OF THE TEST

The growth performances of the media are verified with the following strains:

STRAINS	Results after 24h culture at 37°C
<i>Salmonella enteritidis</i> ATCC 13076	Good growth
<i>Candida albicans</i> ATCC 2091	Good growth
<i>Staphylococcus aureus</i> ATCC 25923	Good growth
<i>Staphylococcus epidermidis</i> ATCC 14990	Good growth
<i>Streptococcus pyogenes</i> ATCC 19615	Good growth

QUALITY CONTROL OF MANUFACTURER

Every product manufactured and marketed by Bio-Rad is subject to a quality-assurance procedure at all stages, from the reception of raw materials to the marketing of the end-product. Each batch of finished product undergoes quality control and is marketed only if it satisfies the acceptability criteria.

Documentation relative to the production and control of each batch is kept on file.

KEY WORDS

Trypto-Casein-Soy / TSA / Aerobic-anaerobic bacteria / Food products / Sterility tests / Growth / Medium.