



## Tryptone Soya Agar Plate (in 55mm Gamma irradiated plate) SP290GT

A general purpose medium for cultivation of wide variety of microorganisms.

### Composition\*\*

Ingredients	Gms / Litre
Pancreatic digest of casein	15.000
Papaic digest of soyabean meal	5.000
Sodium chloride	5.000
Agar	15.000

\*\*Formula adjusted, standardized to suit performance parameters

### Directions

Either streak, inoculate or surface spread the test inoculum (50-100CFU) aseptically on the plate.

### Principle And Interpretation

Soyabean Casein Digest Agar is a widely used medium, which supports the growth of wide variety of organisms even that of fastidious ones such as *Neisseria*, *Listeria*, and *Brucella* etc. The medium with addition of blood provides perfectly defined haemolysis zones, while preventing the lysis of erythrocytes due to its sodium chloride content.

It has been frequently used in the health industry to produce antigens, toxins etc. Its simple and inhibitor-free composition makes it suitable for the detection of antimicrobial agents in the food and other products. Tryptone Soya Agar is recommended by various pharmacopoeias as sterility testing medium (1, 2).

Tryptone Soya Agar conforms as per USP (1) and is used in microbial limit test and antimicrobial preservative - effective test. Gunn et al (3) used this medium for the growth of fastidious organisms and study of haemolytic reaction after addition of 5% v/v blood. The combination of Pancreatic digest of casein and papaic digest of soyabean meal makes this media nutritious by providing amino acids and long chain peptides for the growth of microorganisms. Sodium chloride maintains the osmotic balance.

Soyabean Casein Digest Agar does not contains X and V growth factors. It can be conveniently used in determining the requirements of these growth factors by isolates of Haemophilus by the addition of X-factor (DD020), V-factor (DD021), and X+V factor discs (DD022) factor to inoculated TSA plates (4).

### Quality Control

#### Appearance

Sterile Soyabean Casein Digest Agar in scored plates

#### Colour

Light yellow coloured medium.

#### Quantity of Medium

18ml of medium in scored plates

#### pH

7.10- 7.50

#### Dose of irradiation

10.00- 25.00

#### Cultural Response

Recovery rate is considered 100% for bacteria growth on Blood Agar and fungus growth on Sabouraud Dextrose Agar.

#### Growth promoting properties

Growth of microorganism comparable to that previously obtained with previously tested and approved lot of medium occurs at the specified temperature for not more than the shortest period of time specified inoculating  $\leq 100$  cfu (at 30-35°C for 18 hours).

**Sterility Test**

Passes release criteria.

**Cultural Response**

SP290GT: Growth Promotion was carried out in accordance with the harmonized method and growth was observed after an incubation at 30-35°C for 18-24 hours.

Organism	Inoculum (CFU)	Growth	Observed Lot value (CFU)	Recovery	Incubation temperature	Incubation period
<b>Growth promoting</b>						
<i>Bacillus subtilis</i> ATCC 6633	50 -100	luxuriant	35 -100	>=70 %	30 -35 °C	18 -24 hrs
<i>Staphylococcus aureus</i> ATCC 25923	50 -100	luxuriant	35 -100	>=70 %	30 -35 °C	18 -24 hrs
<i>Staphylococcus aureus</i> ATCC 6538	50 -100	luxuriant	35 -100	>=70 %	30 -35 °C	18 -24 hrs
<i>Escherichia coli</i> ATCC 25922	50 -100	luxuriant	35 -100	>=70 %	30 -35 °C	18 -24 hrs
<i>Escherichia coli</i> ATCC 8739	50 -100	luxuriant	35 -100	>=70 %	30 -35 °C	18 -24 hrs
<i>Escherichia coli</i> NCTC 9002	50 -100	luxuriant	35 -100	>=70 %	30 -35 °C	18 -24 hrs
<i>Pseudomonas aeruginosa</i> ATCC 27853	50 -100	luxuriant	35 -100	>=70 %	30 -35 °C	18 -24 hrs
<i>Pseudomonas aeruginosa</i> ATCC 9027	50 -100	luxuriant	35 -100	>=70 %	30 -35 °C	18 -24 hrs
<i>Salmonella</i> Abony NCTC 6017	50 -100	luxuriant	35 -100	>=70 %	30 -35 °C	18 -24 hrs
<i>Micrococcus luteus</i> ATCC 9341	50 -100	luxuriant	35 -100	>=70 %	30 -35 °C	18 -24 hrs
<i>Streptococcus pneumoniae</i> ATCC 6305	50 -100	luxuriant	35 -100	>=70 %	30 -35 °C	18 -24 hrs
<i>Salmonella</i> Typhimurium ATCC 14028	50 -100	luxuriant	35 -100	>=70 %	30 -35 °C	18 -24 hrs
<i>Candida albicans</i> ATCC 10231	50 -100	luxuriant	35 -100	>=70 %	30 -35 °C	<=5 d
<i>Candida albicans</i> ATCC 2091	50 -100	luxuriant	35 -100	>=70 %	30 -35 °C	<=5 d
<i>Aspergillus brasiliensis</i> ATCC 16404	50 -100	Good-luxuriant	25 -70	50 -70 %	30 -35 °C	<=5 d
<i>Aspergillus brasiliensis</i> ATCC 16404	50 -100	Luxuriant	35 -100	>=70 %	20 -25 °C	<=5 d

**Storage and Shelf Life**

Store between 20-30°C. Use before expiry date on the label.

**Reference**

- 1.The United States Pharmacopoeia / National Formulary, 2008, USP 31, The United States Pharmacopoeial Convention Inc., Rockville, MD.
- 2.Indian Pharmacopoeia, 2007, Govt. of India, Ministry of Health and Family Welfare, New Delhi, India.
- 3.Gunn B. A., Ohashi D K., Gaydos C. A., Holt E. S., 1977, J. Clin. Microbiol., 5(6) : 650.
- 4.Forbes B. A., Sahm A. S. and Weissfeld D. F., 1998, Bailey and Scotts Diagnostic Microbiology, 10th Ed., Mosby Inc. St. Louis, Mo

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