# HiEncap™ Soyabean Casein Digest Agar

**EC290CCL**

## Intended Use:

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

## Composition**

| Ingredients | Gms / Litre |
|---|---|
| Tryptone | 15.000 |
| Soya peptone | 5.000 |
| Sodium chloride | 5.000 |
| Agar | 15.000 |
| Final pH ( at 25°C) | 7.3±0.2 |

**Formula adjusted, standardized to suit performance parameters

## Directions

Each capsule contains 10 grams of medium. Suspend 1 capsule in 250 ml (4 capsules in 1000 ml) distilled or purified water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. If desired, aseptically add 5% v/v defibrinated blood in previously cooled medium to 45-50°C for cultivation. Mix well and pour into sterile Petri plates.

## 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**
Gelatin capsule containing cream to yellow coloured granular media

**Gelling**
Firm, comparable with 1.5% Agar gel

**Colour and Clarity of prepared medium**
Basal Medium : Light yellow coloured clear to slightly opalescent gel. After addition of 5-7%w/v sterile defibrinated blood : Cherry red coloured opaque gel forms in Petri plates

**Quantity**
Each capsule contains 10 grams of medium sufficient for 250 ml media

**Reaction**
pH of 4.0% w/v aqueous solution at 25°C. pH : 7.3±0.2

**pH**

7.10-7.50

**Cultural response**
Cultural characteristics was observed after an incubation for Bacterial at 30-35°C 18-24 hours and for Fungal at 20-25°C <=5day's.

| Organism | Inoculum (CFU) | Recovery | Recovery w/ blood | Haemolysis |
|---|---|---|---|---|
| *Bacillus subtilis ATCC 6633* | 50 -100 | >=70 % | >=70 % | none |
| *Staphylococcus aureus ATCC 25923* | 50 -100 | >=70 % | >=70% | beta |
| *Staphylococcus aureus ATCC 6538* | 50 -100 | >=70 % | >=70 % | beta |
| *Escherichia coli ATCC 25922* | 50 -100 | >=70 % | >=70 % | none |
| *Escherichia coli ATCC 8739* | 50 -100 | >=70 % | >=70 % | none |
| *Escherichia coli NCTC 9002* | 50 -100 | >=70 % | >=70 % | none |
| *Pseudomonas aeruginosa ATCC 27853* | 50 -100 | >=70 % | >=70 % | |
| *Pseudomonas aeruginosa ATCC 9027* | 50 -100 | >=70 % | >=70 % | |
| *Salmonella* Abony *NCTC 6017* | 50 -100 | >=70 % | >=70 % | |
| *Micrococcus luteus ATCC 9341* | 50 -100 | >=70 % | >=70 % | |
| *Streptococcus pneumoniae ATCC 6305* | 50 -100 | >=70 % | >=70 % | |
| *Salmonella* Typhimurium *ATCC 14028* | 50 -100 | >=70 % | >=70 % | |
| *Candida albicans ATCC 10231* | 50 -100 | >=70 % | >=70 % | |
| *Candida albicans ATCC 2091* | 50 -100 | >=70 % | >=70 % | |
| **Aspergillus brasiliensis ATCC 16404* | 50 -100 | 50-70% | | |

* Key: Formerly known as *Aspergillus niger*

## 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

Revision : 00 / 2014