



Technical Data

HiEncap™ Soyabean Casein Digest Agar (HiEncap™ Tryptone Soya Agar)

EC290D

HiEncap™ Soyabean Casein Digest Agar is a general purpose medium used for cultivation of a wide variety of microorganisms and sterility testing of moulds and lower bacteria.

Composition**

Ingredients	Gms / Litre
Pancreatic digest of casein	15.000
Papaic digest of soyabean meal	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 20 grams of medium. Suspend 1 capsule in 500 ml (2 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 20 grams of medium sufficient for 500 ml media

Reaction

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

pH

Please refer disclaimer Overleaf.

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.

Cultural Response

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

* Key: Formerly known as *Aspergillus niger*

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°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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