



Soyabean Casein Digest Medium (Tryptone Soya Broth)

M011

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

Composition**

Ingredients	Gms / Litre
Pancreatic digest of casein	17.000
Papaic digest of soyabean meal	3.000
Sodium chloride	5.000
Dextrose(Glucose)	2.500
Dipotassium hydrogen phosphate	2.500
Final pH (at 25°C)	7.3±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 30 grams in 1000 ml purified/ distilled water. Heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and dispense as desired.

Note: If any fibres are observed in the solution, it is recommended to filter the solution by using a 0.22 micron filter to eliminate the possibility of presence of fibres.

Principle And Interpretation

Soyabean Casein Digest Medium is recommended by various pharmacopeias as a sterility testing and as a microbial limit testing medium (1, 2, 3). This medium is a highly nutritious medium used for cultivation of a wide variety of organisms (4).

The combination of pancreatic digest of casein and papaic digest of soyabean meal makes the medium nutritious by providing amino acids and long chain peptides for the growth of microorganisms. Dextrose and dibasic potassium phosphate serve as the carbohydrate source and the buffer, respectively in the medium. Sodium chloride maintains the osmotic balance of the medium.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Light yellow coloured clear solution without any precipitate.

pH of 3.0% w/v aqueous solution at 25°C .

pH

7.10-7.50

Cultural Response

Cultural characteristics observed after an incubation at 30-35°C for ≤ 3days for Bacterial and at 20-25°C for ≤ 5days for Fungal.

Stability test

Light yellow coloured clear solution without any precipitation or sedimentation at room temperature for 7 days

Cultural Response

Organism	Inoculum (CFU)	Growth	Incubation temperature	Incubation period
Growth promoting				
<i>Staphylococcus aureus</i> ATCC 6538	50 -100	luxuriant	30 -35 °C	18 -24 hrs
<i>Staphylococcus aureus</i> ATCC 25923	50 -100	luxuriant	30 -35 °C	18 -24 hrs
<i>Escherichia coli</i> ATCC 8739	50 -100	luxuriant	30 -35 °C	18 -24 hrs
<i>Escherichia coli</i> ATCC 25922	50 -100	luxuriant	30 -35 °C	18 -24 hrs

<i>Escherichia coli</i> NCTC 9002	50 -100	luxuriant	30 -35 °C	18 -24 hrs
<i>Pseudomonas aeruginosa</i> ATCC 9027	50 -100	luxuriant	30 -35 °C	18 -24 hrs
<i>Pseudomonas aeruginosa</i> ATCC 27853	50 -100	luxuriant	30 -35 °C	18 -24 hrs
<i>Bacillus subtilis</i> ATCC 6633	50 -100	luxuriant	30 -35 °C	18 -24 hrs
<i>Micrococcus luteus</i> ATCC 9341	50 -100	luxuriant	30 -35 °C	18 -24 hrs
<i>Salmonella Typhimurium</i> ATCC 14028	50 -100	luxuriant	30 -35 °C	18 -24 hrs
<i>Salmonella Abony</i> NCTC 6017	50 -100	luxuriant	30 -35 °C	18 -24 hrs
<i>Streptococcus pneumoniae</i> ATCC 6305	50 -100	luxuriant	30 -35 °C	18 -24 hrs

Sterility Testing- Growth promotion+ Validation

<i>Staphylococcus aureus</i> ATCC 6538	50 -100	luxuriant	20 -25 °C	<=3 d
<i>Staphylococcus aureus</i> ATCC 25923	50 -100	luxuriant	20 -25 °C	<=3 d
<i>Escherichia coli</i> ATCC 8739	50 -100	luxuriant	20 -25 °C	<=3 d
<i>Escherichia coli</i> ATCC 25922	50 -100	luxuriant	20 -25 °C	<=3 d
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<i>Streptococcus pneumoniae</i> ATCC 6305	50 -100	luxuriant	20 -25 °C	<=3 d
<i>Candida albicans</i> ATCC 10231	50 -100	luxuriant	20 -25 °C	<=5 d
<i>Candida albicans</i> ATCC 2091	50 -100	luxuriant	20 -25 °C	<=5 d
<i>Aspergillus brasiliensis</i> ATCC 16404	50 -100	luxuriant	20 -25 °C	<=5 d

Storage and Shelf Life

Store below 30°C in a tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

Reference

1. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams & Wilkins, Baltimore, M.d.
2. The United States Pharmacopeia, 2008, USP31/NF26, The United States Pharmacopeial Convention, Rockville, MD.
3. Indian Pharmacopeia, 2007, Govt. of India, Ministry of Health and Family Welfare, New Delhi, India.
4. Forbes B. A., Sahm D. F. and Weissfeld A. S., 1998, Bailey & Scotts Diagnostic Microbiology, 10th Ed., Mosby, Inc. St. Louis, Mo.

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