



Soybean-Casein Digest Broth

MU011

Soybean Casein Digest Broth is recommended as a general purpose medium used for cultivation of a wide variety of microorganisms and in sterility testing of moulds and lower bacteria in accordance with United States Pharmacopoeia.

Composition**

Ingredients	Gms / Litre
Pancreatic digest of casein	17.000
Papaic digest of soybean	3.000
Sodium chloride	5.000
Dibasic potassium phosphate	2.500
Glucose monohydrate	2.500
pH after sterilization (at 25°C)	7.3±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 29.77 grams of dehydrated medium in 1000 ml Water R/purified/distilled water. Heat if necessary to dissolve the medium completely. Dispense as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes or as per validated cycle

Principle And Interpretation

Soybean Casein Digest Broth is recommended by United States Pharmacopoeia as a sterility testing medium (1). The media formulation is in accordance with the harmonized media of British Pharmacopoeia and European pharmacopoeia (3, 4). It is used for the sensitivity testing of antimicrobial agents by the tube dilution method (2). It is also employed in diagnostic research in microbiology. This medium is used as an diluent and suspending medium for preparation of samples or test strains. It is also employed in sample preparation for testing of products, wherein incubation is carried out, only to serve sufficient resuscitation of the cell, while avoiding multiplication of the organism.

The combination of pancreatic digest of casein and papaic digest of soybean meal makes this medium nutritious by providing amino acids and long chain peptides for the growth of microorganisms. Natural sugars in soybean promote growth of fastidious organism. Glucose is the fermentable source of carbon and dibasic potassium phosphate serves as the buffer in the medium. Sodium chloride maintains the osmotic balance of the medium.

This medium is recommended by USP for sterility checking and for studying total aerobic microbial count in verification of microbiological testing procedures employed for sterility checking.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Light yellow coloured clear solution without any precipitate.

Reaction

Reaction of 2.98% w/v aqueous solution at 25°C. pH : 7.3±0.2

pH

7.10-7.50

Growth Promotion Test

Growth Promotion is carried out in accordance with the harmonized method of USP.

Stability test

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

Growth promoting properties

Clearly visible 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 not more than 100 cfu (at 30-35°C for 18-24 hours).

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</i> Typhimurium ATCC 14028	50 -100	luxuriant	30 -35 °C	18 -24 hrs
<i>Salmonella</i> Abony 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>Pseudomonas aeruginosa</i> ATCC 27853	50 -100	luxuriant	20 -25 °C	<=3 d
<i>Bacillus subtilis</i> ATCC 6633	50 -100	luxuriant	20 -25 °C	<=3 d
<i>Micrococcus luteus</i> ATCC 9341	50 -100	luxuriant	20 -25 °C	<=3 d
<i>Salmonella</i> Typhimurium ATCC 14028	50 -100	luxuriant	20 -25 °C	<=3 d
<i>Salmonella</i> Abony NCTC 6017	50 -100	luxuriant	20 -25 °C	<=3 d
<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 tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label.

Reference

- 1.The United States Pharmacopoeia, 2011, The United States Pharmacopoeial Convention. Rockville, MD.
- 2.Wright and Welch, 1959-60, Antibiotics Ann., 61.
- 3.British Pharmacopoeia, 2011, The Stationery office British Pharmacopoeia
- 4.European Pharmacopoeia 2011, European Dept. for the Quality of Medicines

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