Soyabean Casein Digest Medium (Tryptone Soya Broth)  

**Intended Use:**
Recommended as a general purpose medium used for cultivation of a wide variety of microorganisms and recommended for sterility testing of moulds and lower bacteria.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tryptone</td>
<td>17.000</td>
</tr>
<tr>
<td>Soya peptone</td>
<td>3.000</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>5.000</td>
</tr>
<tr>
<td>Dextrose (Glucose)</td>
<td>2.500</td>
</tr>
<tr>
<td>Dipotassium hydrogen phosphate</td>
<td>2.500</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>7.3±0.2</td>
</tr>
</tbody>
</table>

**Directions**

Suspend 30.0 grams in 1000 ml purified/distilled water. Heat if necessary to dissolve the medium completely. Mix well and dispense in tubes or flasks as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Note: If any fibres are observed in the solution, it is recommended to filter the solution through 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 Tryptone and soya peptone makes the medium nutritious by providing nitrogenous, carbonaceous substances, amino acids and long chain peptides for the growth of microorganisms. Dextrose/glucose serve as the carbohydrate source and dibasic potassium phosphate buffer the medium. Sodium chloride maintains the osmotic balance of the medium.

**Type of specimen**

Pharmaceutical samples

**Specimen Collection and Handling**

For pharmaceutical samples, follow appropriate techniques for sample collection, processing as per pharmaceutical guidelines (1).

After use, contaminated materials must be sterilized by autoclaving before discarding.

**Warning and Precautions**

Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets.

**Limitations**
1. Biochemical characterization is necessary to be performed on colonies from pure cultures for further identification.
2. This medium is general purpose medium and may not support the growth of fastidious organisms.

**Performance and Evaluation**

Performace of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

**Quality Control**

**Appearance**
Crease to yellow homogeneous free flowing powder

**Colour and Clarity of prepared medium**
Light yellow coloured clear solution without any precipitate.

**Reaction**

pH of 3.0% w/v aqueous solution at 25°C (after sterilization), pH : 7.3±0.2

**pH**

7.10-7.50

**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 for bacteria and 5days for fungal) Growth promotion is carried out as per USP/EP/BP/JP/IP.

<table>
<thead>
<tr>
<th>Organism</th>
<th>Growth</th>
<th>Incubation period</th>
<th>Inoculum (CFU)</th>
<th>Incubation temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Salmonella Typhimurium</em> ATCC 14028 (00031*)</td>
<td>luxuriant</td>
<td>18 - 24 hrs</td>
<td>50 - 100</td>
<td>30 - 35 °C</td>
</tr>
<tr>
<td><em>Salmonella Abony NCTC 6017</em> (00029*)</td>
<td>luxuriant</td>
<td>18 - 24 hrs</td>
<td>50 - 100</td>
<td>30 - 35 °C</td>
</tr>
<tr>
<td><em>Pseudomonas aeruginosa</em> ATCC 9027 (00026*)</td>
<td>luxuriant</td>
<td>18 - 24 hrs</td>
<td>50 - 100</td>
<td>30 - 35 °C</td>
</tr>
<tr>
<td><em>Streptococcus pneumoniae ATCC 6305</em></td>
<td>luxuriant</td>
<td>18 - 24 hrs</td>
<td>50 - 100</td>
<td>30 - 35 °C</td>
</tr>
<tr>
<td><em>Staphylococcus aureus subsp. aureus ATCC 6538</em> (00032*)</td>
<td>luxuriant</td>
<td>18 - 24 hrs</td>
<td>50 - 100</td>
<td>30 - 35 °C</td>
</tr>
<tr>
<td><em>Escherichia coli ATCC 25922</em> (00013*)</td>
<td>luxuriant</td>
<td>18 - 24 hrs</td>
<td>50 - 100</td>
<td>30 - 35 °C</td>
</tr>
<tr>
<td><em>Escherichia coli NCTC 9002</em></td>
<td>luxuriant</td>
<td>18 - 24 hrs</td>
<td>50 - 100</td>
<td>30 - 35 °C</td>
</tr>
<tr>
<td><em>Escherichia coli ATCC 8739</em> (00012*)</td>
<td>luxuriant</td>
<td>18 - 24 hrs</td>
<td>50 - 100</td>
<td>30 - 35 °C</td>
</tr>
<tr>
<td><em>Bacillus subtilis subsp. spizizenii ATCC 6633</em> (00003*)</td>
<td>luxuriant</td>
<td>18 - 24 hrs</td>
<td>50 - 100</td>
<td>30 - 35 °C</td>
</tr>
<tr>
<td><em>Micrococcus luteus ATCC 9341</em></td>
<td>luxuriant</td>
<td>18 - 24 hrs</td>
<td>50 - 100</td>
<td>30 - 35 °C</td>
</tr>
<tr>
<td><em>Pseudomonas aeruginosa</em> ATCC 27853* (00025*)</td>
<td>luxuriant</td>
<td>18 - 24 hrs</td>
<td>50 - 100</td>
<td>30 - 35 °C</td>
</tr>
<tr>
<td><em>Candida albicans ATCC 10231</em> (00054*)</td>
<td>luxuriant</td>
<td>18 - 24 hrs</td>
<td>50 - 100</td>
<td>30 - 35 °C</td>
</tr>
<tr>
<td><em>Staphylococcus aureus subsp. aureus ATCC 25923</em> (00034*)</td>
<td>luxuriant</td>
<td>18 - 24 hrs</td>
<td>50 - 100</td>
<td>30 - 35 °C</td>
</tr>
<tr>
<td><strong>Sterility Testing - Growth promotion+Validation</strong></td>
<td>luxuriant</td>
<td>&lt;=3 d</td>
<td>50 - 100</td>
<td>20 - 25 °C</td>
</tr>
</tbody>
</table>

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HiMedia Laboratories

Technical Data

# Aspergillus brasiliensis
ATCC 16404 (00053*)
luxuriant <=5 d 50 -100 20 -25 °C

Candida albicans ATCC 2091 (00055*)
luxuriant <=5 d 50 -100 30 -35 °C

Staphylococcus aureus
subsp. aureus ATCC 25923 (00034*)
luxuriant <=3 d 50 -100 20 -25 °C

Escherichia coli ATCC 25922 (00013*)
luxuriant <=3 d 50 -100 20 -25 °C

Pseudomonas aeruginosa
ATCC 9027 (00026*)
luxuriant <=3 d 50 -100 20 -25 °C

Bacillus subtilis subsp.
spizizenii ATCC 6633 (0003*)
luxuriant <=3 d 50 -100 20 -25 °C

Salmonella Typhimurium
ATCC 14028 (00031*)
luxuriant <=3 d 50 -100 20 -25 °C

Salmonella Abony NCTC 6017 (00029*)
luxuriant <=3 d 50 -100 20 -25 °C

Streptococcus pneumoniae
ATCC 6305
luxuriant <=3 d 50 -100 20 -25 °C

Escherichia coli
ATCC 8739 (00012*)
luxuriant <=3 d 50 -100 20 -25 °C

Escherichia coli NCTC 9002 luxuriant <=3 d 50 -100 20 -25 °C

Pseudomonas aeruginosa
ATCC 27853 (00025*)
luxuriant <=3 d 50 -100 20 -25 °C

Micrococcus luteus ATCC 9341 luxuriant <=3 d 50 -100 20 -25 °C

Key : (#) Formerly known as Aspergillus niger, (*) Corresponding WDCM numbers

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 15-25°C. Use before expiry date on the label.

On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Use before expiry date on the label. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques (5,6).

Reference


3. Indian Pharmacopeia, 2018, Govt. of India, Ministry of Health and Family Welfare, New Delhi, India.


Disclaimer:

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