



Diluent TSB + Cap 4

LQ504D

Diluent TSB with Cap 4 can be used for the detection and enumeration of microorganisms for products of sanitary importance, water miscible cosmetics, water insoluble products & fatty products containing antimicrobials or preservatives.

Directions

Each bottle contains TSB medium w/ 25% Cap 4. Dispense the required volume of medium in sterile tubes and add the desired amount of the sample to obtain a dilution of the initial sample. Further serial dilutions can be carried out as desired. The entire procedure is to be carried out under aseptic conditions.

Principle And Interpretation

Tryptone Soya Broth 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.

Cap 4 added to the medium is a mixture of dispersant and neutralizers that are reported to disperse the hydrophobic copolymer and to inactivate residual disinfectants in the sample(5).

This medium can thus be used for detection and enumeration of microbial counts in a wide variety of samples.

Quality Control

Appearance

Sterile clear TSB + Cap 4 medium in glass bottle.

Colour

Dark amber coloured, clear solution.

Quantity of Medium

490ml of medium in glass bottle.

pH

7.10- 7.50

Cultural response

Cultural characteristics observed after an incubation at-

Growth Promotion Test

Growth Promotion is carried out in accordance with the harmonized method of USP/EP/BP/JP.

Stability test

Dark amber 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 ≤ 100 cfu(at 30-35°C for 18-24 hours for bacteria and 5 days for fungal).

Sterility Testing + Validation

The medium is tested with suitable strains of microorganisms inoculating ≤ 100 cfu and incubating at 20-25°C for not more than 3 days in case of bacteria and not more than 5 days in case of fungi.

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

Storage and Shelf Life

Store at 15-25°C. Use before the expiry 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.

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4. Forbes B. A., Sahn D. F. and Weissfeld A. S., 1998, Bailey & Scotts Diagnostic Microbiology, 10th Ed., Mosby, Inc. St. Louis, Mo.
 5. Brummer, 1976, Appl. Environ. Microbiol., 32:80.

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