Technical Data

LQ026XX

Fluid Thioglycollate Medium

Intended use

Recommended as sterility test medium prepared in accordance with USP, EP, BP & JP.

Composition**

Ingredients	Gms / Litre
Tryptone #	15.000
Yeast extract	5.000
Glucose monohydrate	5.500
Sodium chloride	2.500
L-Cystine	0.500
Sodium thioglycollate	0.500
Resazurin sodium	0.001
Agar	0.750
pH after sterilization (at 25°C)	7.1±0.2

**Formula adjusted, standardized to suit performance parameters

- Equivalent to Pancreatic digest of casein

Directions

Label the ready to use LQ026XX bottle. Inoculate 50-100 cfu sample and incubate at specified temperature and time.

Principle And Interpretation

Brewer (1) formulated Fluid Thioglycollate Medium for rapid cultivation of aerobes as well as anaerobes including microaerophiles by adding a reducing agent and small amount of agar. The USP (10), BP (2), EP (3) and AOAC (11) have recommended the media for sterility testing of antibiotics, biologicals and foods and for determining the phenol coefficient and sporicidal effect of disinfectants. However, it is intended for the examination of clear liquid or water-soluble materials. Fluid Thioglycollate Medium is also routinely used to check the sterility of stored blood in blood banks (9).

Tryptone, yeast extract, glucose provide carbon, nitrogen compounds, long chain amino acids, vitamin B complex growth factors necessary for bacterial multiplication. L-cystine and sodium thioglycollate allows *Clostridium* to grow in this medium even under aerobic conditions. Also the small amount of agar used in the medium favors the growth of aerobes as well as anaerobes in the medium by maintaining low redox potential for stabilizing the medium (1). Sodium thioglycollate act as a reducing agent and neutralizes the toxic effects of mercurial preservatives and peroxides formed in the medium, thereby promoting anaerobiosis, and making the medium suitable to test materials containing heavy metals (6). Any increase in the oxygen content is indicated by a colour change of redox indicator, resazurin to red (7,8,9).

Type of specimen

Pharmaceutical samples for sterility testing

Specimen Collection and Handling:

For pharmaceutical samples, follow appropriate techniques for sample collection, processing as per guidelines (2,3,10)
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. It is intended for the examination of clear liquid or water-soluble materials.

Performance and Evaluation

Performance 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
Sterile clear Fluid Thioglycollate Medium in glass bottle .

Colour
Light straw coloured solution with upper 10% or less medium pink on standing.

Quantity of Medium
20 ml of medium in glass bottle.

pH
6.90- 7.30

Sterility test
Passes release criteria

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

Growth Promotion Test

In accordance with the harmonized method of USP/EP/BP.

Cultural Response

Cultural characteristics observed after an incubation at 30-35°C for not more than 3 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 <=3 days.

Organism	Inoculum (CFU)	Growth
Clostridium sporogenes ATCC 19404 (00008*)	50 -100	luxuriant, incubated anaerobically
Clostridium sporogenes ATCC 11437	50 -100	luxuriant, incubated anaerobically
Clostridium sporogenes NBRC 14293	50 -100	luxuriant, incubated anaerobically
Clostridium perfringens ATCC 13124 (00007*)	50 -100	luxuriant, incubated anaerobically
Bacteroides fragilis ATCC 23745	50 -100	luxuriant, incubated anaerobically
Bacteroides vulgatus ATCC 8482	50 -100	luxuriant, incubated anaerobically
Staphylococcus aureus subsp. *aureus ATCC 25923 (00034*)*	50 -100	luxuriant
Staphylococcus aureus subsp. *aureus ATCC 6538 (00032*)*	50 -100	luxuriant

Pseudomonas aeruginosa ATCC 27853 (00025*)	50 -100	luxuriant
Pseudomonas aeruginosa ATCC 9027 (00026*)	50 -100	luxuriant
Micrococcus luteus ATCC 9341	50 -100	luxuriant
Streptococcus pneumoniae ATCC 6305	50 -100	luxuriant
Escherichia coli ATCC 25922 (00013*)	50 -100	luxuriant
Escherichia coli ATCC 8739 (00012*)	50 -100	luxuriant
Escherichia coli NCTC 9002	50 -100	luxuriant
Salmonella Typhimurium ATCC 14028 (00031*)	50 -100	luxuriant
Salmonella Abony NCTC 6017 (00029*)	50 -100	luxuriant
Bacillus subtilis subsp. spizizenii ATCC 6633 (00003*)	50 -100	luxuriant

Key : (*) Corresponding WDCM numbers.

Storage and Shelf Life

Store between 15-25°C. 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 (4,5).

Reference

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