Fluid Thioglycollate Medium w/ HM Peptone B M380

Intended Use:

Recommended for cultivation of anaerobic, microaerophilic and aerobic microorganisms and for sterility testing.

Composition**

Ingredients	Gms / Litre
Tryptone	15.000
Yeast extract	5.000
HM peptone B #	5.000
Dextrose (Glucose)	5.500
Sodium chloride	2.500
L-Cystine	0.500
Sodium thioglycollate	0.500
Resazurin sodium	0.001
Agar	0.750
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance parameters
Equivalent to Beef extract

Directions

Suspend 34.75 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 25°C and store in a cool dark place preferably below 25°C.

Note : If more than the upper one-third of the medium has acquired a pink colour, the medium may be restored once by heating in a water bath or in free flowing steam until the pink colour disappears.

Principle And Interpretation

Brewer (1) formulated Fluid Thiolglycollate Medium for rapid cultivation of aerobes as well as anaerobes by adding a reducing agent and small amount of agar. The USP (2) and AOAC (3) have recommended the media for sterility testing of antibiotics, biologicals and foods and for determining the phenol coefficient and sporicidal effect of disinfectants. Fluid Thioglycollate Medium w/ HM Peptone B is recommended for the detection of viable bacteria in live vaccines, as recommended by the Animal and Plant Health Inspection Services, USDA (8).

Dextrose, Tryptone, yeast extract, HM peptone B, L-cystine provide the growth factors necessary for bacterial multiplication. 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. (5,6). Any increase in the oxygen content is indicated by a colour change of redox indicator, resazurin to red (4, 5, 6). The small amount of agar helps in maintaining low redox potential for stabilizing the medium (7). Also the small amount of agar used in the medium favors the growth of aerobes as well as anaerobes in the medium, even if sodium thioglycollate is deleted from the medium (1).

ype of specimen

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Specimen Collection and Handling:

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (5,6).

For pharmaceutical samples, follow appropriate techniques for sample collection, processing as per guidelines (2,3,12)
After use, contaminated materials must be sterilized by autoclaving before discarding.

Quality Control

Appearance
Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium
Light straw coloured, clear to slightly opalescent solution with upper 10% or less medium pink on standing.

Reaction
Reaction of 3.47% w/v aqueous solution at 25°C. pH : 7.2±0.2

pH
7.00-7.40

Cultural Response

Cultural characteristics observed after an incubation at 25-30°C for 40-72 hours.

Organism	Inoculum (CFU)	Growth
Bacillus subtilis ATCC 6633	50-100	luxuriant
Candida albicans ATCC 10231	50-100	luxuriant
Clostridium sporogenes ATCC 11437	50-100	luxuriant
Micrococcus luteus ATCC 10240	50-100	luxuriant
Bacteroides vulgatus ATCC 8482	50-100	fair-good
Neisseria meningitidis ATCC 13090	50-100	luxuriant
Streptococcus pyogenes ATCC 19615	50-100	luxuriant

Reference

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7.MacFaddin J.F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of ,,Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore.
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