Alternative Thioglycollate HiCynth™ Medium (NIH Thioglycollate HiCynth™ Broth) (Thioglycollate HiCynth™ Broth, Alternative)

MCD010

Alternative Thioglycollate HiCynth™ Medium is recommended for sterility testing of turbid or viscous biological products.

Composition**

Ingredients	Gms / Litre
HiCynth™ Peptone No.3*	15.000
HiCynth™ Peptone No.5*	5.000
Dextrose	5.500
Sodium chloride	2.500
L-cystine	0.500
Sodium thioglycollate	0.500
Final pH (at 25°C)	7.1±0.2

**Formula adjusted, standardized to suit performance parameters

*Chemically defined peptones

Directions

Suspend 29 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Dispense into tubes or flasks or as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Note: It is preferable to use freshly prepared medium, alternatively it should be boiled and cooled just once prior to use as on reheating, toxic oxygen radicles are formed.

Principle And Interpretation

Alternative Thioglycollate HiCynth™ Medium is formulated as described in the N.I.H. memorandum (1). It is used for the sterility testing of certain biological products which are turbid or viscous and can be tested using Fluid Thioglycollate HiCynth™ Medium (MCD009). Both the media have similar composition, except agar and resazurin that are not included in Alternative Thioglycollate HiCynth™ Medium. This deletion makes it suitable for sterility testing of viscous products.

HiCynth™ Peptone No.3 and HiCynth™ Peptone No.5 serve as source of nitrogen and carbon compounds, long chain amino acids, vitamins and other essential nutrients to the contaminants, if present. Dextrose serves as the energy source. Sodium chloride maintains the osmotic equilibrium of the medium whereas L-cystine, an amino acid, also serves as source of essential growth factors. Sodium thioglycollate and L-cystine lower the oxidation-reduction potential of the medium by removing oxygen to maintain a low Eh. Sodium thioglycollate also helps to neutralize the toxic effects of mercurial preservatives (2, 3).

Quality Control

Appearance
Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium
Yellow coloured clear solution without any precipitate.

Reaction
Reaction of 2.9% w/v aqueous solution at 25°C. pH : 7.1±0.2

pH
6.90-7.30

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

Organism	Inoculum (CFU)	Growth
Cultural Response		
Growth at 30-35°C for <= 3 days incubated anaerobically		
Clostridium sporogenes ATCC 19404	50 -100	luxuriant
Clostridium sporogenes ATCC 11437	50 -100	luxuriant
Clostridium sporogenes NBRC 14293	50 -100	luxuriant
Clostridium perfringens ATCC 13124	50 -100	luxuriant
Bacteroides fragilis ATCC 23745	50 -100	luxuriant
Bacteroides vulgatus ATCC 8482	50 -100	luxuriant
Growth at 30-35°C for <= 3 days incubated aerobically		
Staphylococcus aureus ATCC25923	50 -100	luxuriant
Staphylococcus aureus ATCC 6538	50 -100	luxuriant
Pseudomonas aeruginosa ATCC 27853	50 -100	luxuriant
Pseudomonas aeruginosa ATCC 9027	50 -100	luxuriant
Escherichia coli ATCC 25922	50 -100	luxuriant
Escherichia coli ATCC 8739	50 -100	luxuriant
Escherichia coli NCTC 9002	50 -100	luxuriant
Salmonella Abony NCTC 6017	50 -100	luxuriant
Salmonella Typhimurium ATCC 14028	50 -100	luxuriant

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. N.I.H. Memorandum, 1955: Culture Media for Sterility Tests, 4th Revision.
2. Nungester, Hood and Warren, 1943, Proc. Soc. Exp. Biol. Med., 52: 287
3. Portwood, 1944, J. Bacteriol., 48: 255

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